

Appendix B  
Comments and Late Comments on the Public Review Draft SEIR

**From:** [Christopher Jordan](#)  
**To:** [Gerken, Matthew](#)  
**Subject:** [EXTERNAL] FW: Harvest Water - Regional San  
**Date:** Tuesday, October 13, 2020 10:00:53 AM  
**Attachments:** [draft\\_eir\\_finalHarvest water.pdf](#)  
[WebPage.pdf](#)

---

Comment on the SEIR

---

**From:** Suzanne Pecci <>  
**Sent:** Monday, October 12, 2020 12:12 PM  
**To:** Christopher Jordan <c>  
**Subject:** Harvest Water - Regional San

[EXTERNAL EMAIL]

Hi Christopher,

Here is an informative website to the Soccer complex/Industrial Park SEIR public comment page for the Elk Grove City website which explains the South county Ag Project aka Harvest Water.

I will also forward a copy of the project EIR which was awarded a Prop 1 grant in the amount of \$280 million -public funding. I feel these additional documents further clarify the project for those in the community interested in SGMA and water management in the SASb and who are publicly engaged in the GSP development process.

Thank you for providing transparency in posting these additional materials as the state funding was awarded based on the public benefits the "Harvest Water" is expected to provide.

Suzanne Pecci

<https://www.regionalsan.com/harvest-water>

Suzanne Pecci

---

1-1

---

By sending us an email (electronic mail message) or filling out a web form, you are sending us personal information (i.e. your name, address, email address or other information). We store this information in order to respond to or process your request or otherwise resolve the subject matter of your submission.

Certain information that you provide us is subject to disclosure under the California Public Records Act or other legal requirements. This means that if it is specifically requested by a member of the public, we are

required to provide the information to the person requesting it. We may share personally identifying information with other City of Elk Grove departments or agencies in order to respond to your request. In some circumstances we also may be required by law to disclose information in accordance with the California Public Records Act or other legal requirements.

Sacramento Regional County Sanitation District's  
**South Sacramento County Agriculture and  
Habitat Lands Recycled Water Program**  
**Draft Environmental Impact Report**  
SCH#: 2015022067



JULY 2016

Prepared by:





# **Sacramento Regional County Sanitation District South Sacramento County Agriculture & Habitat Lands Recycled Water Program**



**Draft Environmental Impact Report**  
**SCH#: 2015022067**



July 2016

## Sacramento Regional County Sanitation District South Sacramento County Agriculture & Habitat Lands Recycled Water Program Draft Environmental Impact Report

**CEQA Lead Agency:** Sacramento Regional County Sanitation District

The Sacramento Regional County Sanitation District (Regional San) has prepared this Environmental Impact Report (EIR) for the South County Agriculture & Habitat Lands Recycled Water Program (proposed Project). Regional San proposes to provide Title 22 disinfected tertiary treated recycled water for irrigation and groundwater recharge in the southern portion of Sacramento County (South County) and to the Stone Lakes National Wildlife Refuge (NWR) managed wetlands. The Draft EIR considers three action alternatives and the No Project Alternative:

- **Alternative 1, Medium Service Area Alternative** - Convey up to 50,000 acre-feet per year (AFY) of recycled water from the Sacramento Regional Wastewater Treatment Plan to 16,000 acres of irrigated lands in South County including water to farmers, 400 acres of managed wetlands within the South Stone Lake area of the NWR, and to a potential 560-acre irrigation and recharge area. Facilities would include a pump station, and up to 13.8 miles of transmission pipelines and distribution mains, and an undetermined length of service lateral connections.
- **Alternative 2, No Reclamation Funding Alternative** - Same as Alternative 1 (Medium Service Area Alternative), except Bureau of Reclamation would not provide any funding, this alternative is included to facilitate a possible future request for federal funding.
- **Alternative 3, Small Service Area Alternative** - Reduced version of Alternative 1 (Medium Service Area Alternative), with a smaller service area. The managed wetlands at Stone Lakes NWR would continue to be served, and the potential recharge area would be included in order to benefit the Central Sacramento Groundwater Basin.
- **Alternative 4, No Project Alternative** - Assumes that the proposed Project would not be constructed and that recycled water would not be supplied to South County, Stone Lakes NWR, or a potential recharge area.

This EIR assesses potential environmental effects of the South Sacramento County Agriculture & Habitat Lands Recycled Water Program alternatives and a No Project Alternative on resources including: aesthetics, air quality, agriculture, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and utilities, recreation, transportation, socioeconomics, and environmental justice.

### **For further information regarding this Draft EIR, contact:**

Jose Ramirez, Project Manager  
Sacramento Regional County Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827  
(916) 876-6059  
ramirezj@sacsewer.com

## Table of Contents

<b>Executive Summary</b> .....	<b>ES-1</b>
ES-1 Introduction .....	ES-1
ES-2 Summary of Project and Alternatives .....	ES-1
ES-2 Background .....	ES-4
ES-3 Purpose and Need .....	ES-5
ES-4 CEQA Objectives .....	ES-6
ES-5 Project vs. Program Level of Analysis.....	ES-6
ES-6 Summary of Impacts .....	ES-7
<b>Chapter 1 Introduction</b> .....	<b>1-1</b>
1.0 Background .....	1-1
1.0.1 Regional San .....	1-1
1.0.2 Sacramento Regional Wastewater Treatment Plant .....	1-2
1.0.3 Stone Lakes National Wildlife Refuge .....	1-2
1.0.4 Cosumnes River Preserve .....	1-3
1.1 Purpose and Need .....	1-3
1.1.1 Water Forum.....	1-4
1.1.2 Water Recycling Opportunities Study.....	1-5
1.1.3 South Sacramento County Agriculture and Habitat Lands Recycled Water Feasibility Study .....	1-6
1.1.4 Existing and Future Recycling Program with SCWA .....	1-7
1.1.5 Other Recycling Projects .....	1-7
1.1.6 Regional San's Water Asset Management Vision .....	1-7
1.1.7 SWRCB Recycled Water Policy .....	1-8
1.1.8 Central Sacramento Groundwater Basin.....	1-8
1.1.9 The Cosumnes River .....	1-8
1.1.10 Influence of Recycled Water on Water Supply .....	1-9
1.2 CEQA Objectives .....	1-9
1.3 Compliance with CEQA.....	1-10
1.3.1 CEQA Lead Agency .....	1-10
1.3.2 CEQA Process .....	1-11
1.4 Project vs. Program Level of Analysis.....	1-13
1.4.1 Project-Level Analysis .....	1-15
1.5 Organization of the EIR.....	1-15
1.6 Areas of Controversy and Issues to be Resolved and/or Evaluated .....	1-16
1.7 References.....	1-17
<b>Chapter 2 Alternatives and Proposed Project</b> .....	<b>2-1</b>
2.0 Project Location .....	2-1
2.1 Existing Facilities.....	2-1
2.2 Proposed Project Alternatives and Components .....	2-3
2.2.1 Alternative Development Process .....	2-3
2.2.2 Alternatives Evaluated in EIR .....	2-4
2.2.3 Alternative 1 (Medium Service Area Alternative).....	2-7
2.2.4 Alternative 2 (No Reclamation Funding Alternative).....	2-13
2.2.5 Alternative 3 (Small Service Area Alternative).....	2-13
2.2.6 Alternative 4 (No Project Alternative) .....	2-15



EIR	Draft
2.3	Operation and Maintenance Requirements .....2-16
2.3.1	Operations.....2-16
2.3.2	Maintenance .....2-20
2.3.3	Monitoring.....2-20
2.4	Construction Considerations .....2-21
2.4.1	Construction Timing.....2-21
2.4.2	Staging Areas .....2-22
2.4.3	Pipeline Construction.....2-22
2.4.4	Pump Station Construction.....2-27
2.4.5	Construction Equipment, Crew, Spoil and Trip Generation .....2-28
2.4.6	Construction-Related Water Requirements .....2-29
2.4.7	Surface Restoration.....2-29
2.4.8	Environmental Commitments .....2-29
2.5	Alternatives Considered but Rejected .....2-30
2.5.1	Large Program Alternative.....2-30
2.5.2	Medium Program Alternative .....2-30
2.6	References.....2-31
<b>Chapter 3 Environmental Setting, Impacts and Mitigation Measures .....3.0-1</b>	
3.0	Introduction to Environmental Analysis .....3.0-1
3.0.1	Organization of Chapter 3 .....3.0-1
3.0.2	Organization of Discussion of Environmental Issue Areas .....3.0-1
3.0.3	Approach to Analysis of Cumulative Impacts .....3.0-3
3.1	Aesthetics.....3.1-1
3.1.1	Environmental Setting .....3.1-1
3.1.2	Regulatory Framework .....3.1-4
3.1.3	Impact Analysis .....3.1-6
3.1.4	References .....3.1-11
3.2	Land Use and Agriculture.....3.2-1
3.2.1	Environmental Setting .....3.2-1
3.2.2	Regulatory Framework .....3.2-9
3.2.3	Impact Analysis .....3.2-16
3.2.4	References .....3.2-23
3.3	Recreation.....3.3-1
3.3.1	Environmental Setting .....3.3-1
3.3.2	Regulatory Framework .....3.3-2
3.3.3	Impact Analysis .....3.3-4
3.3.4	References .....3.3-7
3.4	Air Quality and Greenhouse Gas Emissions.....3.4-1
3.4.1	Air Quality Environmental Setting.....3.4-1
3.4.2	Air Quality Regulatory Framework.....3.4-6
3.4.3	Air Quality Impact Analysis.....3.4-16
3.4.4	Greenhouse Gas Regulatory Framework.....3.4-26
3.4.5	Greenhouse Gas Environmental Setting.....3.4-30
3.4.6	Greenhouse Gas Emissions Impact Analysis.....3.4-35

EIR	Draft
3.4.7	References .....3.4-39
3.5	Biological Resources.....3.5-1
3.5.1	Environmental Setting .....3.5-2
3.5.2	Regulatory Framework .....3.5-4
3.5.3	Special-Status Resources .....3.5-11
3.5.4	Impact Analysis .....3.5-29
3.5.5	References .....3.5-57
3.6	Cultural Resources.....3.6-1
3.6.1	Area of Potential Effects .....3.6-1
3.6.2	Environmental Setting .....3.6-2
3.6.3	Regulatory Framework .....3.6-12
3.6.4	Impact Analysis .....3.6-16
3.6.5	References .....3.6-21
3.7	Energy Resources.....3.7-1
3.7.1	Environmental Setting .....3.7-1
3.7.2	Regulatory Framework .....3.7-3
3.7.3	Impact Analysis .....3.7-4
3.7.4	References .....3.7-7
3.8	Geology and Soils .....3.8-1
3.8.1	Environmental Setting .....3.8-1
3.8.2	Regulatory Framework .....3.8-3
3.8.3	Impact Analysis .....3.8-6
3.8.4	References .....3.8-9
3.9	Hazards and Hazardous Materials .....3.9-1
3.9.1	Environmental Setting .....3.9-1
3.9.2	Regulatory Framework .....3.9-4
3.9.3	Impact Analysis .....3.9-10
3.9.4	References .....3.9-17
3.10	Hydrology and Water Quality .....3.10-1
3.10.1	Environmental Setting .....3.10-1
3.10.2	Regulatory Framework .....3.10-13
3.10.3	Impact Analysis .....3.10-24
3.10.4	References .....3.10-48
3.11	Indian Trust Assets .....3.11-1
3.11.1	Environmental Setting .....3.11-1
3.11.2	Regulatory Framework .....3.11-1
3.11.3	Impact Analysis .....3.11-1
3.11.4	References .....3.11-2
3.12	Noise .....3.12-1
3.12.1	Environmental Setting .....3.12-1
3.12.2	Regulatory Framework .....3.12-5

EIR	Draft
3.12.3 Impact Analysis .....	3.12-9
3.12.4 References .....	3.12-16
3.13 Public Services and Utilities .....	3.13-1
3.13.1 Environmental Setting .....	3.13-1
3.13.2 Regulatory Framework .....	3.13-3
3.13.3 Impact Analysis .....	3.13-6
3.13.4 References .....	3.13-10
3.14 Traffic and Transportation .....	3.14-1
3.14.1 Environmental Setting .....	3.14-1
3.14.2 Regulatory Framework .....	3.14-10
3.14.3 Impact Analysis .....	3.14-12
3.14.4 Methodology for Analysis .....	3.14-12
3.14.5 References .....	3.14-22
3.15 Environmental Justice .....	3.15-1
3.15.1 Environmental Setting .....	3.15-1
3.15.2 Regulatory Framework .....	3.15-3
3.15.3 Impact Analysis .....	3.15-3
3.15.4 References .....	3.15-5
3.16 Socioeconomics .....	3.16-1
3.16.1 Environmental Setting .....	3.16-1
3.16.2 Regulatory Framework .....	3.16-3
3.16.3 Impact Analysis .....	3.16-4
3.16.4 References .....	3.16-5
3.17 Population and Housing .....	3.17-1
3.17.1 Environmental Setting .....	3.17-1
3.17.2 Regulatory Framework .....	3.17-2
3.17.3 Impact Analysis .....	3.17-3
3.17.4 References .....	3.17-4
<b>Chapter 4 Other CEQA Considerations .....</b>	<b>4-1</b>
4.0 Significant and Unavoidable Impacts .....	4-1
4.1 Irreversible Commitments of Resources .....	4-1
4.2 Growth Inducing Impacts .....	4-2
4.3 Environmentally Superior Alternative .....	4-3
4.4 References .....	4-5
<b>Chapter 5 Consultation, Coordination, and Compliance .....</b>	<b>5-1</b>
5.0 Scoping .....	5-1
5.1 EIR Distribution .....	5-1
5.2 Future Public Involvement.....	5-2
5.3 Compliance with Federal Statutes and Regulations .....	5-2
5.3.1 Federal Endangered Species Act.....	5-2
5.3.2 National Historic Preservation Act, Section 106 .....	5-3
5.3.3 Clean Air Act.....	5-3

EIR	Draft
5.3.4 Coastal Zone Management Act .....	5-3
5.3.5 Farmland Protection Policy Act .....	5-4
5.3.6 Executive Order 11988 – Floodplain Management .....	5-4
5.3.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Executive Order 13168.....	5-4
5.3.8 Executive Order 13112: Invasive Species.....	5-4
5.3.9 Executive Order 11990 – Protection of Wetlands.....	5-5
5.3.10 Wild and Scenic Rivers Act .....	5-5
5.3.11 Safe Drinking Water Act – Source Water Protection .....	5-5
5.3.12 Executive Order on Trails for American in the 21st Century .....	5-5
5.3.13 Executive Order 13007 – Indian Sacred Sites.....	5-6
5.3.14 Executive Order 12898 – Environmental Justice.....	5-6
5.4 References.....	5-6
<b>Chapter 6 EIR/EIS Preparers.....</b>	<b>6-1</b>
6.0 Regional San (CEQA Lead Agency) .....	6-1
6.2 EIR/EIS Preparation Team.....	6-1

## List of Tables

Table ES-1: Regional San's South Sacramento County Agriculture & Habitat Lands Recycled Water Program EIR Impact Summary .....	ES-8
Table 1-1: Written Comments Received During Scoping .....	1-11
Table 1-2: Responsible and Trustee Agencies and Coordination.....	1-14
Table 2-1: Estimated Recycled Water Use Included in Alternative 1 (Medium Service Area Alternative) .....	2-6
Table 2-2: Proposed Components of Alternative 1 (Medium Service Area Alternative) .....	2-8
Table 2-3: Alternative 1 (Medium Service Area Alternative) Transmission Pipeline Segments .....	2-10
Table 2-4: Estimated Recycled Water Use for Alternative 3 (Small Service Area Alternative).....	2-15
Table 2-5: Recycled Water Deliveries under the Action Alternatives.....	2-17
Table 2-6: Spoil Generated by Pipeline Construction for the Project-Level Components of the Proposed Project .....	2-28
Table 3.0-1: List of Cumulative Projects .....	3.0-6
Table 3.2-1: Summary of Agricultural Production in 2013 .....	3.2-3
Table 3.2-2: Land Conversions in Sacramento County, 2004-2014 .....	3.2-3
Table 3.2-3: Williamson Act Lands in Sacramento County, 2002-2012 (acres).....	3.2-5
Table 3.4-1: Sacramento County Attainment.....	3.4-5
Table 3.4-2: Summary of Sacramento County Ambient Air Quality Data (2010 – 2014).....	3.4-6
Table 3.4-3: State and Federal Ambient Air Quality Standards .....	3.4-7
Table 3.4-4: General Conformity De Minimis Levels .....	3.4-11
Table 3.4-5: SMAQMD CEQA Significance Thresholds .....	3.4-17
Table 3.4-6: Maximum Daily Construction Emissions (lbs/day) of Criteria Air Pollutants and Precursors .....	3.4-19

<b>EIR</b>	<b>Draft</b>
Table 3.4-7: Overall Annual Construction Emissions (tons/year) of Criteria Air Pollutants and Precursors.....	3.4-19
Table 3.4-8: Maximum Daily Operation Emissions (lbs/day) of Criteria Air Pollutants and Precursors .....	3.4-22
Table 3.4-9: Overall Annual Operation Emissions (tons/year) of Criteria Air Pollutants and Precursors .....	3.4-22
Table 3.4-10: Greenhouse Gas Overview and Global Warming Potential.....	3.4-32
Table 3.4-11: Greenhouse Gas Emissions Associated with the Project (Tons of CO2e/year) .....	3.4-37
Table 3.5-1: Potential for Occurrence of Sensitive Natural Community Types and Sensitive Species in Project Area and Vicinity .....	3.5-22
Table 3.5-2: Monthly Reduction in Discharges from SRWTP under Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) at full Project Buildout, including Wintertime Irrigation.....	3.5-50
Table 3.5-3: Monthly Reduction in Discharges from SRWTP under Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) without Wintertime Irrigation .....	3.5-51
Table 3.5-4: Groundwater-Induced Increases in Streamflows with Implementation of Wintertime Irrigation .....	3.5-51
Table 3.5-5: Groundwater-Induced Increases in Streamflows without Wintertime Irrigation .....	3.5-52
Table 3.6-1: Previously Recorded Cultural Sites within the APE .....	3.6-7
Table 3.6-2: Cultural Resources Newly Recorded during the Proposed Project Cultural Resources Survey .....	3.6-8
Table 3.8-1: Soils in the Project Area .....	3.8-3
Table 3.9-1: Contamination Sites Identified by EnviroStor within and Surrounding the Project Area (within 1,000 feet of Project Components).....	3.9-2
Table 3.9-2: Contamination Sites Identified by GeoTracker within and Surrounding the Project Area (within 1,000 feet of Project Components) .....	3.9-2
Table 3.10-1: Sacramento River Average Monthly Flow at Freeport by Water Year Type ...	3.10-4
Table 3.10-2: Projected Recycled Water Quality .....	3.10-8
Table 3.10-3: Groundwater Quality .....	3.10-13
Table 3.10-4: CECs to be included in Baseline Monitoring for Groundwater Recharge Project Including Surface Application of Recycled Water (Not for Irrigation) .....	3.10-19
Table 3.10-5: Sacramento/San Joaquin River Delta Monthly Outflow by Water Year Type with Implementation of Project Elements .....	3.10-39
Table 3.10-6: Sacramento/San Joaquin River Delta Monthly Outflow by Water Year Type with Implementation of Program Elements.....	3.10-44
Table 3.12-1: Typical A-Weighted Sound Levels.....	3.12-2
Table 3.12-2: Existing Noise Levels.....	3.12-5
Table 3.12-3: Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Noise Sources .....	3.12-8
Table 3.12-4: Exterior Noise Level Standards .....	3.12-8

<b>EIR</b>	<b>Draft</b>
Table 3.12-5: Typical Noise Levels for Construction Equipment .....	3.12-11
Table 3.12-6: Vibration Levels for Construction Equipment.....	3.12-15
Table 3.14-1: Level of Service Criteria for Multi-lane Highway and Local Roadway Segments.....	3.14-4
Table 3.14-2: Existing Roadway Operations.....	3.14-5
Table 3.14-3: Existing Roadway Operations for Highway 99 south of the City of Elk Grove .....	3.14-8
Table 3.14-4: Project-Level Construction Trip Generation by Alternative .....	3.14-12
Table 3.16-1: Sacramento County Population and Employment by Industry Sector .....	3.16-1
Table 3.16-2: Unemployment Rates in Sacramento County.....	3.16-2
Table 3.17-1: Unincorporated Sacramento County and City of Elk Grove Populations.....	3.17-2

## **List of Figures**

Figure ES-1: Project Vicinity .....	ES-3
Figure 2-1: Overview of Project Location .....	2-2
Figure 2-2: Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative).....	2-5
Figure 2-3: Proposed Pump Station Site .....	2-9
Figure 2-4: Alternative 3 (Small Service Area Alternative).....	2-14
Figure 2-5: Monthly Demand for Water.....	2-17
Figure 2-6: Cosumnes River Profile .....	2-19
Figure 2-7: Diagram of Horizontal Directional Drilling (HDD) Process.....	2-25
Figure 2-8: Diagram of Bore and Jack Process .....	2-26
Figure 2-9: Microtunneling Construction .....	2-27
Figure 3.1-1: Visual Features in Stone Lakes National Wildlife Refuge.....	3.1-2
Figure 3.1-2: Existing Facilities at SRWTP .....	3.1-3
Figure 3.1-3: Urban Visual Features in Project Area (from Franklin Boulevard).....	3.1-4
Figure 3.1-4: Agricultural Visual Features in Project Area .....	3.1-4
Figure 3.2-1: Land Uses in Project Area .....	3.2-2
Figure 3.2-2: Prime Farmland in the Project Area .....	3.2-4
Figure 3.2-3: Williamson Act Lands in the Project Area.....	3.2-6
Figure 3.2-4: Cosumnes River Preserve Lands in Relation to Project Area .....	3.2-7
Figure 3.5-1: Aerial Photograph of Project Area .....	3.5-3
Figure 3.10-1: Regional Hydrology Within and Surrounding the Project Area .....	3.10-2
Figure 3.10-2: Groundwater Basins in Sacramento County .....	3.10-10
Figure 3.10-3: Spring 2012 Groundwater Contour Elevation Map.....	3.10-11
Figure 3.10-4: Fall 2012 Groundwater Elevation Contour Map .....	3.10-12
Figure 3.10-5: Increase in Groundwater Storage with Project and Program Implementation .....	3.10-33

Figure 3.10-6: Changes in Groundwater Elevation due to Project Implementation, as Compared to Baseline without Project.....3.10-34  
Figure 3.10-7: SacIWRM Simulated Reduction in Groundwater Pumping and Associated Benefits to Groundwater and Surface Water .....3.10-38  
  
Figure 3.15-1: Minority Populations, Low-Income Populations and DACs in the Project Area .....3.15-2

## List of Appendices

Appendix A – Distribution List

Appendix B – Scoping Report

## Acronyms and Abbreviations

$\mu\text{g}/\text{m}^3$	microgram per cubic meter
AADT	Annual Average Daily Traffic
AB	Assembly Bill
ACS	American Community Survey
ADR	Ahart's dwarf rush
ADT	Average Daily Traffic
ADWF	average dry weather flow
AF	acre-feet
AFY	acre-feet per year
ALUC	Airport Land Use Commission
APE	Area of Potential Effect
AQAP	Air Quality Attainment Plans
ARB	Air Resources Board
ASCE	American Society of Civil Engineers
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
BMPs	Best Management Practices
BNR	biological nutrient removal
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
California MUTCD	California Manual of Uniform Traffic Control Devices
Cal/OSHA	California Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CBC	California Building Code



---

<b>EIR</b>		<b>Draft</b>
CCAA	California Clean Air Act	
CCIC	Central California Information Center	
CCP	Comprehensive Conservation Plan	
CCR	California Code of Regulations	
CDFW	California Department of Fish and Wildlife	
CDOC	California Department of Conservation	
CDPH	California Department of Public Health	
CEC	California Energy Commission	
CECs	Constituents of Emerging Concern	
CEQ	Council on Environmental Quality	
CEQA	California Environmental Quality Act	
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	
CESA	California Endangered Species Act	
CFR	Code of Federal Regulations	
cfs	cubic feet per second	
CGS	California Geological Survey	
CH <sub>4</sub>	methane	
CHP	California Highway Patrol	
CHRIS/CCIC	California Historical Resources Information System-Central California Information Center	
CIWMB	California Integrated Waste Management Board	
CNDDB	California Natural Diversity Data Base	
CNEL	Community Noise Equivalent Level	
CNPS	California Native Plant Society	
CO	Carbon monoxide	
CO <sub>2</sub>	carbon dioxide	
CO <sub>2e</sub>	carbon dioxide equivalent	
CPP	Cosumnes Power Plant	
CPUC	California Public Utilities Commission	
CRHR	California Register of Historical Resources	
CRPR	California Rare Plant Bank	
CSC	California Species of Special Concern	
CSD	Community Services District	
CTS	California tiger salamander	

---

<b>EIR</b>		<b>Draft</b>
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability	
CVFMP	Central Valley Flood Management Planning	
CVFWM	Coastal and valley freshwater marsh	
CVP	Central Valley Project	
CVRWQCB	Central Valley Regional Water Quality Control Board	
CVSC	Central Valley salinity Coalition	
CWA	Clean Water Act	
CY	cubic yards	
CZMA	Coastal Zone Management Act	
DAC	disadvantaged communities	
dB	decibels	
dBA	A-weighted decibel	
DBH	diameter at breast height	
Delta	Sacramento-San Joaquin Delta	
DPM	diesel particulate matter	
DPR	Department of Pesticide Regulation	
DTSC	(California) Department of Toxic Substances Control	
DWP	(California) Drinking Water Program	
DWR	Department of Water Resources	
EBMUD	East Bay Municipal Utility District	
EDD	(California) Employment Development Department	
EGCSD	Elk Grove Community Services District	
EIR	Environmental Impact Report	
EIS	Environmental Impact Statement	
EO	Executive Order	
EPA	(United States) Environmental Protection Agency	
EPCRA	Emergency Planning and Community Right-to-Know Act	
FAA	Federal Aviation Administration	
FEMA	Federal Emergency Management Agency	
FESA	Federal Endangered Species Act	
FHSZ	Sacramento County Fire Hazard Severity Zone	
FHWA	Federal Highway Administration	
FIRM	Flood Insurance Rate Map	

**EIR**

**Draft**

FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
ft	feet
FTA	Federal Transit Administration
GGG	giant garter snake
GHG	greenhouse gas
GMP	Central Sacramento Groundwater Management Plan
gpm	gallons per minute
GSP	Groundwater Sustainability Plan
GWh	gigawatt hours
GWP	global warming potential
H <sub>2</sub> O	water
H <sub>2</sub> S	hydrogen sulfide
HCP	Habitat Conservation Plan
HDD	Horizontal Directional Drilling
HFCs	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMPC	Hazard Mitigation Planning Committee
hp	horsepower
HUD	California Department of Housing and Urban Development
HVAC	heating, ventilating, and air conditioning
Hz	hertz
I-5	Interstate 5
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
ITA	Indian Trust Assets
ITP	Incidental Take Permits
JPA	Joint Powers Authority
LAFCO	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
L <sub>dn</sub>	day-night noise level
LEA	Local Enforcement Agencies
L <sub>eq</sub>	equivalent noise level

---

<b>EIR</b>		<b>Draft</b>
LF	Linear Feet	
L <sub>max</sub>	maximum noise level	
L <sub>min</sub>	minimum noise level	
LLAD	Landscaping and Lighting Assessment District	
LOS	Level of Service	
LUST	leaking underground storage tank	
L <sub>x</sub>	statistical descriptor	
MBTA	Migratory Bird Treaty Act	
mg	milligrams	
MG	million gallons	
mg/L	milligrams per liter	
mgd	million gallons per day	
MHI	median household income	
MLD	Most Likely Descendant	
MND	mitigated negative declaration	
MMRP	Mitigation Monitoring and Reporting Program	
MSDS	Material Safety Data Sheet	
MT	million ton	
MW	megawatts	
MWh	megawatt hour	
N <sub>2</sub> O	nitrous oxide	
NAAQS	National Ambient Air Quality Standards	
NADB	National Archaeological Database	
NAHC	Native American Heritage Commission	
NCIC	North Central Information Center	
ND	negative declaration	
NEPA	National Environmental Policy Act	
NFIP	National Flood Insurance Program	
NHPA	National Historic Preservation Act	
NHRP	National Register of Historic Places	
NHTSA	National Highway Traffic Safety Administration	
NIMS	National Incident Management System	
NMFS	National Marine Fisheries Service	

---

<b>EIR</b>		<b>Draft</b>
NO <sub>2</sub>	nitrogen dioxide	
NOAA	National Oceanic and Atmospheric Administration	
NOC	Notice of Completion	
NOD	Notice of Determination	
NOI	Notice of Intent	
NOP	Notice of Preparation	
NO <sub>x</sub>	nitrogen oxides	
NPDES	National Pollutant Discharge Elimination System	
NPL	National Priority List	
NRCS	Natural Resources Conservation Service	
NWR	National Wildlife Refuge	
O <sub>3</sub>	Ozone	
OEHHA	Office of Environmental Health Hazard Assessment	
OSHA	Occupational Safety and Health Administration	
PCA	Primary Conservation Areas	
PFCs	perflouorocarbons	
PG&E	Pacific Gas & Electric Company	
PM	particulate matter	
PM <sub>10</sub>	particulate Matter ≤ 10 microns	
PM <sub>2.5</sub>	particulate Matter ≤ 2.5 microns	
ppm	parts per million	
PPV	peak particle velocity	
PRC	Public Resources Code	
RCCC	Rio Cosumnes Correctional Center	
RCRA	Resource Conservation and Recovery Act	
Reclamation	U.S. Department of the Interior Bureau of Reclamation	
Regional San	Sacramento Regional County Sanitation District	
RMS	root mean square	
RO	reverse osmosis	
ROD	Record of Decision	
ROG	reactive organic gases	
ROW	right-of-way	
RPF	Renewables Portfolio Standard	

**EIR** **Draft**

RSL	Regional Screening Level
RTC	Response to Comments
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SAOG	Sacramento Orcutt grass
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCGA	Sacramento Central Groundwater Authority
SCS	U.S. Soil Conservation Service
SCT	South County Transit
SCWA	Sacramento County Water Agency
SCWMR	Sacramento County Waste Management and Recycling
SDC	Seismic Design Category
SDWA	Federal Safe Drinking Water Act
SEL	single-event [impulsive] noise level
SEMS	(California) Standardized Emergency Management System
SF <sub>6</sub>	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SLOG	slender Orcutt grass
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SNMP	Salt/Nutrient Management Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
SOI	Sphere of Influence
SPA	Sacramento Power Authority
SPCC	Spill Prevention, Control, and Countermeasure Plan
SPFC	State Plan Flood Control
SR	State Route
SRA	State Responsibility Area
SRF	State Revolving Fund
SRCSD	Sacramento Regional County Sanitation District

---

<b>EIR</b>		<b>Draft</b>
SSC	Species of Special Concern	
SSHCP	South Sacramento Habitat Conservation Plan	
SSALTS	Strategic Salt Accumulation Land and Transport Study	
SVAB	Sacramento Valley Air Basin	
SWHA	Swainson's Hawk	
SWIS	Solid Waste Information System	
SWP	State Water Project	
SWPPP	Stormwater Pollution Prevention Plan	
SWRCB	State Water Resources Control Board	
SRWTP	Sacramento Regional Wastewater Treatment Plant	
Stone Lakes NWR	Stone Lakes National Wildlife Refuge	
TAC	toxic air contaminant	
TCBB	tricolored blackbird	
TDS	total dissolved solids	
TMDL	Total Maximum Daily Load	
TMP	Traffic Management Plan	
TNC	The Nature Conservancy	
TTC	Temporary Traffic Control	
U.S.	United States	
USC	United States Code	
UCR	Uniform Crime Reporting Program	
UPRR	Union Pacific Railroad	
UDA	urban development area	
USACE	US Army Corps of Engineers	
USC	United States Code	
USDA	United States Department of Agriculture	
USDOT	U.S. Department of Transportation	
USEPA	U.S. Environmental Protection Agency	
USFWS	US Fish and Wildlife Service	
USGS	United States Geological Survey	
UWMP	Urban Water Management Plan	
V/C	volume to capacity	
VdB	vibration velocity in decibels	

---

**EIR**

**Draft**

VELB	valley elderberry longhorn beetle
VOC	volatile organic compounds
VPSF	vernal pool fairy shrimp
VPTS	vernal pool tadpole shrimp
WA	Williamson Act
WDR	Waste Discharge Requirements
WHKI	White-tailed Kite
WPCF	Water Pollution Control Facility
WPT	Western pond turtle
WQCP	Water Quality Control Plan
WRF	Water Recycling Facility
WROS	Water Recycling Opportunities Study
WST	Western spadefoot toad
WWTP	wastewater treatment plant



*This page intentionally left blank*

# Executive Summary

## ES-1 Introduction

The Sacramento Regional County Sanitation District (Regional San), as the California Environmental Quality Act (CEQA) lead agency, has prepared this Draft Environmental Impact Report (Draft EIR). Regional San is proposing the South Sacramento County Agriculture & Habitat Lands Recycled Water Program (proposed Project<sup>1</sup>), which would provide Title 22 disinfected tertiary treated recycled water for irrigation, groundwater recharge and habitat enhancement in the southern portion of Sacramento County. In developing the proposed Project Regional San prepared a Feasibility Study. Regional San relied on the Feasibility Study to develop the proposed Project, which would provide recycled water from the Sacramento Regional Wastewater Treatment Plant (SRWTP) for irrigation and recharge and to wetlands at the Stone Lakes National Wildlife Refuge (Stone Lakes NWR). Regional San intends to pursue Clean Water State Revolving Fund (CWSRF financing) for this Project and has thus prepared this Draft EIR to meet State Water Resources Control Board “CEQA-Plus” requirements.

**Figure ES-1** shows the Project vicinity. This EIR has been developed to provide the public and responsible and trustee agencies reviewing the proposed Project an analysis of the potential effects on the local and regional environment associated with construction and operation of the proposed Project.

## ES-2 Summary of Project and Alternatives

This EIR considers the effects of the proposed Project along with two action alternatives and a No Project alternative. The proposed Project is:

- **Alternative 1 (Medium Service Area Alternative)**, would convey up to 50,000 acre-feet per year (AFY) of recycled water from the SRWTP to up to 16,000 acres of irrigated lands in South County and 400 acres of managed wetlands within the South Stone Lake area of the NWR. The proposed Project would initially deliver up to about 33,000 AFY of recycled water for summertime irrigation, and at full implementation of all project and

---

<sup>1</sup> Regional San intends to apply for federal funding from the U.S. Department of the Interior, Bureau of Reclamation, for the South County Agriculture & Habitat Lands Recycled Program; provision of funding by Reclamation would be considered a federal “action” under the National Environmental Policy Act (NEPA). Approval of the project by Regional San would be a discretionary “project” as defined by CEQA. This document addresses the discretionary project being considered for approval by Regional San and can be used by Reclamation in the future to address effects of providing federal funds for the project. This EIR thus includes some information that addresses future requirements for environmental documentation under the NEPA.

program elements could also provide an additional 17,000 AFY for groundwater recharge and wintertime irrigation. Facilities would include a pump station, and up to 13.8 miles of transmission pipelines and distribution mains, and an undetermined length of service lateral connections.

The alternatives considered are:

- **Alternative 2 (No Reclamation Funding Alternative)**, would be the same as Alternative 1 (Medium Service Area Alternative), except Reclamation would not provide any funding.
- **Alternative 3 (Small Service Area Alternative)**, would be a reduced version of Alternative 1 (Medium Service Area Alternative), in which the service area would consist of a smaller portion of South County. This alternative would convey up to 26,700 AFY or recycled water from the SRWTP to up to 7,550 acres of irrigated lands in South County, 400 acres of managed wetlands within the Stone Lakes NWR, and to a potential 560-acre recharge and irrigation area. Facilities would include a pump station, but fewer miles of transmission pipelines and distribution mains, and an undetermined length of service lateral connections.
- **Alternative 4 (No Project Alternative)**, assumes that the proposed Project would not be constructed and that recycled water would not be supplied to South County, Stone Lakes NWR, or a potential recharge area.

Because the proposed Project and Alternative 2 are identical except for the funding aspect, their impacts are evaluated concurrently in the individual impact sections of the EIR. CEQA requires that an EIR identify an environmentally superior alternative (Guidelines Section 15126.2). The selection of the preferred alternative is independent of the identification of the environmentally preferable/superior alternative, although the identification of both is based on the information presented in this EIR. Pursuant to CEQA, Alternative 1 (Medium Service Alternative) was determined to be the environmentally superior alternative because it would maximize restoration of groundwater levels in the South County and the restoration of flows in the Cosumnes River between Highway 99 and the Cosumnes River Preserve.

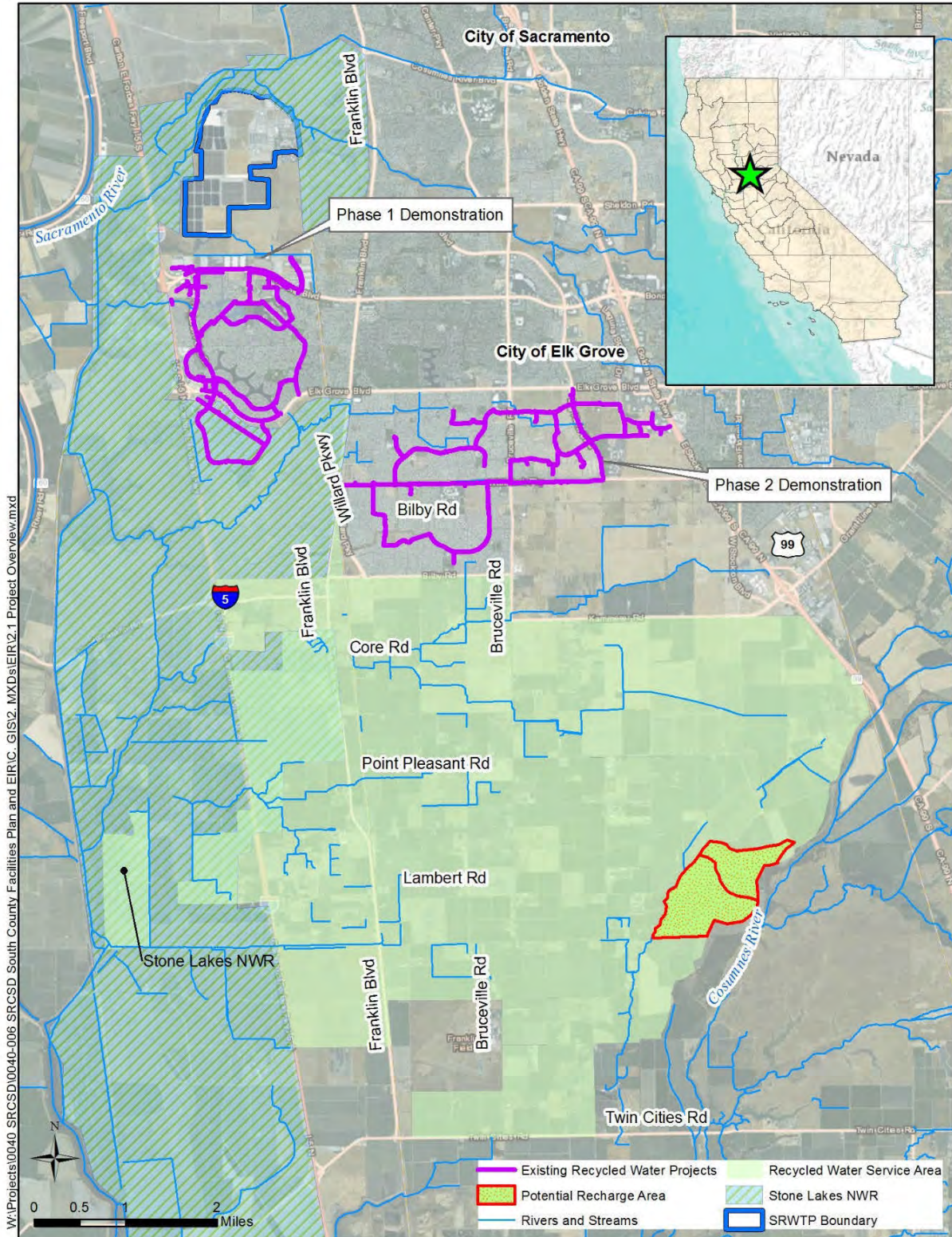


Figure ES-1: Project Vicinity

## ES-2 Background

Regional San, established in 1973, is an independent special district created under the California Health and Safety Code to provide regional wastewater conveyance and treatment service throughout the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, Sacramento, and West Sacramento; the communities of Courtland and Walnut Grove; and unincorporated Sacramento County in California. It also has the authority to distribute recycled water in Sacramento County. Regional San serves approximately 1.4 million people within its service area. It owns and operates the SRWTP located at 8521 Laguna Station Road in Elk Grove, treating wastewater and discharging the treated effluent to Sacramento River near the town of Freeport. On December 9, 2010, the Central Valley Regional Water Quality Control Board adopted a new National Pollutant Discharge Elimination System (NPDES) permit for the SRWTP which requires treatment equivalent to disinfected tertiary treated recycled water to be produced for discharge to the Sacramento River by 2020. The NPDES permit (which also constitutes waste discharge requirements [WDRs] under state law), spells out the limitations on daily treatment and flows, as well as the allowable concentrations or total loads of various constituents of concern found in treated effluent. Effluent treatment facilities must be constructed and operated to meet the WDRs. If the Title 22 disinfected tertiary recycled water quality effluent is not used for recycled water projects, it will continue to be discharged to the Sacramento River. As a result of new permit requirements, Regional San is proposing to construct and operate new facilities to improve treated effluent water quality. These improvements are part of the EchoWater Project. Regional San published the Draft EIR for the EchoWater Project on March 4, 2014 and certified it on September 24, 2014.

Since the mid 1990s, Regional San has evaluated the feasibility of implementing a large-scale Water Recycling Program. In 2007, it completed the Water Recycling Opportunities Study (WROS) with the purpose of:

- Identifying potential water recycling opportunities;
- Engaging potential water recycling partners and stakeholders
- Developing, assessing, and prioritizing potential water recycling projects; and
- Providing a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of the large-scale Water Recycling Program.

One of the most promising projects that resulted from the WROS was the South County Program. To further explore the effects and benefits of the Program, Regional San prepared a Feasibility Study (RMC 2015) to evaluate the recycled water market; existing water supplies; river intake alternatives; the viability of groundwater storage; the need for seasonal storage; conveyance facilities; environmental, regulatory, legal and institutional requirements; and recycled water program alternatives.

The study area evaluated in the Feasibility Study encompasses approximately 15,000 acres in South Sacramento County, 18,000 acres in the Stone Lakes NWR, and 9,000 acres within the

City of Elk Grove's former sphere of influence (SOI)<sup>2</sup> area. Three alternatives were developed based on the results of the recycled water market assessment. The alternatives vary in the size of the study area covered and the demand met by the Program, but have in common in that they would provide Title 22 disinfected tertiary treated recycled water produced at the SRWTP to farmland and wetlands at the Stone Lakes NWR in South County. All of the alternatives would include pipelines, pumping plants, customer turnouts, and an optional recharge area. The alternatives included the Large Program Alternative, Medium Program Alternative, and Small Program Alternative.

The Feasibility Study recommended implementation of the Medium Program Alternative. The benefits of this alternative include optimized cost of delivered water and increases in groundwater levels along the most critical stretch of the Cosumnes River during all water years.

### **ES-3 Purpose and Need**

Regional San's purpose in proposing the Project is to:

- Meet Regional San's goal of recycling 30 to 40 million gallons per day of its treated wastewater by 2025;
- Support California's recycling goal of 2 million acre-feet per year by 2030;
- Restore depleted groundwater levels in the South Sacramento County area through in lieu recharge/use of recycled water for irrigation as a replacement for and supplement to groundwater;
- Improve regional water supply reliability through the restoration of groundwater levels in the Central Groundwater Basin; and
- Improve flows in the Cosumnes River and improve the riparian corridor along the Cosumnes River through restoration of groundwater levels along the corridor from Highway 99 to the Cosumnes River Preserve I-5.

Groundwater use in the Central Sacramento Ground Water Basin has resulted in development of a cone of depression. Groundwater pumping has also been determined to be primarily responsible for a decline in flows in the Cosumnes River and dewatering of the riparian corridor. Regional planning efforts, such as the American River Basin Integrated Regional Water Management Plan, have identified the need to use recycled water as an element of regional water supply.

---

<sup>2</sup> Since completion of the Feasibility Study, the Local Agency Formation Commission (LAFCO) did not approve the City of Elk Grove's request for extension of its SOI.

## ES-4 CEQA Objectives

The overall objective of the proposed Project is to provide a reliable source of non-potable water in the County. Specifically, the objectives of the Project are as follows:

- Maximize use of recycled water.
- Reduce groundwater pumping in the Central Basin and contribute to long term basin sustainability by supplying recycled water to agricultural customers.
- Minimize conveyance costs (pipeline and pumping) while maximizing demand served
- Improve environmental resources in the area by:
  - Enhancing the riparian corridor along the Cosumnes River by raising groundwater levels
  - Reducing streamflow losses in the Cosumnes River during critical fall periods by raising groundwater levels
  - Providing drought-resistant water supplies to agricultural users to encourage long-term agricultural uses in the Cosumnes River area
  - Providing a reliable water supply to managed wetlands
- Assist in long term fulfillment of the Water Forum Agreement for conjunctive use of surface and groundwater supplies in the County.
- Work within the context of Sacramento Central Groundwater Authority (SCGA)'s developing Groundwater Accounting Program and with environmental organizations to balance potential recovery of groundwater with regional groundwater needs.
- Support the SCGA and environmental organizations in developing a Groundwater Accounting Program that will balance the increase in groundwater supply with regional water reliability and environmental benefits.

## ES-5 Project vs. Program Level of Analysis

The Draft EIR evaluates the proposed Project at both the project- and program-level of detail. A project EIR is defined as one which “examines the environmental impacts of a specific development project.” (CEQA Guidelines Section 15161). A project EIR provides a site-specific review of all phases of the project, including planning, construction, and operation.

A program EIR is defined as one which “may be prepared on a series of actions that can be characterized as one large project and are related.” (CEQA Guidelines Section 15168). A program EIR assesses and documents the broad environmental impacts of a program with the understanding that a more detailed site-specific review may be required to assess future projects implemented under the program.

Because detailed plans of the distribution mains, service connections laterals, and customer turnouts of the proposed Project are not known at this time, and they are contingent on the completion of the project-level components, this Draft EIR provides program-level analysis of these project components. The project-level analysis of the proposed Project is for the proposed pump station at SRWTP and the transmission pipeline from the proposed pump station to Twin

Cities Road, which are expected to move forward once environmental review has been completed.

## **ES-6 Summary of Impacts**

**Table ES-1** provides a summary of potential impacts by topic area, in compliance with CEQA Guidelines Section 15123. The table does not include impacts or criteria that were deemed not applicable to construction or operation of the proposed Project. The proposed Project would not result in any significant and unavoidable impacts for any action alternative. Alternative 4 (No Project Alternative) has the potential to result in significant and unavoidable impacts associated with lowering groundwater levels, loss of agricultural and economic viability and a resultant conversion of agricultural land to non-agricultural land uses resulting from a diminishing of reliable water supply and a further degradation of the Cosumnes River corridor.



Table ES-1: Regional San's South Sacramento County Agriculture & Habitat Lands Recycled Water Program EIR Impact Summary

Impact Statement	Level of Significance Before Mitigation				Mitigation Measure	Level of Significance After Mitigation			
	1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project		1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project
<b>Aesthetics</b>									
AES-1: Substantially Alter Existing Viewsheds or Degrade the Existing Visual Character or Quality of the Site and its Surroundings	LTS	LTS	LTS	SU	No mitigation necessary. (Alternatives 1, 2, 3) No mitigation possible for No Project.	LTS	LTS	LTS	SU
AES-2: Create a New Source of Substantial Light, Glare, or Shadow	PS	PS	PS	NI	AES-2: Nighttime Construction Lighting (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
<b>Land Use &amp; Agriculture</b>									
LUA-1: Conflict with any Applicable Land Use Plan, Policy, or Regulation of an Agency with Jurisdiction Over the Project Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect	LTS/B	LTS/B	LTS/B	SU	No mitigation necessary. No mitigation possible for No Project.	LTS/B	LTS/B	LTS/B	SU
LUA-2: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or Area Containing Prime Soils to Uses Not Conducive to Agricultural Production, Conflict with Any Existing Williamson Act Contract, or Introduce Incompatible Uses in the Vicinity of Existing Agricultural Uses	PS	PS	PS	SU	LUA-2: Stockpile Soil (Alternatives 1, 2, 3) No mitigation possible for No Project	LTSM	LTSM	LTSM	SU
<b>Recreation</b>									
REC-1: Result in Direct Alteration of an Existing Recreational Facility or Disruption of Recreational Use	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3) NOI-1: Noise Reduction Measures (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI-
<b>Air Quality and Greenhouse Gas Emissions</b>									
AQ-1: Construction emissions of criteria pollutants and precursors	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
AQ-2: Expose sensitive receptors to substantial pollutant concentrations	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
AQ-3: Direct operational emissions of criteria pollutants	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
AQ-4: Create objectionable odors	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
AQ-5: Cumulative impact on air quality	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
GHG-1: Construction emissions of GHGs	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
GHG-2: Operational emissions of GHGs	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
GHG-3: Consistency with applicable GHG reduction plans	NI	NI	NI	NI	No mitigation necessary.	NI	NI	NI	NI
<b>Biological Resources</b>									
BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	PS	PS	PS	NI	BIO-1a: Avoid Impacts (Both Permanent and Temporary) to the Extent Feasible to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-covered Sensitive Species (Alternatives 1, 2, 3) BIO-1b: Mitigate Impacts to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-Covered Sensitive Species (Alternatives 1, 2, 3) BIO-1c: Mitigate Impacts to HCP-Covered Species (Alternatives 1, 2, 3) BIO-1d: Mitigate Impacts to Sensitive Non-HCP-Covered Species (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service	PS	PS	PS	NI	BIO-2: Secure Regulatory Permits to Impact Riparian Habitat and Other Sensitive Natural Communities (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI

Notes: NI= No Impact, LTS=Less than Significant, PS=Potentially Significant, LTSM=Less than Significant with Mitigation, SU=Significant and Unavoidable, B=Beneficial

Impact Statement	Level of Significance Before Mitigation				Mitigation Measure	Level of Significance After Mitigation			
	1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project		1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project
BIO-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	PS	PS	PS	NI	BIO-1a: Avoid Impacts (Both Permanent and Temporary) to the Extent Feasible to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-covered Sensitive Species (Alternatives 1, 2, 3) BIO-1b: Mitigate Impacts to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-Covered Sensitive Species (Alternatives 1, 2, 3) BIO-2: Secure Regulatory Permits to Impact Riparian Habitat and Other Sensitive Natural Communities (Alternatives 1, 2, 3) BIO-3: Secure Clean Water Act Permits/Approvals (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
BIO-4a: Impact movement of native resident species in drainage corridors of the project area.	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
BIO-4b: Impact movement or reproduction of sensitive or important fish species in the Sacramento River or Delta region (excess operational conditions)	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
BIO-4b: Impact movement or reproduction of sensitive or important fish species in the Sacramento River or Delta region (balanced operational conditions)	PS	PS	PS	NI	HYD-4: Coordinate Operations with Relevant Resources Agencies (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	PS	PS	PS	NI	BIO-5: Comply with Sacramento County Tree Preservation Ordinance (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	NI	NI	NI	No mitigation necessary.	NI	NI	NI	NI
<b>Cultural Resources</b>									
CR-1: Potential to result in a substantial adverse change in the significance of a historical, archaeological or paleontological resource.	PS	PS	PS	NI	CR-1a: Discovery of Previously Unknown Archaeological Resources During Construction (Alternatives 1, 2, 3) CR-1b: Note on Construction Plans (Alternatives 1, 2, 3) CR-1c: Discovery of Paleontological Resources During Construction (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
CR-2: Development of the project and the off-site infrastructure has the potential to disturb human remains, including those interred outside of formal cemeteries.	PS	PS	PS	NI	CR-2: Discovery of Human Remains (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
<b>Energy Resources</b>									
ENE-1: Inefficient, wasteful, or unnecessary use of energy resources	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
<b>Geology and Soils</b>									
GEO-1: Result in Substantial Soil Erosion, Siltation or Loss of Topsoil	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
GEO-2: Be Located on a Geologic Unit or Soil that is Unstable, or that Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-site Landslide, Lateral Spreading, Subsidence, Soil Expansion, Liquefaction or Collapse	PS	PS	PS	NI	GEO-2: Perform Design-Level Geotechnical Evaluation for Unstable Soils and Incorporate Recommendations (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
<b>Hazards and Hazardous Materials</b>									
HAZ-1: Expose the Public or Environment to a Substantial Hazard through Reasonably Foreseeable Upset Conditions Involving the Release of Hazardous Materials into the Environment.	PS	PS	PS	NI	HAZ-1: Conduct Phase I Study along Transmission Pipeline	LTSM	LTSM	LTSM	NI
HAZ-2: Result in a Safety Hazard for People Residing or Working in the Project Area within Two miles of a Public Use Airport	LTS	LTS	LTS	NI	No mitigation necessary	LTS	LTS	LTS	NI

Notes: NI= No Impact, LTS=Less than Significant, PS=Potentially Significant, LTSM=Less than Significant with Mitigation, SU=Significant and Unavoidable, B=Beneficial

Impact Statement	Level of Significance Before Mitigation				Mitigation Measure	Level of Significance After Mitigation			
	1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project		1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project
HAZ-3: Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
<b>Hydrology and Water Quality</b>									
HYD-1: Violate Water Quality Standards or Waste Discharge Requirements, Create Substantial Sources of Polluted Runoff or Otherwise Substantially Degrade Water Quality	PS	PS	PS	NI	HYD-1a: Comply with the Construction General Permit (Alternatives 1, 2, 3) HYD-1b: Implement BMPs to Control Erosion and Sediment During Construction (Alternatives 1, 2, 3) HYD-1c: Comply with the General Order for Dewatering or Other Appropriate NPDES Permit (Alternatives 1, 2, 3) HYD-1d: Ensure Adequate Water Quality for Stone Lakes NWR (Alternatives 1, 2, 3) HYD-1e: Perform Detailed Analysis of Groundwater Impacts from Recharge Area and Diluent Wells (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
HYD-2: Substantially Deplete Groundwater Supplies or Substantially Interfere with Groundwater Recharge	B	B	B	PS	No mitigation necessary.	B	B	B	PS
HYD-3: Substantially Alter the Existing Drainage Pattern of the Project Area and/or Increase the Rate or Amount of Surface Runoff in a Manner which would Result in Flooding On- or Off-site	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
HYD-4: Interfere with or Require Changes to CVP or SWP Operations	PS	PS	PS	NI	HYD-4: Coordinate Operations with Relevant Resource Agencies (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
HYD-CUM: Cumulative Effects on Hydrology/Water Quality	PS	PS	PS	NI	HYD-4: Coordinate Operations with Relevant Resource Agencies (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	PS
<b>Noise</b>									
NOI-1: Result in Exposure of Persons to, or Generation of, Noise Levels in Excess of Standards Established by the Local General Plan, Noise Ordinance or Applicable Standards of Other Agencies and Result in a Substantial Temporary Increase in Ambient Noise Levels in the Project Vicinity (Construction)	PS	PS	PS	NI	NOI-1: Noise Reduction Measures (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
NOI-2: Result in Exposure of Persons to, or Generation of, Noise Levels in Excess of Standards Established by the Local General Plan, Noise Ordinance or Applicable Standards of Other Agencies (Operation)	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
NOI-3: Expose People to Generation of Excessive Groundborne Vibration or Groundborne Noise Levels	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
<b>Public Services and Utilities</b>									
PUB-1: Impacts Associated with the Construction of New Water or Wastewater Treatment and Disposal Facilities or Expansion of Existing Facilities.	NI	NI	NI	LTS	No mitigation necessary.	NI	NI	NI	LTS
PUB-2: Impacts Associated with the Provision of Stormwater Drainage Facilities.	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
PUB-3: Impacts Associated with the Provision of Electric or Natural Gas Service, Emergency Services, Public School Services, or Park and Recreation Services.	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
PUB-4: Served by a Landfill without Sufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs.	LTS	LTS	LTS	NI	No mitigation necessary.	LTS	LTS	LTS	NI
<b>Traffic &amp; Transportation</b>									

Notes: NI= No Impact, LTS=Less than Significant, PS=Potentially Significant, LTSM=Less than Significant with Mitigation, SU=Significant and Unavoidable, B=Beneficial

Impact Statement	Level of Significance Before Mitigation				Mitigation Measure	Level of Significance After Mitigation			
	1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project		1-Medium Service Area	2-No Reclamation Funding	3-Small Service Area	No Project
TR-1: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
TR-2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
TR-3: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
TR-4: Result in inadequate emergency access.	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
TR-5: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	PS	PS	PS	NI	TR-1: Traffic Management Plan (Alternatives 1, 2, 3)	LTSM	LTSM	LTSM	NI
<b>Population &amp; Housing</b>									
None	NI	NI	NI	NI	No mitigation necessary.	NI	NI	NI	NI

Notes: NI= No Impact, LTS=Less than Significant, PS=Potentially Significant, LTSM=Less than Significant with Mitigation, SU=Significant and Unavoidable, B=Beneficial

*This page intentionally left blank*

# Chapter 1 Introduction

The Sacramento Regional County Sanitation District (Regional San), as CEQA lead agency, has prepared this Draft Environmental Impact Report (Draft EIR). Regional San is proposing the South Sacramento County Agriculture & Habitat Lands Recycled Water Program (proposed Project<sup>1</sup>), which would provide Title 22 disinfected tertiary treated recycled water for irrigation, groundwater recharge and habitat enhancement in the southern portion of Sacramento County. In developing the project Regional San prepared a Feasibility Study, which identified and evaluated the feasibility of providing recycled water for irrigation purposes to offset existing groundwater supplies and offset existing surface water supplies for wetlands within U.S. Fish and Wildlife Service's (USFWS) Stone Lakes National Wildlife Refuge (NWR or Refuge). Regional San intends to pursue Clean Water State Revolving Fund (CWSRF financing) for this Project and has thus prepared this Draft EIR to meet State Water Resources Control Board "CEQA-Plus" requirements.

This EIR has been developed to provide the public and responsible and trustee agencies reviewing the proposed Project an analysis of the potential effects on the local and regional environment associated with construction and operation of the proposed Project. The proposed Project would deliver up to approximately 33,000 acre-feet per year of Title 22 disinfected tertiary treated recycled water to about 16,000 acres of irrigated lands in southern Sacramento County for agricultural and urban landscape uses<sup>2</sup> and to the Stone Lakes NWR. At full implementation of all project and program elements, the proposed Project could also provide an additional 17,000 acre-feet per year of recycled water for groundwater recharge and for wintertime irrigation, for a total recycled water delivery of up to 50,000 acre-feet per year, which equates to an annualized average of almost 45 million gallons per day (mgd), with seasonal deliveries varying from 24 to 70 mgd. **Figure ES-1** shows the project vicinity.

## 1.0 Background

### 1.0.1 Regional San

Regional San, established in 1973, is an independent special district created under the California Health and Safety Code to provide regional wastewater conveyance and treatment service throughout the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, Sacramento, and

---

<sup>1</sup> Regional San intends to apply for federal funding from the U.S. Department of the Interior, Bureau of Reclamation, for the South County Agriculture & Habitat Lands Recycled Program; provision of funding by Reclamation would be considered a federal "action" under the National Environmental Policy Act (NEPA). Approval of the project by Regional San would be a discretionary "project" as defined by CEQA. This document addresses the discretionary project being considered for approval by Regional San and can be used by Reclamation in the future to address effects of providing federal funds for the project. This EIR thus includes some information that addresses future requirements for environmental documentation under the NEPA.

<sup>2</sup> Urban irrigation uses in Elk Grove are already approved and were addressed in the EIR for the 2002 Zone 40 Water Supply Master Plan, SCH# 202122068.

West Sacramento; the communities of Courtland and Walnut Grove; and unincorporated Sacramento County. Regional San serves approximately 1.4 million people within its service area.

### **1.0.2 Sacramento Regional Wastewater Treatment Plant**

The Sacramento Regional Wastewater Treatment Plant (SRWTP) is located at 8521 Laguna Station Road in Elk Grove on an approximately 3,200-acre site that is owned and operated by Regional San in unincorporated Sacramento County. The existing SRWTP treatment facilities occupy approximately 900 acres, and the remaining 2,300 acres of land is open space that provides a buffer zone (formally known as the Bufferlands) between the existing SRWTP facilities and surrounding land uses (Ascent 2014).

The SRWTP treats wastewater and then discharges the treated effluent into the Sacramento River near the community of Freeport. The SRWTP is permitted to discharge up to 181 mgd of Average Dry Weather Flow. On December 9, 2010, the Central Valley Regional Water Quality Control Board (CVRWQCB) adopted a new National Pollutant Discharge Elimination System (NPDES) permit for the SRWTP which required treatment equivalent to disinfected tertiary treated recycled water to be produced for discharge to the Sacramento River by 2020. The NPDES permit (which also constitutes waste discharge requirements [WDRs] under state law), spells out the limitations on daily treatment and flows, as well as the allowable concentrations or total loads of various constituents of concern found in treated effluent. The permit has been amended several times, and on August 8, 2014, the CVRWQCB modified the permit to specify that tertiary filtration of all flows is only required from May through October. From November through April filtration is required for up to 217 mgd of effluent. The current NPDES permit authorizing discharge is Order No. R5-2016-0020, which was adopted on April 21, 2016.)

Effluent treatment facilities must be constructed and operated to meet the WDRs; the new facilities that would be required are part of the EchoWater Project. Regional San is designing and constructing and will be operating new facilities for the EchoWater Project, which will treat wastewater to Title 22 requirements for disinfected tertiary treated water or equivalent effluent (except during certain peak wet weather flows), which allows for recycled water use for food crops (including all edible crops where the recycled water comes into contact with the edible portion of the crop), as well as recycled use for parks and playgrounds, school yards, residential landscaping, and golf courses. In adopting the permit, the CVRWQCB cited as justification for the requirement to implement tertiary treatment the need to develop and use recycled water, including Basin Plan policy requiring that dischargers evaluate how reuse or land disposal of wastewater can be optimized. If the Title 22 effluent is not used for recycled water projects, it will continue to be discharged to the Sacramento River.

### **1.0.3 Stone Lakes National Wildlife Refuge**

The Stone Lakes NWR was established in 1994. The Refuge is located in southwestern Sacramento County, west of the City of Elk Grove and south of the (see **Figure ES-1** in the *Executive Summary*). It lies within the Morrison Creek, Cosumnes River and Mokelumne River watersheds as well as the Sacramento-San Joaquin Delta (Delta). The Stone Lakes Refuge

consists of multiple lakes and wetland areas, and contains a variety of biological resources (USFWS, 2007).

Water sources available for maintenance and management of Refuge fish and wildlife habitats and irrigation include: runoff from local sources such as the Morrison Creek drainage and shallow groundwater and surface flows from Snodgrass Slough. Surface water withdrawals are made subject to a water right, which is subject to curtailment in dry years. The Refuge is thus in need of a long-term reliable water supply.

Interception of shallow groundwater is used to sustain habitats and agricultural lands within the Refuge and the Beach-Stone Lakes Basin. Due to irrigation withdrawals, there is a groundwater depression in the water table south and east of the Refuge area. This groundwater depression creates a gradient away from the Sacramento River and locally induces flow from the river across the Refuge area toward the center of the depression (USFWS 2007).

In response to the daily tidal cycle, water levels in Snodgrass Slough are influenced by operation of a slide gate and flap gates on the Lambert Road Bridge flood control structure, by diversion of water by various upstream users, including the Refuge, and by operation of the Delta Cross Channel by the California Department of Water Resources for the State Water Project. South to north flows of surface water occur through Lambert Road Bridge flood control structure and these reverse flows play a substantial role in sustaining the water supply in the Beach-Stone Lakes Basin (USFWS, 2007).

#### **1.0.4 Cosumnes River Preserve**

The Cosumnes River Preserve includes approximately 46,000 acres of wildlife habitat and agricultural lands along the Cosumnes River. The land is owned by seven partners: The Nature Conservancy, the Bureau of Land Management, the California Department of Fish and Wildlife, Sacramento County, the Department of Water Resources, Ducks Unlimited, and the California State Lands Commission. The Preserve provides social, economic, recreational, and environmental benefits. The Nature Conservancy is collaborating with Regional San in the development of the proposed Project in order to bring water management benefits to the preserve.

## **1.1 Purpose and Need**

Regional San's purpose in proposing the project is to:

- Meet Regional San's goal of recycling 30 to 40 million gallons per day of its treated wastewater by 2025;
- Support California's recycling goal of 2 million acre-feet per year by 2030;
- Restore depleted groundwater levels in the South Sacramento County area through in lieu use and recharge of recycled water for irrigation as a replacement for and supplement to groundwater;



- Improve regional water supply reliability through the restoration of groundwater levels in the Central Groundwater Basin; and
- Improve flows in the Cosumnes River and improve the riparian corridor along the Cosumnes River through restoration of groundwater levels along the corridor from Highway 99 to I-5.

Groundwater use in the Central Sacramento Ground Water Basin has resulted in development of a cone of depression. Groundwater pumping has also been determined to be primarily responsible for a decline in flows in the Cosumnes River and dewatering of the riparian corridor. Regional planning efforts have identified the need to use recycled water as an element of regional water supply.

The proposed Project would deliver recycled water to irrigated lands in southern Sacramento County for agricultural and existing approved urban landscape uses and to the Stone Lakes NWR, and could also provide recycled water for groundwater recharge. The project benefits or helps accomplish the following:

- Increases regional self-reliance and integrated water management across all levels of government – This project has been ranked as a high priority project in the American River Basin IRWM;
- Helps achieve the Delta Reform Act and Delta Plan's co-equal goals of water supply reliability and ecosystem protection;
- Addresses the Governor's Drought Proclamation and Water Action Plan with a long-term solution to provide additional water supplies for future drought conditions. The project helps the region manage and prepare for dry periods;
- Helps protect and restore the Delta by providing benefits to endangered species in the Delta ecosystem and its tributaries, including the Cosumnes River, Sacramento River and Mokelumne River;
- Expands water storage capacity and improves groundwater management; and
- Helps achieve the State Water Board's statewide goal and Basin Plan policy for water recycling by providing up to 50,000 AFY of recycled water.

The various state, regional, local and Regional San policies and planning efforts that have contributed to development of the purpose and need for the project are discussed below.

### 1.1.1 Water Forum

The project area overlies a portion of the Central Sacramento groundwater basin, which currently supplies water for several agencies within the Sacramento region. Groundwater levels in the basin have declined mainly as a result of pumping to meet agricultural and municipal water demands. Proactive water supply management activities over the past two decades have resulted in more stable conditions in the groundwater basin. Specifically, in the 1990s, various parties in the Sacramento area identified the need to collaborate on the long term usage and management of water supplies. The Water Forum was created with a diverse group of participants to find solutions to the water dilemmas. The resulting Water Forum Agreement focuses on two

objectives and seven elements and continues to guide water management activities in the Sacramento region. The two primary and coequal objectives of the Water Forum Agreement are:

1. Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030; and
2. Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The seven elements of the Water Forum Agreement represent categories of complementary actions that are necessary for a water solution to work recognizing that the solution must be an integrated package of actions. The seven elements include the following:

1. Increased surface water diversions.
2. Actions to meet customers' needs while reducing diversion impacts in drier years.
3. An improved pattern of fishery flow releases from Folsom Reservoir.
4. Lower American River Habitat Management Element, which also addresses Recreation in the Lower American River.
5. Water Conservation Element.
6. Groundwater Management Element.
7. Water Forum Successor Element.

Forty stakeholder organizations signed the agreement in 2000. Since then, changes to maintain a long-term sustainable yield from the Central groundwater basin have been implemented, including construction of the Freeport Regional Water Project, which diverts surface water from the Sacramento River.

### **1.1.2 Water Recycling Opportunities Study**

Regional San<sup>3</sup> initiated the Water Recycling Opportunities Study (WROS) in 2004 to evaluate the feasibility of implementing a large-scale Water Recycling Program. The purpose of the WROS was to achieve the following:

- Identify potential water recycling opportunities.
- Engage potential water recycling partners and stakeholders.
- Develop, assess, and prioritize potential water recycling projects.
- Provide a strategy to further develop and implement the projects initially selected to move forward in achieving the stated goals of the large-scale Water Recycling Program.

Specifically, the goals were as follows:

- Increase water recycling throughout the Sacramento region on the scale of 30 to 40 mgd over the next 20 years.
- Increase utilization of recycled water to expand Regional San's effluent management options beyond continued discharge to the Sacramento River.

---

<sup>3</sup> At the time this report was prepared, Regional San was referred to as SRCSD.

- Increase utilization of recycled water to meet growing non-potable demands, allowing Sacramento area water purveyors to reduce demands on their existing high quality water supplies and reduce the need for additional water supplies in the future.

Regional San prepared the WROS report in 2007. A three-step approach was used to define potential projects, including developing the target area, identifying water recycling opportunities, and developing potential water recycled water projects. One of the most promising projects that resulted from this study was the South County Agriculture & Habitat Lands Recycled Water Program.

### **1.1.3 South Sacramento County Agriculture and Habitat Lands Recycled Water Feasibility Study**

Regional San prepared a Feasibility Study to further explore the effects and benefits of the South County Program (RMC 2015). The Feasibility Study evaluated a variety of topics as specified below:

- Recycled water market
- Existing water supplies
- River intake alternatives
- The viability of groundwater recharge
- The need for seasonal storage
- Conveyance facilities
- Environmental, regulatory, legal and institutional requirements
- Recycled water program alternatives

The study area evaluated in the Feasibility Study encompasses approximately 15,000 acres in South Sacramento County, 18,000 acres in the Stone Lakes NWR, and 9,000 acres within the City of Elk Grove's formerly proposed sphere of influence (SOI)<sup>4</sup>. Three alternatives were developed based on the results of the recycled water market assessment. The alternatives vary in the size of the study area covered and the demand met by the Program, but all would provide Title 22 disinfected tertiary treated recycled water produced at the SRWTP to farmland and wetlands at the Stone Lakes NWR in South County. The study evaluated Large, Medium, and Small Program Alternatives. All of the alternatives would provide 2/3 of the maximum month demand during peak irrigation periods, and the balance of the peak demands are assumed to be met by existing groundwater supply used by growers. All of the alternatives would include pipelines, pumping plants, customer turnouts, and an optional groundwater recharge area. Groundwater recharge facilities would comply with California regulations, which require that recycled water used for recharge be blended with non-recycled water, or "diluent" water and require a six-month underground retention time (i.e., the time from point of application to the withdrawal of water at the nearest municipal or domestic water supply well). The parcels considered for siting of recharge facilities are currently irrigated and would be included in the service area under all action alternatives. It is expected that parcels used for recharge would

---

<sup>4</sup> Since completion of the Feasibility Study, the Local Agency Formation Commission did not approve the City of Elk Grove's request for extension of its SOI.

continue in agricultural production during the growing season, and would be used seasonally for recharge.

The Feasibility Study recommended implementation of the Medium Program Alternative. The benefits of this alternative include reduced cost, increases in groundwater levels along the Cosumnes River, increased Cosumnes River flows, and larger wetted riparian corridor. After completion of the Feasibility Study the former Elk Grove SOI area was added to the Medium Program Alternative to comprise the proposed Project evaluated in this EIR. Regional San received a Feasibility Determination from Reclamation for the Project on February 8, 2016.

#### **1.1.4 Existing and Future Recycling Program with SCWA**

Regional San and Sacramento County Water Agency (SCWA) have a joint water recycling program that produces and distributes up to 3.5 mgd of recycled water service to the Laguna West, Lakeside, and Stone Lakes communities in the City of Elk Grove (SCWA Phase 1 Demonstration Project). Recycled water is used to irrigate street medians, commercial landscaping, parks and school sites. This program would continue with implementation of the proposed Project. Most of the existing tertiary treatment facilities, known as the Water Recycling Facility (WRF), would likely be decommissioned once the EchoWater project is completed. Regional San will continue to work with SCWA to provide recycled water. Under a future phase, recycled water would be provided to the SCWA Phase 2 Demonstration Project, which includes the communities of East Franklin and Laguna Ridge in the City of Elk Grove.

#### **1.1.5 Other Recycling Projects**

Regional San, in collaboration with Sacramento Municipal Utility District (SMUD) and the City of Sacramento, prepared an EIR to evaluate the potential to send approximately 2,723 AFY of recycled water from the WRF and the future advanced wastewater treatment plant to Sacramento Power Authority's (SPA's) Cogeneration Plant and other potential customers in south Sacramento. The use of recycled water by these customers would offset the use of potable water for cooling tower and urban irrigation purposes. The SPA Cogen Project EIR was certified and the project was approved by the Regional San Board of Directors in November 2014. The project is planned for design and construction in 2016. Future phases of this project could include construction of laterals extending from the main pipeline to the cogeneration plant to serve additional users such as the Bartley Cavanaugh Golf Course, Bill Conlin Youth Sports Complex, and parks within Delta Shores. Future phases would also require construction of additional pumping capacity.

#### **1.1.6 Regional San's Water Asset Management Vision**

Regional San has adopted a Water Asset Management Vision, which states "Regional San (formerly SRCSD) will manage its water assets to sustain regional water supplies, benefit current and future ratepayers of the region, and safeguard and enhance the environment." Consistent with this vision, Regional San is interested in maximizing the beneficial use of its treated wastewater.

### **1.1.7 SWRCB Recycled Water Policy**

The State Water Resources Control Board (SWRCB) adopted the Recycled Water Policy on February 3, 2009 (Resolution No. 2009-0011) and revised it on January 22, 2013 (Resolution 2013-003). The purpose of the Policy is to increase the use of recycled water from municipal wastewater sources. The Policy has four goals, of which two relate to recycled water, as shown below:

- Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030; and
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

### **1.1.8 Central Sacramento Groundwater Basin**

The Sacramento groundwater basin consists of three sub-basins – North, Central and South. The proposed Project overlies a portion of the Central Sacramento groundwater basin, which is under the jurisdiction of the Sacramento Central Groundwater Authority (SCGA). The area is mainly outside the areas currently served by municipal water suppliers, but encompasses a small portion of Sacramento County Water Agency's (SCWA's) Zone 40. Thus, the primary water supply in the proposed Project area is groundwater pumped from private wells<sup>5</sup>.

As described in the Central Sacramento Groundwater Management Plan (GMP), intensive use of groundwater over the past 60 years has resulted in a general lowering of groundwater elevations. Over time, isolated groundwater depressions have grown and coalesced into a single cone of depression that is centered in the southwestern portion of the Central Basin (Water Forum and SCWA 2006).

The GMP identifies five Basin Management Objectives that would be implemented to manage and monitor the Central Sacramento Groundwater Basin to benefit all groundwater users in the basin. Objectives include maintaining a long-term average groundwater extraction rate, maintaining specific groundwater elevations within all areas of the basin consistent with the Water Forum "solution," protecting against any potential inelastic land surface subsidence, protecting against any adverse impacts to surface water flows, and developing water quality objectives for constituents of concern. The provision of recycled water to South County customers for in-lieu recharge of the groundwater basin would contribute to maintenance of groundwater elevations in the Central Sacramento Groundwater Basin.

### **1.1.9 The Cosumnes River**

The Cosumnes River, which runs along the southeastern edge of the proposed Project area, is the only river in the western Sierra with no major dams and relies on groundwater to provide base flows for fish and wildlife. Studies using monitoring data and computer models have established a relationship between groundwater usage and Cosumnes River flows, leading to the conclusion that groundwater pumping is primarily responsible for the decline in river flows in the fall. Reduced flows in the Cosumnes River contribute to the degradation of fishery, wildlife,

---

<sup>5</sup> In addition, some growers divert surface water from creeks, canals, and the Sacramento River for irrigation use.

recreational, and aesthetic resources of the lower Cosumnes River. Water temperature also is an issue associated with flow impairment and poses a threat to the salmon fishery (Water Forum and SCWA, 2006). Also, lower groundwater levels affect the viability of the riparian corridor. The drying of the Cosumnes River due to the lowered groundwater table is of concern to many stakeholders in the region, including The Nature Conservancy (TNC), who is one of the partners that manages the Cosumnes River Preserve.

Historically, lower fall streamflows result in less recharge from the river (i.e water moving from the river into groundwater) and lower groundwater levels. In contrast, higher spring streamflows result in more recharge from the river and higher groundwater levels. In the fall, the Cosumnes River is dry at Twin Cities Road for almost 60 percent of the time and 75 percent of the time streamflow is zero to less than 10 cfs. Low fall streamflows affect the fall salmon run in the Cosumnes River. Importing recycled water to the proposed Project area for in-lieu groundwater recharge would result in substantially higher groundwater levels and increased Cosumnes River flows (RMC, 2015).

#### **1.1.10 Influence of Recycled Water on Water Supply**

Future urban water demand in the SCWA service area was projected to increase by 30 percent between 2020 and 2030 (SCWA 2016). The Central Sacramento County GMP identifies available water supplies to meet the total water demands of users within the basin, including the unmetered and unmonitored use of private groundwater wells for agricultural irrigation. Included in the GMP is 4,400 AFY of recycled water provided by Regional San identified to serve recycled water projects in Elk Grove. Because the proposed Project includes a higher level of recycled water use, it could positively influence the water supply outlook in this part of the County. Providing a greater level of recycled water use than the GMP anticipated would mean greater increases in groundwater levels (beyond the improvements projected to be seen from the Freeport Regional Water Project). The implementation of the South County Program and the resulting in-lieu recharge in the Central groundwater basin could provide sustainable long-term water supply benefits to the region.

## **1.2 CEQA Objectives**

The overall objective of the proposed Project is to provide a reliable source of non-potable water in the County. Specifically, the objectives of the Project are as follows:

- Maximize use of recycled water
- Reduce groundwater pumping in the Central Basin and contribute to long term basin sustainability by supplying recycled water to agricultural customers
- Minimize conveyance costs (pipeline and pumping) while maximizing demand served
- Improve environmental resources in the area by:
  - Enhancing the riparian corridor along the Cosumnes River by raising groundwater levels
  - Reducing streamflow losses in the Cosumnes River during critical fall periods by raising groundwater levels

- Providing drought-resistant water supplies to agricultural users to encourage long-term agricultural uses in the Cosumnes River area
  - Providing a reliable water supply to managed wetlands
- Assist in long term fulfillment of the Water Forum Agreement for conjunctive use of surface and groundwater supplies in the County
- Work within the context of SCGA's developing Groundwater Accounting Program and with environmental organizations to balance potential recovery of groundwater with regional groundwater needs.
- Support the Sacramento Central Groundwater Authority and environmental organizations in developing a Groundwater Accounting Program that will balance the increase in groundwater supply with regional water reliability and environmental benefits.

### 1.3 Compliance with CEQA

This document has been prepared to satisfy the requirements of CEQA because the proposed Project is a discretionary action under CEQA. In addition, Regional San intends to pursue federal funding under Title XVI, which is administered by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), which would require future NEPA documentation. This environmental document was prepared pursuant to CEQA Public Resources Code, Division 13, Environmental Protection; the CEQA Guidelines; and is also structured to enable future NEPA documentation subject to the Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act (Parts 1500 to 1508). Regional San intends to pursue Clean Water State Revolving Fund (CWSRF financing) for this Project and has thus prepared this Draft EIR to meet State Water Resources Control Board "CEQA-Plus" requirements. The purpose of the EIR is to publicly disclose the potential direct, indirect, and cumulative impacts of the proposed Project and its alternatives on the environment, including the no project/no action alternative, and to identify feasible mitigation or alternatives capable of reducing or avoiding any of the Project's significant environmental impacts, for the benefit of decision makers, the general public, and responsible and trustee agencies.<sup>6</sup>

After the Final EIR is published, Regional San will prepare and adopt a Notice of Determination (NOD), to implement the proposed Project.

#### 1.3.1 CEQA Lead Agency

In conformance with CEQA (California Public Resources Code, Section 21000 et seq.), CEQA Guidelines (California Code of Regulations Title 14 Section 15000 et seq.), Regional San is the Lead Agency for compliance with the CEQA environmental review process for the proposed Project. Regional San has conducted the CEQA process, including the preparation and circulation of this EIR, to provide to the public and responsible and trustee Agencies reviewing

---

<sup>6</sup> A responsible agency is an agency other than the lead agency that has a legal responsibility for also carrying out or approving a project; a responsible agency must actively participate in the lead agency's environmental process, review the lead agency's environmental document, and use that document when making a decision on the project. Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have a legal authority over approving or carrying out a project.

this project, information about the Project's potential effects, both beneficial and adverse, on the local and regional environment.

### 1.3.2 CEQA Process

#### **Notice of Preparation**

In accordance with Section 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) was submitted to the State Clearinghouse (State Clearinghouse # 2014042068) and circulated to local, state and federal agencies on February 19, 2015. The NOP was available online on the South County Ag Program website<sup>7</sup> and was distributed to responsible and trustee agencies, organizations, and interested parties (including growers and The Nature Conservancy). The NOP was initially sent to the public on January 30, 2015 and included an invitation to the public to attend an Information Meeting (see Section 1.7.3 below). A list of those who received the NOP is included in **Appendix A**. The NOP provided a description of the proposed Project, a map and description of where the proposed Project would be constructed, and a brief description of construction methods.

#### **Public Scoping Meeting and Public Comments**

A public scoping meeting for the proposed Project was held on February 18, 2015. The purpose of the meeting was to describe the proposed Project to interested parties and to solicit their input about issues and concerns that are germane to the scope and content of this EIR. The scoping meeting was held in an open house format, and comment cards were provided for those attending the meeting to facilitate submittal of written comments. At the information meeting, the proposed Project was presented to the public through use of videos and graphic displays showing maps, pipeline alignments, and CEQA process and schedule. No formal verbal or written comments were submitted at the scoping meeting.

**Table 1-1** lists the written comments received during scoping from one organization, and federal, state, and regional/local agencies. The issues and concerns raised during the scoping period are included in the scoping report (**Appendix B**).

Table 1-1: Written Comments Received During Scoping

Number	Comment Author, Title and Affiliation	Comment Letter Date
1	Tina Bartlett California Department of Fish and Wildlife	March 9, 2015
2	Trevor Cleak, Central Valley Regional Water Quality Control Board	March 13, 2015
3	Darren Wilson, City of Elk Grove	March 20, 2015
4	Eric Fredericks, California State Transportation Agency (Caltrans)	March 23, 2015
5	Chris Hunley, Sacramento County Environmental Management Department	March 23, 2015
6	Sacramento County Water Agency	March 23, 2015
7	Jesse Roseman, The Nature Conservancy	March 23, 2015
8	Jean Prijatel, U.S. Environmental Protection Agency	November 30, 2015

<sup>7</sup> The NOP was available electronically at the following location: [http://www.regionalsan.com/sites/main/files/file-attachments/notice\\_of\\_preparation\\_final.pdf](http://www.regionalsan.com/sites/main/files/file-attachments/notice_of_preparation_final.pdf)



***Draft EIR***

This document constitutes the Draft EIR. It contains a description of the Project, description of the environmental setting, identification of Project impacts, mitigation measures for impacts found to be significant, and an analysis of Project alternatives. This document complies with CEQA Plus requirements, allowing Regional San to apply for a State Revolving Fund (SRF)<sup>8</sup> grant. CEQA-Plus documentation requires additional “NEPA-like” analysis including evaluation of compliance with the Federal Endangered Species Act, Federal National Historic Preservation Act, and the General Conformity Rule for the Clean Air Act. In addition, it requires evaluation of compliance with the Migratory Bird Treaty Act, policies for protection of wetlands, environmental justice, Coastal Zone Management Act, flood plain management, Farmland Protection Policy Act, and the Wild and Scenic Rivers Act. To facilitate future NEPA documentation, Indian Trust Assets have also been evaluated.

All of the impacts are analyzed in Chapter 3 of this Draft EIR, and summarized in **Table ES-1** in the Executive Summary of this document.

***Public Review of the Draft EIR***

This Draft EIR is being circulated to local, state and federal agencies and to interested organizations and individuals who may wish to review and provide comment for a period of 45 days. Regional San filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the 45-day public review period (Public Resources Code, Section 21161). Concurrent with the NOC, Notices of Availability of this Draft EIR have been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as individuals who have expressed interest in being included on the project mailing list for review and provide comments.

During the public review period, the Draft EIR is available for review at the Regional San's office, located at the address provided below, or online at <http://www.regionalsan.com/>. Agencies, organizations, and interested parties, including those not previously contacted, or who did not respond to the NOP, currently have the opportunity to comment on the Draft EIR during the public review period.

During this 45-day review period, Regional San will conduct a public meeting to receive oral comments on the Draft EIR. During the public review period, written comments on this Draft EIR should be addressed to:

Sacramento Regional County Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827  
Attn: Jose Ramirez, Project Manager  
Phone: (916) 876-6059  
Email: ramirezj@sacsewer.com

---

<sup>8</sup> SWRCB would be a responsible agency that will review and consider the information in the environmental document prior to approving the Project.

### ***Final EIR***

Comments received during the public review period will be addressed in a Response to Comments (RTC) document, which together with the Draft EIR, will constitute the Final EIR. Comments received and the responses to comments will be included as part of the record for consideration by the Regional San Board of Directors.

### ***Actions on the Project and Intended Uses of the EIR***

The Final EIR will be made available for review at least 10 days prior to the public hearing before the Regional San Board of Directors on the proposed Project. As the CEQA Lead Agency, Regional San will consider certifying the EIR as complete under CEQA Guidelines Section 15090. Project approvals would require that Regional San make written findings with respect to any significant effects relevant to implementation of the project identified in the EIR. In making its decision about the Project, the Regional San Board of Directors will consider the environmental impacts and required mitigation in the form of "Findings." Upon EIR certification, the Board of Directors will consider whether to adopt a resolution approving the Project as described.

The information in the EIR would also be used to support the acquisition of regulatory permits or approvals. **Table 1-2** summarizes the potential permits and/or approvals from other agencies that may be required prior to construction of the proposed Project.

## **1.4 Project vs. Program Level of Analysis**

This Draft EIR evaluates the proposed Project at both a project- and program-level of detail. A project EIR is defined as one which "examines the environmental impacts of a specific development project." (CEQA Guidelines Section 15161). A project EIR provides a site-specific review of all phases of the project, including planning, construction, and operation.

A program EIR is defined as one that "may be prepared on a series of actions that can be characterized as one large project and are related." (CEQA Guidelines Section 15168). A program EIR assesses and documents the broad environmental impacts of a program with the understanding that a more detailed site-specific review may be required to assess future projects implemented under the program. Because detailed plans of the distribution mains, service connection laterals, and customer turnouts of the proposed Project are not known at this time, and they are contingent on the completion of the project-level components, this Draft EIR provides program-level analysis of these project components.

Table 1-2: Responsible and Trustee Agencies and Coordination

<b>Agency</b>	<b>Type of Approval</b>
<b>FEDERAL</b>	
Reclamation	Possible funding through Public Law 102-575, Title XVI
U.S. Army Corps of Engineers	Clean Water Act, Section 404 Permit for any fill of wetlands or waters of the US
U.S. Fish and Wildlife (USFWS) & National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service	Section 7 Consultation/Biological Opinions (for effects on Federally-listed species) <sup>1</sup>
USFWS	Agreement (for provision of water to Stone Lakes NWR)
<b>STATE</b>	
SWRCB	Wastewater Change Petition for a change in the point of discharge, place of use, or purpose of use of treated water
SWRCB	Coverage under the General Waste Discharge Requirements for Recycled Water Use (Statewide Recycled Water Permit, Order WQ 2014-0090-DWQ) (for operation of the recycled water system)
SWRCB	Potential funding through Proposition 1 Water Recycling Funding Program or the Clean Water State Revolving Fund loan.
Central Valley Regional Water Quality Control Board (CVRWQCB)	401 Water Quality Certification (required for 404 Permit)
CVRWQCB	Notice of Intent (NOI) for coverage under the Statewide Construction Stormwater Permit (for construction greater than 1 acre in size)
CVRWQCB	NOI for coverage under General Permit for discharges with Low-Threat to Water Quality (for pipeline discharges for testing and startup)
California Division of Drinking Water	Title 22 Engineer’s Report (production, distribution and use of recycled water)
California Department of Fish and Wildlife (CDFW)	Incidental Take Permit from California Department of Fish and Game (for effects on State-listed species) <sup>1</sup>
CDFW	Incidental Take Permit for California Endangered Species Act (CESA)
CDFW	Streambed Alteration Agreement (for pipeline crossings of creeks)
Cal/OSHA – Tunnel and Mining Unit	Construction Permit / Underground Classification for tunnels
California Office of Historic Preservation	Section 106 Consultation
California Department of Transportation (Caltrans)	Encroachment Permit (for crossing Interstate 5 [I-5])
<b>LOCAL</b>	
City of Elk Grove	Encroachment Permits (for work within City rights-of-ways [ROW])
Sacramento County	Encroachment Permits (for working within County ROWs) and Well Permits (for diluent wells)
Sacramento County Air Quality Management District	Authority to Construct (for building and operating equipment that will meet air quality standards)
Local Agency Formation Commission (LAFCO)	Regional San annexation of Service Area for recycled water, with service limited to recycled water supply
Union Pacific Railroad	Easement to construct within right-of-way
Property Owners	Lease/purchase agreements with current landowners(s) to acquire property for development of recharge area

Note:

1. If the South County Habitat Conservation Plan (SSHCP) is adopted, effects on terrestrial biota would be covered under the Plan.

The program-level analysis is conducted to streamline the review process of the proposed Project by allowing for consideration of environmental impacts and mitigation measures for future components on a program-wide scale. Subsequent components would later be examined in the light of the program EIR to determine whether an additional environmental document must be prepared (CEQA Guidelines Section 15168). A subsequent environmental document may be “tiered” from the program EIR, pursuant to CEQA Guidelines (Sections 15152 and 15168). “Tiering” refers to the use of analysis from a broader EIR, with later EIRs and negative declarations (NDs) and/or mitigated negative declarations (MNDs) prepared for subsequent projects, concentrating on issues specific to the future projects. Future facilities that are evaluated at a program level include connections to users, potential groundwater recharge areas and associated diluent wells, and provision of water to Stone Lakes NWR. Future actions include provision of recycled water for wintertime irrigation and recharge on farmland without dilution from diluent wells.

#### **1.4.1 Project-Level Analysis**

A project EIR is defined as one that “examines the environmental impacts of a specific development project.” (CEQA Guidelines Section 15161) A project EIR provides a site-specific review of all phases of the project, including planning, construction, and operation. In addition to the program-level analysis described above, this Draft EIR also includes a detailed project-level analysis of the proposed pump station at the SRWTP and the transmission pipeline from the proposed pump station to Twin Cities Road, which are expected to move forward once environmental and regulatory review have been completed.

## **1.5 Organization of the EIR**

This Draft EIR is organized into the following Chapters:

**Executive Summary.** This chapter includes a summary of the proposed Project and the alternatives evaluated in this EIR. It includes a table that summarizes the impacts, mitigation measures, and levels of significance after mitigation measures are incorporated.

**Chapter 1: Introduction.** This chapter provides an introduction, background, and overview describing the purpose and need, project objectives, purpose and scope of the Draft EIR, intended uses of the EIR, including a list of responsible agencies and approvals, brief explanation of areas of controversy and issues to be resolved, and a summary of the CEQA review process.

**Chapter 2: Alternatives Description of the Proposed Project.** This chapter presents a detailed description of the proposed Project (Alternative 1, Medium Service Area Alternative), along with impacts associated with two action alternatives and one no action alternative. It provides a description of proposed facilities and construction and operational considerations. Chapter 2 also clarifies the components that will be evaluated at a project and program level of detail in this EIR.

**Chapter 3: Environmental Setting, Environmental Impacts and Mitigation Measures.** This chapter analyzes the environmental consequences and impacts of the proposed Project, along with impacts associated with the two action alternatives and the no action alternative. Each topic includes a description of the affected environment/environmental setting, regulatory setting, methodology, thresholds of significance, impacts (both project-specific, program-specific and cumulative), mitigation measures, and significance after mitigation. Chapter 3 includes subsections addressing each environmental resource. Cumulative impacts are also evaluated under each subsection.

**Chapter 4: Other CEQA Considerations.** This chapter identifies any direct or indirect impacts, significant and unavoidable impacts, the Project's irreversible and irretrievable commitment of resources, and growth-inducing impacts. The impacts of alternatives are summarized so as to allow identification of the environmentally preferable/superior alternative.

**Chapter 5: Consultation, Coordination and Compliance.** This chapter addresses compliance with federal statutes and regulations, summarizes the scoping process, and identifies the distribution of the EIR, and opportunities for future public involvement.

**Chapter 6: Report Preparation.** This chapter lists the authors of the EIR.

**Appendices.** This section includes notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

## 1.6 Areas of Controversy and Issues to be Resolved and/or Evaluated

Comments received in response to circulation of the NOP are listed in **Table 1-1** above. A summary of the comments is presented in **Appendix B**, along with the disposition of each comment.

Areas of controversy/issues to be evaluated include the following:

- Whether additional alternatives should be evaluated as part of this EIR to include a larger service area, preferentially distribute recycled water to farmers, who own parcels located outside of the feasibility study area and east of Highway 99, whose lands could provide more ecological benefits, including to the Cosumnes River.
- The precise framework for a groundwater banking program, which is not included within the scope of this EIR. If Regional San implements a future groundwater banking program, additional project-specific CEQA environmental review would be conducted to assess the impacts of that program.
- The effects of the seasonal reduction of wastewater discharge on hydrologic and biological resources in the Sacramento River.

## 1.7 References

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. SCH#2012052017. September 12.

RMC Water and Environment (RMC). 2015. *Sacramento Regional County Sanitation District South County Recycled Water Feasibility Study*. January 2015.

Sacramento County Water Agency (SCWA) 2016. *Draft 2015 Urban Water Management Plan*. prepared by Brown and Caldwell. May 2016.

Sacramento County, City of Elk Grove, City of Galt, City of Rancho Cordova, Sacramento Regional County Sanitation District, Sacramento Area Sewer District, Sacramento County Water Agency, Southeastern Connector. 2010. *South Sacramento Habitat Conservation Plan*. July.

USFWS. 2007. *Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan*. January.

Water Forum and SCWA. 2006. *Central Sacramento County Groundwater Management Plan*. February.

*This page intentionally left blank*

## Chapter 2 Alternatives and Proposed Project

This document assesses the environmental effects of three action alternatives and a No Project alternative.

### 2.0 Project Location

The proposed Project is located within Sacramento County, and includes portions of the City of Elk Grove, unincorporated Sacramento County, and portions of the Stone Lakes National Wildlife Refuge. The proposed recycled water service area is shown in **Figure 2-1**.

Proposed facilities include a pump station, pipelines and distribution mains, a recharge area, diluent<sup>1</sup> wells, service connection laterals, and appurtenant facilities. The proposed pump station would be located within the Sacramento Regional Wastewater Treatment Plant (SRWTP) site. Transmission pipelines and distribution mains would be located on County and city streets and rural roads, primarily within public road rights-of-way (ROW), although distribution mains may also occur on private lands. The potential recharge area, diluent wells, and service connection laterals would generally be located on private agricultural lands or dirt roads. Recycled water would be delivered to farms, wetlands, and, potentially, a recharge area all of which are currently outside Regional San's service area.

### 2.1 Existing Facilities

The SRWTP is located at 8521 Laguna Station Road in Elk Grove on an approximately 3,200-acre site that is owned and operated by Regional San, as shown in **Figure 2-1**. The entire SRWTP site is located north of Laguna Boulevard in the unincorporated area of Sacramento County, between Franklin Boulevard and Interstate 5 (I-5). The site's northern boundary is predominantly south of the Cosumnes River Boulevard. Currently, SRWTP treats to a secondary level and discharges the treated effluent into the Sacramento River near the town of Freeport (Ascent 2014). At the SRWTP, Regional San operates a Water Recycling Facility (WRF) that produces up to 3.5 million-gallons-per-day (mgd) of tertiary effluent for urban landscape irrigation for the SCWA.

On December 9, 2010, the Central Valley Regional Water Quality Control Board (CVRWQCB) issued new Waste Discharge Requirements (WDRs) for the SRWTP (Order No. R5-2010-114). The WDRS have since been amended several times. The WDRs require treatment upgrades to be operational by December 2023. The NPDES permit was renewed in April 2016 (Order No. R5-2016-0020).

---

<sup>1</sup> Regulations for groundwater recharge with recycled water require that the recycled water be diluted with non-recycled water. A diluent well supplies water used to dilute the recycled water.



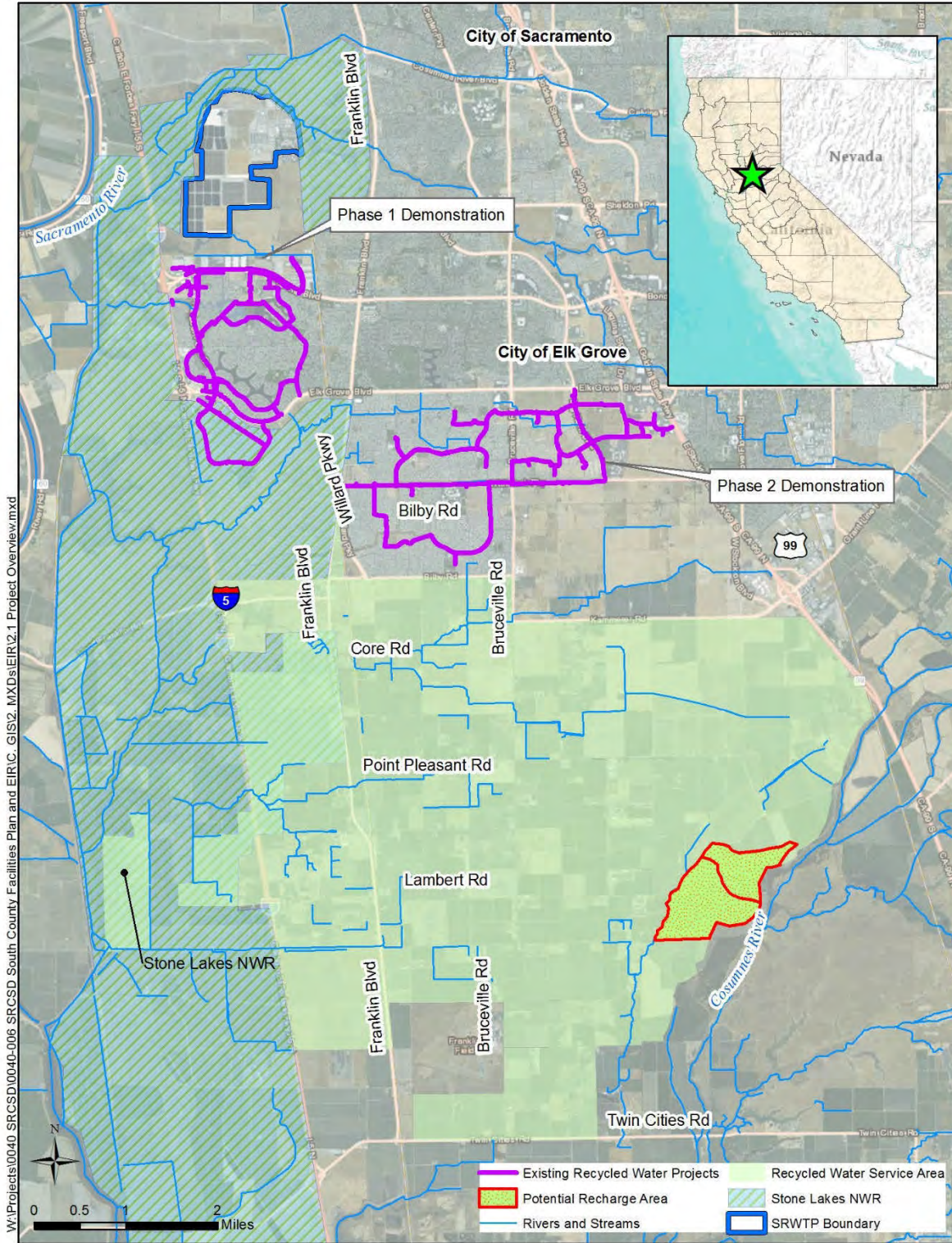


Figure 2-1: Overview of Project Location

WDRs have prompted Regional San to evaluate a multitude of technologies to produce up to 181 mgd average dry weather flow (ADWF) of Title 22 disinfected tertiary recycled water or 'equivalent' quality effluent. The collection of new treatment processes at the SRWTP to meet the new WDRs is called the EchoWater project. Following a pilot study of various technologies, Regional San selected Granular Media Filters, biological nutrient removal, and chlorine disinfection technology for complying with the WDR. Construction upgrades to the SRWTP began in 2015, with treatment upgrades to be operational by May 2023 (Ascent 2014). The SRWTP is permitted to discharge up to 181 mgd (ADWF) to the Sacramento River. Actual discharges vary seasonally and range from 120 to 205 mgd, with higher wet weather flows occurring in rainy periods (RMC 2015a). To maximize use of recycled water, Regional San proposes to beneficially reuse an annual average of up to 45 mgd of the treated effluent that would otherwise be discharged from the SRWTP to the Sacramento River. Deliveries would also vary seasonally, ranging from 24 to 70 mgd, with highest levels during the peak of the irrigation season.

## **2.2 Proposed Project Alternatives and Components**

### **2.2.1 Alternative Development Process**

Three alternatives were considered during the preparation of the Feasibility Study (RMC 2015a). They were developed based on the results of the recycled water market assessment and were developed to achieve the objectives similar to those specified in Section 2.1 above. The three alternatives include the following basic components:

- Pumping plants
- Pipelines
- Customer turnouts
- Potential recharge area (optional)

The three alternatives were developed assuming that peak demands would be met by existing groundwater supply used by growers. This supply is delivered to crops using grower-owned and operated groundwater wells, which would supply demands that exceed 2/3 of the maximum month demand during peak use periods. The base recycled water supply of up to 2/3 of the maximum month demand would be delivered from the SRWTP. They differ in the service area that each alternative would serve.

Each of the three alternatives was evaluated based on the potential benefits, costs, and risks. The Feasibility Study identified the Medium Program Alternative as the recommended project because it provided the highest potential benefit while limiting the potential institutional and political risks of including the former Elk Grove SOI area. These benefits relate to cost, increases in groundwater levels along the Cosumnes River during an average water year, and reduction in wastewater discharge. While the Feasibility Study recommended implementation of the Medium Program Alternative, a modification of that alternative is now being pursued as Alternative 1 (Medium Service Area Alternative).

## 2.2.2 Alternatives Evaluated in EIR

This EIR evaluates four alternatives. The four alternatives considered are:

- Alternative 1: Medium Service Area Alternative
- Alternative 2: No Reclamation Funding Alternative (this alternative has been included to facilitate future NEPA documentation)
- Alternative 3: Small Service Area Alternative
- Alternative 4: No Project Alternative

The alternatives consist of three action alternatives (Alternatives 1, 2, and 3) that would involve delivery of disinfected tertiary-treated water to potential customers in South County. Alternative 1 (Medium Service Area Alternative) consists of Regional San delivering up to 50,000 AFY of treated recycled water to 16,000 acres of irrigated lands, 400 acres of managed wetlands within the South Stone Lakes area of the NWR, and a potential recharge area, as shown in **Figure 2-2**. To maximize use of recycled water and augment groundwater recharge, the area proposed for summertime irrigation could also potentially be used for wintertime irrigation where agreements can be reached with willing landowners. Implementation of wintertime irrigation is a future programmatic element that would provide an alternative to direct recharge of recycled water and would avoid the need for diluent water. Wintertime irrigation would require regulatory approvals that are not yet in place. Initial implementation of the Project would focus on irrigation during the growing season, which would use an average of 32,500 AFY of recycled water and up to 37,000 AFY in higher demand (drier) years.

The proposed components of these alternatives include a pump station, and up to 13.8-miles of transmission pipelines; the Project would also include about 25 miles of distribution mains, and an (as yet) undetermined length of service lateral connections. The demands met by Alternative 1 (Medium Service Area Alternative) are shown in **Table 2-1**. Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) would be the same except under the latter alternative, Reclamation would not provide any funding.

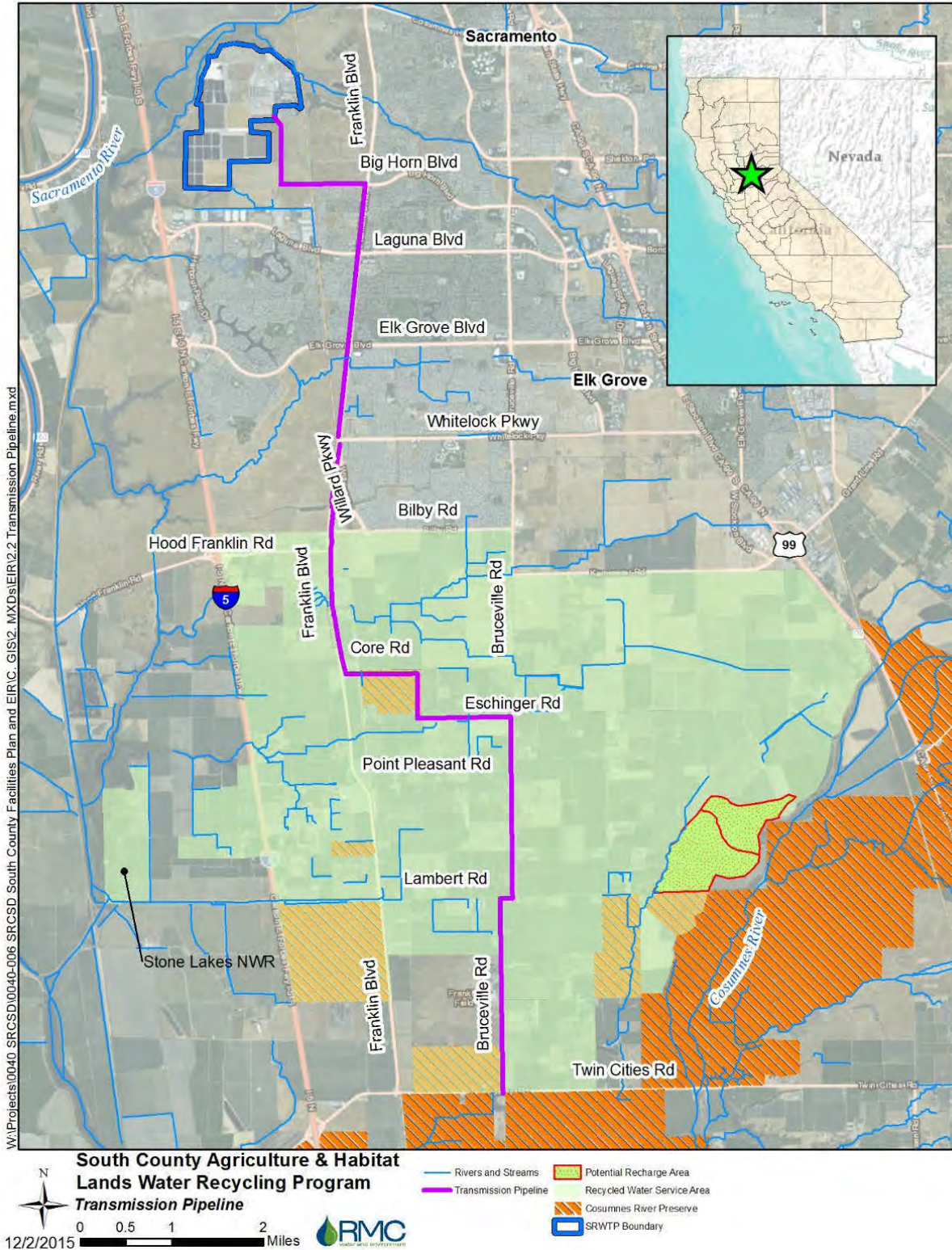


Figure 2-2: Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)

Table 2-1: Estimated Recycled Water Use Included in Alternative 1 (Medium Service Area Alternative)

Program Area	Area (acres)	Average Annual Recycled Water Use		Peak Month Recycled Water Demand (mgd)
		(AFY)	(mgd)	
Agriculture	16,000	32,500	29	70
Stone Lakes Wetlands	400	500	0.5	-
Recharge Area/ Wintertime Irrigation	16,000	17,000	15.2	-
<b>Total</b>	<b>16,400</b>	<b>50,000</b>	<b>44.7</b>	<b>70</b>

Note: The recharge area acreage is within the 16,000 acres of agriculture acreage and would reduce agriculture acreage total by a like amount when it is functioning as a recharge basin. Wintertime irrigation, which is a potential future program element, could occur in the same areas as the agricultural acreage identified for irrigation during the growing season. In dry years irrigation during the growing season could be up to about 37,000 AFY because additional irrigation could occur during dry spring and/or dry fall months (based upon historic hydrology).

The action alternatives would be designed to provide two-thirds of the maximum month demand because existing private wells currently used for irrigation supply would be sufficient to complement recycled water deliveries and still meet maximum month demand.

The South County is currently outside the Regional San's service area. It is anticipated that Regional San may annex the Project Area into its service area with a limited services agreement to provide recycled service only, not sewer service. Regional San would take responsibility for setting up user agreements and for ongoing recycled water metering and billing.

All of the action alternatives would require that Regional San obtain approval of a Petition for Change for Owners of Waste Water Treatment Plants (Petition for Change) from the State Water Resources Control Board (SWRCB), Division of Water Rights pursuant to Section 1211 of the Water Code before making a change in the point of discharge, place of use, or purpose of use of treated water.

Approval of the petition would establish a water right for the recycled water, and would enable a change in the point of discharge from the Sacramento River to new places of use – farmlands, wetlands, and/or potential recharge area. The Petition would also change the purpose of use of the treated water. In reviewing and approving Petitions for Change, the Division of Water Rights (Division) must be able to find that the proposed change would not injure other legal users of water, would not unreasonably harm instream uses, and would not be contrary to the public interest. All petitioners must send a copy of the petition to the California Department of Fish and Wildlife (CDFW). Additionally, if the action alternatives of the proposed Project have the potential to impair the water supply of other legal users of water or instream beneficial uses, the Division would require public notice of the petition. Protestants may raise concerns about protecting their water rights, or may raise public trust concerns. A protest sets forth the protestant's objections to approval of the petition. If the Division receives a protest, further review would be conducted to consider whether the reductions in flows at the existing discharge locations would adversely affect the environment or the rights of any downstream water users. The SWRCB would only issue an order approving the petition if the change of the discharge did not have adverse impacts on downstream habitat or legal users of water. Regional San would

maintain its existing discharge locations at the Sacramento River, and would continue to maintain an NPDES permit for river discharge, but the action alternatives of the proposed Project would reduce the volume of recycled water discharged to the Sacramento River with the new point of discharge being agricultural and urban irrigation customers, in addition to ongoing river discharge.

### **2.2.3 Alternative 1 (Medium Service Area Alternative)**

This following sections provide detailed discussion of the physical components of the proposed alternatives, followed by descriptions of each alternative. This section describes Alternative 1 (Medium Service Area Alternative).

#### ***Proposed Facilities***

Alternative 1 (Medium Service Area Alternative) includes expanding the recycled water system to serve the South County, and consists of pumping Title 22 tertiary-treated, disinfected recycled water from the SRWTP through new pipelines to potential customers. Alternative 1 (Medium Service Area Alternative) includes the construction of a pump station and new pipelines. **Table 2-2** shows the components of Alternative 1 (Medium Service Area Alternative), their characteristics, and the level of environmental analysis in this EIR.

#### **Pump Station**

To convey the recycled water from the SRWTP to customers, a pump station would be constructed at the SRWTP to pressurize the new recycled water system. The proposed pump station would be located on the eastern portion of a parcel between Reclamation Way and South Landfill Way, and west of Central Street, as shown in **Figure 2-3**. While the parcel is currently empty, the proposed pump station would be located adjacent to a disinfection contact basin that will be constructed as part of the tertiary treatment facilities included in the EchoWater project. The effluent channel from the disinfection contact basin would serve as a wet well for the proposed South County Ag Pump Station. In periods of the year when recycled water flows are low, the proposed South County Ag Pump Station may also receive tertiary treated water from the existing WRF. Regional San has not yet completed final layouts for the tertiary treatment facilities, and if changes are required to meet the needs of the EchoWater project, then associated changes to the South County Ag Pump Station siting could also be required. Such changes are expected to be minimal; because the SRWTP site has been previously designated for disturbance, the scope of any siting changes will necessarily fall well within the parameters identified for that project. However, if any changes are required they would be evaluated to ensure that the revised pump station siting does not result in any new environmental impacts.

Table 2-2: Proposed Components of Alternative 1 (Medium Service Area Alternative)

<b>Alternative 1 Proposed Component</b>	<b>Location</b>	<b>Details</b>	<b>Level of Environmental Analysis</b>
Pump Station	SRWTP	1 pump station, 7,000 horsepower (hp)	Project Specific
Transmission Pipeline (from proposed Pump Station to Twin Cities Road)	County, City, and Rural roads; on public rights-of-way	~72,800 feet (~13.8 miles) of 18 to 60-inch diameter pipeline	Project Specific
Distribution Mains	County, City, and Rural roads (public rights-of-way), private dirt roads and other private lands	~185,000 feet (25 miles) of 12 to 30-inch diameter pipeline	Programmatic
Service Connection Laterals	Private dirt roads and other private lands, public open space lands	6 to 12-inch diameter pipeline <sup>1</sup>	Programmatic
Turnouts	On existing private agricultural land	Pipe and metering equipment that connects directly into existing irrigation systems or discharge into a landowner's onsite water storage area	Programmatic
Potential Recharge Area	Private agricultural land	560 acres	Programmatic
Diluent Wells, if needed for recharge area	Private agricultural land	3 diluent wells within a 2,000 to 6,000 feet radius of the potential recharge area	Programmatic
Stone Lakes Managed Wetland	Stone Lakes NWR	Provision of water to South Stone Lakes wetlands	Programmatic
Wintertime Irrigation	Private agricultural land	Up to 16,000 acres	Programmatic

1. The length of pipeline will be determined upon identification of potential customers.



Figure 2-3: Proposed Pump Station Site



The maximum footprint of the pump station would be approximately 150 feet by 66 feet (up to 10,000 square feet), with a maximum height of 25 feet. The pump station would have a total installed horsepower (hp) of approximately 7,000 hp, including standby pumps, and have a flow rate of 144 cubic feet per second (cfs) (93 mgd).

As noted, the new South County Ag Pump Station would be adjacent to the EchoWater project's effluent channel for the Disinfection Contact Basin, and that channel would serve as the pump station's wet well. Use of the effluent channel for this purpose would minimize the overall pump station footprint, and pump casings (or cans, with vertical turbine pumps installed in each can) would be installed outside the effluent channel to draw water from the channel. The pump station would not have a building or other enclosure around it.

## Pipelines

### *Transmission Pipeline*

While the Notice of Preparation had considered multiple alternative transmission pipeline alignments, design has proceeded such that Regional San was able to select a preferred alignment. The Facilities Plan evaluated these alignments based on the following criteria: cost, area of permanent ROW required, environmental constraints, and utility conflicts. The Facilities Plan considered two reaches (northern and southern) and evaluated multiple alignments within each reach. Based on analysis, the preferred alignment would be located along the following roads: Big Horn Boulevard, Franklin Boulevard, Core Road, Eschinger Road, Bruceville Road, and Lambert Road, as shown in **Figure 2-2**. The 18-to 60-inch diameter transmission pipeline would extend approximately 14 miles from the new pump station at the SRWTP to Twin Cities Road. Each segment of the alignment and their characteristics is shown in **Table 2-3**.

Table 2-3: Alternative 1 (Medium Service Area Alternative) Transmission Pipeline Segments

Reach	Segment (from / to)	Total Length (linear feet)	Crossings	Construction Method
A1	EchoWater Pump Station to City of Elk Grove Limits	26,300	<ul style="list-style-type: none"> <li>• UPRR (2x)</li> <li>• PG&amp;E (high-pressure gas)</li> <li>• Laguna Boulevard</li> <li>• Elk Grove Boulevard</li> <li>• Large Drainage</li> </ul>	Primarily open cut with trenchless construction at crossings
A2	City of Elk Grove Limits to Intersection of Bruceville Road. and Twin Cities Road	46,500	<ul style="list-style-type: none"> <li>• UPRR (1x)</li> <li>• PG&amp;E HP Gas</li> <li>• Franklin Creek</li> <li>• Unnamed creek/ drainages</li> </ul>	Primarily open cut with trenchless construction at crossings

The transmission pipeline alignment would cross railroad tracks, Franklin Creek, other unnamed creek drainages), high pressure gas lines, areas of underground utilities, and a couple major, heavily traveled roadways, including Laguna Boulevard and Elk Grove Boulevard.

Where feasible, pipeline appurtenances (e.g., air valves, blowoffs, valves would be located below ground so that it would be possible to construct a roadway on top of them, with appropriate venting through the pavement surface using a structure similar to a manhole.

*Distribution Mains, Service Connection Laterals, and Customer Turnouts*

Distribution mains connect the transmission pipeline to the service connection laterals, and their purpose is to provide water to specific areas where potential customers are located. Distribution mains would range from 12-inch to 30-inch diameter. Service connection laterals provide water directly to individual customers. They would range in size from approximately 6- to 12-inches in diameter depending on individual customer demand.

Distribution mains and service lateral connections are not shown since their alignments would be based on customer's point of connection and this information has not yet been determined. Both distribution mains and service connection laterals would be located on public road ROW, private dirt roads, or agricultural lands and could cross irrigation ditches and utilities. These pipelines would be designed upon confirmation of customers to be served and points of connections to the customers. Service connections could be upwards of 200 when the system is fully built out.

For the purposes of this evaluation, it is assumed that a turnout would be required at every irrigated parcel larger than 10 acres within the service area. Customer turnouts would consist of a dedicated customer service line to point of service, flow meter, totalizing meter, and isolation valve, which all would be sized to accommodate the peak hour customer demand.

The location of the turnout for each customer will be determined based on feedback from each individual customer. Typically, the turnouts would be located adjacent to the customer's existing well or another appropriate connection to the irrigation system.

All turnouts would require backflow protection for the recycled water system connection and any wells connected to the irrigation system.

**Potential Recharge Area**

In addition to providing water to agricultural and urban irrigation users in south Sacramento County, Alternative 1 (Medium Service Area Alternative) would convey recycled water to a potential recharge area for "active recharge" to increase recycled water use, augment groundwater levels in the Central Sacramento Groundwater Basin, and improve base flow in the Cosumnes River. The area would be located in the eastern part of the service area near the Cosumnes River where the soils are suitable. While recycled water would be provided to irrigation users throughout the year, demand is greatest during the irrigation months (May through September). When irrigation demand is high, water would be provided to an up to 16,000-acre area for crop irrigation. When the irrigation demand is low (during 7 of the 12 months), recycled water could be diverted to an up to 560-acre recharge area within the irrigation area that could also be used for groundwater recharge; the 560-acre groundwater recharge area would have a recharge capacity of approximately 5,000 AFY (recycled water) for a total of 10,000 AFY of water, including diluent water. Based on California groundwater recharge with recycled water regulations, recycled water would need to be diluted as part of the recharge project. About 3,400 AFY of the total recharge capacity would need to be provided by diluent water. Groundwater could be used as diluent water. Three diluent wells would be constructed to dilute the recycled water in the potential recharge area. The diluent wells would extract groundwater (from the underlying Central Sacramento Groundwater Basin) and convey it to the

potential recharge area through new pipelines for blending with the recycled water. The diluent wells would likely range from 40 to 100 feet deep and would be located within a 2,000- to 6,000-foot radius of the recharge pond. The precise locations of the wells have not been determined, but would be sited to meet all Title 22 requirements, including retention time of the recycled water underground<sup>2</sup>.

In addition to dilution from the diluent wells, additional dilution from precipitation would allow the Alternative 1 (Medium Service Area Alternative) to achieve a 20 to 50 percent dilution.

The approximate 560-acre recharge area would be excavated approximately 4 inches. This material would be compacted and used for berms to contain the recycled water. The berms would be approximately 3 feet high and 12 feet wide. As currently conceived, the recharge area would continue to be used for agriculture during the irrigation season and would be used for groundwater recharge purposes during the non-irrigation season, although future management options such as riparian restoration or wetlands enhancement could be considered in cooperation with the landowner.

Regional San is coordinating with The Nature Conservancy (TNC) to maximize the benefits of a recharge pond, as there are opportunities for TNC to improve riparian zones through elevated groundwater levels and to use a portion of the recharge area for wetlands restoration. However, as this component is only in conceptual design, the precise details, including the exact location of the recharge area and its configuration, as well as the locations of the diluent wells and associated pipelines have not yet been developed. For the purposes of analysis in this EIR, the potential recharge area is assumed to be up to 560 acres within the 1,100 acres shown in **Figure 2-2**. Any wetland restoration or other options considered by TNC in the future are not evaluated in this EIR, as such a project is independent of Alternative 1 (Medium Service Area Alternative) and would be evaluated by TNC separately if further pursued.

The parcels proposed for the recharge pond are currently irrigated. Use of the proposed site for a recharge pond would require either Regional San or another entity to purchase this land in fee title or to execute an agreement with the landowner for seasonal recharge.

### **Wintertime Irrigation**

Alternative 1 (Medium Service Area Alternative) could also include a future program element of winter irrigation, which would be used to increase groundwater benefits of the Project. To complement or replace the recharge element of the Project, Regional San is investigating the feasibility of providing irrigation water to growers in the service area in the non-growing season in order to passively recharge the groundwater basin (as opposed to the active recharge component described above). Recharge of stormwater and flood flows on irrigated agricultural land is currently being investigated actively throughout the California Central Valley. (RMC 2015b) This wintertime irrigation concept with recycled water is being investigated presently by the Nature Conservancy, Regional San, and a group of research scientists and engineers, to ensure that the regulatory framework can be understood and established to allow recycled water

---

<sup>2</sup> Retention time refers to the time required for the recycled water to stay underground from the point of application to the withdrawal of water.

to complement stormwater as a wintertime passive recharge source that will be permitted for use without diluent water (RMC 2016)

### **Managed Wetland**

Alternative 1 (Medium Service Area Alternative) proposes to provide recycled water to the Stone Lakes NWR. This refuge is located generally north and west of the Project area, and consists of approximately 17,640 acres of land owned by the State, County, USFWS, and private landowners some of which is managed under cooperative agreement or through conservation easements. The main mission of the NWR is to support migratory waterfowl through habitat creation and protection. USFWS owns in fee title and manages approximately 6,650 acres, including waters, lands, and managed wetlands in and around South Stone Lake. The wetlands are currently supported by water pumped from lakes (fed by sloughs tributary to the Sacramento River) using 12 pumps to fill the wetland units.

The distribution main that would be needed to deliver water to the managed wetlands would likely follow Lambert Road. As this component is only in conceptual design, the precise details of the distribution mains and service connection have not been defined.

#### **2.2.4 Alternative 2 (No Reclamation Funding Alternative)**

Regional San intends to request federal funding from Reclamation for the Project. This environmental document has been prepared to meet CEQA requirements, but may be used by Reclamation for future NEPA compliance. NEPA Section 1502.14(d) requires the alternatives analysis in an EIS to include the alternative of no action. For the purposes of this project, because Reclamation's action would be to provide funding for Alternative 1 (Medium Service Area Alternative), the No Bureau of Reclamation Funding Alternative would consist of Reclamation not funding Alternative 1 (Medium Service Area Alternative). Without funding by Reclamation, it is expected that Regional San would still move forward with the proposed Project, though other budgetary arrangements would have to be made and Regional San ratepayers would likely absorb more costs to fund the environmental benefits of the Project. Because this alternative would be exactly the same as the Alternative 1 (Medium Service Area Alternative), with the exception of funding sources, and the lack of funding by Reclamation would have no consequence with respect to the Project's potential environmental impacts, no further discussion of this alternative will be provided in this EIR.

#### **2.2.5 Alternative 3 (Small Service Area Alternative)**

This alternative is a reduced version of Alternative 1 (Medium Service Area Alternative). The service area would include a smaller portion of South County, and would exclude the former Elk Grove SOI and the agricultural lands south of Twin Cities Road, as shown in **Figure 2-4**. The managed wetlands at Stone Lakes NWR would continue to be included, and the potential recharge area is included under this alternative to benefit the Central Sacramento Groundwater Basin. The total acreage of land served under this alternative and the associated recycled water usage are shown in **Table 2-4** below. **Table 2-4** also shows the amount of groundwater contribution from existing wells that would be necessary to meet peak demand, given that the project would be sized to meet two-thirds of the peak demand.

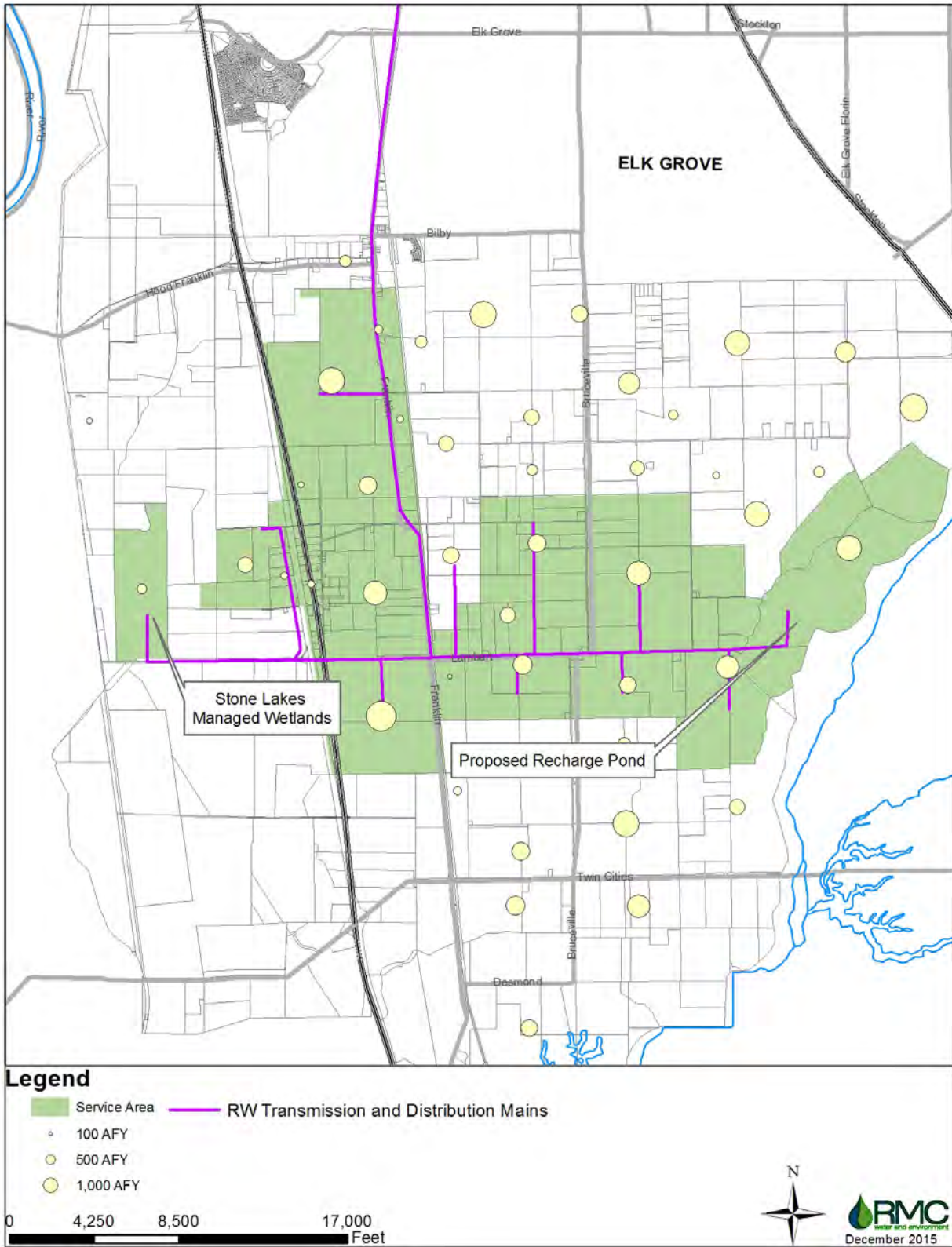


Figure 2-4: Alternative 3 (Small Service Area Alternative)

Table 2-4: Estimated Recycled Water Use for Alternative 3 (Small Service Area Alternative)

Program Area	Area (acres)	Average Annual Recycled Water Use		Peak Month Recycled Water Demand (mgd)
		(AFY)	(mgd)	
Agriculture	7,550	21,200	19.0	39.5
Stone Lakes Wetlands	400	500	0.5	-
Recharge Area	560	5,000	4.5	-
<b>Total</b>	<b>8,510</b>	<b>26,700</b>	<b>24.4</b>	<b>39.5</b>

Under this alternative, there would be fewer miles of pipelines proposed, but the basic infrastructure (pump station, transmission pipeline, distribution mains, and service connection laterals) would still be needed.

A pump station with installed horsepower of 2,500 would be constructed, at the same location at the SRWTP as that of Alternative 1 (Medium Service Area Alternative). Generally, the transmission pipeline would follow the same alignment as described for Alternative 1 (Medium Service Area Alternative), and the distribution mains and service connection laterals would also be the same as Alternative 1 for the portions of the service areas that are overlapping. The anticipated length of pipelines under this alternative (transmission and distribution mains) would be approximately 128,000 linear feet (LF), about 130,000 feet less than Alternative 1. The transmission pipeline and distribution mains are shown in **Figure 2-4**; the service lateral connections are not shown as they have not yet been defined. Service connections could be upwards of 81 under this alternative. The construction and operation of this alternative would be similar to that described for Alternative 1, but at a reduced scale. Turnouts would be necessary at the customer locations as described above for Alternative 1.

### 2.2.6 Alternative 4 (No Project Alternative)

CEQA and NEPA require the evaluation of a No Project Alternative. The No Project Alternative assumes that recycled water would not be beneficially reused through delivery to irrigation customers in South County, the Stone Lakes NWR, or to a potential recharge area. Landowners in the South County area would continue to use groundwater from their existing wells to supply irrigation demands. The Stone Lakes NWR would continue to use surface water to supply its wetland ponds.

As additional water supply is needed to supply municipal and industrial irrigation demands in the region, it is expected that new surface and groundwater supplies would be developed. Continued development of groundwater could ultimately result in depletion in the water table, exceeding limits set forth by the Water Forum. As a result of the lowered groundwater table, river flow in the Cosumnes River would continue to be substantially reduced during summer and fall months.

Regional San would construct treatment facilities to meet the requirements of the NPDES permit (Title 22 equivalent), and would continue to discharge to the Sacramento River, in accordance with its NPDES permit. Thus, up to 50,000 AFY of recycled water produced by Regional San would not be used to provide associated benefits to the region and the state.

Smaller recycled water projects to serve customers in the City of Elk Grove and City of Sacramento may still be constructed with or without the project. Existing customers served by the SCWA Phase I Demonstration Project, and planned customers served by the Regional San/Sacramento Power Authority (SPA)/City of Sacramento Water Recycling Pipeline Project<sup>3</sup> would continue to be served. Other potential recycled water projects being considered by Regional San include the following:

- SCWA Phase II Demonstration Project to serve additional municipal customers in the communities of East Franklin and Laguna Ridge;
- Partnership with the City of Sacramento to serve golf courses, parks, and schools with recycled water north of the SRWTP.

For the Stone Lakes NWR, recycled water would not be delivered to the existing wetlands. USFWS would continue to provide water to the managed wetlands from its current surface water source.

Active groundwater recharge and its associated Basin benefits would not occur under this alternative.

## 2.3 Operation and Maintenance Requirements

### 2.3.1 Operations

The average annual recycled water delivered to potential irrigation customers under Alternative 1 (Medium Service Area Alternative) at full program implementation (including winter irrigation) would be up to 44,500 AFY. Recycled water would be delivered to approximately 16,000 acres of irrigated farmlands year-round and 400 acres of managed wetlands at Stone Lakes NWR during the spring and fall. The action alternatives would be designed to provide two-thirds of the maximum month demand augmented with existing private wells currently used for irrigation supply to provide peak water delivery. Thus, irrigation demands exceeding two-thirds of maximum month demand would be supplied by customers' existing wells.

Alternative 3 (Small Service Area Alternative) would provide less recycled water to potential customers. **Table 2-5** shows the estimated recycled water deliveries for the three action alternatives. **Figure 2-5** and shows the total recycled water deliveries under Alternative 1 (Medium Service Area Alternative) by month. They also show the portions that would be met by the proposed Project and existing groundwater wells. Alternative 3 (Small Service Area

---

<sup>3</sup> The Regional San Water Recycling Pipeline Project was approved in November 2014. This project is a collaboration of Regional San and the Sacramento Municipal Utility District (SMUD) to provide recycled water to a cogeneration facility located 6.2 miles north of the SRWTP. This project consists of a pipeline (recycled water main) and necessary appurtenant facilities to convey recycled water from the SRWTP north to the SPA Cogeneration Plant. The recycled water main would initially convey 1 mgd to serve the SPA Cogeneration Plant on a year-round basis but would be sized to convey a maximum of 4.2 mgd to serve additional future users with recycled water needs within the project study area. Examples of future recycled water uses include landscaped areas such as common areas, medians, golf courses, parks, and school fields.

Alternative) would result in a similar distribution of recycled water demand as shown in **Figure 2-5** but would deliver less recycled water to potential customers compared to that shown in **Table 2-1**.

Table 2-5: Recycled Water Deliveries under the Action Alternatives

Alternative	Wetlands		Crop Irrigation (Growing Season/ Non-growing Season)			Recharge		Total Delivered Recycled Water (AFY)
	Area	Recycled Water Usage	Irrigated Area	Recycled Water Usage	Ground- water (customer wells)	Area	Recycled Water Usage	
	(Acres)	(AFY)	(Acres)	(AFY)	(AFY)	(Acres)	(AFY)	
Proposed Project Initial Phase			16,000	32,500	9,200			32,500
Proposed Project with Winter Irrigation	400	500	16,000	44,500	9,200	560	5,000	50,000
Small Service Area Alternative	400	500	7,550	21,200	3,900	560	5,000	26,700

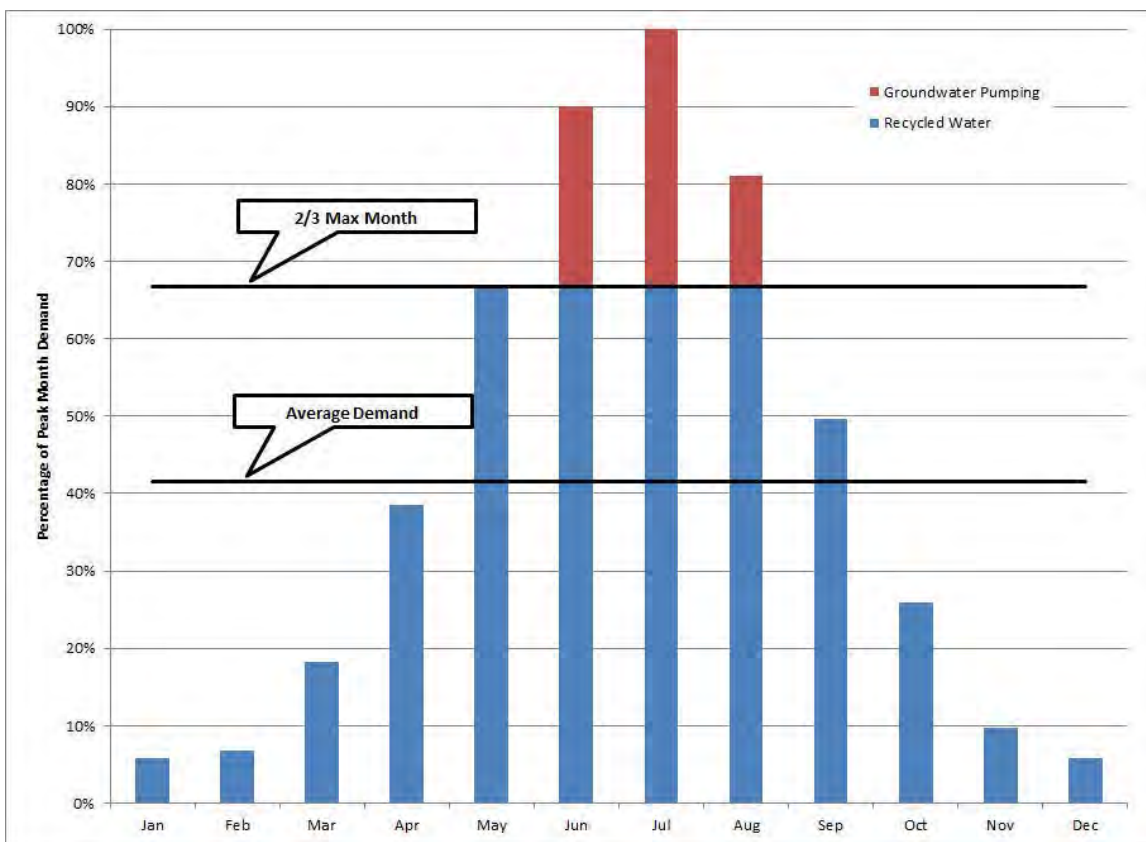


Figure 2-5: Monthly Demand for Water



The provision of recycled water to irrigation customers and for recharge would result in a reduction in the discharge to Sacramento River. Thus, Regional San would reduce discharge by up to 50,000 AFY at full program implementation, with agricultural irrigation in the growing season plus other program elements including wintertime irrigation. However, use of recycled water would benefit the groundwater basin, and higher groundwater levels would result in increased flows in the Cosumnes and Sacramento River because less water would flow out of those rivers into the groundwater basin. Once the groundwater basin reaches equilibrium the Project is expected to increase streamflows by about 45,000 AFY with implementation of wintertime irrigation. In the initial phase when irrigation is only occurring during the growing season, discharge to the Sacramento River would be reduced by about 32,500 AFY and the Project is projected to increase streamflows by over 28,000 AFY.

Operations of the potential recharge area would provide local benefits to both groundwater levels in the basin and an increase in the base flow of Cosumnes River downstream of Highway 99. It is expected that base flow would increase during summer and fall months, when plant and animal species are most sensitive to flow conditions. **Figure 2-6** shows the groundwater elevation increase for the Cosumnes River for Alternative 1 (Medium Service Area Alternative).

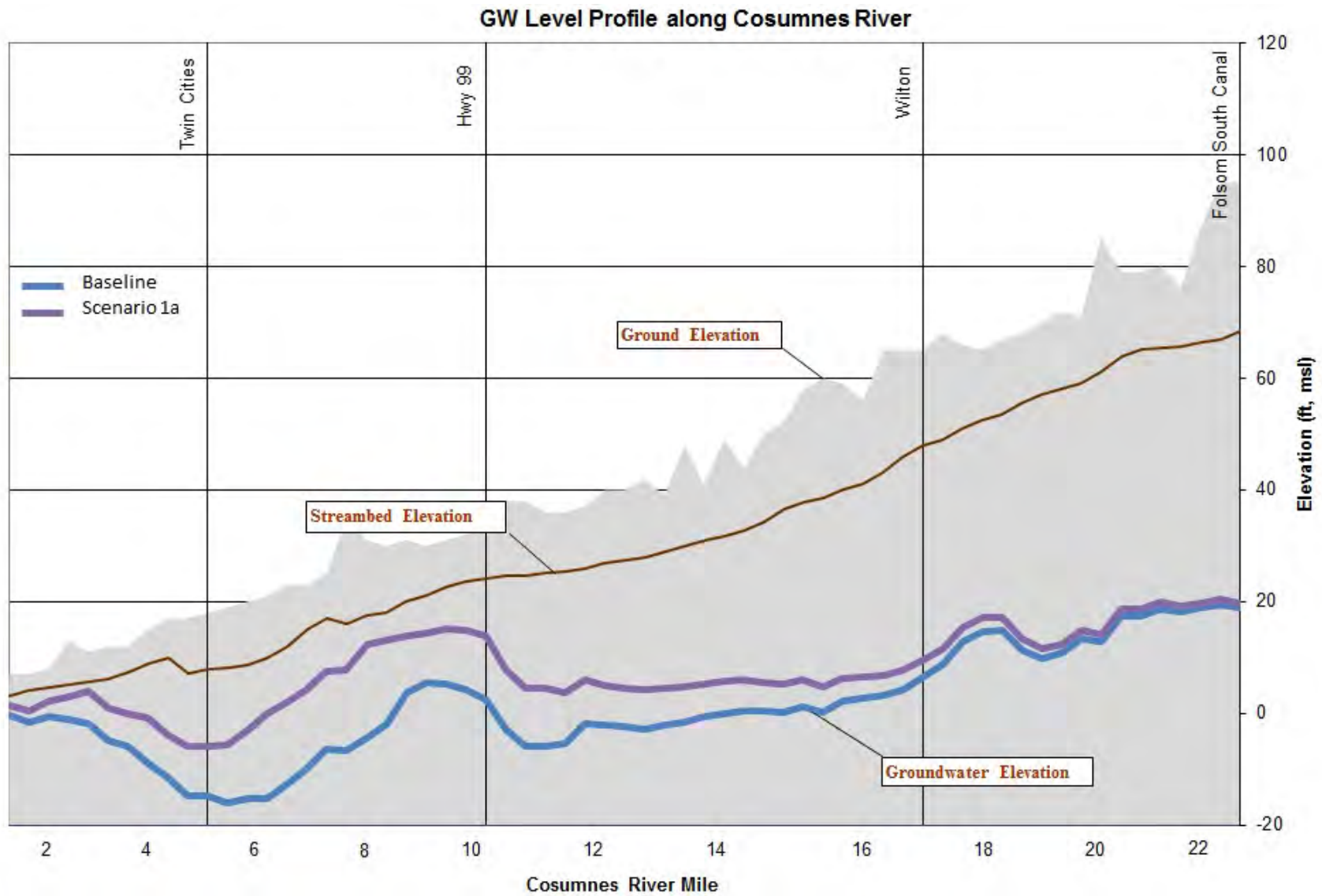


Figure 2-6: Cosumnes River Profile

Because recycled water would be used to meet most of the irrigation demand in place of groundwater, the action alternatives of the proposed Project is considered an in-lieu recharge Project. Although the action alternatives have a direct benefit for groundwater resources, Regional San is not proposing at this time to operate it within an administrative accounting framework such that the water savings over the life of the proposed Project would be accrued and reserved (groundwater banking) for other uses in the future. Regional San is considering participating in a groundwater banking framework in the future such that the stored groundwater would be available for beneficial use. If that occurs, Regional San would evaluate such a project in a separate environmental document.

With respect to the NWR, water would be delivered to the managed wetlands during low agricultural irrigation periods (spring and fall).

### **2.3.2 Maintenance**

Maintenance of the Project would primarily involve regular inspections of the pipelines and pump station. The pipeline would be inspected as needed in any given year, and the pump station would be inspected monthly. Existing Regional San operations and maintenance staff would conduct maintenance activities. No additional vehicular trips would be needed for inspection of the pump station at the SRWTP because it is located on the treatment plant site, where existing staff currently maintain facilities and will maintain the new EchoWater facilities.

### **2.3.3 Monitoring**

As part of ongoing operations, monitoring would be conducted to quantify benefits to the groundwater basin and to document the assurances that Regional San is providing to stakeholders and funding agencies as the project is developed. Monitoring would be done in cooperation with the Nature Conservancy and other resource managers responsible for lands within the project.

#### ***Riparian Corridor Health***

Riparian corridor health would be monitored through groundwater elevation measurements and riparian vegetation surveys. A monitoring program acceptable to Regional San and the Nature Conservancy would be developed to quantify the Project's environmental benefits. A groundwater elevation monitoring network would be established in the Cosumnes River Corridor between Interstate 5 and Highway 99. Existing wells would be used to the extent possible. Numerous agricultural wells exist in and near the project area, and the effort would seek to include wells monitored by UC Davis for the Cosumnes Research Group and by SCGA for the California Statewide Groundwater Elevation Monitoring program. Emphasis would be placed on shallow wells capable of monitoring conditions important to riparian forests. Wells would be focused within the Cosumnes River corridor and specifically near critical areas such as Castello Forest, Valensin Forest, Shaw Forest, Orr Forest, and Tall Forest. If appropriate wells are not present, new dedicated monitoring wells would be installed.

#### ***Groundwater Basin Health***

Groundwater basin health would be monitored through groundwater elevation measurements. A groundwater elevation monitoring network would be established to cover slightly beyond the Project footprint. Numerous agricultural wells exist in the basin, and the effort would seek to

include wells monitored by SCGA for the California Statewide Groundwater Elevation Monitoring program. Emphasis would be placed on wells screened at typical agricultural and municipal well depths. Selected wells for monitoring would be spread across the Project area to allow for estimation of stored water and estimation of losses to surface water. If appropriate wells are not present, new dedicated monitoring wells would be installed. Water level measurements would occur monthly while the Project is operating.

### ***Salt and Nutrient Monitoring***

Monitoring of salt and nutrients would occur through regular monitoring of the Groundwater Basin Health monitoring wells. These wells would be monitored annually for Total Dissolved Solids and Nitrate.

## **2.4 Construction Considerations**

This section outlines the pipeline installation techniques under consideration for the proposed Project. The precise construction methods are yet to be determined but work is anticipated to follow the broad methods outlined in the following sections.

All pipeline construction would occur within public roadways or other public ROW, private dirt roads and agricultural lands, and public open space areas. An access agreement may be required for railroad crossings. Installation of the pipeline would be accomplished using open-cut construction, except at specific sensitive crossings (e.g., stream/river/sensitive biological resources, railroad crossings, canal/ditch, busy intersections, areas with dense utilities), where trenchless construction techniques would be employed. Specifically, trenchless construction (i.e., horizontal directional drilling or HDD) would occur at I-5 and encased within a larger conduit; construction pits associated with trenchless construction would be located outside the Caltrans ROW.

Spoil (soil and rock) excavated during construction would be reused on site for backfilling or would be disposed of properly. Any material that would not be reused as backfill would be stabilized and stored temporarily at the construction staging area until characterized and then hauled away to a permitted disposal site (e.g., landfill). Potential for reuse of spoil from a trenchless installation would depend on the trenchless method selected because some methods remove spoil using slurry (i.e. the material is mixed with water or drilling fluid) and for those methods it is not practical to reuse excavated spoil.

### **2.4.1 Construction Timing**

The action alternatives of the proposed Project would be developed based on conveyance needs to meet potential demands, optimizing potential grant funding, and identifying components that may need additional time to meet regulatory and institutional requirements. The proposed Project's project-level components would be constructed first to serve irrigation customers and potentially riparian forest/recharge areas (to enhance use of water year-round). The programmatic components would be implemented at a later time and would serve additional irrigation customers, serve wetlands at the Stone Lakes NWR, and would further develop the potential recharge area component.

The project-level components would include construction of the pumping plant at the SRWTP, the transmission pipeline down to Lambert Road, and distribution and lateral main pipelines and related facilities to serve agricultural parcels adjacent to the transmission pipeline. The pumping plant would initially include fewer/smaller pumps. To the extent possible Regional San would endeavor to extend service to the east of the transmission main, serving a first phase of ground water recharge if feasible based on regulatory constraints and funding. Additional near-term work would include distribution mains, laterals, service pipelines and other facilities to serve the remaining service area customers, as well as expansion of the pumping plant to meet estimated demands. Service to the managed wetlands and full development of the potential recharge area component would occur thereafter.

Construction of the project-level components is tentatively scheduled to start in 2019/2020, and last approximately 2 to 3 years. Construction of the additional program-level components could occur in 2020 through 2041. The timing of serving Stone Lakes NWR and developing the full potential recharge area has not yet been determined, but could occur at a later time (after 2023) to accommodate potential regulatory and institutional processes that might slow full program implementation. Service to Stone Lakes NWR would require construction that could last 6 to 12 months, and construction of the potential recharge area could last 6 to 12 months.

For all components, construction would typically be limited to those hours consistent with the noise ordinance of the affected jurisdictions. Typical work hours would be Monday through Friday from 7:00 AM to 7:00 PM (construction noise is exempt between 6 AM and 8 PM on weekdays within Sacramento County and the City of Elk Grove), and construction might take place during weekends and nighttime (e.g., for connection of new pipelines to existing pipelines in heavy traffic areas) if necessary, and if approved by the affected jurisdictions. The Project construction contractor would be responsible for obtaining the necessary permits to conduct weekend and nighttime activities.

#### **2.4.2 Staging Areas**

Equipment, material and vehicle staging would be accommodated at the SRWTP and along the proposed pipelines. Spoils would not be located within Caltrans ROW (along I-5).

#### **2.4.3 Pipeline Construction**

##### ***Open-cut construction***

Open-cut construction (also referred to as open trench with shoring, or cut-and-cover) is the proposed option for installing the majority of the pipeline, manholes, air vents, and turnouts along existing roadways and within private agricultural lands. Generally, the open-cut trench would be up to approximately 7 feet wide and up to 10 feet deep, depending on the pipe size, existing utility locations, and pipe bedding requirements. Shoring may be required to provide trench stability.

Open-cut construction would involve cutting and removing pavement in existing paved areas where needed. Asphalt would be cut using large saw blades mounted on a special cart that would be pushed by a construction laborer. The asphalt would be lifted in large chunks and slabs from

the cut area by a front-end loader or backhoe into a dump truck for off-hauling. The saw cutting operation would be relatively fast, with several hundred feet typically being cut within a few hours. Where possible, the pipelines would be installed along the shoulder of the roads to minimize paving and traffic disruption.

Installation of dewatering wells may be required prior to start of excavation depending on the soil type and groundwater level. Water pumped from the excavation area must be properly disposed to nearby irrigation ditches or impoundments. Dewatering pumps would run continuously (24 hours per day) in the open trench areas while excavation is taking place, to maintain the groundwater level below the bottom of trench. After the pipeline is installed and backfilled, the dewatering pumps would be removed and relocated to the next segment of pipeline construction.

Heavy equipment for excavation typically involves continuous use of an excavator to fill dump trucks which would make intermittent trips to an off-site disposal area. Typically two or more dump trucks would be used to allow continuous offloading from the excavator. In addition, dump trucks hauling material from off-site sources for pipeline bedding and backfill would make semi-continuous trips to the site as pipe is being installed. A front-end loader would be used to lift pipe segments from a flat-bed delivery truck and position the pipe in the trench. Temporary trench plates would be installed over the trench at the end of each work day. Final paving and marking typically would be done for the entire pipeline length after installation.

To accommodate construction equipment and work area, the entire construction corridor (active work area including the trench) would be up to 80 feet wide for the largest diameter pipelines. Because of the limited width of the existing roads and the size of the trench and construction zone, it is expected that the construction may require full road closures unless temporary access for construction equipment can be provided along the shoulders of the road and/or adjacent property. If access can be provided along the roadway shoulders and adjacent property, only partial road closures with appropriate traffic control would be required. Otherwise, segments of the affected roadway would be closed during pipeline installation activities. Traffic control operations would be noticed at the location of the temporary traffic restrictions a week in advance of any road work that impedes the flow of traffic (i.e. closes the road, closes a traffic lane, or closes the road shoulder).

It is expected that open trench construction within paved roadways would proceed at the rate of approximately 150 feet per day. Excavated trench materials would be sidecast within approved work areas and reused as appropriate for backfill. Excess material would be hauled off for disposal at an approved disposal site (e.g., landfill). Upon completion of pipeline installation, affected roadways would be repaved per the requirements of the affected jurisdiction.

Open-cut construction would also be used within private farmland areas. Some of the lands are fallowed while others are cultivated. Open-cut construction proposed for cultivated areas may require removal of the crop, depending on the crop and time of year. Temporary and permanent easements would be obtained from individual growers as needed and coordinated to avoid the need to remove crops.

### ***Trenchless Pipeline Construction***

Trenchless construction methods would be used for specific crossings. These methods are used to minimize the area of surface disruption required for pipeline installation or where open-cut construction is not practical or not allowed. The exact types of trenchless methods to be employed have not yet been defined, but could consist of HDD, jacking and boring (sometimes known as jack-and-bore construction), and/or microtunneling.

### **Horizontal Directional Drilling**

HDD is a trenchless pipeline installation method that can be used for crossing major roadway intersections and waterways. HDD crossings are installed between an entry and exit area (see **Figure 2-7**). HDD involves the use of a drill rig tilted at the top at an angle, typically in the range of 10 to 15 degrees from horizontal. A small diameter (4 to 8 inch diameter) pilot hole is first drilled along a pre-determined horizontal and vertical alignment from the entry to exit area. This pilot hole can be guided using electromagnetic readings transmitted from the drill bit back to the drill rig. Excavation takes place by introducing pressurized slurry (a thin mixture of water and clay) through a drill string to the bit. The slurry pressure in combination with a rotating drill bit excavates the material, which is then transported back to the entry area along the outside of the drill string. In some cases, a larger diameter wash pipe may be rotated around the drill string to prevent sticking of the steerable string.

Entry and exit areas are required at each side of the crossing. These areas are approximately 50 to 100 feet square by approximately 5 feet deep, and are used as the collection point for the fluid material removed during drilling, which is a mixture of the drilling slurry and spoil. This fluid is then pumped to a slurry separation plant to separate the spoil from the fluid so that the fluid can be reused. The pilot hole is then enlarged by pulling larger reamers (see **Figure 2-7**) from the pilot exit back towards the drilling rig. The pipeline is then pulled into place behind the last reamer.

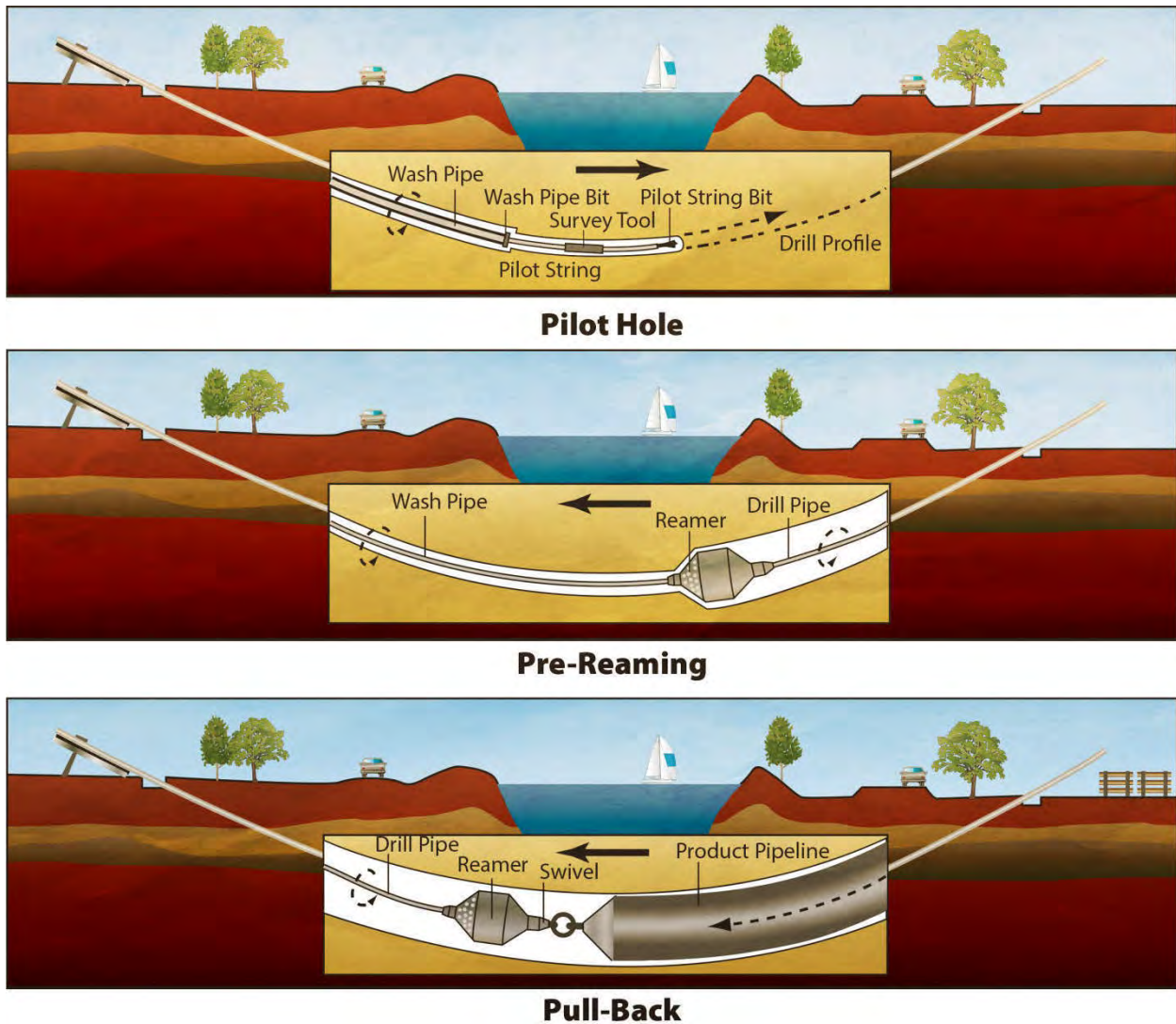


Figure 2-7: Diagram of Horizontal Directional Drilling (HDD) Process

The entry side requires a work area of approximately 1,500 to 3,000 square feet for the drill rig, slurry separation plant, material storage and other support equipment. The exit side requires a work area of about 1,000 to 1,500 square feet for the pullback. This area is exclusive of the area needed for the pipe assembly and laydown area. Typically, a corridor about 15 feet wide by the length of the pipe is needed for the buildup and laydown.

Pipes would be installed at varying depths depending on features being avoided, the existing underlying utilities, soil types, environmental constraints, entry and exit constraints, and bend radius of the installed product and drill pipe. Although the exact depths of the pits and drilling have not been defined as design has not yet been initiated, for the purpose of this analysis, it is assumed that the depth of construction would vary from 10 to 15 feet under Franklin Boulevard and other roads, railroad, and canals.



### Jack and Bore Construction

Jack and bore is a method that is often used for major roadway intersections and railroad crossings where crossings are generally less than 300 feet long and above the groundwater level. Jack and bore would require two pits that are excavated at each end of the pipeline to be installed (see **Figure 2-8**). A boring machine is inserted into one pit to bore the soil using an auger to remove material, a casing is pushed forward as material is removed until it reaches the receiving pit, and the pipe is inserted in the casing. The jacking pit is excavated (and shored) with typical dimensions of 8 to 12 feet wide and 25 to 35 feet long depending on the casing length selected. The depth would depend on the feature to be avoided, existing utilities, or separation requirements. The exact depths of the pits and drilling have not been defined because design has not yet been initiated; however, for the purpose of this analysis, it is assumed that the depth of construction would be on the order of 15 to 20 feet deep for railroad and highway crossings. Jack and bore typically has very limited steering control and it is not the method of choice if precise line and grade control is required.

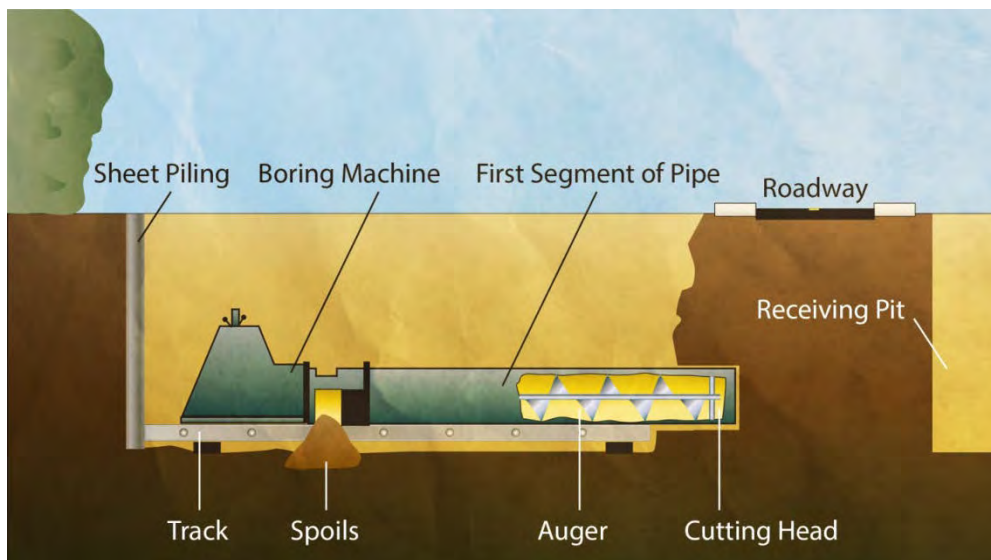


Figure 2-8: Diagram of Bore and Jack Process

Shoring, appropriate to the pit depth, would be used to support the excavation. In addition, the back wall of the jacking pit would need to be constructed so as to withstand the reactive forces from the jacking frame. An additional area of about 1,500 to 2,000 square feet would be needed around the pit for temporary storage of pipe sections and for loading material removed from the bore. The receiving pit at the other end of the crossing would be smaller, encompassing approximately 100 square feet. Pits and work areas would be located within existing ROW and along streets, where appropriate. Crossings of roadways would typically take three to five days. After pipeline construction and installation is complete, the work area would be restored to preconstruction conditions.

### Microtunneling Construction

Microtunneling is a remotely-controlled pipe jacking process that can be used in saturated areas below the groundwater level. The microtunneling boring machine is advanced through the ground by incrementally adding jacking pipe segments to the end of the pipe string and advancing the pipe string from a jacking pit to a receiving pit on the opposite side of the crossing (see **Figure 2-9**). A cutting head excavates material at the face as the machine is jacked forward. The excavated material is mixed with clean slurry and pumped to the surface for separation and muck removal.

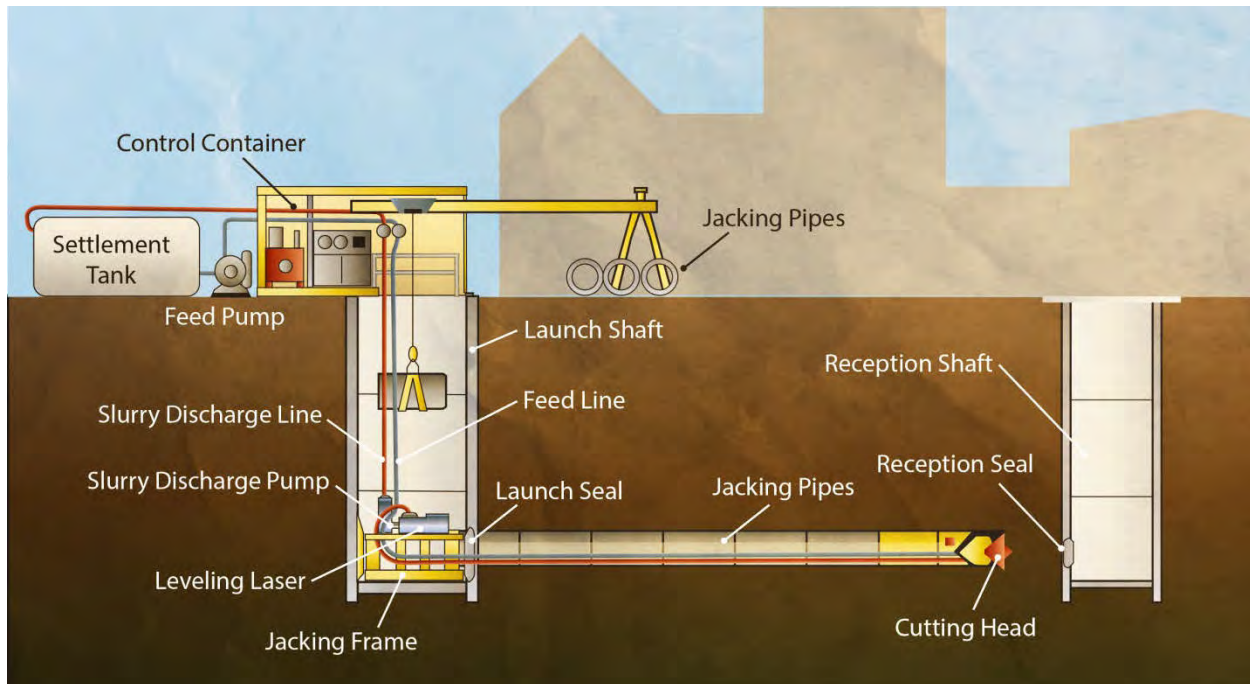


Figure 2-9: Microtunneling Construction

Jacking pits for microtunneling are typically 10 to 14 feet wide. The length is dictated by the pipe segment length that would be installed. Ten-foot segments require a pit about 15 feet long and 20-foot pipe segments require a pit about 25 feet long. Receiving pits are typically 12 to 16 feet square. Pit depths would vary depending on the feature being avoided, existing utilities, and the presence of soil layers that are more favorable to tunnel through than others. The exact depths of the pits and drilling have not been defined because design has not yet been initiated. A microtunnel operation requires a work area (including the area of the pit) of approximately 2,000 to 3,000 square feet at the jacking pit. The work area at the receiving pit can be smaller, but is typically a minimum of 1,000 square feet. Off-site staging areas can be used to reduce work areas.

#### 2.4.4 Pump Station Construction

The new pump station would require site preparation (e.g., removal of vegetation, if any), excavation and shoring, installation of the slab on grade, and construction / placement of the structure. Dewatering equipment would likely not be required to maintain the groundwater level below the bottom of excavation, since other EchoWater project work will be ongoing at the time

of the South County Ag Pump Station construction, and SRWTP-wide dewatering will be ongoing for that project. After the structure has been constructed, electrical equipment (e.g., motor control cabinets, panels, switchboards, lighting) would be installed in the electrical building constructed for both the tertiary treatment facilities and the South County Ag Pump station, and other installations (e.g., conduits and cables) would occur. Finally, placement of pavement, restoration of the work site, and testing would be conducted prior to the start of operations. Equipment would be accommodated adjacent to the Project site during construction. Because the construction is anticipated to be done concurrently with the EchoWater project work, only incremental construction area is required for the South County Ag Pump Station work. The incremental construction zone, including the footprint of the pump station, would be approximately 175 feet by 100 feet to provide clearance for excavation, storage of construction materials, and equipment access.

## 2.4.5 Construction Equipment, Crew, Spoil and Trip Generation

### **Construction Equipment and Crew Size**

Equipment required for installation of the proposed facilities would include, but is not limited to, the following: excavator, backhoe, front-end loaders, pavement saw, dump trucks, diesel generator, crane for lifting large diameter pipe, water tank, water truck, flat-bed truck, drill rig, compactors, double transfer trucks for soil hauling, concrete trucks, dewatering equipment and paving equipment. It is assumed that two crews of up to 40 workers would be installing the pipelines at any one time. One crew of up to ten members would be needed to construct the pump station.

### **Construction Spoil and Trip Generation**

The amount of spoil generated would depend on the construction methods selected. **Table 2-6** shows estimated cubic yards (CY) of spoil from pipeline construction for each alternative.

Table 2-6: Spoil Generated by Pipeline Construction for the Project-Level Components of the Proposed Project

Alternative/Facility	Spoil Quantity (CY)	Number of Truck Trips
Alternative 1-Medium Service Area Alternative		
Open trench construction	152,900	9,500
Trenchless construction	1,300	80
<b>Subtotal</b>	<b>154,200</b>	<b>9,580</b>
Alternative 2-No Reclamation Funding	Same as Alternative 1	
<b>Subtotal</b>	<b>154,200</b>	<b>9,580</b>
Alternative 3-Small Service Area Alternative		
Open trench construction	59,000	3,690
Trenchless construction	1,300	80
<b>Subtotal</b>	<b>60,300</b>	<b>3,770</b>

For the new pump station, the spoil generated from excavation would be approximately 600 CY, resulting in approximately 60 truck trips. The pump station would use the new EchoWater project disinfection contact basin effluent channel as a wet well, and no additional excavation would be required for the wet well portion of the pump station.

Assuming an average of 150 feet of pipeline would be constructed per day (485 days of construction) for Alternative 1 (Medium Service Area Alternative), a maximum of 154,200 CY of material would be generated from pipeline construction during the first phase. Assuming a hauling truck capacity of 16 CY per truckload, and that none of the excavated spoil would be used for backfill, up to 9,580 truck trips (round trips) total would be generated.

For Alternative 3 (Small Service Area Alternative), assuming the same installation rate for the pipeline and truck capacity, the daily generation would be approximately 60,300 CY, resulting in approximately 3,770 truck trips (round trips).

The overall spoil generated for the project level components (associated with pump station and pipeline construction) of the proposed Project would be 154,200 CY, equivalent to about 9,580 truck trips.

Construction of the recharge pond, which could occur concurrently with a portion of the future pipeline construction or as a standalone component, would not generate any truck trips. The precise timing of the recharge pond construction has not been determined, and could occur concurrently with future phases of pipeline construction or as a standalone component.

In addition to equipment and material delivery, a total of 50 worker trips (round trip) would be generated per day assuming each individual drives separately and half of the workers travel for lunch.

#### **2.4.6 Construction-Related Water Requirements**

Water, from water trucks, would be used during construction activities for dust control purposes. Water generated from the trench dewatering operations may also be usable for dust control.

#### **2.4.7 Surface Restoration**

Repaving of disturbed roadway areas would occur after pipeline installation and testing. New asphalt or concrete pavement would be placed to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction with permanent repaving near completion of the project. A repaving crew would follow the installation crew and prepare the road surface for repaving. Final repaving to restore all disturbed roadways would be done after pipeline installation and testing is completed. In some cases surface restoration may also include vegetation to return the site to its pre-construction condition.

#### **2.4.8 Environmental Commitments**

Mitigation measures are described in *Chapter 3, Environmental Setting/Affected Environment, Impact Analysis/Environmental Consequences*, and address potentially significant impacts for each resource area. As required by CEQA, the Project Partners will adopt a Mitigation Monitoring and Reporting Program (MMRP), which would specify the mechanisms by which implementation of mitigation measures would be ensured during construction and operation of

the South County Recycled Water Program. The MMRP would specify the environmental commitments that would be adopted as conditions of Project approval.

## 2.5 Alternatives Considered but Rejected

The following alternatives, evaluated during the preparation of the Feasibility Study (RMC 2015a) for the Project, are deemed to be infeasible or did not adequately meet Project objectives for the reasons described below.

### 2.5.1 Large Program Alternative

The Large Program Alternative encompasses irrigated area, including wetlands and agricultural parcels. It includes the former Elk Grove proposed SOI, the Stone Lakes managed wetlands, as well as the Cosumnes Preserve managed wetlands. It would include more than 281,500 LF of pipelines (transmission, distribution mains, and service connection laterals), and a pumping plant. The potential recharge area would also be included. The Large Program Alternative would result in the highest capital cost (\$228.9 million; not updated to current dollars) to build and implement the project but the least annual unit cost (\$240 per AF). Further, demand for water south of Twin Cities Road is reduced because of higher groundwater levels, so project benefits were determined to be less certain. While it would result in the same type of benefits as all the other alternatives (greater benefits to recipients and to the groundwater basin), it was not selected for reasons of its capital costs, size, and inclusion of the former Elk Grove SOI. At the time the Feasibility Study was developed, serving the SOI represented a risk to Regional San because of the uncertainty in the SOI area's future land use and the associated institutional issues. Since development of the Feasibility Study, the Local Agency Formation Commission determined that the Elk Grove SOI would remain in agricultural use. However, because of its larger size and because it reduces discharge to the Sacramento River to a greater extent than the proposed Project, the Large Program Alternative does not reduce any of the environmental impacts associated with the proposed Project. This alternative is thus eliminated from further evaluation in this EIR.

### 2.5.2 Medium Program Alternative

The Medium Program Alternative would cover a smaller portion of the service area compared to the Large Program Alternative and does not include the former Elk Grove proposed SOI or the Cosumnes Preserve managed wetlands. It would have nearly 153,000 LF of pipelines and a pumping plant. The potential recharge area would also be included. The Medium Program Alternative was identified as the recommended project in the Feasibility Study as it provided the highest potential benefit while limiting the potential institutional and political risks of including the former Elk Grove SOI area. Although selected as a recommended project in the Feasibility Study due to the balance of benefits, costs, and risks, this alternative was subsequently deemed to not meet the objectives of the proposed Project as it did not include the Elk Grove SOI. As noted in *Chapter 1, Introduction*, since completion of the Feasibility Study, the City of Elk Grove withdrew its request for extension of the SOI. After it was determined that the Elk Grove SOI would remain in agricultural use, inclusion of the former Elk Grove SOI better meets the objectives of the project by maximizing the demand served as well as minimizing the

conveyance costs. Alternative 1 in this EIR (Medium Service Area Alternative) is a modification of the Medium Program Alternative to include the Elk Grove SOI.

## 2.6 References

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12.

RMC Water and Environment (RMC). 2015a. *Sacramento Regional County Sanitation District South County Recycled Water Feasibility Study*. January.

\_\_\_\_\_. 2015b. *Creating an Opportunity: Groundwater Recharge through Winter Flooding of Agricultural Land in the San Joaquin Valley*, prepared for the California Water Foundation, October 2015

\_\_\_\_\_. 2016. *Tailored Collaborative Research Program in Water Reuse and Desalination – White Paper on Groundwater Replenishment with Recycled Water on Agricultural Land*.

*This page intentionally left blank*

# Chapter 3 Environmental Setting, Impacts and Mitigation Measures

## 3.0 Introduction to Environmental Analysis

### 3.0.1 Organization of Chapter 3

Chapter 3 is organized by environmental resource area, as follows:

- 3.1 Aesthetics
- 3.2 Land Use and Agriculture
- 3.3 Recreation
- 3.4 Air Quality and Greenhouse Gas Emissions
- 3.5 Biological Resources
- 3.6 Cultural Resources
- 3.7 Energy Resources
- 3.8 Geology and Soils
- 3.9 Hazards and Hazardous Materials
- 3.10 Hydrology and Water Quality
- 3.11 Indian Trust Assets
- 3.12 Noise
- 3.13 Public Services and Utilities
- 3.14 Traffic and Transportation
- 3.15 Environmental Justice
- 3.16 Socioeconomics
- 3.17 Population and Housing

### 3.0.2 Organization of Discussion of Environmental Issue Areas

For each resource area, this Draft EIR evaluates the environmental impacts of the proposed Project. Sections 3.1 through 3.17 discuss the environmental impacts that may result with approval and implementation of the proposed Project. Each environmental resource section contains the following components:

1. **Environmental Setting** describes the setting as it relates to the specific resource topic. The setting information covers two major areas affected by the proposed Project: the SRWTP where the proposed pump station would be located, and the City of Elk Grove and South County where the proposed pipelines would be located;
2. **Regulatory Framework** provides an overview of relevant Federal, State, and local laws, regulations, and ordinances applicable to each resource area;



3. **Impact Analysis** includes the following subsections:

- **Methodology for Analysis**, which describes the approach used in analyzing the potential impacts;
- **Thresholds of Significance** or the CEQA significance criteria are based on those identified in Sacramento County's Initial Study Checklist, but are modified or supplemented as appropriate to address the proposed Project impacts;
- **Impacts and Mitigation Measures** provides an evaluation of impacts and identification of mitigation measures, if needed. The impact analysis is presented by a numbered impact summary statement that corresponds to the resource area. The impacts are presented for the following alternatives:
  - Alternative 1: Medium Service Area Alternative
  - Alternative 2: No Reclamation Funding Alternative
  - Alternative 3: Small Service Area Alternative
  - Alternative 4: No Project Alternative

Because Alternatives 1 and 2 are the same in terms of proposed facilities, they are discussed jointly. In some cases, all of the action alternatives are combined as they would result in similar effects.

Because this EIR is evaluated at both a project- and program-level of detail, the impacts analysis typically separates the discussion of project and program level components for each alternative when discussing individual components. Specifically, as itemized in **Table 2-2** in *Chapter 2, Alternatives Description of the Proposed Project*, the project and program components are as follows:

- **Project-Level Components:** Pump station and transmission pipeline alignment
- **Program-Level Components:** distribution mains, service connection laterals, turnouts, potential recharge area, and diluent wells, and provision of water to Stone Lakes NWR wetlands.

Under each level of analysis, effects of construction are typically presented first for the relevant components, followed by a discussion of the effects of operation of the proposed facilities. Project- and program-level components are discussed together if the potential impacts are determined to be similar.

It should be noted that the proposed pump station would be located within an area of the SRWTP that will be developed as part of the EchoWater Project. The EchoWater Project facilities are currently under design and although some construction has started most facilities have not yet been built. Discussion of the impacts of the proposed pump station under this Program will assume that the EchoWater facilities are not yet in place. The discussion of the pump station relative to the other EchoWater facilities is more appropriately evaluated under the cumulative discussion.

If applicable, mitigation measures are numbered to correspond to the impact summary statement number. For example, Mitigation Measure AES-1 is a mitigation measure identified for Impact AES-1 (Aesthetics). The impacts analysis will also evaluate the effects of cumulative project under its own heading. A discussion regarding cumulative projects is presented in Section 3.0.6 below.

4. The end of each impact statement includes a determination of the level of significance before and after mitigation measures are implemented.<sup>1</sup>. Impacts that exceed identified threshold levels of significance are considered significant. In describing the significance of impacts, the following categories of significance are used:
  - **Significant and Unavoidable.** Adverse environmental consequences that exceed the threshold criteria identified for the resource, even after feasible mitigation strategies are applied and/or an adverse effect that could be significant and for which no feasible mitigation has been identified.
  - **Less than Significant with Implementation of Mitigation Measures.** Adverse environmental consequences with the potential to be significant, but can be reduced to less than significant levels through the application of identified mitigation strategies for the relevant alternative.
  - **Less than Significant.** Potential adverse environmental consequences have been identified. However, they are not so adverse as to meet the significance threshold criteria for a resource. Therefore, no mitigation measures are required.
  - **No Impact.** No adverse environmental consequences have been identified for the resource or the consequences are negligible or undetectable. Therefore, no mitigation measures are required.
  - **Beneficial.** Implementation of the alternative as proposed would result in a benefit to the environment. Therefore, no mitigation measures are required.

### 3.0.3 Approach to Analysis of Cumulative Impacts

#### **CEQA Requirements**

CEQA requires consideration of cumulative impacts. A cumulative impact is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Cumulative impacts, as defined in Section 15355 of the CEQA Guidelines, refer to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, or reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is provided in Section 15130 of the CEQA Guidelines:

---

<sup>1</sup> An exception is made for those environmental topics where only NEPA requires an evaluation (e.g., Socioeconomics). In this case, NEPA does not require a determination of significance for economic impacts and therefore, none have been made.

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (i.e., the incremental effects of an individual project are considerable when viewed in connection with effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not be as detailed as it is for the effects attributable to the project alone.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

The cumulative impact analysis for each individual resource topic is described at the end of each resource section in this Chapter.

### ***Approach to Analysis***

For evaluation of cumulative impacts, this EIR uses a list-based approach, and evaluates the potential for past, present and probable future projects in the project area to result in cumulative impacts. The list of projects was generated based on information from Regional San, Sacramento County and Reclamation staff, the 10-year capital improvements plan for the SRWTP, the City of Elk Grove planning website, and USFWS. The following factors were used to determine an appropriate list of projects to be considered in this cumulative analysis:

- Similar Environmental Impacts – a relevant project contributes effects on resources also affected by the proposed Project. A relevant future project is defined as one that is "reasonably foreseeable," such as one that has approved funding or for which an application has been filed with the approving agency.
- Geographic Scope and Location – a relevant project is located within a defined geographic scope for the cumulative effect. The geographic area considered for the cumulative impact depends upon the resource that is analyzed.
- Timing and Duration of Implementation – effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) would likely coincide in timing with effects of the proposed Project.

**Table 3.0-1** contains a list of projects under consideration in the project area, and identifies those projects that have a potential nexus with the proposed Project (i.e. there is a possibility that the proposed Project could contribute to incremental effects on the same environmental resources). Projects that would not be considered to have impacts that could combine with those from the project include:

- Projects located outside of the area where the proposed Project would be constructed (which could thus not have impacts that would combine with effects of the proposed project).
- Projects of a type that would not produce impacts that could combine with the proposed Project.

The Wastewater Change Petitions and Reclamation projects identified as having the potential to combine impacts could have a cumulative effect on the flow reductions in the Sacramento River.

Construction of the Regional San, Sacramento County, and City of Elk Grove projects identified as having the potential to combine impacts would occur during the timeframe proposed for the Project. These projects are generally in the vicinity of the same major roadways anticipated to be used for the proposed Project and could have a cumulative effect on construction-related traffic. The Freeport Regional Water Project Intake Facility and Pipeline and Folsom South Canal Connection is already operational. Given that the proposed Project would not result in an increase in operational maintenance traffic, impacts are not expected to combine with the effects of the proposed Project to result in cumulative impacts. Freeport operational impacts associated with diversion of water are incorporated into the coordinated operation of the Central Valley Project. The Bay Delta Conservation Program (BDCP) is included as a cumulative project, but it is important to note that while a preferred alternative (Alternative 4C, California WaterFix) has been identified, environmental review is not yet complete and it is unknown when a decision regarding project approval may be made. Schedule for implementation of the BDCP is thus uncertain.

EIR

Draft

Table 3.0-1: List of Cumulative Projects

	<b>Project Name</b>	<b>Estimated Schedule/Status</b>	<b>Project Description</b>	<b>Location</b>	<b>Potential to Combine Impacts?</b>
<b><i>Regional San Capital Improvements Plan</i></b>					
1	EchoWater Program	Approved and under construction	Upgrades to the existing 480-acre SRWTP to comply with the adopted NPDES requirements. The project consists of preliminary and primary treatment facilities, secondary treatment facilities, tertiary treatment and disinfection facilities, auxiliary facilities/systems, odor control, and site improvements.	Within SRWTP	Y
2	Digester Rehabilitation	Construction 2012 – 2018	Rehabilitation of digesters 6 and 7 at SRWTP.	Within SRWTP	Y
3	SPA Recycled Water Project	EIR Certified, approved and under construction	Construct pipeline from SRWTP to Sacramento Power Authority Co-Gen Facility.	Within SRWTP	Y
<b><i>Sacramento County</i></b>					
4	Capital Southeast Connector	Program EIR completed in January 2012	The 35-mile parkway connects at I-5 and Hood Franklin Road in Elk Grove, and extends northeast to Highway 50 and Silva Valley Parkway near Folsom.	Hood Franklin Road and Franklin Boulevard	Y
5	Wilton Rancheria Casino	Draft EIS in preparation	Three alternatives including casino and hotel; casino and no hotel; and retail.	Twin Cities Road at Highway 99	N
<b><i>City of Elk Grove</i></b>					
6	Capital Reserve Project	Construction anticipated to begin in late 2015 or early 2016	Construction of 84 single family residences and commercial uses on 16.7 acres.	Near Highway 99 and Elk Grove Boulevard	Y
7	Civic Center Aquatic Project	EIR Finalized in August 2014	Competition/training swim facility, ancillary uses, parkland, and parking on a 30-acre site.	Civic Center Drive and Big Horn Boulevard	Y
8	Sheldon Park Estates	Construction 2015 - 2018	Rezoning and subdivision of 113 acres into 45 single family lots, open space, and multi-use trail easement.	Sheldon Road and Waterman Road	N
9	Fieldstone North	Subsequent mitigated negative declaration (MND) adopted by City in January 2014. Revised subdivision map adopted and determined exempt from CEQA in May 2014.	Entitlements for a General Plan Amendment, Specific Plan Amendment, Rezone, Large-Lot Tentative Subdivision Map, and Small-Lot Tentative Subdivision Map. The entitlements would allow for the development of 391 residential units on 107.1 acres.	Bradshaw Road and Grant Line Road	N

EIR

Draft

	<b>Project Name</b>	<b>Estimated Schedule/Status</b>	<b>Project Description</b>	<b>Location</b>	<b>Potential to Combine Impacts?</b>
10	Silverado Village	Elk Grove approved the project in July 2014	651 single family units, 125 senior multifamily units, and parks, trails, and paseos, open space, on 230 acres.	Bond Road and Waterman Road	N
11	Moore Sheldon Center	Subsequent EIR finalized in December 2013  Construction complete; opened April 2016.	Approximately 27,500 square feet of commercial land uses on 4.46 acres.	Near Sheldon Road and East Stockton Boulevard	N
12	Southeast Policy Area Strategic Plan Project	Community Plan adopted in July 2014  EIR finalized in June 2014	A Community Plan and Special Planning Area for an approximately 1,200-acre area. The project would allow for the development of approximately 7.8 million square feet of employment-generating uses; 4,790 residential units in various densities; and acreage for schools, parks, and infrastructure, such as road right-of-way and storm drainage facilities.	Bruceville Road, Kammerer Road, Poppy Ridge Road, West Stockton Boulevard	Y
13	Dignity Health Elk Grove Medical Campus	Construction to begin in 2017 with a 20 year build out	Construction of a six-story, 460,000-square-foot, 330-bed hospital; a three-story, 65,000-square-foot medical office building, and a five-level, 170,000-square-foot parking structure. Construction would be constructed in four phases.	Wymark Drive and Elk Grove Boulevard	Y
14	Storm Drain Master Plan		Various watershed projects for storm drainage and flood control, aquatic resources and water quality protection.	City-wide	Y
<b>Wastewater Change Petitions</b>					
15	City of Colusa	Project approved by City Council in March 2015  Wastewater change petition filed with SWRCB in June 2015	The City of Colusa has filed a wastewater change petition, seeking to reduce the discharge of treated wastewater to Powell Slough. The City proposes to divert approximately 0.41 million gallons per day of wastewater discharge for seasonal irrigation on up to 84 acres of land (within a 185-acre gross). Discharge would be reduced by 456 AFY, which corresponds to an average of 0.63 cfs.	Immediately east and south of Colusa wastewater treatment plant (WWTP), current discharge is to unnamed tributary of Powell Slough	Y
16	City of Woodland	Initial Study/MND (IS/MND) completed in February 2015  Wastewater change petition filed in May 2015  Construction anticipated to begin in 2015	The City of Woodland has filed a wastewater change petition, seeking to reduce the discharge of treated wastewater from its Water Pollution Control Facility (WPCF) to the Tule Canal tributary to the Sacramento River. With the petition, the City requests to deliver up to 0.5 million gallons per day (mgd) of its tertiary treated wastewater effluent to industrial use and landscape irrigation. Discharge would be reduced by 0.77 cfs, which would reduce annual discharge by 560 AFY.	Woodland Biomass Facility located at 1786 E Kentucky Avenue in Woodland and two parks located in the City.	Y
17	City of Biggs	EIR finalized in December 2013	The City of Biggs Wastewater Treatment Plant filed a wastewater change petition, seeking to eliminate discharge of effluent to Lateral K, which drains to Butte Creek, thence the Sacramento River. The	WWTP is located at 2951 West Biggs Gridley Road. West Option is immediate	Y

EIR

Draft

	<b>Project Name</b>	<b>Estimated Schedule/Status</b>	<b>Project Description</b>	<b>Location</b>	<b>Potential to Combine Impacts?</b>
		Wastewater Change Petition approved by SWRCB in June 2014	treated effluent would be used to irrigate 120 to 140 acres located to the south or west of the wastewater treatment plant. Discharge would be reduced by 0.46 cfs, which would reduce annual discharge by 333 AFY.	west of WWTP; South Option is immediately south of WWTP.	
<b>Freeport Regional Water Authority</b>					
18	Intake Facility and Pipeline and Folsom South Canal Connection	Operational	185 mgd water intake facility and pumping plant on the Sacramento River, and 17 miles of underground water pipelines within Sacramento County. Facilities provide Sacramento County Water Agency (SCWA) and East Bay Municipal Utility District (EBMUD) with 85 mgd and 100 mgd, respectively. EBMUD uses up to 100 mgd during dry years only as a supplemental water source.	Sacramento and San Joaquin Counties	N
<b>Bureau of Reclamation</b>					
19	Long-Term Water Transfers	2015 - 2024	Transfers of Central Valley Project (CVP) and non CVP water or transfers from north of the Delta to CVP contractors south of the Delta that require the use of CVP and State Water Project (SWP) facilities. Water would be made available for transfer through groundwater substitution, cropland idling, crop shifting, reservoir release, and conservation.	Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Sacramento, San Benito, San Joaquin, Santa Clara, Shasta, Solano, Stanislaus, Sutter, Tehama, Yolo, and Yuba Counties	Y
20	Coordinated Long-Term Operation of the Central Valley Project and State Water Project	Final EIS published on November 23, 2015	Reclamation proposes to continue the operation of the Central Valley Project in coordination with the State Water Project by implementing the associated 2008 U.S. Fish and Wildlife Service Biological Opinion and the 2009 National Marine Fisheries Service Biological Opinion, including the Reasonable and Prudent Alternatives.	Statewide	Y
21	California WaterFix (Bay Delta Conservation Plan [BDCP], Alternative 4A)	Recirculated Draft EIR/EIS published on July 10, 2015; Final EIR/EIS in preparation	In cooperation with the California Department of Water Resources, Reclamation is considering a project to provide more reliable delivery of water exports from the Delta through the State Water Project and the Central Valley Project. Alternative 4A, California WaterFix has been identified as the preferred alternative but all of the BDCP alternatives will be considered by decision makers in determining whether to approve the project.	Intakes would be relocated from south Delta to a north Delta location downstream of the SRWTP	Y

Source: Ascent Environmental 2014, Reclamation 2015, Regional San 2015, Sacramento County 2015, State Water Resources Control Board 2015, City of Elk Grove 2015

## 3.1 Aesthetics

This section presents the physical and regulatory setting for visual resources surrounding the proposed Project area and evaluates the potential for the proposed Project to affect a scenic vista, scenic resources, or create a new source of light and glare. Aesthetic resources are defined as the visible natural and built landscape features that surround a project site. For the purpose of this analysis, the study area includes aesthetic resources in the vicinity of the proposed facilities to be constructed.

### 3.1.1 Environmental Setting

#### *Regional Setting*

The Project area is located in the southern portion of Sacramento County (South County), which is in the northern portion of the Central Valley. The terrain of the area is generally flat, giving way to rolling hills of the Sierra Nevada foothills approximately 30 miles to the east. Long-range views of the Sierra Nevada to the east are typically obscured or limited due to the haze and particulate air quality contamination in the Central Valley.

Approximately 18,000 acres of agricultural land, in the form of rectangular plots of tree and row crops, occur within South County. Most of these open space lands are visible from short-range views, given the flat terrain. Portions of this agricultural area overlap with the Cosumnes River Preserve, thus providing wildlife and habitat benefits, including serving as a portion of the Pacific Flyway for migratory birds.

#### *Project Vicinity*

The study area for the proposed Project is the area generally bounded by Cosumnes River Boulevard to the north, Sacramento River to the west, Twin Cities Road to the south, and Bruceville Road to the east.

Scenic resources in the project vicinity include the Sacramento River and Cosumnes River, Stone Lakes NWR, Cosumnes River Preserve, and agricultural lands. The Sacramento River and Cosumnes River are the primary bodies of water in the Project area and the dominant natural features, and bound the Project area to the west and east, respectively. Riparian trees and shrubs line the river corridors. The Stone Lakes NWR on the western edge of the project area, the Cosumnes River Preserve, and agricultural land in the southern part of the project area, define the land features of the visual landscape.

The 17,640-acre NWR, managed by the USFWS, provides wildlife habitat and recreation. The NWR is characterized by a mix of habitat that includes grasslands, riparian forest, woodland savanna, freshwater lakes, freshwater sloughs, perennial wetlands, and vernal pools (USFWS 2014). Examples of existing visual features at Stone Lakes NWR are shown in the photos in **Figure 3.1-1**.



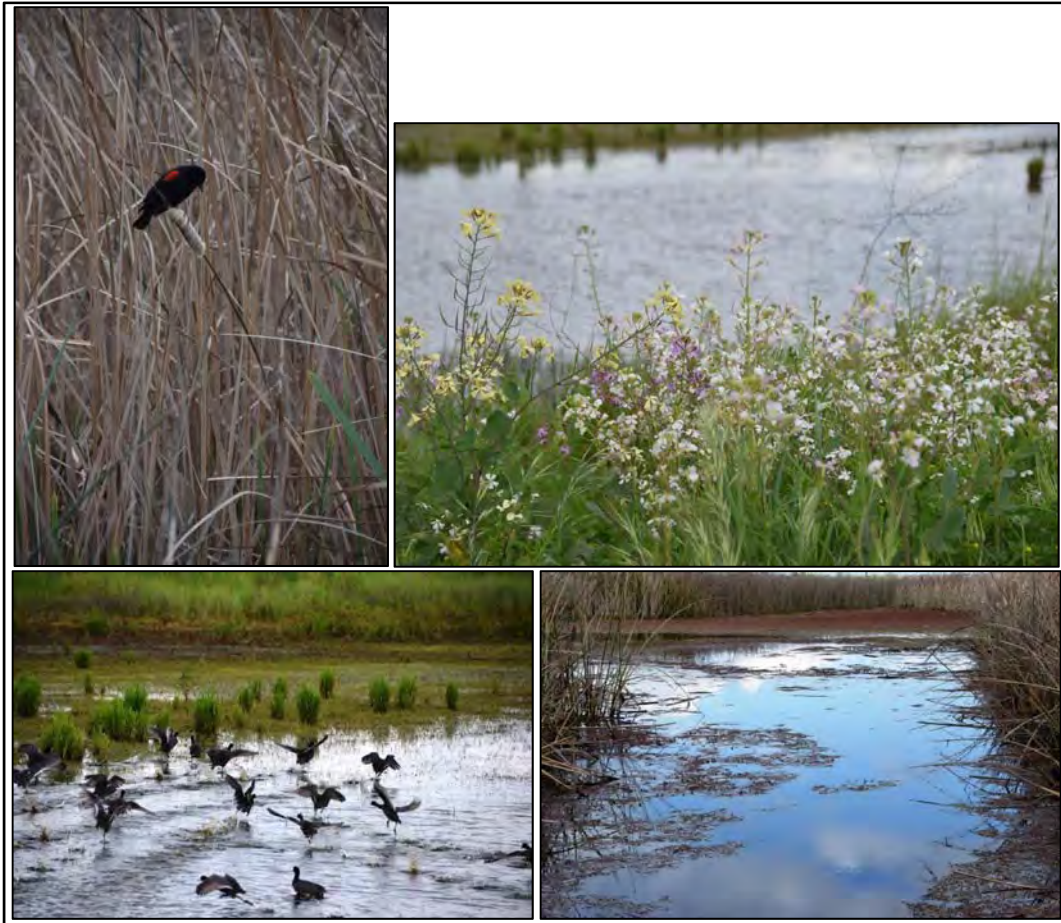


Figure 3.1-1: Visual Features in Stone Lakes National Wildlife Refuge

As described in *Chapter 1, Introduction*, the Cosumnes River Preserve includes approximately 46,000 acres of floodplain, riparian forest, vernal pools, grasslands, blue oak woodlands, and agricultural lands along the Cosumnes River (Kleinschmidt Associates 2008). Properties included in the Preserve overlap the recycled water service area in the southeast, southwest, and northwest areas (see **Figure 2-1**).

Within Sacramento County, Route 160 from the Contra Costa County line to the southern city limit of Sacramento is considered an officially designated state scenic highway. The road meanders through Delta agricultural areas and small towns along the Sacramento River (Caltrans 2015). At its closest location, Route 160 is approximately 1.5 miles west of the proposed pump station at the SRWTP. Between these two points is I-5, which is a protected scenic corridor, as described further below. Highway 99 is also a protected scenic corridor, as is the Sacramento River (Sacramento County 2011). There are no designated scenic highways or corridors within the City of Elk Grove.

### SRWTP

The SRWTP is located at 8521 Laguna Station Road on a 3,200-acre site in Elk Grove, between Franklin Boulevard and I-5. The fenced-in site consists of above ground facilities including

buildings, parking lots, ponds, equipment, and a grit and screening landfill. The largest concentration of existing structures is on the east side of the facility, with less development on the western portion (Ascent 2014). Examples of the visual characteristics of some of the existing facilities at the SRWTP, illustrating its industrial nature, are provided in **Figure 3.1-2**. In the 1970s Regional San purchased approximately 2,300 acres of open space surrounding the SRWTP to serve as a buffer between the SRWTP and neighboring community and to allow for future expansion (referred to as the Bufferlands). The Bufferlands are characterized by upland and wetland habitats, riparian forests, and native perennial grasses. Views of the SRWTP from surrounding areas are limited due to the Bufferlands that separate the SRWTP from nearby urban development. The SRWTP cannot be seen from nearby major roads, including Franklin Boulevard to the east or I-5 to the west.

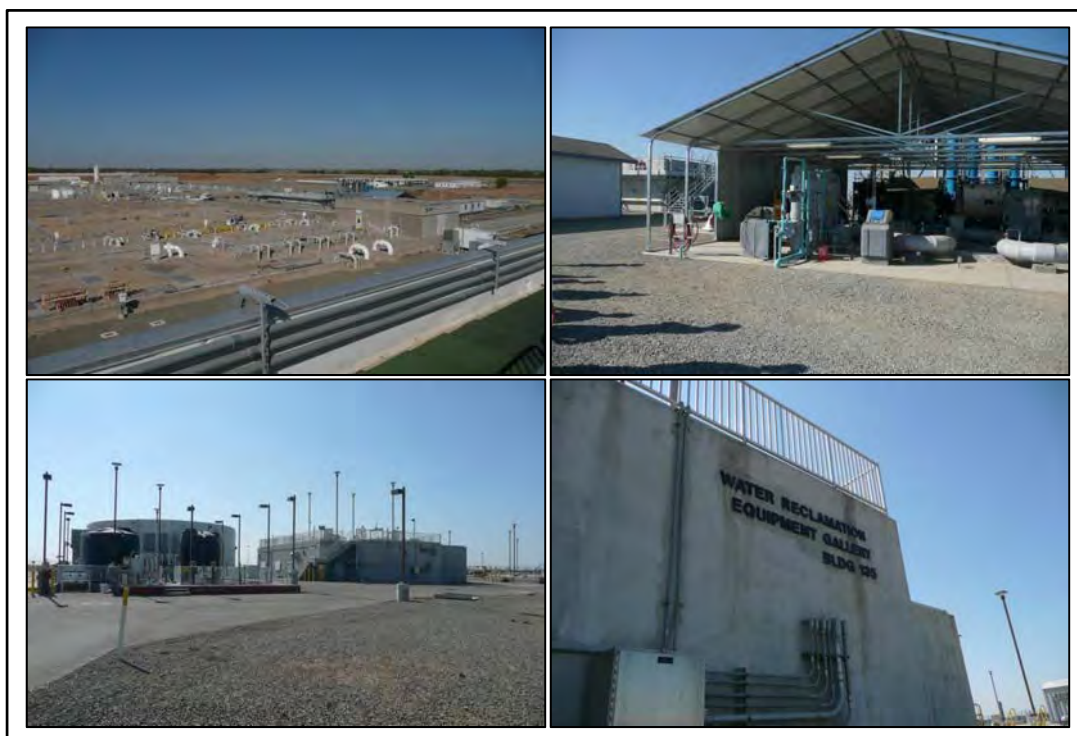


Figure 3.1-2: Existing Facilities at SRWTP

### City of Elk Grove and South County

The proposed transmission pipeline corridor is located along roadways through South County and the City of Elk Grove. A portion of the proposed transmission pipeline corridor along Franklin Boulevard between Calvine Road and Hood Franklin Road crosses through urban development, including residential and commercial uses. The visual features are characterized by single-family residential houses, strip malls, sidewalks, street lights, and overhead utility lines (see **Figure 3.1-3**). The remainder of the pipeline alignment would traverse agricultural areas, characterized by orchards, fields of row crops, and scattered rural residences and farm structures (e.g., barns) (see **Figure 3.1-4**).



Figure 3.1-3: Urban Visual Features in Project Area (from Franklin Boulevard)



Figure 3.1-4: Agricultural Visual Features in Project Area

### 3.1.2 Regulatory Framework

This section describes laws and regulations at the state and local level that may apply to the proposed Project.

#### ***Federal Policies and Regulations***

There are no federal policies or regulations associated with aesthetics that are relevant to the proposed Project.

### ***State Policies and Regulations***

#### **California Scenic Highway Program**

In 1963, the state legislature established the California Scenic Highway Program, a provision of the Streets and Highways Code, to preserve and enhance the natural beauty of California (Caltrans 2015). The State Highway System includes designated scenic highways and those that are eligible for designation as scenic highways. As described in *Section 3.1.1 Regional Setting*, Route 160 within Sacramento County is considered an officially designated state scenic highway.

### ***Local Policies and Regulations***

#### **Sacramento County General Plan**

There are multiple County roads and freeways within the County that have scenic qualities, and while not designated as State Scenic Highways, they are protected by Sacramento County. Within proximity to the Project area, I-5 and Highway 99 are both designated protected scenic corridors. Scenic corridors in the County are protected 660 feet in each direction from the right-of-way. Additionally, the Sacramento River is also protected by scenic corridors extending 500 feet to each side of the river (as measured from the center of the channel) or by a minimum of 300 feet from the edge of the river (Sacramento County 2011).

#### *Circulation Element*

The Circulation Element of the Sacramento General Plan (Sacramento County 2011) contains the following goals and policies relevant to the proposed Project:

- **GOAL:** To preserve and enhance the aesthetic quality of scenic roads.
  - Objective: To retain designation of the River Road (State Route [SR]160) as an Official State and County Scenic Highway and to preserve and enhance its scenic qualities.

#### **City of Elk Grove General Plan**

The City of Elk Grove has identified the following goals and actions in the Public Facilities and Finance Element, and Conservation and Air Quality Element of its General Plan (City of Elk Grove 2015).

#### *Conservation and Air Quality Element*

- Policy CAQ-8: Large trees (both native and non-native) are an important aesthetic (and, in some cases, biological) resource. Trees which function as an important part of the City's or a neighborhood's aesthetic character or as a natural habitat should be retained to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures. If trees cannot be preserved onsite, offsite mitigation or payment of an in-lieu fee may be required by the City. Where possible, trees planted for mitigation should be located in the same watershed as the trees, which were removed. Trees that cannot be protected shall be replaced either on-site or off-site as required by the City.

*Public Facilities and Finance Element*

- Policy PF-4: The City shall require new utility infrastructure for electrical, natural gas and other infrastructure services avoid sensitive resources, be located so as to not be visually obtrusive, and if possible, be located within roadway rights-of-ways or existing utility easements.

### 3.1.3 Impact Analysis

#### **Methodology for Analysis**

This section evaluates whether construction and operation of the proposed Project alternatives would result in significant impacts related to aesthetic resources. The analysis is based on consideration of whether proposed facilities would alter or degrade the visual quality of designated visual resources in the area.

#### **Thresholds of Significance**

Consistent with the thresholds of significance in Sacramento County's Initial Study Checklist, an impact on aesthetics would be considered significant if the proposed Project would:

- Substantially alter existing viewsheds such as scenic highways, corridors, or vistas;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light, glare, or shadow that would result in safety hazards or adversely affect day or nighttime views in the area.

#### **Impacts and Mitigation Measures**

##### **Impact AES-1 Substantially Alter Existing Viewsheds or Degrade the Existing Visual Character or Quality of the Site and its Surroundings.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Under Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), the proposed pump station would be located entirely within the fenceline of the SRWTP in a disturbed area with no vegetation or trees. Construction of the proposed pump station would not be visible from any public viewpoints in the vicinity of the SRWTP, including Route 160, a designated state scenic highway, given the Bufferlands that separate adjacent urban uses from the SRWTP. Because construction of the pump station would not be visible from public view points, the short-term visual impacts would be less-than-significant.

The proposed transmission pipeline would be located primarily within public roadways or other public ROW, private dirt roads and agricultural lands, and public open space areas. Transmission pipeline construction activities could potentially affect scenic resources within the viewshed and could degrade the site/surrounding's visual quality due to excavation activities, and the presence of construction equipment/materials and fencing around work areas. Existing residences located along the transmission pipeline alignment and motorists using the affected or adjacent roadways

would have foreground views of construction activities, vehicles, equipment, and materials. Motorists typically would have fleeting views of pipeline construction activities due to the speed of travel with slightly longer views when there is a momentary stoppage in traffic. For residences situated along the alignment, views of construction activities would generally be of short duration due to the nature of construction (i.e., construction would proceed at a rate of approximately 150 feet per day and the construction zone would move sequentially to the next segment upon completion of one segment). Given the temporary nature of transmission pipeline construction, the proposed transmission pipelines would not result in a substantial adverse effect on any scenic resources or degrade the visual quality of the affected sites or surroundings. The changes to visual quality would be short term in nature, and disturbed areas would be restored to pre-construction conditions as part of the Project.

Once constructed, the 25-foot-tall proposed pump station would be located on the eastern portion of the SRWTP site, which has the largest concentration of structures. The proposed pump station would blend with other buildings and structures on site with similar industrial appearance within the SRWTP. Thus, this component would not alter existing viewsheds or degrade the visual quality of the site or surrounding scenic resources, and impacts would be less than significant.

The proposed transmission pipelines would be installed underground and therefore not visible once construction is complete. Because all proposed pipelines would be located underground and would not be visible to the public, the proposed transmission pipelines would not result in a substantial adverse effect on any scenic resources or degradation of the visual quality of the affected sites or surroundings. Impacts would be less than significant.

These alternatives contribute to a beneficial effect because the partial offset of groundwater use would be expected to raise the base flows of Cosumnes River, which could improve the health and aesthetics of the riparian vegetation, thereby improving the visual appearance of the Cosumnes River corridor.

**Program Elements.** Construction and operational impacts of the proposed distribution pipelines, laterals, and turnouts would be similar to those described for the project elements above, and would be less than significant.

Recycled water supplied to the Stone Lakes NWR managed wetlands has the potential to enhance wetlands habitat through the provision of additional water, particularly during dry years, as recycled water is a sustainable, alternate water source that would be available during all hydrologic years and seasons. Providing recycled water to Stone Lakes NWR wetlands could result in a beneficial effect on the refuge's visual character.

These alternatives also includes development of a potential recharge area and three diluent wells. The 560-acre potential recharge area, located within existing agricultural land, would be surrounded by three-foot berms that are 12 feet wide. The berms would be visible from nearby roads, and would alter the visual quality of the site and surroundings due to its height relative to the surrounding topography. However, the change to the viewshed is not expected to be substantial and adverse given the existing flat landscape that is punctuated by scattered

residences, farm structures (dairies), and solar farms. Three diluent wells would also be needed to support operation of the potential recharge pond. These wells would likely be similar to other irrigation wells used by farmers within South County. The construction and operation of three wells are not expected to substantially change the viewshed or the visual quality of the site and surroundings due to their integration within a farm landscape. Thus, visual impacts associated with the recharge pond are expected to be less than significant.

With the provision of recycled water to farmers and the partial offset of groundwater use, it is expected Cosumnes River base flows would increase downstream of Highway 99 during the summer and fall months. Higher base flows could improve the health and aesthetics of the riparian vegetation, thereby improving the visual appearance of the Cosumnes River corridor. This would be a beneficial impact.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction of the proposed pipelines. Because the length of transmission pipelines would be less for this alternative, the duration of temporary, construction-related visual effects would be commensurately shorter. As with Alternative 1 (Medium Service Area Alternative), due to the temporary nature of construction and restoration of disturbed areas to pre-construction conditions as part of the Project, visual impacts would be less than significant. Operation-related effects would also be less than significant for the pump station because it would integrate with other existing facilities and for the pipelines because they would be buried underground. Visual impacts associated with the potential recharge pond, diluent well, and Stone Lakes NWR for Alternative 3 (Small Service Area Alternative) would be the same as Alternative 1 (Medium Service Area Alternative), and would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts on scenic resources or the area's visual character from construction would occur.

Landowners would continue to use groundwater as the sole source of supply for irrigation. Because additional water supply will likely be needed to meet municipal and industrial irrigation demands<sup>1</sup>, it is possible that new surface and groundwater supplies would be developed over time, thus increasing drawdown of the groundwater basin. Further depletion of groundwater supplies could over the long term affect the base flows in the Cosumnes River such that the river is consistently dry in the summer and fall months. Reduction of water could affect the visual

---

<sup>1</sup> The Water Forum Agreement (WFA) in the Zone 40 WSMP describes total water needs and use of surface water and groundwater. To meet the South County M&I user's group demand, a firm water supply (from contract water and entitlement transfer), an intermittent surface water supply, and groundwater will be necessary. Intermittent surface water is available only when the water is surplus to the needs of the San Joaquin/Sacramento River and Delta. The WSMP states that upstream water transfers will be pursued to reduce reliance on intermittent surface water. The USMP also acknowledges that up to seven new groundwater treatment and storage facilities may be required to meet Zone 40's conjunctive use objectives. Water could also potentially be obtained from either 'appropriative' or 'other' surface water sources depending on availability.

quality of the Cosumnes River as the viability of the riparian corridor declines (i.e., health and quality of the vegetation deteriorate), particularly during extended drought years.

USFWS would continue to provide water to managed wetlands in the Stone Lakes NWR from its current surface water source, thus the No Project Alternative is not anticipated to result in a change in the visual quality of the Stone Lakes NWR.

Impacts associated with visual quality of the Cosumnes River corridor under the No Project Alternative would be potentially significant and unavoidable.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. Significant and unavoidable for Alternative 4 (No Project Alternative) because there is no mitigation available to reduce impacts related to the decline in riparian corridor health and quality due to the reduction of water flows in the Cosumnes River.

**Mitigation Measures**

No mitigation measures are required.

**Impact AES-2 Create a New Source of Substantial Light, Glare, or Shadow.**

*Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The proposed pump station would be located within the SRWTP and would not be visible from sensitive receptors (e.g., residences) or public roads due to the separation from urban land uses created by the Bufferlands surrounding the SRWTP. The pump station would include exterior lighting for security purposes, but lights would be shielded or directed downward, and would be similar to existing lighting at the SRWTP. Therefore, construction and operation of the pump station would not result in substantial changes to light, glare, or shadow conditions at the SRWTP. Impacts would be less than significant.

As described in *Section 2.4.1, Construction Timing*, construction would typically occur Monday through Friday from 7:00 AM to 7:00 PM. Construction may take place during weekends and nighttime if necessary, in which case the contractor would be responsible for obtaining required permits. If nighttime construction is required, temporary views of nighttime lighting associated with construction of the transmission pipeline could be a nuisance to adjacent residences and a potential hazard to motorists traveling on the affected roadway, which is a potentially significant impact. To minimize temporary adverse effects on residential views and motorists during nighttime construction, implementation of **Mitigation Measure AES-2** would ensure that nighttime construction lighting is shielded and oriented downward and would reduce this impact to a less-than-significant level. Once constructed, all recycled water pipelines would be underground and would therefore not result in a new source of substantial light or glare. Impacts would be reduced to less than significant with implementation of **Mitigation Measure AES-2**.



**Program Elements.** None of the program elements would require operational lighting, thus there would be no impacts associated with new light and glare. Impacts during construction would be similar to those associated with the project elements, and would be less than significant with implementation of **Mitigation Measure AES-2**.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts for both the project and program components of Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative). Impacts would be reduced to less than significant with implementation of **Mitigation Measure AES-2**.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no structures or lighting would be constructed or installed. As such, this alternative would result in no impacts related to light and glare or shadow.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measure AES-2: Nighttime Construction Lighting (All Action Alternatives).**

If nighttime construction lighting is required, the construction contractor shall shield and orient lighting downward and directed away from any nearby receptors to minimize effects. Lighting shall be directed toward active construction areas only, and shall have the minimum brightness necessary to ensure worker safety.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impact Analysis***

The geographic scope of the cumulative impacts on aesthetic resources is in the immediate vicinity of the proposed Project components. New development in Sacramento County and the City of Elk Grove would continue to alter the visual environment of the area. However, aesthetic impacts are generally site-specific and would not combine with other projects that are not in the same viewshed to create a cumulative impact. If the proposed Project, as well as other projects listed in **Table 3.0-1**, occur in the same viewshed or impact the same scenic or visual resources from public viewpoints, they could result in a significant cumulative impact.

As discussed in Impact AES-1, impacts to scenic and visual resources at the site and surrounding areas from the construction of Alternatives 1, 2, and 3 would be temporary in nature. Of the projects listed in **Table 3.0-1**, the EchoWater project and rehabilitation of digesters 6 and 7 at the SRWTP would be in the immediate vicinity of the proposed pump station and could overlap with the construction of the proposed Project construction schedule. As discussed in Impact AES-1, construction of the pump station would occur entirely within the fenceline of the SRWTP and would not be visible from public viewpoints. Construction of the transmission pipeline would be

temporary in nature with a short duration of views for motorists and residents. Although the EchoWater project and rehabilitation of digesters 6 and 7 would result in additional structures and modifications to the SRWTP, they would also be entirely within the fenceline of the SRWTP and not visible from surrounding areas; thus not resulting in an impact to scenic or visual resources. Disturbed areas would be restored to pre-construction conditions as part of the project after construction is complete. The Project would thus not contribute to a long-term cumulative impact to scenic resources and visual character.

As discussed in Impact AES-2, nighttime construction of the proposed Project could result in temporary light and glare impacts and create a nuisance to adjacent residents and hazard to motorists traveling near the transmission pipeline installation. However, implementation of **Mitigation Measure AES-2**, would ensure that construction lighting is oriented downwards towards the work areas. With implementation of this measure, there would be no cumulative impact to light and glare associated with the proposed Project. Once operational, the transmission pipeline would be underground and would not require new sources of light, and the proposed pump station would not result in substantial changes to light or glare conditions at the SRWTP. Construction of the EchoWater project and rehabilitation of digesters 6 and 7 could require lighting for nighttime construction, but would be within the fenceline of the SRWTP and the effects would not extend beyond the SRWTP boundary. No other cumulative projects would occur in the immediate vicinity of the proposed Project components that would result in increased light or glare. Once operational, lighting would be contained within the perimeter of SRWTP and would be similar to existing lighting conditions. In addition, lighting from SRWTP would not be visible due to its separation from sensitive receptors by the Bufferlands. There would be no long-term cumulative impact related to permanent light and glare effects to which the proposed Project would contribute, and there would be no impact.

**Significance Determination before Mitigation**

Less than significant.

**Mitigation Measures**

See **Mitigation Measure AES-2**.

**Significance Determination after Mitigation**

Less than significant.

**3.1.4 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

California Department of Transportation (Caltrans). 2015. California Scenic Highway Mapping System. Available at:  
[http://www.caltrans.ca.gov/hq/LandArch/scenic\\_highways/index.htm](http://www.caltrans.ca.gov/hq/LandArch/scenic_highways/index.htm). Accessed January 14, 2015.

Elk Grove, City of. 2014. *Elk Grove Municipal Code through Ordinance 35-2014*. December 10, 2014.

\_\_\_\_\_. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Kleinschmidt Associates. 2008. *Cosumnes River Preserve Management Plan*. March 2008.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

U.S. Fish & Wildlife Service (USFWS). 2014. *Stone Lakes National Wildlife Refuge, Wildlife & Habitat*. Webpage last updated February 13, 2014. Available at:  
[http://www.fws.gov/refuge/Stone\\_Lakes/wildlife\\_and\\_habitat/index.html](http://www.fws.gov/refuge/Stone_Lakes/wildlife_and_habitat/index.html). Accessed February 10, 2015.

## 3.2 Land Use and Agriculture

This section presents the physical and regulatory setting for land use and agriculture in the proposed Project area. The impact analysis considers the potential for the proposed Project to physically divide the community or conflict with adopted land use plans or policies.

Additionally, the section evaluates the potential effects of the proposed Project on agricultural resources.

### 3.2.1 Environmental Setting

#### *Regional Setting*

The Project area encompasses south Sacramento County, including the City of Elk Grove, unincorporated Sacramento County, and a portion of the Stone Lakes NWR. It includes the SRWTP site, the pipeline alignment conveying recycled water from the SRWTP to the recycled water service area, and the recycled water service area itself. The recycled water service area is bounded to the south by Twin Cities Road, to the north primarily by Bilby Road and Kammerer Road, and lies mostly between I-5 and Highway 99, both of which run in a north-south direction. A portion of the service area is bisected by I-5. Land use within and adjacent to the proposed Project area includes both urban and rural uses (see **Figure 3.2-1**). Urban uses such as residential homes and commercial uses such as restaurants, shops, and offices are mainly located along the Franklin Boulevard corridor within the City of Elk Grove. The landscape in South County is dominated by large agricultural plots with scattered rural residential development. Land use designations within the Project area include public/quasi-public, natural preserve, commercial and offices, extensive industrial, low density residential, agricultural-residential, and agricultural cropland, which dominate the land use pattern for virtually all of the Project area (Sacramento County 2011).

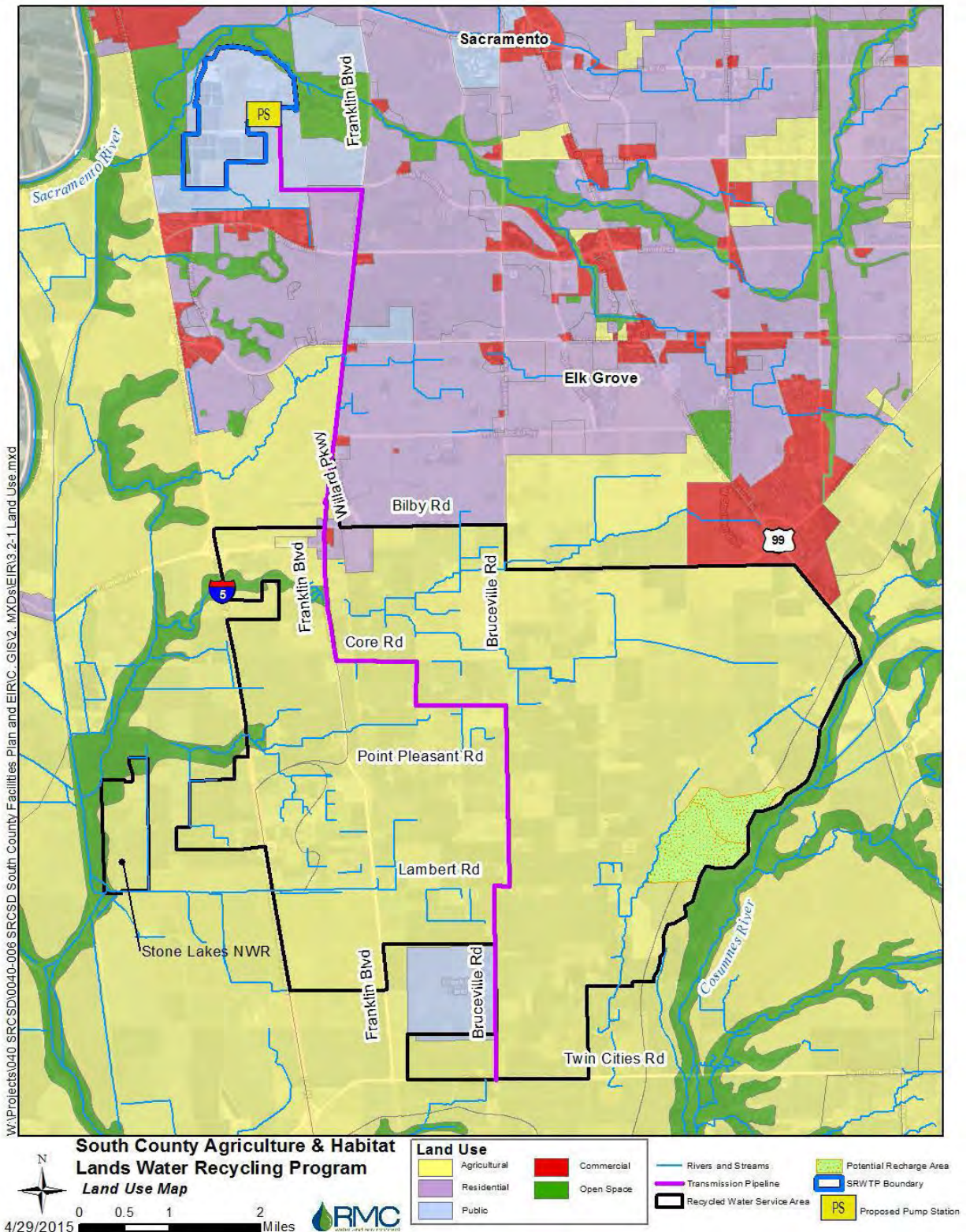


Figure 3.2-1: Land Uses in Project Area

Based on the *Sacramento County Crop and Livestock Report* (Sacramento County 2013), Sacramento Valley produces a multitude of agricultural products including fruits, vegetables, rice, other grains, meats, nuts, and milk. The ten leading farm commodities in 2013 were grapes (wine), milk, bartlett pears, poultry, field corn, nursery stock, cattle and calves, aquaculture, hay/alfalfa, and rice. Wine grapes are the County's top crop with a value of over \$141 million, representing almost one third of its production value. The County's gross value of agricultural production in 2013 was \$457,348,055, a 0.7 percent decrease from 2012. A summary of agricultural production is included in **Table 3.2-1**.

Table 3.2-1: Summary of Agricultural Production in 2013

Type	Harvested Acreage	Value of Production
Apiary (Honey and Pollination)	N/A	\$58,000
Field Crops	162,131	\$76,565,000
Fruit and Nut Crops	39,424	\$197,863,000
Livestock and Poultry	N/A	\$71,309,055
Livestock Products	N/A	\$65,526,000
Nursery Stock	540.5	\$24,916,000
Seed Crops	2,197	\$2,202,000
Vegetable Crops	3,464	\$18,909,000

Source: Sacramento County 2013.

Within the proposed Project area, there are Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as shown in **Figure 3.2-2**. These farmlands are defined in the *Farmland Mapping and Monitoring Program* section. **Table 3.2-2** shows the change in the amount of farmland from 2004 to 2014 in Sacramento County, which shows a trend of decreasing agricultural lands. As shown in the table, Important Farmland in the County was reduced by approximately 12,800 acres. Grazing land decreased by approximately 9,700 acres, resulting in a total reduction of agricultural lands by approximately 22,500 acres.

Table 3.2-2: Land Conversions in Sacramento County, 2004-2014

	2004	2014	Net Acreage Changed
Prime Farmland	110,278	91,568	-18,710
Farmland of Statewide Importance	56,141	43,105	-13,036
Unique Farmland	15,188	15,125	-63
Farmland of Local Importance	39,873	58,852	18,979
<b>Important Farmland Subtotal</b>	<b>221,480</b>	<b>208,650</b>	<b>-12,830</b>
Grazing Land	163,173	153,452	-9,721
<b>Agricultural Land Subtotal</b>	<b>384,653</b>	<b>362,102</b>	<b>-22,551</b>
Urban and Built-up Land	165,629	181,296	15,667
Other Land	67,548	74,558	7,010
Water Area	18,253	18,120	-133
<b>Total Area Inventoried</b>	<b>636,083</b>	<b>636,076</b>	<b>-7</b>

Source: CDOC 2004a, 2014a

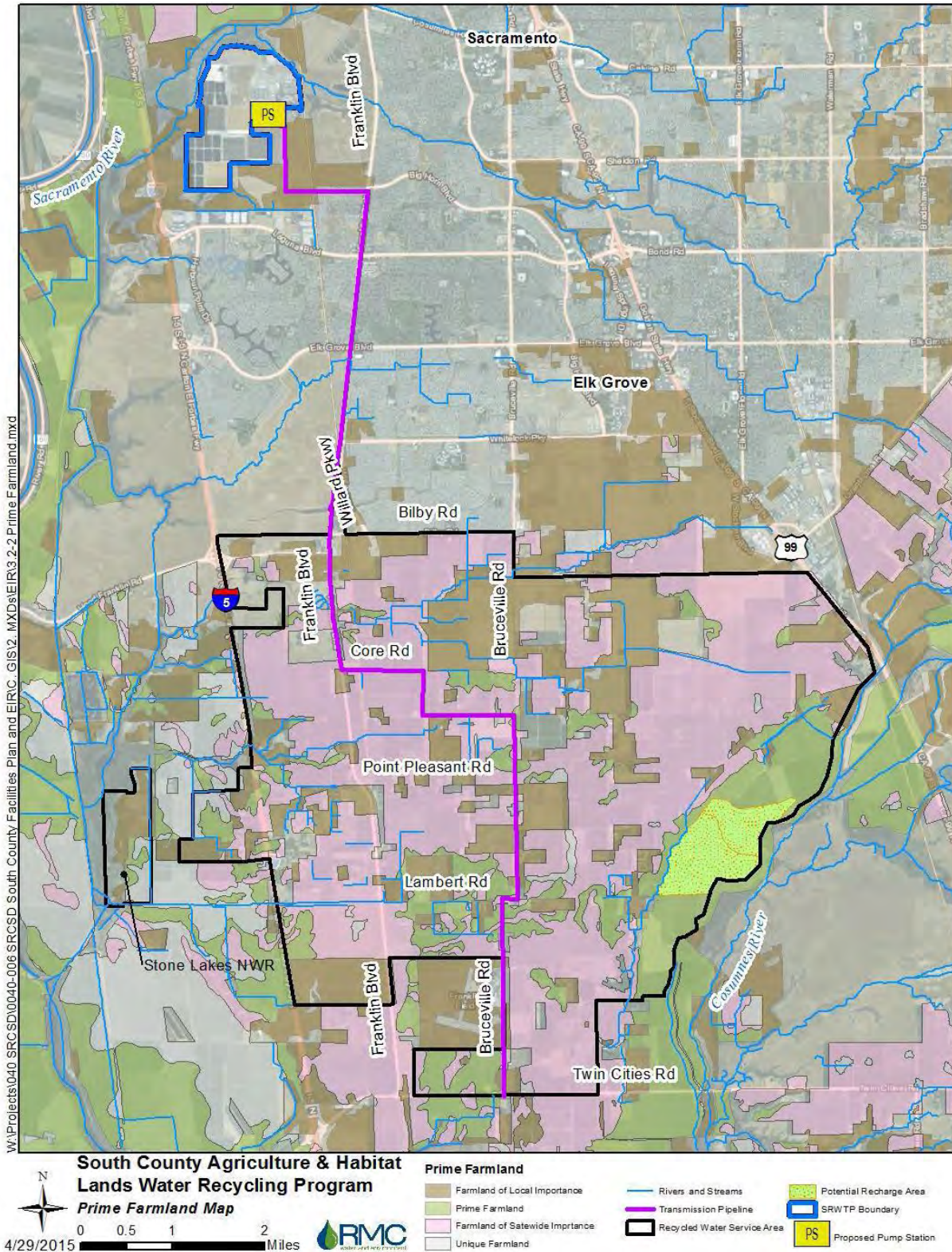


Figure 3.2-2: Prime Farmland in the Project Area

As of 2012, Sacramento County had 180,821 acres under Williamson Act enrollment (CDOC 2015). Within the recycled water service area are Williamson Act (WA) Prime Agricultural Land, WA Non-Prime Agricultural Land, and WA Non-Renewal Land, as shown in **Figure 3.2-3**. These are defined in the *California Land Conservation Act of 1965 (Williamson Act)* section. **Table 3.2-3** shows an overall increase of WA lands (approximately 4,500 acres) in Sacramento County from 2002 to 2012, with the increase attributed to non-prime agricultural land.

Table 3.2-3: Williamson Act Lands in Sacramento County, 2002-2012 (acres)

	2002	2012
Prime	87,650	87,566
Non-Prime	88,634	93,255
<b>Total Land Conservation Act Lands</b>	<b>176,284</b>	<b>180,821</b>

Source: CDOC 2004b, 2015

The Stone Lakes NWR is located west of the recycled water service area, west of I-5. It consists of approximately 17,640 acres of land owned by the State or County, USFWS, private landowners, or lands that are under cooperative agreement or conservation easements. The Stone Lakes NWR contributes to the USFWS's mission to support migratory waterfowl through habitat creation and protection. USFWS owns in fee title and manages approximately 6,650 acres, including waters, lands and managed wetlands in and around South Stone Lake. The wetlands in the Stone Lakes NWR that would receive recycled water are currently supported by surface water supplies including water pumped from lakes and from riparian sources. Sacramento County designates the Refuge as natural preserve.

The Cosumnes River Preserve, owned by seven partners, as described in *Section 3.1, Aesthetics*, includes over 40,000 acres of floodplain, riparian forest, vernal pools, grasslands, woodlands, and agricultural lands along the Cosumnes River. With the majority of the Preserve located to the east and south of the recycled water service area, there are properties included in the Preserve that overlap the recycled water service area in the southeast, southwest, and northwest areas, as shown in **Figure 3.2-4**.



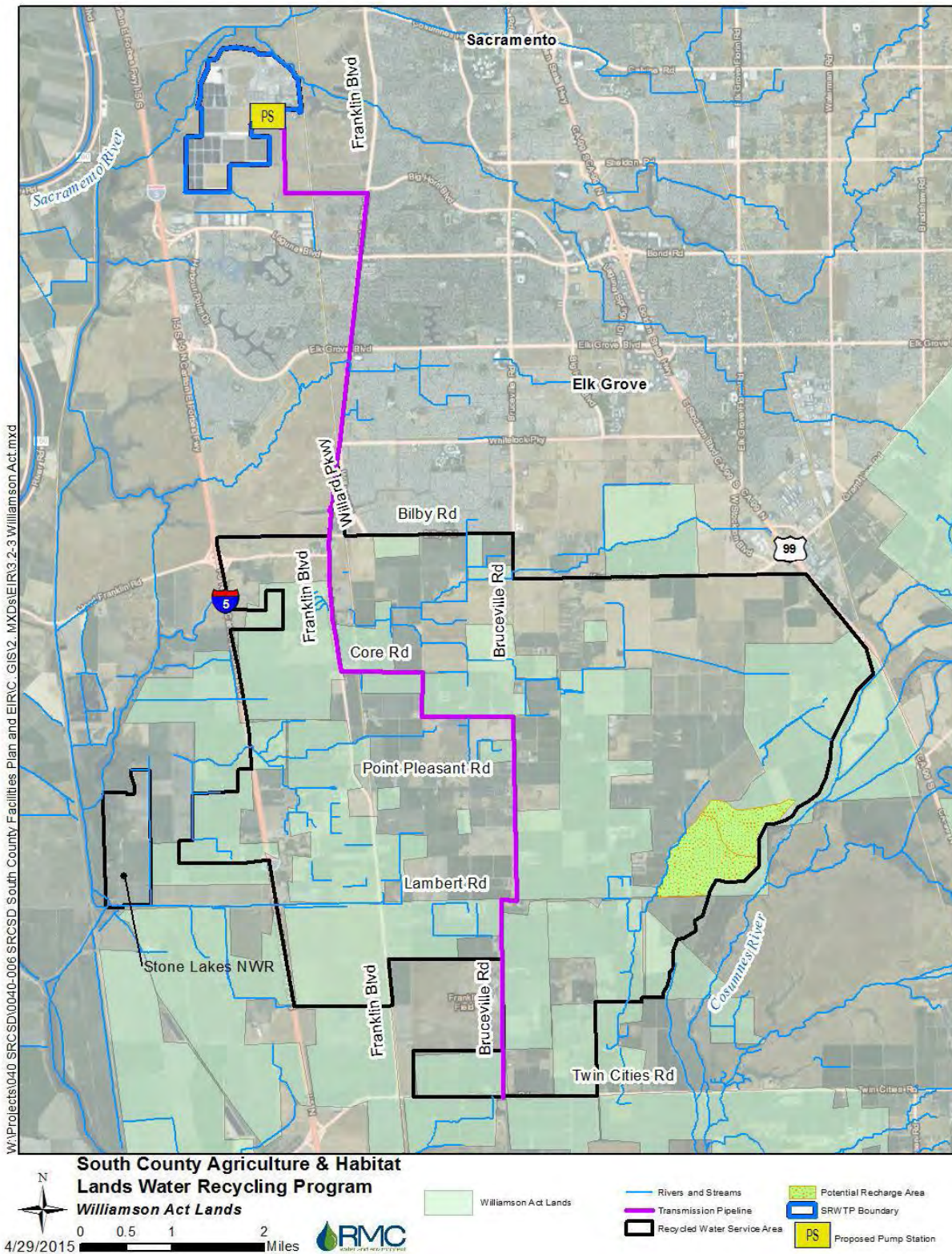


Figure 3.2-3: Williamson Act Lands in the Project Area

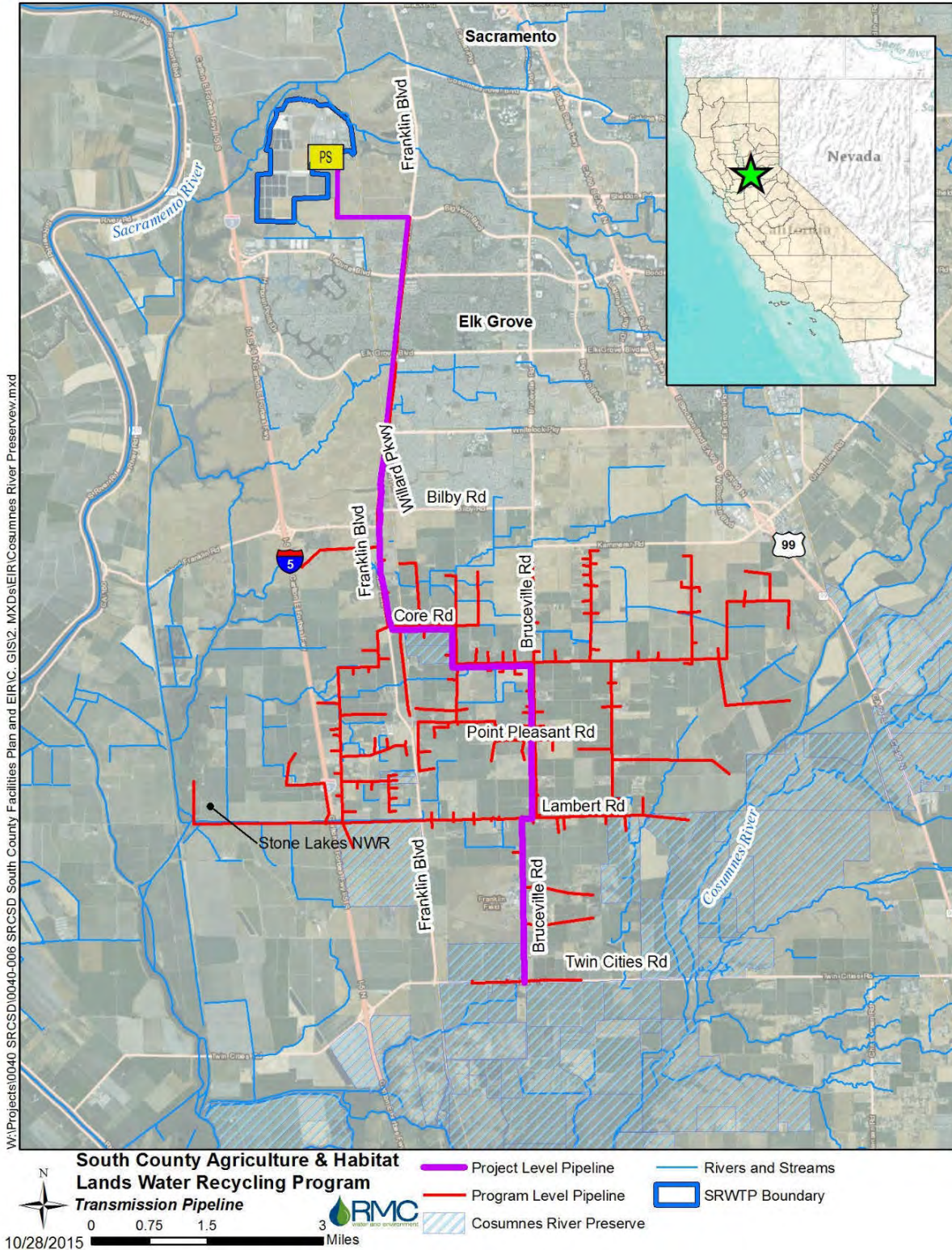


Figure 3.2-4: Cosumnes River Preserve Lands in Relation to Project Area

## ***Local Setting***

### **SRWTP**

The SRWTP is located at 8521 Laguna Station Road in Elk Grove. The SRWTP, designated as public/quasi-public according to the Land Use element of the Sacramento County General Plan (Sacramento County 2011), consists of facilities that treat wastewater through solids settling, biological treatment, secondary settling, and disinfection (chlorination) and de-chlorination. Solids that require thickening receive further treatment and are either disposed of on site or are processed at an on-site biosolids recycling facility. A small water reclamation plant on site provides filtration and disinfection to a small portion of the secondary effluent (~5 mgd) for in-plant water and landscape irrigation for local users in Elk Grove. In addition to the treatment systems required for wastewater and the handling of biosolids, the SRWTP site includes ancillary facilities, including odor control systems, an energy cogeneration plant, and a grit and screening landfill (Ascent 2014). In the 1970s when the SRWTP was constructed, Regional San purchased an area surrounding the site to act as a buffer between the SRWTP and the neighboring community and provide an area that could accommodate future expansion; this area is referred to as the Bufferlands (Carollo 2000). The existing SRWTP treatment facilities occupy approximately 900 acres, while the Bufferlands occupy the remaining 2,300 acres of surrounding open space. The proposed pump station would be constructed on a currently-vacant parcel (located between Central Street and South Landfill Way), that will be developed with facilities constructed as part of the EchoWater Project.

### **City of Elk Grove and South County**

The Elk Grove General Plan provides a detailed Land Use Policy map and other specific policies relating to land use within its city limits.

The proposed transmission pipeline, located within both the City of Elk Grove city limits and unincorporated Sacramento County, is surrounded by residential and commercial, agricultural, and open space land uses. Residential and commercial uses occur primarily along Franklin Boulevard between Simms Road and Bilby Road. Agricultural uses dominate the remaining portion of the proposed Project area. According to the City of Elk Grove Land Use Map, land uses along the proposed transmission pipeline alignment include residential (low density residential, estate residential, and high density residential), commercial, and open space (City of Elk Grove 2015). The Sacramento County General Plan Land Use Map designates the recycled water service area, including the area of the proposed distribution mains, as agriculture, with the exception of three small areas (Sacramento County 2011):

- One area designated as low density residential (1-12 dwelling units per acre) at the northern edge of the recycled water service area, immediately south of Bilby Road,
- One area designated as agricultural-residential (1-10 dwelling units per acre), near the intersection of Lambert Road and I-5, and
- Portions of the Stone Lakes NWR, west of the agricultural recycled water service, designated as open space.

As shown in **Figure 3.2-2** and **Figure 3.2-3**, the proposed pipelines are located within or adjacent to Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland, and lands under Williamson Act contract (CDOC 2015 and CDOC 2013a). Portions of the potential recharge pond is located in an area considered Prime Farmland and on land within Williamson Act contract (CDOC 2014b and CDOC 2013a), as well as designated agricultural cropland according to the Land Use Element of the Sacramento County General Plan (Sacramento County 2011). The potential recharge area is currently irrigated and under private ownership.

### ***Sensitive Receptors***

Land uses such as residential, schools, day care centers, hospitals, and convalescent homes are considered to be sensitive to certain environmental effects, and thus are collectively known as sensitive receptors. Residential areas are located along the transmission main pipeline alignment. No hospitals are located within the proposed Project area; the closest medical office is Kaiser Permanente Promenade Medical Office, which is located less than one mile north of the recycled water service area at 10350 Promenade Parkway in Elk Grove. There are no convalescent homes within or immediately adjacent to the proposed Project area. The Marion Mix Elementary School, which opened in fall 2015, is located at 4730 Laguna Park Drive in Elk Grove, near the intersection of Laguna Park Drive and Franklin Boulevard. The Marion Mix Elementary School would be within a quarter-mile of the proposed transmission pipeline.

There are no other schools within a quarter-mile of the proposed transmission pipeline. The following schools are within one mile of the proposed transmission pipeline (from north to south):

- John Ehrhardt Elementary School
- Laguna Creek High School
- Foulks Ranch Elementary School
- Stone Lake Elementary School
- Helen Carr Castello Elementary School
- Elk Grove Charter School

### **3.2.2 Regulatory Framework**

This section describes laws and regulations that may apply to the proposed Project. The federal, state, and local laws, regulations, and policies related to land use and agriculture that are applicable to the proposed Project are described as follows.

#### ***Federal Policies and Regulations***

##### **Habitat Conservation Plans**

Habitat Conservation Plans (HCPs) serve as long-term agreements between the USFWS and applicants for an incidental take permit. They are designed to mitigate the potential adverse impacts of proposed activities that may affect a federally listed threatened or endangered species, or a species under consideration for listing. HCPs are regulated by the Endangered Species Act of 1973 under Section 10(a)(1)(B) (USFWS 2011). The Project area is within the area covered by the proposed SSHCP. The SSHCP has not been finalized, but is expected to be completed and

adopted in spring 2017 (Sacramento County 2016). Information regarding the SSHCP is presented in *Section 3.5, Biological Resources*.

### **Farmland Protection Policy Act**

The Farmland Protection Policy Act (FPPA) requires federal agencies to (a) evaluate the adverse effects of their programs on the preservation of farmland; (b) consider alternative actions that could lessen adverse effects, and (c) ensure that their programs are compatible with state, local, and private programs and policies to protect farmland. For the purposes of the FPPA, farmland is defined as prime farmland, unique farmland, or land of statewide or local importance, as determined by the appropriate state or local agency. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years (USDA 2014).

### **State Policies and Regulations**

#### **Natural Community Conservation Planning Act**

The California Natural Community Conservation Plan Act of 2003 (NCCP) aims to provide protection to natural communities while remaining supportive of economic development in a region. It encourages regions to develop conservation plans by transferring some local or regional control to those regions with approved conservation plans in place. The NCCP uses an ecosystem-based approach to conservation and protection of biological diversity, and oversees conservation planning efforts including but not limited to multiple species conservation plans, multiple habitat conservation plans, and other conservation plans.

#### **Farmland Mapping and Monitoring Program**

The Farmland Mapping and Monitoring Program (FMMP), administered by the California Department of Conservation (CDOC), produces maps and statistical data for use in analyzing impacts on California's agricultural resources. The FMMP rates agricultural land according to soil quality and irrigation status and publishes Important Farmland maps. FMMP maps are updated every two years using a computer mapping system, aerial imagery, public review, and field reconnaissance (CDOC 2013b). For the purposes of CEQA review, Important Farmland categories that constitute agricultural land are as follows (CDOC 2013c):

- **Prime Farmland:** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.
- **Farmland of Statewide Importance:** Farmland similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Farmland of Statewide Importance must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.
- **Unique Farmland:** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. These lands usually are irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones. Unique Farmland must have been cropped at some time during the 4 years before the FMMP's mapping date.

- ***Farmland of Local Importance:*** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- ***Grazing Land:*** Land which has existing vegetation suitable for grazing of livestock.

### **California Land Conservation Act of 1965 (Williamson Act)**

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) allows local governments to enter into contracts with private landowners for the purpose of preventing conversion of agricultural land to non-agricultural uses (CDOC 2013d). In exchange for restricting their property to agricultural or related open space use, landowners receive property tax assessments that are substantially lower than the market rate (tax assessments are based upon farming and open space uses as opposed to full market value).

A Williamson Act contract may be terminated either through nonrenewal (preferred method) or cancellation. To terminate a Williamson Act contract, a landowner may file a notice of nonrenewal. Beginning on the next contract anniversary date, the contract winds down over the remaining (usually nine-year) term with the landowner's property taxes gradually increasing until they reach the full unrestricted rate at the end of the nonrenewal period (CDOC 2013e).

There are three types of Williamson Act lands, which are defined as follows (CDOC 2013c):

- **Prime Agricultural Land:** land enrolled under the California land Conservation Act contract and meets any of the following:
  - Land that qualifies for rating as class I or class II in the Natural Resources Conservation Service land use capability classifications.
  - Land that qualifies for rating 80 to 100 in the Storie Index Rating.
  - Land that supports livestock used for food and meets carrying capacity defined by U.S. Department of Agriculture.
  - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and normally return during the commercial bearing period on an annual basis of at least \$200 per acre.
  - Land that has returned from the production of unprocessed agricultural plant production and has an annual gross plant production of at least \$200 per acre for three of the last five years.
- **Non-Prime Agricultural Land:** land enrolled under the California Land Conservation Act contract that does not meet any of the criteria for classification as Prime Agricultural Land.
- **Non-Renewal:** land that was enrolled but was filed as non-renewal pursuant to Government code Section 51245. The existing contract remains in effect for the balance of the remaining contract.

### ***Local Policies and Regulations***

Local policies related to land use and agriculture are presented in this section.

### **Planning and Zoning Designations**

Pursuant to California Government Code 53091, Regional San, as a regional agency and utility district, is not subject to the building and zoning ordinances of local jurisdictions for projects involving facilities for the production, generation, storage, treatment or transmission of water. It is, however, the practice of Regional San to work with host jurisdictions and neighboring communities during project planning and to conform to local land use plans and policies to the extent possible. Therefore, the proposed Project's consistency with local land use plans and policies is discussed in this EIR.

### **Sacramento County General Plan**

The Sacramento County General Plan (Sacramento County 2011) guides growth and development within the unincorporated county. It is the basis for land use and public policy decisions made by the Board of Supervisors and other policy makers.

### ***Agricultural Element***

The Agricultural Element of the General Plan contains the following goals, objectives, and policies relevant to the project. Goals are included for lands both inside and outside the Urban Service Boundary (USB):

- **GOAL:** Protect important farmlands from conversion and encroachment and conserve agricultural resources.
  - Objective: Protect prime, statewide importance, unique and local importance farmlands and lands with intensive agricultural investments (such as orchards, vineyards, dairies, and other concentrated livestock or poultry operations) from urban encroachment.
  - Objective: Prime farmland, farmland of statewide importance, unique farmland and farmland of local importance, and farmlands with intensive agricultural investments are to be protected from encroachment by natural resource preserves without compromising biologic diversity and habitat values.
    - Policy AG-5. Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):
      - prime, statewide importance, unique, local importance, and grazing farmlands located outside the USB;
      - prime, statewide importance, unique, and local importance farmlands located inside the USB.

The Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands.

However, if that land is also required to provide mitigation pursuant to a Sacramento County endorsed or approved Habitat Conservation Plan (HCP), then the Board of Supervisors may consider the mitigation land provided in accordance with the HCP as meeting the requirements of this section including land outside of Sacramento County.

Note: This policy is not tied to any maps contained in the Agricultural Element. Instead, the most current Important Farmland map from the Department of Conservation should be used to calculate mitigation.

- Policy AG-10: The County shall balance the protection of prime, statewide importance, unique and local importance farmlands and farmlands with intensive agricultural investments with the preservation of natural habitat so that the protection of farmland can also serve to protect habitat.
- Objective: Reduce or eliminate groundwater cones of depression in farming areas by encouraging water conservation.
  - Policy AG-27: The County shall actively encourage groundwater recharge, water conservation and water recycling by both agricultural and urban water uses.
- **GOAL:** Enhanced viability of Sacramento County's agricultural economy.
  - Objective: Protect, conserve, and enhance agribusiness operations in Sacramento County for economic sustainability and viability.

#### *Land Use Element*

The Land Use Element of the General Plan contains the following goals, objectives, and policies relevant to the proposed Project:

- **GOAL:** A viable rural and recreational economy in all non-metropolitan areas outside of the Urban Service Boundary.
  - Objective: Limited agricultural residential land use expansion outside the USB that does not compromise objectives for protecting prime agricultural lands and open space, and avoids groundwater overdraft and contamination.
    - Policy LU-73: Sewer and water treatment and delivery systems shall not provide for greater capacity than that authorized by the General Plan.
  - Objective: Important farmlands protected to ensure the continuation of agricultural production and to preserve open space.



## City of Elk Grove General Plan

### *Guiding and Focused Goals*

The following guiding and focused land use goals from the City of Elk Grove General Plan are relevant to the proposed Project (City of Elk Grove 2015):

- Guiding Goal 3: Protection of the Natural Environment
  - Focused Goal 3-2: Open space lands in proximity to Elk Grove which provide for agricultural use and habitat for native species.
  - Focused Goal 3-3: Natural resources managed and protected for the use and enjoyment of current and future generations.
  - Focused Goal 3-4: Preservation and enhancement of Elk Grove's natural areas, in particular the areas within the floodplain of the Cosumnes River.
- Guiding Goal 5: Preservation of the Rural Character of Elk Grove
  - Focused Goal 5-2: Maintenance of those features that provide the character of Elk Grove's rural areas, including: large oak and other trees, small local roadways, animal keeping and raising, equestrians, agriculture, and limited commercial opportunities.

### *Land Use Element*

The Land Use Element of the City of Elk Grove General Plan includes the following policy that is relevant to the proposed Project (City of Elk Grove 2015):

- Policy LU-17: Implement a comprehensive city-wide strategy for the preservation of open space, habitat and agriculture, both inside and outside the City's existing city limits.

### **Other Related Planning Efforts**

Other planning documents relevant to the proposed Project are described below.

### **Bufferlands Master Plan**

The Bufferlands Master Plan (Carollo 2000) was prepared to establish a long-term, cost effective management strategy for the Bufferlands while maintaining a buffer zone and providing for future expansion and operational changes at the SRWTP, as well as protecting and enhancing environmental resources. The Master Plan (Plan) provides guidelines and policies for alternative land uses, visitor use and access, and for vegetation and wildlife management. The Plan covers the 2,300-acre area surrounding the SRWTP between Franklin Boulevard and the Sacramento River. In the 1970s, Regional San purchased this area to act as a buffer between the SRWTP and the neighboring community and provide an area that could accommodate future expansion. The area is bisected by the Union Pacific Railroad (UPRR) right-of-way.

The principal objectives of Bufferlands management are:

- to maintain the function of the Bufferlands, allowing continued Plant operation and expansion while maintaining Plant security, and ensuring the safety of Regional San personnel and the surrounding public;

- to provide and maintain extensive areas of open space, high-quality wildlife habitat, and other valuable natural resources on the Bufferlands;
- to provide areas to mitigate environmental impacts associated with Regional San projects;
- to minimize conflicts and develop beneficial relationships with the local community;
- to promote public enjoyment and appreciation of the Bufferlands through educational outreach; and
- to generate lease revenues for Regional San in accordance with other Bufferlands management objectives.

Chapter 4 of the Plan provides goals and policies that relate to land use, public safety and security, public use, environmental education, research and development, cultural resources, aesthetic resources, water quality, managed wildlife habitat areas, open space areas, leased areas, horticultural areas, plant and process facilities (Carollo 2000).

#### **Cosumnes River Preserve Management Plan**

Please refer to Section 1.11 in *Chapter 1, Introduction*, for a discussion of the Cosumnes River Preserve. The Cosumnes Preserve Management Plan was developed in 2008 by the Preserve partners (Kleinschmidt Associates 2008) to provide a framework for how the Preserve should be managed over the next 10 years. The long-term vision statement for the Preserve is as follows:

“The Cosumnes River Preserve Partners envision the permanent protection of a continuous riparian corridor extending from the Cosumnes headwaters to the Delta, including adjacent floodplain and wetland habitats, and a vast vernal pool grassland complex supporting endangered species. The Partners will utilize stewardship and compatible ranching and farming activities as methods to sustain native plant and wildlife communities and the processes that perpetuate a dynamic mosaic of habitats. We will provide opportunities for people of all ages to appreciate the flora and fauna of the Cosumnes River Preserve and to experience being part of a natural landscape.”

To achieve the vision, the following two overarching goals were developed:

- Native biological communities and the resident and migratory species dependent on them are restored and maintained to sustainable conditions and populations levels.
- Compatible uses improve stewardship of the lands in the Cosumnes River Watershed.

A series of sub-goals were then developed in the categories of Watershed and Preserve; Natural Resource Stewardship; Agricultural Stewardship; Public Use; Cultural and Visual Resources; Property Management; and Operations, Maintenance, and Monitoring (Kleinschmidt Associates 2008).

#### **Stone Lakes NWR Comprehensive Conservation Plan**

USFWS prepared the Stone Lakes NWR Comprehensive Conservation Plan (CCP) in 2007 with the purpose of guiding the management of fish, wildlife, plants, other natural resources and

visitor use for a planning period of 15 years. The CCP identified the following goals related to managing the NWR (USFWS 2007):

- Goal 1 – Conserve, enhance, restore and manage Central Valley wetland, riparian, grassland and other native habitats to benefit their associated fish, wildlife, plants and special status species.
- Goal 2 – Conserve, enhance, and restore high quality migrating, wintering and breeding habitat for migratory birds within the Sacramento San Joaquin Delta of the Central Valley.
- Goal 3 – Provide visitors with wildlife-dependent recreation, interpretation and education opportunities which foster an understanding of the Refuge's unique wildlife and plant communities in an urban setting.
- Goal 4 – In cooperation with tribal representatives, identify and protect cultural resources on the Refuge and educate the public regarding American Indians and the history of the region.

### **Water Forum Agreement**

Please refer to Section 1.04 in *Chapter 1, Introduction*, for a discussion of the Water Forum Agreement.

### **3.2.3 Impact Analysis**

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed facilities would result in significant impacts related to land use or agriculture resources. Specifically, the analysis is based on a review of local land use plans and policies and aerial imagery and determination whether the proposed Project would affect land uses and protected agricultural resources.

#### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist, an impact would be considered significant if the proposed Project would:

- Physically disrupt or divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to a general plan, specific plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Convert more than 50 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), or areas containing prime soils to uses not conducive to agricultural production;
- Conflict with any existing Williamson Act contract; or
- Introduce incompatible uses in the vicinity of existing agricultural uses.

### ***Criterion Requiring No Further Evaluation***

The criterion listed above that is not applicable to actions associated with the action alternatives of the proposed Project is identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Physically disrupt or divide an established community:* The proposed Project would not construct any aboveground infrastructure that would physically divide a community. The majority of the project components would consist of underground pipelines. The proposed aboveground pump station would be located within the existing SRWTP site, and integrated with other similar industrial facilities that relate to the treatment of wastewater and production of recycled water. The potential recharge pond would be located within an agricultural area. Although it would have a new function of allowing recharge during the non-irrigation season, it would continue to be used as agricultural lands during the irrigation season. Thus, none of the proposed components of the action alternatives would disrupt or divide an established community. As such, there would be no impact, and no further discussion is warranted.

### ***Impacts and Mitigation Measures***

#### **Impact LUA-1 Conflict with Any Applicable Land Use Plan, Policy, or Regulation of An Agency with Jurisdiction Over the Project Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction and operation of project-level components of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) would not result in any changes to land use. The proposed transmission pipeline and appurtenances would be located below ground primarily within road ROW although construction could temporarily occur on adjacent agricultural land (see Impact LUA-2 for more information regarding impacts to agricultural resources).

The proposed Project does not include residential, commercial, or agricultural development and would not alter land use designations of any existing land uses. The pump station would be constructed at the SRWTP surrounded by other wastewater and recycled water-related facilities already on site. The proposed Project would not introduce new uses or result in changes to the functions of the Bufferlands, Cosumnes River, or Stone Lakes NWR. Providing recycled water to agricultural customers in South County would contribute to Sacramento County's goal to "protect important farmlands from conversion and encroachment and conserve agricultural resources." These alternatives would be consistent with the Land Use Elements of the Sacramento County General Plan and City of Elk Grove General Plan, Bufferlands Master Plan, Cosumnes River Preserve Management Plan, and Stone Lakes NWR Comprehensive Conservation Plan. Providing recycled water for agriculture and to enhance wetlands is consistent with policies supporting enhancement of habitat.

**Program Elements.** The use of recycled water for agricultural uses and the provision of recycled water to a potential recharge pond in South County would be consistent with Sacramento County's goals and objective of protecting farmland, enhancing the viability of the agricultural economy, and reducing or eliminating groundwater cones of depression in farming areas. In addition, the use of recycled water in an area currently relying primarily on groundwater would be consistent with groundwater management policies in the area.

Providing recycled water to the Stone Lakes NWR managed wetlands would diversify their water supply and potentially enhance existing wetlands. Its use would not conflict with the Refuge's CCP or any relevant, land use plan, policy or regulation.

While the potential recharge area would be located on agricultural land and could result in greater than 50 acres of Important Farmland being used for groundwater recharge purposes during the non-irrigation season, as currently proposed, the area would continue to be used for agriculture during the irrigation season. Thus, this alternative would not conflict with Sacramento County policies related to the protection of Important Farmlands and the mitigation specified by Policy AG-5 would not be needed. If lands within the recharge area were, in the future, considered for any other uses such as riparian restoration and/or wetlands enhancement, this would be subject to future environmental review.

Based on the above discussion, Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) would not conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project/ and impacts would be less than significant/beneficial.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the service area would be less. Alternative 3 (Small Service Area Alternative) would not conflict with any land use plan, policy, or regulation included in the Sacramento County or City of Elk Grove General Plans. It does not consist of development and would modify any land use designations. Thus, impacts would be less than significant/beneficial.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no construction-related impacts to land use or agriculture would occur. However, if in the future water supplies become limited because of long-term drought or subsidence that requires restrictions in groundwater pumping in this area and subsequent long-term fallowing of land that may make conversion of land more favorable than preservation for farmers, such lands could be converted to non-agricultural uses. This impact would potentially be significant and unavoidable as such changes would be permanent, and no mitigation is available to reduce the potential irreversible conversion of agricultural land to non-agricultural uses. Although Sacramento County requires mitigation for conversion of more than 50 acres of farmland, conversion of smaller parcels can

occur without requiring preservation of farmland, which could potentially result in loss of a substantial amount of farmland if water is unavailable.

**Significance Determination before Mitigation**

Less than significant/beneficial for all action alternatives. Potentially significant and unavoidable for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required for any of the action alternatives. No mitigation is available to reduce impacts for Alternative 4 (No Project Alternative).

**Impact LUA-2 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or Area Containing Prime Soils to Uses Not Conducive to Agricultural Production, Conflict with Any Existing Williamson Act Contract, or Introduce Incompatible Uses in the Vicinity of Existing Agricultural Uses.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The proposed pump station would be located at the SRWTP, which is designated public/quasi-public according to the Sacramento County land use map and does not contain any farmlands. Thus, construction of the pump station would have no impact on farmlands.

As described in *Chapter 2, Alternatives Description of the Proposed Project*, the majority of the proposed transmission pipeline would be installed using open-cut construction methods, with trenchless pipeline construction for specific crossings. The open-cut trench would be approximately 7 feet wide and up to 10 feet deep, depending on the pipe size, existing utility locations, and pipe bedding requirements. To accommodate construction equipment and work area, the entire construction corridor (active work area including the trench) would be approximately 80 feet wide. The transmission pipelines and appurtenances would be located primarily along County and city streets and rural roads, within public road ROW. However, as shown in **Figure 3.2-2** and **Figure 3.2-3** there are areas, primarily within the recycled water service area, where the proposed transmission pipeline traverses and/or is adjacent to Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland, as well as lands under Williamson Act contracts. Construction associated with the transmission pipeline could encroach upon adjacent private lands, including agriculture areas (e.g., due to the limited width of the existing roads, or to avoid utilities or traffic). In areas where the construction corridor would be located within agricultural lands, agriculture (on Important Farmlands / lands under a Williamson Contract) would be temporarily precluded for some portion of the 2-year construction period. Construction in agricultural fields may require the removal of crops, depending on the crop and time of year. Construction could also potentially affect small areas of land adjacent to the road ROW, however this would be temporary (i.e., would not permanently remove agricultural lands from production). Upon completion of construction, the area would be restored to pre-construction condition, and no permanent facilities would be located within the affected agricultural areas. Given the temporary nature of

construction and restoration of disturbed areas after construction, impacts to agricultural lands would be less than significant..

Construction outside of paved areas would involve the removal of topsoil to dig the pipeline trench. Heavy equipment (e.g., excavator, dump truck, flat-bed truck, front-end loader) would be used to dig trenches, transport pipe, and off-load excavated materials. Removal of topsoil and use of heavy equipment would also have the potential to adversely affect long-term soil characteristics and productivity of this land (i.e., through compaction/removal of topsoil). Potential exists that this could cause such areas to no longer be viable for agricultural production, which would be a significant impact. Implementation of **Mitigation Measure LUA-2**, which requires topsoil to be stockpiled and replaced, would reduce potential impacts to a less-than-significant level.

Over the long-term, agricultural land use in this area would be unaffected as a result of the installation of the transmission pipeline. The transmission pipeline would be buried underground, installed up to 10 feet deep, and soil (including topsoil as required under **Mitigation Measure LUA-2**) would be backfilled over the trench such that farming would be able to resume following construction. The transmission pipeline would need to be inspected and maintained periodically after construction (for which permanent easements would be acquired as necessary). Inspections would be conducted through the utility access manholes installed during construction. Maintenance would consist of monthly inspections of the pump station and pipeline. The inspections and maintenance activities would generally be isolated and confined to the manholes and immediate vicinity of the pipeline alignment. The inspection and maintenance activities therefore would not be expected to disturb agricultural operations. As the installation of the transmission pipeline would not result in the permanent conversion of any adjacent Important Farmland or areas containing prime soils to uses not conducive to agricultural production, would not remove any lands currently under Williamson Act contract from production, and would not introduce non-agricultural uses in the vicinity of existing agricultural uses, operational-impacts would be less than significant and no mitigation is required.

These alternatives would provide a benefit to agricultural lands in the proposed Project area, including those designated as prime farmland, unique farmland, farmland of local and statewide importance, and Williamson Act lands by providing a sustainable water supply that would be available even during droughts, when other groundwater supplies may be limited.

**Program Elements.** The distribution pipelines, potential recharge area, diluent wells, service connection laterals, and turnouts would be located on rural road ROW, private agricultural lands or dirt roads. These facilities would be located within and/or adjacent to farmland of local importance, prime farmland, farmland of statewide importance, and unique farmland, as well as lands under Williamson Act contract (see **Figure 3.2-2** and **Figure 3.2-3**).

Construction-related impacts for the program elements would be similar to those for the project elements and **Mitigation Measure LUA-2** would be implemented to reduce impacts to less than significant.

In the long-term, the proposed facilities would have minimal effect on important agricultural farmlands because they would be either located underground or would require minimal land (e.g., size of facilities for diluent wells would be about 100 by 100 feet) which would not affect existing agricultural operations or be incompatible with existing agricultural operations.

The potential recharge pond would be located within Important Farmlands and on lands under Williamson contract. However, as discussed in Impact LUA-1 above, because the potential recharge area would continue to be used for agriculture during the irrigation season, it would not result in the conversion of Important Farmlands or the removal of Williamson Act lands from production. Thus, impacts would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Because Alternative 3 (Small Service Area Alternative) would deliver recycled water to a smaller area of agricultural users in South County, construction of less pipeline would be required. Therefore, the duration of temporary, construction-related impacts would be less than Alternative 1 (Medium Service Area Alternative). Similar to Alternatives 1 (Medium Service Area Alternative), the potential exists for the removal of topsoil that could cause agricultural areas to be no longer viable for agricultural production, which would be a potentially significant impact. With the implementation of **Mitigation Measure LUA-2**, such impacts would be reduced to less than significant.

Similar to Alternative 1 (Medium Service Area Alternative), operation-related effects would also be less than significant, and have the potential to benefit agricultural users by providing a sustainable, drought-proof water supply, ensuring ongoing production and water supply reliability.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be installed and existing agricultural land would not be affected. Therefore, there would be no impact associated with construction. However, as described in Impact LUA-2 above, if in the future water supplies become limited because of long-term drought or subsidence that requires restrictions in groundwater pumping in this area and subsequent long-term fallowing of land that may make conversion of land more favorable than preservation for farmers, there could be a permanent conversion of Important Farmland or areas containing prime soils to non-agricultural uses. This impact would be potentially significant and unavoidable as such changes would be permanent, and no mitigation is available to reduce the potential irreversible conversion of agricultural land to non-agricultural uses.



**Significance Determination before Mitigation**

Potentially significant for all action alternatives. Significant and unavoidable for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measure LUA-2: Stockpile Topsoil (All Action Alternatives)**

Regional San and/or its contractors shall stockpile topsoil removed during construction for later reuse. The soil shall be stored in a clear area of the construction site where it would not have the potential to affect agricultural or biological resources. Stockpiled soil shall be covered with a tarp at all times to prevent generation of fugitive dust. Following pipeline construction, soil shall be backfilled into the trench and restored to an appropriate level of compaction.

**Significance Determination after Mitigation**

Less than significant for all action alternatives. Potentially significant and unavoidable for Alternative 4 (No Project Alternative) because there is no mitigation available to reduce impacts.

**Cumulative Impacts**

The geographic scope of potential cumulative land use impacts consists of the proposed Project component areas and immediate vicinity. As discussed in Impact LUA-1, the proposed Project consisting of a pump station within the existing SRWTP and subsurface transmission pipelines, would not result in any land use changes. Therefore, the proposed Project would not conflict with applicable land use plans, policies, and regulations, and would have no cumulative land use impact.

Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance in Sacramento County have been undergoing conversion to urban, built out, or other land uses (see **Table 3.2-2**). Continued conversion of farmland to non-agricultural uses in the County could result in a potentially significant cumulative impact. As discussed in Impact LUA-2, construction of the proposed Project could result in temporary impacts to agricultural land use. However, this impact would be reduced to a less-than-significant level with the implementation of **Mitigation Measure LUA-2**. The proposed pump station would be constructed within the existing SRWTP and subsurface transmission pipelines would not result in long term impacts to agricultural land uses. Therefore, the proposed Project would not contribute to cumulative agricultural land use impacts.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

See **Mitigation Measure LUA-2**.

**Significance Determination after Mitigation**

Less than significant.

### 3.2.4 References

- \_\_\_\_\_. 2000. *Water Forum Agreement*. January 2000.
- Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.
- California Department of Conservation (CDOC). 2004a. Table A-23 Sacramento County 2002-2004 Land Use Conversion. Available:  
<http://www.conservation.ca.gov/dlrp/fmmp/Pages/Sacramento.aspx>. Accessed May 23, 2016.
- \_\_\_\_\_. 2004b. *The California Land Conservation Act 2004 Status Report*. May 2004. Available at: [http://www.conservation.ca.gov/dlrp/lca/stats\\_reports](http://www.conservation.ca.gov/dlrp/lca/stats_reports). Accessed May 23, 2016.
- \_\_\_\_\_. 2013a. *Sacramento County Williamson Act 2011/2012 Map*.
- \_\_\_\_\_. 2013b. Farmland Mapping and Monitoring Program. Available:  
<http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx>. Accessed January 21, 2015.
- \_\_\_\_\_. 2013c. Important Farmland Categories. Available:  
[http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map\\_categories.aspx](http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx). Accessed January 21, 2015.
- \_\_\_\_\_. 2013d. The Land Conservation (Williamson) Act. Available at:  
<http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx>. Accessed January 21, 2015.
- \_\_\_\_\_. 2013e. Contract Cancellations. Available at:  
[http://www.conservation.ca.gov/dlrp/lca/basic\\_contract\\_provisions/Pages/contract\\_cancellations.aspx](http://www.conservation.ca.gov/dlrp/lca/basic_contract_provisions/Pages/contract_cancellations.aspx). Accessed January 21, 2015.
- \_\_\_\_\_. 2014a. Table A-26 Sacramento County 2012-2014 Land Use Conversion. Available:  
<http://www.conservation.ca.gov/dlrp/fmmp/Pages/Sacramento.aspx>. Accessed May 23, 2016.
- \_\_\_\_\_. 2015. *The California Land Conservation Act 2014 Status Report*. March 2015. Available at: [http://www.conservation.ca.gov/dlrp/lca/stats\\_reports](http://www.conservation.ca.gov/dlrp/lca/stats_reports). Accessed May 23, 2016.
- \_\_\_\_\_. 2014. *Sacramento County Important Farmland 2012 Map*. August 2014.
- Carollo Engineers. 2000. *Bufferlands Master Plan – Final Draft*. August 2000.

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Kleinschmidt Associates. 2008. *Cosumnes River Preserve Management Plan*. March 2008.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2013. *Sacramento County 2013, Crop & Livestock Report*.

\_\_\_\_\_. 2016. South Sacramento Habitat Conservation Plan fact sheet. Informational website available at: <http://www.southsachcp.com/>. Accessed on May 26, 2016.

Sacramento County, City of Elk Grove, City of Galt, City of Rancho Cordova, Sacramento Regional County Sanitation District, Sacramento Area Sewer District, Sacramento County Water Agency, Southeastern Connector. 2010. *South Sacramento Habitat Conservation Plan, Working Draft*. July 2010.

Sacramento Regional County Sanitation District (Regional San). 2007. *Water Recycling Opportunities Study, Executive Summary*. February 2007.

United States Department of Agriculture (USDA). 2014. Farmland Policy Protection Act. Natural Resource Conservation Service. Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/>. Accessed January 21, 2015.

United States Fish and Wildlife Service (USFWS). 2007. *Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan*. January 2007.

### 3.3 Recreation

This section describes the physical and regulatory setting for recreation within the proposed Project area and evaluates the potential for the proposed Project to affect recreational resources.

#### 3.3.1 Environmental Setting

##### ***Regional Setting***

Residents and visitors in the proposed Project area have access to recreational opportunities and facilities including parks, fishing and rafting areas, bikeways, and recreational centers. Such opportunities are provided at Stone Lakes NWR, and multiple small parks in and around the City of Elk Grove, Sacramento River, and the Cosumnes River and Preserve. Bicycle facilities are address in *Section 3.14, Traffic and Transportation*.

##### ***Project Vicinity***

##### **SRWTP**

There are no park facilities at the SRWTP, but the surrounding Bufferlands managed by Regional San provide opportunities for guided recreation and education. The Bufferlands consist of 2,300 acres of open space providing habitat for approximately 238 species of birds, 25 species of mammals, 20 species of fish, and 21 special-status species. While the Bufferlands are not open for public access, Regional San offers events and activities throughout the year, including hiking tours for viewing of wetlands, nesting birds, and habitat within the Bufferlands. Management staff can also tailor special tours to meet individual needs of a group covering a wide variety of natural resource topics (Regional San 2015).

##### **City of Elk Grove and South County**

The City of Elk Grove contains many public parks, some of which are owned and operated by the Cosumnes Community Services District (CSD), an independent agency (City of Elk Grove 2009). The CSD serves 157 square miles, including the City of Elk Grove, as well as a large unincorporated area of Sacramento County. CSD classifies parks as local parks (sometimes referred to as pocket parks), neighborhood parks, community parks, regional parks, special use parks, sports complexes/golf facilities, and open space (Pros Consulting 2009). There are no parks immediately adjacent to the proposed pump station or transmission pipeline locations. Local and neighborhood parks within a quarter mile of the proposed transmission pipeline include Fite Park, Wackman Park, Womack Park, Ehrhardt Oaks Park, and Buscher Park. Amenities at these parks include playgrounds, picnic shelters/pavilions, multi-purpose fields, basketball courts, tennis courts, and softball fields.

Elk Grove Unified School District also provides sports fields and indoor and outdoor courts at its elementary schools, middle schools, and high schools (Pros Consulting 2009). As described in *Section 3.2, Land Use and Agriculture*, there are no schools within a quarter mile of the proposed facilities.

Other recreational opportunities in the County include open space preserves, parkways along creeks, and wildlife refuges. Stone Lakes NWR is located within the Project area and provides various recreational opportunities (USFWS 2014). Stone Lakes NWR is generally managed by the North Stone Lake Unit (north of Hood Franklin Road) and South Stone Lake Unit (south of Hood Franklin Road). Stone Lakes NWR provides the following recreational opportunities:

- Blue Heron Trails, accessed from Elk Grove Boulevard and located approximately two miles west of the proposed transmission pipeline, offers year-round hiking and self-guided tours surrounding seasonal wetlands and upland habitat.
- Free docent-guided walks in normally restricted areas are provided in the fall and spring to view migratory birds.
- The Paddle Program, operated from June through September, offers wildlife viewing for canoers and kayakers in normally restricted areas of Lower Beach Lake in the North Stone Lake Unit.
- Waterfowl hunting is allowed during the hunting season in the South Stone Lake Unit.

The Cosumnes River Preserve, generally located east of the recycled water service area (with some portion of the recycled water service area overlapping the Preserve), consists of approximately 45,859 acres of wildlife habitat and agricultural lands and provides social, economic, and recreational benefits to the City of Elk Grove and South County. It provides a wide range of wildlife-compatible recreational activities such as wildlife viewing, hiking, boating, canoeing, hunting, fishing, site seeing, photography, and geocaching. There are trails, including the Cosumnes River Walk and the Rancho Seco Howard Ranch Trail, as well as facilities, including the Visitor Center, administrative offices, and kiosks, that are open to the public year-round. Due to the proximity of the Preserve to growing urban areas, such as Sacramento, future demands for recreational use, public access, and the use of facilities are expected to increase (Kleinschmidt 2008).

### **3.3.2 Regulatory Framework**

This section describes the laws and regulations at the federal, state and local level that may apply to the proposed Project.

#### ***Federal***

##### **National Recreation and Park Association**

The National Recreation and Parks Association creates benchmarking ratios based on national median amount of parkland per 1,000 residents, with the most recent being the 2013 value of 9.1 acres of parkland per 1,000 residents (NRPA 2014).

#### ***State***

##### **Landscaping and Lighting Districts**

The California Landscaping and Lighting Act of 1972 authorizes local legislative bodies to establish benefit related assessment districts, or Landscaping and Lighting Assessment Districts (LLADs) and to levy assessments for the construction, installation, and maintenance of certain

public landscaping and lighting improvements. LLADs may be established to maintain local public parks.

### ***Local***

#### **Sacramento County**

There are no relevant goals identified in the Sacramento County General Plan related to Recreation.

#### **City of Elk Grove**

##### *Vision and Focused Goals*

The Parks, Trails, and Open Space Element in the City of Elk Grove's General Plan emphasizes the City's vision to retain significant amounts of open space and to create a trails system. The General Plan has the following Focused Goals related to providing a high quality of life to residents:

- Goal 1-2: Outdoor recreation opportunities for all residents.
- Goal 1-7: Active and passive park facilities and recreation programs that satisfy the leisure time and recreation needs of all residents.

##### *Conservation and Air Quality Element*

The Conservation and Air Quality Element of the City of Elk Grove General Plan includes the following policy that is relevant to the proposed Project (City of Elk Grove 2015):

- Policy CAQ-23: Uses in the stream corridors shall be limited to recreation and agricultural uses compatible with resource protection and flood control measures. Roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings.

##### *Parks, Trails, and Open Space Element*

The Parks, Trails, and Open Space policy relevant to the proposed Project is:

- Policy PTO-15: The City views open space lands of all types as important resource which should be preserved in the region, and supports the establishment of multi-purpose open space areas to address a variety of needs, including, but not limited to:
  - Maintenance of agricultural uses
  - Wildlife habitat
  - Recreational open space
  - Aesthetic benefits
  - Flood control

To the extent possible, lands protected in accordance with this policy should be in proximity to Elk Grove, to facilitate use of these areas by Elk Grove residents, assist in mitigation of habitat loss within the city, and provide an open space resource close to the urbanized areas of Elk Grove.

### **Elk Grove Master Plan of Parks**

Cosumnes CSD prepared the Parks and Recreation Master Plan to provide a framework for decision-making and to identify standards for public parks, desired locations for new facilities and standards for the development of new parks. A vision was identified which includes the CSD and City of Elk Grove partnering “to provide high quality parks, recreation facilities, trails, and programs in a safe environment that are equitably distributed and create high-image and economic value for residents” (Pros Consulting 2009).

### **Other Related Planning Efforts**

Other planning efforts that relate to recreation include the Cosumnes River Preserve Management Plan and the Stone Lakes NWR CCP described in *Section 3.2, Land Use and Agriculture*, and the Water Forum Agreement described in *Section 3.1, Introduction*.

## **3.3.3 Impact Analysis**

### **Methodology for Analysis**

This section evaluates whether construction and operation of the proposed Project alternatives would result in significant impacts related to recreation. Specifically, this analysis involves identification of existing recreational facilities and consideration of whether the proposed Project components would directly alter recreation facilities or indirectly disrupt recreation use.

### **Thresholds of Significance**

Consistent with the thresholds of significance identified in Sacramento County’s Initial Study Checklist and Appendix G of the CEQA Guidelines, an impact on recreation would be considered significant if the proposed Project would:

- Result in substantial adverse physical impacts associated with the provision of park and recreation services; or
- Result in direct alteration of an existing recreational facility or disruption of recreational use.

### **Criterion Requiring No Further Evaluation**

The criterion listed above that is not applicable to actions associated with the proposed Project is identified below along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Result in substantial adverse physical impacts associated with the provision of park and recreation services* – The proposed Project would provide recycled water from the SRWTP as a source of non-potable water for beneficial use, serving as a water supply project. However, the proposed Project would not increase the capacity of wastewater treatment or disposal and would not generate demand such that population growth or increase in demand for recreation facilities would occur. The proposed Project/ does not include the construction or expansion of recreational facilities that could result in direct adverse physical effect on the environment. In addition, the action alternatives would not induce population growth that would increase use of existing parks or other recreational

facilities such that substantial physical deterioration of the facility would occur or be accelerated. As such, no impacts would occur and no further evaluation is warranted.

### **Impacts and Mitigation Measures**

#### **Impact REC-1 Result in Direct Alteration of an Existing Recreational Facility or Disruption of Recreational Use.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The proposed pump station would be located at the SRWTP and a portion of the transmission pipeline would cross the Bufferlands, where work would include open trench construction. Construction of the pump station would not affect any recreational facilities. The Bufferlands are not open to the public except through guided tours and events offered by Regional San. To ensure public safety, Regional San would not schedule tours in areas where work was occurring. As such, impacts to recreation associated with construction within the Bufferlands are anticipated to be less than significant.

Within the City of Elk Grove, none of the construction associated with the transmission pipeline would be immediately adjacent to local and neighborhood parks. While there are several parks within a quarter mile of the proposed transmission pipeline, construction of the pipeline would occur primarily in road ROWs. Therefore, the proposed transmission pipeline would not directly alter existing recreational facilities. Construction activities could result in short term impacts to park facilities access due to temporary closures of roadway lanes to accommodate the construction trench and staging areas or disrupt the enjoyment of users due to construction dust and noise (refer to *Section 3.4, Air Quality and Greenhouse Gas Emissions, Section 3.12, Noise, and Section 3.14, Traffic and Transportation* for a discussion of these impacts). This impact is considered potentially significant. However, mitigation measures identified in Sections 3.12 and 3.14 would require that access is maintained, and dust emissions and noise are limited, thus reducing disruption to recreational users. Specifically, **Mitigation Measure TR-1** would ensure access is maintained to adjacent uses, including parks. **Mitigation Measure NOI-1** would control and minimize noise during construction. With implementation of these mitigation measures and due to the temporary nature of construction, impacts to recreation would be reduced to less than significant.

Because the proposed pump station would be located entirely within the existing SRWTP site, operation of the proposed pump station would not result in any long-term impacts to recreation. No long-term operational-related impacts to recreation would occur due to the transmission pipeline since it would be buried underground. Thus, operational impacts from the pump station and transmission pipeline would be less than significant with mitigation.

**Program Elements.** While the majority of the program elements would be within agricultural lands, some of the distribution and lateral pipelines would be located within the Stone Lakes NWR and the Cosumnes River Preserve. The distribution pipeline to Stone Lakes NWR would be located on Lambert Road, a public ROW that is not a recreational resource, although it



provides recreational access. The precise location(s) of the laterals from the distribution mains to the wetland units have not been determined, and could occur adjacent to or cross established trails. Alteration of recreational facilities and temporary disruption of recreational use may occur with open trench construction, depending on the precise location of the proposed pipeline alignments. However, as part of the Project, disturbed areas would be restored to pre-construction conditions. Implementation of **Mitigation Measures TR-1** and **NOI-1** as described for the project-level component, and due to the temporary nature of pipeline construction (up to 6 weeks for the construction of the lateral), potential impacts to recreational facilities would be less than significant. The potential recharge area is located on private agricultural lands, some of which are included in the Cosumnes River Preserve. Operation would not impact recreational activities provided by the Preserve (e.g. wildlife viewing, hiking, boating, canoeing, hunting, fishing, sightseeing, photography, and geocaching), however, construction has the potential to do so. Similar to the impacts associated with construction of the distribution pipeline, with the implementation of **Mitigation Measures TR-1** and **NOI-1**, the impacts associated with construction of the potential recharge area would be expected to be less than significant.

The provision of recycled water to agricultural lands, Stone Lakes NWR, and the potential recharge area would increase groundwater levels, which could contribute to an increase in the baseflow of the Cosumnes River. Because the river offers recreational opportunities, any increase in baseflow could enhance to its existing recreational value. As such, this alternative would provide benefits to recreation.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that that the intensity of the effects would be less for construction- and operation-related effects. As with Alternative 1 (Medium Service Area Alternative), due to the temporary nature of construction, recreation impacts would be less than significant with implementation of **Mitigation Measures TR-1** and **NOI-1** described above. Operation-related effects would also be less than significant because of the location of the pump station and underground nature of the pipelines. Therefore, impacts would be less than significant with mitigation.

*Alternative 4 (No Project Alternative)*

Under this alternative, no facilities would be constructed. Therefore, no impacts to recreation would occur, including potential beneficial effects to recreation from increased Cosumnes River base flows.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative)

**Mitigation Measures**

See **Mitigation Measures TR-1** and **NOI-1** (in *Sections 3.14* and *3.12*) for all action alternatives.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impact Analysis***

The geographic scope of potential cumulative impacts related to recreation encompasses the proposed Project component sites and immediate vicinity. Cumulative impacts related to recreation could occur if the project were to cause an increase in population, which would increase use and demand of parks and recreational facilities. As described in Impact REC-1, the proposed Project would have a beneficial impact to recreation by increasing groundwater levels, which would increase the baseflow of the Cosumnes River. Construction activities would result in short term impacts, which would be reduced to a less-than-significant level with the implementation of **Mitigation Measures TR-1**, and **NOI-1**. The nature of the proposed Project and provision of recycled water would not result in an increase in population that would in turn result in long term physical impacts or direct alteration to parks and recreational facilities. Therefore, the proposed Project would not contribute to cumulative recreation impacts.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

See **Mitigation Measures TR-1**, and **NOI-1**.

**Significance Determination after Mitigation**

Less than significant.

**3.3.4 References**

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Kleinschmidt Associates. 2008. *Cosumnes River Preserve Management Plan*. March 2008.

National Recreation and Parks Association (NRPA). 2014. Parks and Recreation National Database Report. Available at:  
[http://www.nrpa.org/uploadedFiles/PageBuilder\\_Proragis/Content/commoc\\_elements/National-Database-Report.pdf](http://www.nrpa.org/uploadedFiles/PageBuilder_Proragis/Content/commoc_elements/National-Database-Report.pdf). Accessed February 26, 2015.

Pros Consulting. 2009. *Parks and Recreation Master Plan, Summary Report*. September 2009.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

Sacramento Regional County Sanitation District (Regional San). 2015. *Wildlife & Environment 101*. Available at: <http://www.regionalsan.com/bufferlands-educational-opportunities>. Accessed February 23, 2015.

U.S. Fish and Wildlife Service (USFWS). 2014. *Stone Lakes National Wildlife Refuge, Visitor Activities*. Available at:  
[http://www.fws.gov/refuge/Stone\\_Lakes/visit/visitor\\_activities.html](http://www.fws.gov/refuge/Stone_Lakes/visit/visitor_activities.html). Webpage last updated September 18, 2014. Accessed February 23, 2015.

## 3.4 Air Quality and Greenhouse Gas Emissions

This section evaluates the potential impacts related to air quality and greenhouse gases from implementation of the proposed Project. The Environmental Setting, Regulatory Setting, and Impact Analysis discussions are each divided into subsections to address air quality and greenhouse gas emissions.

### 3.4.1 Air Quality Environmental Setting

This section considers the environmental setting for air quality and greenhouse gases within the study area, which includes the project site and the Sacramento Valley Air Basin (SVAB).

#### **Study Area**

The study area is within Sacramento County, spanning portions of Elk Grove and unincorporated Sacramento County. The study area consists of the locations where physical actions associated with the proposed Project would take place (e.g., pump station site and transmission pipeline alignment). The site falls under a portion of the SVAB that is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). The SMAQMD is a 994-square-mile area primarily at sea-level elevation, with lands varying from delta topography associated with the Sacramento River to the foothills of the Sierra Nevada Mountains to the east. The SVAB is characterized by a Mediterranean climate with hot, dry summers and cool, rainy winters. Summer temperatures range from 50°F to over 100°F. Walled off by mountains, the ocean breezes are held at bay and their moderating influence is reduced. A majority of precipitation occurs during the winter months, resulting from air masses from over the Pacific Ocean.

From May to October, meteorological conditions lead to poor air movement early in the day, cleared off later in the afternoon with a Delta sea breeze. This coupled with high insolation lead to high photochemical reactions and ozone concentrations. However, a phenomenon known as the Schulz Eddy can cause wind directions to change, blowing air pollutants back into the valley. Between July and September, this is the prevailing wind for half the time.

#### **Air Pollutants**

Air pollutants regulated by the federal and California Clean Air Acts, which establish air quality standards to protect public health, include criteria air pollutants and toxic air contaminants (TAC). Criteria air pollutants are measured by sampling concentrations in the ambient air. TACs are measured at the source and in the general atmosphere. These air pollutants are described below.

**Carbon Monoxide (CO)** is an odorless, colorless gas that is highly toxic. CO is formed by the incomplete combustion of fuels and is emitted directly into the air. Ambient CO concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. CO concentrations are also influenced by wind speed

and atmospheric mixing. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area at some distance from vehicular sources. CO binds with hemoglobin, the oxygen-carrying protein in blood, and reduces the blood's capacity for carrying oxygen to the heart, brain, and other parts of the body. At high concentrations, CO can cause heart difficulties in people with chronic diseases, can impair mental abilities, and can cause death.

**Ozone** ( $O_3$ ) is a reactive gas consisting of three oxygen atoms. In the troposphere (the lowest region of the atmosphere), it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when  $NO_x$  and volatile organic compounds (VOC) react in the presence of sunlight.  $O_3$  at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere,  $O_3$  exists naturally and shields the Earth from harmful incoming ultraviolet radiation. High concentrations of ground level  $O_3$  can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.  $O_3$  also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials such as rubber, paint, and plastics.

**Oxides of Nitrogen** ( $NO_x$ ) are a family of gaseous nitrogen compounds and are precursors to the formation of  $O_3$  and particulate matter (PM). The major component of  $NO_x$ , nitrogen dioxide ( $NO_2$ ) is a reddish-brown gas that is toxic at high concentrations.  $NO_x$  results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

**Volatile Organic Compounds** (VOCs) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and/or may themselves be toxic. VOC emissions are a major precursor to the formation of  $O_3$ .

**Particulate Matter** (PM) is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components including acids, organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to the potential for causing health problems. PM particles that are smaller than 10 micrometers in diameter are of most concern because these particles pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. These inhalable coarse particles, called  $PM_{10}$ , are typically found near roadways and dusty industries.  $PM_{10}$  particles are deposited in the thoracic region of the lungs. Fine particles, called  $PM_{2.5}$ , are particles less than 2.5 micrometers in diameter and are found in smoke and haze.  $PM_{2.5}$  particles penetrate deeply into the thoracic and alveolar regions of the lungs.

**Sulfur Dioxide** ( $SO_2$ ) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. Suspended  $SO_2$  particles contribute to the poor visibility that occurs in the SVAB and are a component of  $PM_{10}$ .

**Lead** is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead poisoning can also cause lesions of the neuromuscular system, circulatory system, brain and gastrointestinal tract.

Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

**Hydrogen Sulfide** (H<sub>2</sub>S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H<sub>2</sub>S is extremely hazardous in high concentrations and can cause death.

**Sulfates** are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO<sub>2</sub> during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO<sub>2</sub> to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The California Air Resources Board's (CARB) sulfate standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function (moving gas in and out of the lungs), aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property. Sulfate emissions are not currently identified as a health concern for Sacramento County.

**Vinyl Chloride** Vinyl chloride is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

**Toxic Air Contaminants** (TACs) are a broad set of air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. TACs are often referred to as "non-criteria" air contaminants because ambient air quality standards have not been established for them. Hundreds of different types of TACs exist, with varying degrees of toxicity. Many TACs are confirmed or suspected carcinogens, or are known or suspected to cause birth defects or neurological damage. For some chemicals, such as carcinogens, no thresholds exist below which exposure can be considered risk-free. Examples of TAC sources in the proposed Project include fossil fuel combustion.

Sources of TACs include stationary sources, area-wide sources, and mobile sources. The EPA maintains a list of 187 TACs, also known as hazardous air pollutants. These hazardous air pollutants are included on CARB's list of TACs (CARB 2011). According to the TAC Emissions chapter of the SMAQMD CEQA Guide Update (SMAQMD 2014), many researchers consider diesel PM (DPM) to be a primary contributor to health risk from TACs because particles in the exhaust carry many harmful organics and metals, rather than being a single substance as are other TACs. Unlike many TACs, outdoor DPM is not monitored by CARB because no routine measurement method exists. However, using the CARB emission inventory's PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and results from several studies, CARB has made preliminary estimates of DPM concentrations throughout the state (OEHHA 2001).

**Odors** are typically an irritation rather than a health hazard. However, a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

For odor detection, the human nose is the detector and the public's nose serves as a dispersed series of monitoring stations. The sensitivity of the human nose to detect odors varies greatly in the population and is quite subjective. Some noses have the smell sensitivity to detect very small concentrations of specific substances; others may not but may more readily pick up on odors of other substances. In addition, reactions to the same odor can differ drastically, where the same odor can be perceived as unpleasant, acceptable, or pleasant depending on the individual (ex. Limburger). It is important to keep in mind that unfamiliar odors are more easily detected and more likely to cause complaints. This is a result of odor fatigue, the desensitization to an odor through continuous exposure where re-recognition only occurs with a change in the intensity.

### **Attainment Status**

The CARB and the EPA have established Ambient Air Quality Standards in an effort to protect human health and welfare. Geographic areas are deemed to be in "attainment" if these standards are met or "nonattainment" if they are not met. Nonattainment status is classified by the severity of the nonattainment problem, with marginal, moderate, serious, severe, and extreme nonattainment classifications for ozone. Nonattainment classifications for PM range from marginal to serious. **Table 3.4-1** shows the attainment status for the SMAQMD.

Table 3.4-1: Sacramento County Attainment

Pollutant	Federal Standard	Federal Attainment	State Standard	State Attainment
Ozone	1-hour	Severe	1-hour	Serious Nonattainment
	8-hour (1997)	Severe	8-hour	Nonattainment
	8-hour (2008)	Severe	8-hour	Nonattainment
PM <sub>10</sub>	24-hr	Attainment	24-hour	Nonattainment
			Annual	Nonattainment
PM <sub>2.5</sub>	24-hour	Moderate	No State 24-hr standard	NA
	Annual	Unclassified/Attainment	Annual	Attainment
Carbon Monoxide	1-hour	Attainment	1-hour	Attainment
	8-hour	Attainment	8-hour	Attainment
Nitrogen Dioxide	1-hour	Unclassified/Attainment	1-hour	Attainment
	Annual	Unclassified/Attainment	Annual	Attainment
Sulfur Dioxide	1-hour	Attainment Pending	1-hour	Attainment
			24-hour	Attainment
Sulfates	No Federal Standard	NA	24-hour	Attainment
Lead	3-month rolling average	Unclassified/Attainment	30 day average	Attainment
Visibility Reducing Particles	No Federal Standard	NA	8-hour	Unclassified
Hydrogen Sulfide	No Federal Standard	NA	1-hour	Unclassified

### Air Monitoring Station Data

Criteria air pollutant concentrations are measured at 11 monitoring stations in the Sacramento County. The county average air quality was used to determine the existing air quality, sourced from ARB's Top 4 Summary data analysis tool (**Table 3.4-2**). PM<sub>10</sub> data was not available at the county level for this tool, therefore data at the SVAB-level was used for this pollutant.

Both the CARB and the EPA use this monitoring data to designate areas according to their attainment status for criteria air pollutants (attainment designations are summarized above in **Table 3.4-1**). The monitoring location closest to the project is Elk Grove-Bruceville Rd. The data for this monitoring location does not span all the pollutants of interest, therefore the County and Air Basin are used to better capture regional air quality issues. This is especially relevant given that the primary operational emissions would be indirect emissions from electricity consumption, contributing to county and regional-scale air quality issues.



Table 3.4-2: Summary of Sacramento County Ambient Air Quality Data (2010 – 2014)

Pollutant	Average Time	Standard	2010	2011	2012	2013	2014
Ozone	1-Hour	Maximum Concentration (ppm)	0.124	0.123	0.125	0.117	0.105
		Days > CAAQS (0.09 ppm)	12	24	20	6	10
		Days > NAAQS (0.12 ppm)	0	0	1	0	0
	8-Hour	Maximum Concentration (ppm)	0.112	0.098	0.106	0.087	0.084
		Days > CAAQS (0.070 ppm)	27	53	60	19	18
		Days > NAAQS (0.075 ppm)	20	41	40	7	20
PM <sub>10</sub>	24-Hour	Maximum Concentration (µg/m <sup>3</sup> )	87.4	73.5	94.6	96.4	125.3
		Days > CAAQS (50 µg/m <sup>3</sup> )	2	4	3	21	13
	Annual	Annual Arithmetic Mean (µg/m <sup>3</sup> )	21.0	25.1	24.3	24.8	22.2
PM <sub>2.5</sub>	24-Hour	Maximum Concentration (µg/m <sup>3</sup> )	33.9	54.3	35.3	53.8	32.0
		Days > NAAQS (35 µg/m <sup>3</sup> )	0	7	0	13	0
	Annual	Annual Arithmetic Mean (µg/m <sup>3</sup> )	11.0	10.5	9.1	11.5	8.8
Carbon Monoxide	1-Hour	Maximum Concentration (ppm)	4.4	3.9	3.5	4.4	3.2
	8-Hour	Maximum Concentration (ppm)	3.4	2.5	2.3	3.8	2.6
Nitrogen Dioxide	1-Hour	Maximum Concentration (ppm)	95	61	69	59.3	64.7
	Annual	Annual Arithmetic Mean (ppm)	13	13	12	12	11

CAAQS=California Ambient Air Quality Standards; NAAQS=National Ambient Air Quality Standards; ppm= parts per million; µg/m<sup>3</sup>= micrograms per cubic meter

Source: Air Resources Board Top 4 Summary for Sacramento County, PM<sub>10</sub> data for SVAB.

### ***Emissions Inventory***

According to Sacramento County's estimated emissions inventory, mobile sources are the largest contributor to the estimated annual average for emissions of reactive organic gases (ROG) and NO<sub>x</sub>, accounting for approximately 48 percent and 86 percent respectively, of the total anthropogenic emissions. Areawide sources account for approximately 90 percent and 76 percent of the County's PM<sub>10</sub> and PM<sub>2.5</sub> emissions, respectively (CARB 2009).

### **3.4.2 Air Quality Regulatory Framework**

This section describes laws and regulations at the federal, state, and local level applicable to the project.

#### ***Federal Policies and Regulations***

The EPA is responsible for establishing the National Ambient Air Quality Standards (NAAQS), enforcing the Federal Clean Air Act (CAA), and regulating transportation-related emission sources, such as aircraft, ships, and certain types of locomotives, under the exclusive authority of the federal government. The EPA also establishes vehicular emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

**Clean Air Act**

The CAA governs air quality in the United States and is administered by the EPA. The EPA is responsible for setting and enforcing the NAAQS for atmospheric pollutants, which are presented in **Table 3.4-3**. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The EPA also has jurisdiction over emission sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California. As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

Table 3.4-3: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
O <sub>3</sub>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
O <sub>3</sub>	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	Ultraviolet Photometry	0.075 ppm (147 µg/m <sup>3</sup> )	Same as Primary Standard	Ultraviolet Photometry
PM <sub>10</sub>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
PM <sub>10</sub>	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	—	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
PM <sub>2.5</sub> <sup>13</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
PM <sub>2.5</sub> <sup>13</sup>	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	Inertial Separation and Gravimetric Analysis
CO	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
CO	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	NDIR	9 ppm (10 mg/m <sup>3</sup> )	—	NDIR
CO	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )	NDIR	—	—	NDIR
NO <sub>2</sub> <sup>8</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence

EIR

Draft

Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
NO <sub>2</sub> <sup>8</sup>	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	Gas Phase Chemiluminescence
SO <sub>2</sub>	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
SO <sub>2</sub>	3-hour	—	Ultraviolet Fluorescence	—	0.5 ppm (1300 µg/m <sup>3</sup> )	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
SO <sub>2</sub>	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	0.14 ppm (for certain areas) <sup>9</sup>	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
SO <sub>2</sub>	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas) <sup>9</sup>	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
Lead <sup>10, 11</sup>	30-day average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
Lead <sup>10, 11</sup>	Calendar quarter	—	Atomic Absorption	1.5 µg/m <sup>3</sup> (for certain areas) <sup>11</sup>	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Lead <sup>10, 11</sup>	Rolling 3-month average	—	Atomic Absorption	0.15 µg/m <sup>3</sup>	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles <sup>12</sup>	8-hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No National Standards	No National Standards	No National Standards
Sulfates	24-hour	25 µg/m <sup>3</sup>	Ion Chromatography	No National Standards	No National Standards	No National Standards
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	No National Standards	No National Standards	No National Standards
Vinyl Chloride <sup>10</sup>	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography	No National Standards	No National Standards	No National Standards

Source: CARB 2013

Notes: ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter

1. California standards for O<sub>3</sub>, CO (except 8-hour Lake Tahoe), SO<sub>2</sub> (1 and 24 hour), NO<sub>2</sub>, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200, Title 17 of the California Code of Regulations.

2. National standards (other than O<sub>3</sub>, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the fourth highest 8-hour concentration measured at each site in 1 year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup>

is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) (77 °F) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by EPA.

8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in ppb. California standards are in ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

9. On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO<sub>2</sub> national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

12. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

13. In On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15.0 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

### Clean Air Act and Conformity Rule

Pursuant to CAA Section 176(c) requirements, EPA promulgated Title 40 Code of Federal Regulations Part 51 (40 CFR Part 51), Subpart W and 40 CFR Part 93, Subpart B, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" (see 58 Federal Register 63214, [November 30, 1993], as amended; 75 Federal Register. 17253 [April 5, 2010]). These regulations, commonly referred to as the General Conformity Rule, apply to all federal actions, except for those federal actions which are excluded from review (e.g., stationary

source emissions) or related to transportation plans, programs, and projects under Title 23 U.S. Code or the Federal Transit Act, which are subject to Transportation Conformity.

In states such as California that have an approved SIP revision adopting General Conformity regulations, 40 CFR Part 51, Subpart W, applies; in states that do not have an approved SIP revision adopting General Conformity regulations, 40 CFR Part 93, Subpart B, applies.

The General Conformity Rule is used to determine if federal actions meet the requirements of the CAA and the applicable SIP by ensuring that air emissions related to the action do not:

- Cause or contribute to new violations of NAAQS.
- Increase the frequency or severity of any existing violation of NAAQS.
- Delay timely attainment of NAAQS or interim emission reduction.

A conformity determination under the General Conformity Rule is required if the federal agency determines the following: the action will occur in a nonattainment or maintenance area; that one or more specific exemptions do not apply to the action; the action is not included in the federal agency's "presumed to conform" list; the emissions from the proposed action are not within the approved emissions budget for an applicable facility; and the total direct and indirect emissions of a pollutant (or its precursors) are at or above the *de minimis* levels established in the General Conformity regulations (75 Federal Register 17255). The *de minimis* levels are shown in **Table 3.4-4**.

Conformity regulatory criteria are listed in 40 CFR Part 93.158. An action will be determined to conform to the applicable SIP if, for each pollutant that exceeds the *de minimis* emissions level in 40 CFR Part 93.153(b), or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of 40 CFR Part 93.158(c). If on-site emissions reductions do not decrease emissions below the *de minimis* emissions level, then emissions must be off-set to zero for O<sub>3</sub> precursors through a combination of on-site and off-site mitigation.

In addition, federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions toward attainment. The proposed Project is subject to review under the EPA General Conformity Rule to assess whether a general conformity determination is required. Since the area is classified as severe nonattainment for O<sub>3</sub>, the applicable *de minimis* level is 25 tons per year of NO<sub>x</sub> or VOC. For CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> the applicable level is 100 tons per year. The level for lead is 25 tons per year.

Table 3.4-4: General Conformity De Minimis Levels

Pollutant	Area Type	Conformity Threshold (Tons/Year)
O <sub>3</sub> (VOC or NO <sub>x</sub> )	Serious nonattainment	50
	<b>Severe nonattainment</b>	<b>25</b>
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
O <sub>3</sub> (NO <sub>x</sub> )	Marginal and moderate nonattainment inside an O <sub>3</sub> transport region	100
	Maintenance inside an O <sub>3</sub> transport region	100
O <sub>3</sub> (VOC)	Marginal and moderate nonattainment inside an O <sub>3</sub> transport region	50
	Maintenance within an O <sub>3</sub> transport region	50
	Maintenance outside an O <sub>3</sub> transport region	100
CO, SO <sub>2</sub> and NO <sub>2</sub>	<b>All nonattainment &amp; maintenance</b>	<b>100</b>
PM <sub>10</sub>	Serious nonattainment	70
	<b>Moderate nonattainment and maintenance</b>	<b>100</b>
PM <sub>2.5</sub> Direct emissions, SO <sub>2</sub> , NO <sub>x</sub> (unless determined not to be a significant precursor), VOC or ammonia (if determined to be significant precursors)	<b>All nonattainment &amp; maintenance</b>	<b>100</b>
Lead	<b>All nonattainment &amp; maintenance</b>	<b>25</b>

Source: EPA 2015b.

Note: Bold text indicates the current applicable conformity threshold for the study area.

### Corporate Average Fuel Economy Standards

The Corporate Average Fuel Economy (CAFE) standards were first enacted by Congress in 1975, requiring vehicle manufacturers to comply with the gas mileage or fuel economy standards. These standards are set and regulated by the National Highway Traffic Safety Administration (NHTSA), with testing and data support from the EPA.

The issued rules include fuel economy standards for both light- and heavy-duty vehicles. On September 15, 2011, EPA and NHTSA issued a final rule on GHG emissions standards and fuel efficiency standards for medium- and heavy-duty engines and vehicles model years 2014 to 2018 (76 Federal Register 57106). On August 28, 2012, EPA and NHTSA issued a joint final rulemaking to establish 2017 through 2025 GHG emissions and CAFE standards for light-duty vehicles (77 Federal Register 62624). More fuel efficient vehicles result in lower air pollutant emissions.

### **Non-road Emission Regulations**

EPA has adopted emissions standards for different types of nonroad engines, equipment, and vehicles. For nonroad diesel engines, EPA has adopted multiple tiers of emission standards.

EPA signed a final rule on May 11, 2004 introducing the Tier 4 emission standards, to be phased in between 2008 and 2015 (69 CFR 38957–39273, June 29, 2004). The Tier 4 standards require that emissions of PM and NO<sub>x</sub> be further reduced by about 90 percent. Such emission reductions can be achieved through the use of control technologies, including advanced exhaust gas after-treatment. To enable sulfur-sensitive control technologies in Tier 4 engines, such as catalytic particulate filters and NO<sub>x</sub> absorbers, EPA also mandated reductions in sulfur content in nonroad diesel fuels. In most cases, federal nonroad regulations also apply in California, which has only limited authority to set emission standards for new nonroad engines. The CAA preempts California's authority to control emissions from new farm and construction equipment under 175 horsepower (CAA Section 209[e][1][A]) and requires California to receive authorization from EPA for controls over other off-road sources (CAA Section 209[e][2][A]).

### **State Regulations and Policies**

#### **California Environmental Protection Agency**

The California Environmental Protection Agency (CalEPA) is a state agency that includes CARB, the SWRCB, nine Regional Water Quality Control Boards, the Integrated Waste Management Board, the Department of Toxic Substances Control, the Office of Environmental Health Hazard Assessment, and the Department of Pesticide Regulation. The mission of CalEPA is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

#### **California Clean Air Act**

The California Clean Air Act (CCAA) requires nonattainment areas to achieve and maintain the health-based State Ambient Air Quality Standards by the earliest practicable date. The Act is administered by CARB at the state level and by local air quality management districts at the regional level, whereby the air districts are required to develop plans and control programs for attaining the state standards. **Table 3.4-3** above shows the California Ambient Air Quality Standards (CAAQS).

CARB is responsible for ensuring implementation of the CCAA, meeting state requirements of the federal CAA, and establishing the CAAQS. It is also responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications.

#### **In-Use Off-Road Diesel Vehicle Regulation**

In 2007, CARB adopted a regulation to reduce DPM and NO<sub>x</sub> emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust

retrofits to older engines. In December 2010, major amendments were made to the regulation, including a delay of the first performance standards compliance date to no earlier than January 1, 2014.

### **Truck and Bus Regulation**

On December 12, 2008, CARB approved a new regulation to substantially reduce emissions of DPM, NO<sub>x</sub>, and other pollutants from existing on-road diesel vehicles operating in California. The regulation requires affected trucks and buses to meet performance standards and requirements between 2011 and 2023. Affected vehicles included on-road, heavy-duty, diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds. The regulation was updated in 2011, with revisions that provide more compliance flexibility and reflect the impact of the economic recession on vehicle activity and emissions. Heavy-duty trucks used in proposed project activities would have to comply with this regulation.

### **Commercial Vehicle Idling Regulation**

On October 20, 2005, CARB approved the Airborne Toxic Control Measure (ATCM) to limit diesel-fuel commercial motor vehicle idling. This regulation was a follow-up to previous idling ATCMs, and it consists of new engine and in-use truck requirements, as well as idling emission performance standards. The regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a nonprogrammable engine shutdown system that automatically shuts down the engine after 5 minutes of idling or optionally meets a stringent NO<sub>x</sub> idling emission standard (i.e., 30 grams/hour). The regulation also is applicable to the operation of in-use trucks, requiring operators of both in-state and out-of-state registered, sleeper berth-equipped trucks to manually shut down their engine when idling more than 5 minutes at any location within California, beginning in 2008. Affected vehicles include diesel-fueled commercial vehicles with a gross vehicle weight rating greater than 10,000 pounds. Trucks used for vendor delivery of materials for proposed project activities would comply with the commercial vehicle idling regulatory requirements.

### **Heavy-Duty On-Board Diagnostic System Regulations**

In 2004, CARB adopted a regulation requiring on-board diagnostic systems (OBD) on all 2007 and later model year heavy-duty engines used in vehicles with a gross vehicle weight rating greater than 14,000 pounds in California. CARB subsequently adopted a comprehensive on-board diagnostic regulation for heavy-duty vehicles model years 2010 and beyond. The heavy-duty OBD regulation was updated in 2010 and 2013, with revisions to enforcement requirements, testing requirements, and implementation schedules. Heavy-duty trucks used for proposed project activities would comply with the heavy-duty on-board diagnostic regulatory requirements.

### **Heavy-Duty Vehicle Inspection Program**

This program requires heavy-duty trucks and buses to be inspected for excessive smoke and tampering, and engine certification label compliance. Any heavy-duty vehicle (i.e., vehicles with a gross vehicle weight rating greater than 6,000 pounds) traveling in California, including



vehicles registered in other states and foreign countries, may be tested. Tests are performed by CARB inspection teams at border crossings, California Highway Patrol weigh stations, fleet facilities, and randomly selected roadside locations. Owners of trucks and buses found in violation are subject to minimum penalties, starting at \$300 per violation. Heavy-duty trucks used for proposed project activities would be subject to the inspection program.

### **California Standards for Diesel Fuel Regulations**

These regulations require diesel fuel with sulfur content of 15 parts per million (ppm) or lower (by weight) to be used for all diesel-fueled vehicles that are operated in California. The standard also applies to non-vehicular diesel fuel, other than diesel fuel used solely in locomotives or marine vessels. The regulations also contain standards for the aromatic hydrocarbon content and lubricity of diesel fuels.

### **State Portable Engine Airborne Toxic Control Measure**

The California Portable Engine ATCM is designed to reduce the PM emissions from portable diesel-fueled engines rated at 50 brake horsepower or larger. Because backpack sprayer engines are assumed to be electric or gas-powered and vehicle-mounted pump engines, such as dewatering pumps, are assumed to be smaller than 50 brake horsepower, they are exempt from the State Portable Engine ATCM. No other portable engines are expected to be used under the proposed project.

### **Portable Equipment Registration Program**

The statewide Portable Equipment Registration Program establishes a system to uniformly regulate portable engines and portable engine-driven equipment units. After being registered in this program, engines and equipment units may operate throughout the state without the need to obtain individual permits from air districts. Owners or operators of portable engines and certain types of equipment can voluntarily register their units under this program, to operate their equipment anywhere in the state. Operation of registered portable engines still may be subject to certain district requirements for reporting and notification. Engines with less than 50 brake horsepower are exempt from this program; therefore, some of the engines used for the proposed project would be exempt.

### **Senate Bill 709**

Senate Bill 709 amends the Health and Safety Code to give the SMAQMD more responsibility in terms of permitting, fee implementation, and agricultural assistance, as well as the authority to require the use of Best Available Control Technology (BACT) for existing emission sources, promote cleaner-burning alternative fuels, and encourage and facilitate ridesharing. Senate Bill 709 also amends the Vehicle Code to allow the SMAQMD to adopt a surcharge on motor vehicle registration fees.

## ***Regional Regulations and Policies***

### **Sacramento Metropolitan Air Quality Management District**

The SMAQMD is responsible for (1) implementing air quality regulations, including developing plans and control measures for stationary sources of air pollution to meet the NAAQS and CAAQS, (2) implementing permit programs for the construction, modification, and operation of sources of air pollution, and (3) enforcing air pollution statutes and regulations governing stationary sources. With CARB oversight, the SMAQMD administers local regulations.

SMAQMD also has a set of rules and regulations applicable to construction, of which the following are relevant to this project:

- **Rule 402:** Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.
- **Rule 403:** Fugitive Dust. The responsible person or entity is required to implement every reasonable method to control dust emissions from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation to prevent fugitive dust generated through those activities from escaping the project site. Actions include but are not limited to application of water or chemicals, asphalt, and/or oil depending on the dust-generating activity.
- **Rule 442:** Architectural Coatings. The responsible person or entity may not use a coating with a VOC content in excess of the corresponding limits specified in this rule.

### **Sacramento County General Plan**

The Sacramento County General Plan (Sacramento County 2011a) has the following applicable air quality policies:

- **Policy AQ-3:** Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of odor or air pollution. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective," and AQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be applied when establishing these buffers.
- **Policy AQ-12:** Minimize air pollutant emissions from Sacramento County facilities and operations.
- **Policy AQ-13:** Use California State Air Resources Board and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.
- **Policy AQ-16:** Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

### City of Elk Grove General Plan

The City of Elk Grove General Plan (City of Elk Grove 2015) has the following applicable air quality policy:

- Policy CAQ-33: The City shall require that public and private development projects use low emission vehicles and equipment as part of project construction and operation, unless determined to be infeasible.

### 3.4.3 Air Quality Impact Analysis

#### *Air Quality Methodology*

This section examines construction and operational emissions to determine significance and impacts on air quality and odors. As recommended by SMAQMD, construction and operation emissions were simulated using CalEEMOD 2013.2.2 and the Road Construction Emission Model, Version 7.1.5.1; eGRID emission factors were also applied to determine indirect emissions generated through electricity usage.

The construction phase of the project includes site preparation, excavation, grading, pump station construction, pipe construction, and paving. Consisting of construction of 72,800 linear feet of transmission pipeline and a pump station, project emissions would be widely dispersed geographically. Construction of the transmission pipeline was modeled to assume all sections would be constructed using the open trench method. Open trench construction results in a greater disturbed area and requires more construction equipment than trenchless piping. Therefore, the analysis takes a conservative approach in evaluating emissions. Construction of the project-level components is estimated to take approximately two years from 2020 to 2022.

The analysis follows the SMAQMD's guidance for evaluating construction-generated criteria air pollutant and precursor emissions. Construction-generated NO<sub>x</sub> and PM emissions are evaluated for significance under CEQA on a daily mass emission basis. PM is also evaluated on an annual basis. Construction-related ROG was modeled and quantified, however the SMAQMD addresses construction-related emissions of ROG through the implementation of District Rule 442, which regulates ROG emissions from architectural coatings (SMAQMD 2015). SMAQMD's threshold for precursor emissions is for NO<sub>x</sub> and recommends a discussion of whether the maximum daily construction-generated emissions would exceed the District's threshold for NO<sub>x</sub>.

Construction would also involve significant dewatering efforts. However, these efforts cannot currently be quantified due to limited knowledge of the groundwater levels and hydrology during the anticipated construction period. Based on the anticipated construction period, it would coincide with dewatering efforts associated with Regional San's EchoWater Project work. The dewatering is anticipated to be powered by Sacramento Municipal Utility District (SMUD) and would add electrical load to the construction phase of the project, leading to an increase in indirect emissions.

**Thresholds of Significance**

Consistent with the Sacramento County Initial Study and SMAQMD recommendations, air quality would be considered significant if the Project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute to an existing or projected air quality violation;
- Expose sensitive receptors to pollutant concentrations in excess of standards
- Create objectionable odors affecting a substantial number of people;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard

SMAQMD states that a significant impact would occur if implementation of the proposed Project would result in emissions that exceed the following SMAQMD thresholds shown in **Table 3.4-5**.

Table 3.4-5: SMAQMD CEQA Significance Thresholds

Pollutant	Construction Emissions (lbs/day)	Operational Emissions (lbs/day)
NO <sub>x</sub>	85	65
ROG (VOC)	None	65
PM <sub>10</sub>		80
PM <sub>2.5</sub>		82

Source: SMAQMD 2014, SMAQMD 2015a

**Impacts and Mitigation Measures**

**Impact AQ -1 Construction emissions of criteria pollutants and precursors**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction activities of the proposed Project such as excavation, trenching, grading, and clearing would generate fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>). PM is also contained in vehicle exhaust. SMAQMD requires all construction projects (regardless of size) implement the District’s Basic Construction Emission Control Practices, as required by District Rule 403. The proposed Project would be required to implement the following dust and exhaust emission controls:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Combustion emissions from construction equipment and vehicles (i.e., heavy equipment and delivery/haul trucks, worker commute vehicles) would also be generated during construction. Criteria pollutant emissions of ROG and NO<sub>x</sub> are associated mainly with paving activity, construction equipment, mobile sources, and on-road exhaust and these emission sources would add to the regional atmospheric loading of ozone precursors during construction. This impact would be temporary, but would span the duration of construction (approximately two years). The modeled construction emissions are shown in **Table 3.4-6** and **Table 3.4-7** for maximum daily construction emissions and overall annual construction emissions, respectively. As shown in these tables, NO<sub>x</sub> emissions from construction would not exceed the SMAQMD threshold of 85 lb/day. Emissions of particulate matter were compared to the SMAQMD operational significance thresholds, and would not exceed thresholds for either PM<sub>10</sub> or PM<sub>2.5</sub>.

Construction emissions for the proposed Project were also compared to the General Conformity *de minimis* thresholds to assess whether a general conformity determination would be required. As shown in **Table 3.4-7**, the proposed Project's construction emissions would not exceed the *de minimis* thresholds and would therefore require no further evaluation under the General Conformity Rule.

EIR

Draft

Table 3.4-6: Maximum Daily Construction Emissions (lbs/day) of Criteria Air Pollutants and Precursors

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Pipeline	3.61	35.85	29.03	-	3.66	1.89
Pump Station (~7000 hp)	0.95	9.09	9.20	0.01	0.89	0.52
Total	4.56	44.94	38.23	0.01	4.55	2.41
SMAQMD Thresholds <sup>1</sup>	-	85	-	-	80	82
Significant Construction Emissions	NA	No	NA	NA	No	No

Notes:

Air quality modeling inputs and outputs are available in from Regional San upon request.

1. SMAQMD 2014, 2015a

Table 3.4-7: Overall Annual Construction Emissions (tons/year) of Criteria Air Pollutants and Precursors

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Pipeline	0.91	9.07	7.34	-	0.65	0.42
Pump Station	0.95	9.09	9.20	0.01	0.89	0.52
Total	1.86	18.16	16.55	1.47E-02	1.54	0.94
SMAQMD	-	-	-	-	-	-
Federal General Conformity <i>de minimis</i> Thresholds <sup>1</sup>	25	25	100	100	100	100
Significant Construction Emissions	No	No	No	No	No	No

Notes:

Air quality modeling inputs and outputs are available from Regional San upon request.

1. Federal General Conformity thresholds based on EPA 2010 and EPA 2015b

The proposed Project would not exceed any of the applicable thresholds, thus impacts would be less than significant.

**Program Elements.** Construction of the proposed distribution pipelines, lateral and turnouts, would entail similar types of construction and would not be expected to result in significant short-term impacts. Drilling of diluent wells would not require extensive construction and is also expected to result in minor emissions. Construction of the berms for the potential recharge area would require grading, and emissions from construction would be evaluated as part of project-specific supplemental environmental review. Construction of the berms would include implementation of the dust and emissions control measures described above, which are expected to reduce impacts to a less-than-significant level.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of the proposed Project, with components that would fall within the footprint of Alternatives 1 and 2. Because Alternative 3 would have a smaller development footprint, it

would have annual construction emissions and maximum daily construction emissions similar or lower than Alternatives 1 and 2. As the emissions would either be consistent or lower, the alternative would also have a less than significant impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no construction-related air quality impacts would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact AQ -2 Expose sensitive receptors to substantial pollutant concentrations**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** No major stationary sources of TACs are known to exist along the proposed transmission pipeline alignment or in the vicinity of the distribution pipelines, laterals and turnouts. The project site is located between two highways, Interstate 5, approximately one mile to the west and Highway 99, 2.4 miles to the east. The southernmost portion of the transmission pipeline alignment would border the Franklin Field public use airport, which has approximately 36,000 operations per year, consisting primarily of flight training activities. These emissions sources contribute to TAC exposure.

The primary TAC emitted through this project would be DPM associated with construction equipment and truck trips, and PM<sub>10</sub> and PM<sub>2.5</sub> contained in fugitive dust. The controls of particulates and fugitive dust is discussed above in Impact AQ-1. The pump station would be built on the SRWTP site, which is about 5,000 feet from the nearest sensitive receptors, and would have no impact.

The closest sensitive receptors consist of residential areas located along Franklin Boulevard generally between Hood Franklin Road and Dwight Road/Big Horn Boulevard. The pipeline would be installed under roadways, which in some areas are adjacent to residential dwellings. In these cases, sensitive receptors could be exposed to these emissions from a distance anticipated to be as close as 30 feet. The construction period for the proposed Project, which is approximately two years and would be continually moving in location along the transmission pipeline alignment, would not involve use of large numbers of construction equipment and thus would not emit substantial quantities of DPM. Sensitive receptors would not be exposed to significant quantities of TAC. Given the short duration of exposure associated with the transmission pipeline's daily advancement of 150 feet per day, the exposure of sensitive receptors at a distance as close as 30 feet would be brief and insignificant in contribution to

lifetime cancer risk and health hazard. Construction of program elements would also result in relatively brief exposure to construction emissions. Given the short duration of exposure and relatively low-intensity construction equipment mobilization, TAC exposure is anticipated to be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of the proposed Project, with components that would fall within the footprint of Alternatives 1 and 2. Because Alternative 3 would have a smaller development footprint, it would have similar or lower annual construction and operational emissions and maximum daily construction emissions and associated TACs to Alternatives 1 and 2. As the emissions would either be consistent or lower, the alternative would also have a less than significant impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no construction-related TAC exposure would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required

**Impact AQ -3 Direct operational emissions of criteria pollutants**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** The majority of the operational emissions would be from energy use associated with the pump station at buildout. The buildout energy consumption for the proposed pump station is used for this analysis to account for maximum emission levels, despite buildout-level energy consumption attainment a number of years after completion of the project-level components. The indirect emissions associated with electricity consumption would occur at the SMUD Cosumnes Power Plant. Electricity would also be sourced from SMUD's renewable energy facilities which provided 39 percent of 2013's energy as a "renewable energy mix," of which its large hydroelectric capacity provided 17 percent of SMUD electricity (SMUD 2014). The NO<sub>x</sub> and sulfur oxide (SO<sub>x</sub>) emissions associated with the indirect emissions have been conservatively estimated using the eGrid CAMX region emission factors (EPA 2012). This component of criteria air pollutants would be an indirect emission and is noted here for completeness, though they would not impact local air quality, as the power plant is over 20 miles away from the project site. These indirect emissions would contribute to regional air emissions. As shown in **Table 3.4-8** and **Table 3.4-9**, the maximum daily operation emissions and annual operation emissions would be below SMAQMD thresholds. Because emissions are below SMAQMD thresholds, impacts would be less than significant.



EIR

Draft

Table 3.4-8: Maximum Daily Operation Emissions (lbs/day) of Criteria Air Pollutants and Precursors

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Pipeline	-	-	-	-	-	-
Pump Station (~7000hp)	0.07	0.00	0.00	0.00	0.00	0.00
Power Generation Emissions	NA	35.50	NA	1.99	NA	NA
<b>Total</b>	<b>0.0686</b>	<b>35.50</b>	<b>0.00</b>	<b>1.99</b>	<b>0.00</b>	<b>0.00</b>
SMAQMD Thresholds <sup>1</sup>	65	65	-	-	80	82
Thresholds Exceeded?	NO	NO	NA	NA	NO	NO

Notes:

Air quality modeling inputs and outputs are available from Regional San upon request.

1. SMAQMD 2014, 2015a

Table 3.4-9: Overall Annual Operation Emissions (tons/year) of Criteria Air Pollutants and Precursors

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Pipeline	-	-	-	-	-	-
Pump Station (~5833hp)	0.38	0.00	0.00	0.00	0.00	0.00
Power Generation Emissions	NA	6.49	NA	0.36	NA	NA
<b>Total</b>	<b>0.38</b>	<b>6.49</b>	<b>0.00</b>	<b>0.36</b>	<b>0.00</b>	<b>0.00</b>
SMAQMD Thresholds	-	-	-	-	14.6	15
Federal General Conformity Thresholds <sup>1</sup>	25	25	100	100	100	100
Thresholds Exceeded?	No	No	No	No	No	No

Notes:

Air quality modeling inputs and outputs are available from Regional San upon request.

1. Federal General Conformity thresholds based on EPA 2010 and EPA 2015b

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of the proposed Project, with components that would fall within the footprint of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative). Because Alternative 3 (Small Service Area Alternative) would have a smaller development footprint, it would have annual operational emissions similar or lower to Alternatives 1 and 2. As the emissions would either be consistent or lower, the alternative would also have a less than significant impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no operational emissions would occur.

**Significance Determination before Mitigation**

Less than Significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact AQ-4 Create objectionable odors**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Construction activities under the proposed Project would not result in the generation of permanent or long-term objectionable odors. Odors associated with the intermittent operation of diesel-powered equipment might be detected by nearby sensitive receptors, but these odors would be of short duration and would not affect a substantial number of people. Soil excavated from construction may contain organic material that is decaying that may create an objectionable odor. The intensity of the odor perceived by a receptor depends on the distance of the receptor from the construction activity and the amount and quality of the exposed soil material. Exposed soil would be either reused on-site or hauled and disposed of properly off-site. There would be short term odor exposure associated with repaving roads with asphalt, which could result in a period of odor exposure as the asphalt off-gases post-installation. This exposure would similarly be transient as pipeline construction progresses, becoming undetectable relative to the surrounding asphalt after less than a week. Therefore any odor that could be produced would be short-term and temporary.

Operational activities would consist of pumping treated recycled water. The pump station and recycled water typically are not a substantial odor source. No long-term odorous emissions would result from the small number of maintenance trips during operations. Odor impact would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), with components that would fall within the footprint of Alternatives 1 and 2. Because Alternative 3 (Small Service Area Alternative) would have a smaller development footprint, it would have similar or lower annual construction and operational odorous emissions and maximum daily construction odorous emissions to Alternatives 1 and 2. As the emissions would either be consistent or lower, the alternative would also have a less than significant impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no odor impacts would occur.

**Significance Determination before Mitigation**

Less than Significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required

**Impact AQ-5 Conflict with or obstruct applicable air quality plan**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** The proposed Project is located in the SVAB, which is currently designated as nonattainment for ozone and PM<sub>10</sub>. SMAQMD has developed Air Quality Attainment Plans (AQAPs), which present comprehensive strategies to reduce VOCs, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from stationary, area, mobile, and indirect sources. VOC and NO<sub>x</sub> are the principal precursor pollutants that cause the formation of ozone, the non-attainment pollutant commonly known as smog. Strategies in the AQAPs include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and stationary, mobile, and indirect-source control measures. The proposed Project would not modify land uses from those anticipated in the County and City General Plans and in the SMAQMD AQAP for long-range air quality planning and would not facilitate further growth.

The proposed Project would result in construction of a pump station and transmission pipeline. Specific air quality impacts related to criteria pollutants are discussed in Impacts AQ-1 through AQ-4. The proposed Project would comply with SMAQMD regulations. Therefore, the proposed Project would not conflict with or obstruct the SMAQMD AQAPs and the impact would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), with components that would fall within the footprint of Alternatives 1 and 2. Because Alternative 3 would have a smaller development footprint, it would have similar or lower annual construction and operational emissions and maximum daily construction emissions to Alternatives 1 and 2. As the emissions would either be consistent or lower and Alternatives 1 and 2 are anticipated to have a less than significant impact, Alternative 3 would also have a less than significant impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no operational emissions would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact AQ-6 Cumulative impact on air quality**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** The SVAB is currently designated nonattainment for Ozone and PM<sub>10</sub>. Past, present, and probable future projects would have a significant cumulative impact on air quality in the project area for ozone and PM. Because construction and operational emissions for the proposed Project would be below SMAQMD thresholds, no significant cumulative impacts are anticipated. This conclusion is supported by the SMAQMD document *Cumulative Air Quality Impacts* (2015), in which projects would not result in cumulatively considerable contribution to a significant impact if a project's emissions are less than the applicable thresholds.

Because emissions would be within SMAQMD thresholds for NO<sub>x</sub> and VOC emissions, the project would have a less than significant cumulative impact on ozone in the region, per SMAQMD's definition of emissions below the thresholds as less than cumulatively significant. Other on-going or planned projects can be found in **Table 3.0-1** in *Section 3.0*. The proposed Project's aim is to satisfy existing demand and compensate for water lost to drought and environmental flows. In working towards maintaining water supply, the project would not deviate from existing demographic projections, as it would have a neutral impact. It also has a negligible impact on vehicle trips and regional miles travelled. Due to the short duration and size of the project, PM emissions are not anticipated to be cumulatively significant and would not contribute significantly to ongoing nonattainment. The proposed Project would fall below the SMAQMD screening levels for PM<sub>10</sub> and PM<sub>2.5</sub>, resulting in a less than significant impact on PM exposure. Implementing the SMAQMD's required basic construction emission control practices would further reduce emissions below estimated levels. Therefore, the incremental contribution of Alternatives 1 or 2 would not be cumulatively considerable.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), with components that would fall within the footprint of Alternatives 1 and 2. This would result in lower annual construction and operational emissions and maximum daily construction emissions that are either identical or slightly lower. Therefore, the incremental contribution of this alternative would not be cumulatively considerable.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Since there would be no new emissions associated with the no action alternative, the emissions would not be cumulatively considerable.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

### **3.4.4 Greenhouse Gas Regulatory Framework**

This section describes laws and regulations at the federal, state, and local level that may apply to the project.

#### ***Federal Policies and Regulations***

##### **U.S. Supreme Court and Endangerment Ruling**

The U.S. Supreme Court ruled for the first time in 2007 that GHG emissions are air pollutants, covered under the CAA, in *Massachusetts v. The Environmental Protection Agency*. The Court found that the EPA has a mandatory duty to enact rules regulating mobile GHG emissions pursuant to the CAA. The Court held that GHGs fit the definition of an air pollutant causing and contributing to air pollution, which reasonably may be anticipated to endanger public health or welfare. In 2009, the EPA Administrator determined that existing and projected concentrations of GHGs threaten public health and welfare of present-day and future generations, and that combined emissions from motor vehicles contribute to GHG pollution. EPA's endangerment finding covers emissions of six key GHGs: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>.

##### **Corporate Average Fuel Economy and Greenhouse Gas Emission Standards**

In 2009, the NHTSA and EPA issued the first joint ruling to establish a national program to regulate model year 2012 through 2016 passenger cars and light trucks, to improve fuel economy and reduce GHG emissions. NHTSA previously had set Corporate Average Fuel Economy standards for vehicle fuel efficiency, but the joint rule was the first coordinated effort between federal programs for fuel economy and GHGs. Since then, NHTSA and EPA have issued new fuel efficiency and GHG emission standards. On August 9, 2011, standards were issued to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses. On October 15, 2012, NHTSA and EPA established a program to reduce GHG emissions and improve fuel economy standards for new cars and light trucks through 2025 (EPA 2012).

##### **Federal Leadership in Environmental, Energy, and Economic Performance**

On October 5, 2009, Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, was signed by CEQ. The EO required federal agencies to set a 2020 GHG emissions reduction target within 90 days, increase energy efficiency, reduce

fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage federal purchasing power to promote environmentally responsible products and technologies.

### ***State Policies and Regulations***

#### **Assembly Bill 32 (California Global Warming Solutions Act)**

CARB is the lead agency for implementing Assembly Bill (AB) 32, the California Global Warming Solutions Act, adopted by the State Legislature in 2006. AB 32 set a statewide target to reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to prepare a Scoping Plan with the main strategies to be used to achieve reductions in GHG emissions in California.

#### **Assembly Bill 32 Climate Change Scoping Plan**

After receiving public input on their discussion draft of the Proposed Scoping Plan (released in June 2008), CARB issued its Climate Change Proposed Scoping Plan in October 2008, and adopted the plan in December 2008 (CARB 2011b). This plan contains an outline of the proposed State strategies to achieve the 2020 GHG emission limits. Key elements of the Scoping Plan include the following recommendations:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewables energy mix of 33 percent.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system.
4. Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel standard.
6. Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

Under the Scoping Plan, approximately 85 percent of the state's emissions are subject to a cap-and-trade program, where covered sectors are placed under a declining emissions cap. Emissions reductions are to be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. Emission reductions from this cap-and-trade program are expected to account for a large portion of the reductions required by AB 32.

In 2014 CARB released the First Update of the Climate Change Scoping Plan to reflect progress since 2005, additional reduction measures, and plans for reductions beyond 2020 (CARB 2014). In this update CARB noted the progress toward the 2020 goal to reach 1990 levels established in

AB 32. CARB emphasizes the importance of establishing a mid-term target beyond 2020 to reach the goals of executive orders S-03-05 and B-16-2012 to reduce emissions to 80 percent below 1990 levels by 2050 (as described below). This mid-term target will be critical in helping to frame additional policy measures, regulations, planning efforts, and investments in clean technologies that are needed to continue to reduce emissions. Sector-specific actions that would be needed in order to reach long-term goals are outlined for: energy; transportation, land use, fuels, and infrastructure; agriculture; water; waste; and natural and working lands; short-lived climate pollutants; and green buildings. With respect to water, the Plan encourages development of state policy and regulatory frameworks that allow for effective regional integrated planning and implementation with measures to reduce GHG emissions and maintain water supply reliability during drought periods.

### **Executive Order S-03-05 and B-30-15**

In 2005, EO S-03-05 was issued, calling for statewide GHG reductions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The EO also called for the creation of a "Climate Action Team," which was to report to the Governor every 2 years on progress toward meeting the targets and the effects of GHG emissions on the state. The latest of these reports, Climate Action Team Biennial Report, was published in December 2010 (Cal EPA 2010). In April 2015, EO B-30-15 was issued, establishing a new policy to reduce GHG emissions to 40 percent below 1990 levels by 2030, in order to ensure California meets its 80 percent below 1990 levels by 2050. EO B-30-15 directed CARB to update its Climate Change Scoping Plan to include the 2030 GHG emissions reduction target.

### **Low Carbon Fuel Standard**

EO S-1-07, the Low Carbon Fuel Standard (LCFS), was issued in January 2007. The order called for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. The LCFS was approved by CARB in 2009, and it became effective in April 2010. The regulation established annual performance standards for fuel producers and importers, applicable to all fuels used for transportation in California (CARB 2011a).

### **Assembly Bill 1493**

With the passage of AB 1493 in 2002, California launched an innovative and pro-active approach for dealing with GHG emissions and climate change at the State level. AB 1493 required CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks beginning with the 2009 model year. Litigation was filed by automakers, challenging these regulations. EPA initially denied California's related request for a waiver to allow California to regulate vehicle emissions beyond EPA requirements, but a waiver subsequently was granted (CARB 2013).

### **Renewable Portfolio Standard**

Established in 2002 under Senate Bill 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under Senate Bill 107 by requiring that 20 percent of electricity retail sales be served by renewable energy resources by 2010. Subsequent recommendations in

California energy policy reports advocated a goal of 33 percent by 2020. Senate Bill X1-2, which implemented the 33 percent by 2020 for electricity sales from renewable energy resources, was signed in April 2011. This new RPS applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators (local communities that offer procurement service to electric customers within their boundaries). All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

### **Senate Bill 1368**

Senate Bill 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. Senate Bill 1368 required the CPUC to establish a GHG emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The CEC was required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards were not to exceed the GHG emission rate from a baseload combined-cycle natural gas fired plant. The legislation further required that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

### **Senate Bill 375**

Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008, enhanced California's ability to reach its AB 32 goals, by promoting good land use and transportation planning with the goal of more sustainable communities. Sustainable Communities requires CARB to develop regional GHG emission reduction targets for 2020 and 2035 for each region covered by one of the state's 18 metropolitan planning organizations (MPOs). EO G-11-024 set these targets in 2011. The MPOs were tasked with developing Sustainable Communities Strategies, integrating land use and transportation planning and demonstrating an ability to attain the 2020 and 2035 reduction targets.

## ***Regional Policies and Regulations***

### **Sacramento Metropolitan Air Quality Management District**

The SMAQMD maintains two significance thresholds for greenhouse gases, a 1,100 million tons (MT) CO<sub>2</sub>e/yr land development threshold and a 10,000 MT CO<sub>2</sub>e/yr stationary source threshold. These thresholds do not directly apply to this industrial infrastructure project; however, the stationary sources threshold has the greatest relevance for the project's operational emissions, given the scale of energy-use involved in operating the completed project.

## ***Local Policies and Regulations***

### **Sacramento County General Plan**

The Sacramento County General Plan (Sacramento County 2011a) has the following applicable greenhouse gas policy:



- **Policy LU-115:** It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.

### **Sacramento County Climate Action Plan**

The Sacramento County Climate Action Plan (Sacramento County 2011b) has the following applicable greenhouse gas goals:

- Comply with State requirements as well as commitments in the Water Forum Agreement for water conservation and reduction in potable water demand. Achieve 20% reduction in statewide average per capita water use by 2020, in compliance with the State's water conservation requirements (SBx7-7). Balance this with the Water Forum Agreement, which requires over 25% reduction in water demands from 1990 levels by 2030.
- Emphasize water use efficiency as a way to reduce energy consumption.
- Increase energy efficiency related to water system management.

### **City of Elk Grove General Plan**

The City of Elk Grove General Plan does not directly address greenhouse gas emissions.

### **City of Elk Grove Climate Action Plan**

The City of Elk Grove Climate Action Plan (City of Elk Grove 2015a) recognizes greenhouse gases and promotes recycled water use:

- **Policy RC-3** Promote and remove barriers to the use of greywater systems and recycled water for irrigation purposes.

## **3.4.5 Greenhouse Gas Environmental Setting**

### **Study Area**

Climate change is a global issue and planning surrounding it has been conducted at the state level. Accordingly, the study area for the purposes of greenhouse gas (GHG) emissions considers global GHG emissions in the context of statewide GHG emissions reduction targets that will allow for California to do its share in reducing GHG emissions globally.

### **Global Climate Change**

Global warming and global climate change are terms that describe changes in the Earth's climate. Global climate change is a broader term, used to describe any worldwide, long-term change in the Earth's climate. This change could be, for example, an increase or decrease in temperatures, the start or end of an ice age, or a shift in precipitation patterns. The term global warming is more specific and refers to a general increase in temperatures across the Earth. Although global warming is characterized by rising temperatures, it can cause other climatic changes, such as a shift in the frequency and intensity of rainfall or hurricanes. Global warming does not necessarily imply that all locations will be warmer. Some specific, unique locations may

be cooler even though the Earth, on average, is warmer. All of these changes fit under the umbrella of global climate change.

Because GHGs persist and mix in the atmosphere, they have impacts on a global scale, rather than locally or regionally like most air pollutants. Consequently, GHG emissions that contribute to global climate change result in a worldwide cumulative impact (global warming) rather than a local or regional project-specific impact typically associated with criteria pollutants. Impacts related to GHG emissions are discussed in the context of the proposed Project's contribution to statewide and global GHG emissions.

Although natural processes can cause global warming, general scientific consensus is that present-day global warming is the result of human activity on the planet (IPCC 2007, 2013). This human-made, or anthropogenic, warming is caused primarily by increased GHG emissions, which keep the Earth's surface warm, known as "the greenhouse effect." The greenhouse effect and the role GHG emissions play in it are described below.

### **The Greenhouse Effect and Other Climate Change Effects**

The Earth's atmosphere functions like a greenhouse, allowing sunlight in and trapping some of the heat that reaches the Earth's surface. When solar radiation from the sun enters the Earth's atmosphere, a small portion is reflected back toward space, although a majority of it is absorbed by the Earth's surface. The solar radiation that is absorbed by the Earth's surface then is re-emitted as heat in the form of low-frequency infrared radiation. Although GHGs in the atmosphere do not absorb solar radiation, they do absorb the lower frequency infrared radiation, thereby trapping it within the Earth's atmosphere and resulting in the warming of the Earth's surface.

The Earth's greenhouse effect has existed far longer than humans have, and it has played a key role in the development of life. Concentrations of major GHGs (discussed in further detail under *Greenhouse Gases and their Emissions* below) such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and water vapor (H<sub>2</sub>O) have been naturally present for millennia at relatively stable levels in the atmosphere, adequate to keep temperatures on the Earth hospitable. Without these GHGs, the Earth's temperature would be too cold for life to exist. However, as human industrial activity has increased, atmospheric concentrations of certain GHGs have grown dramatically. Anthropogenic sources are responsible for GHG emissions in excess of naturally occurring concentrations, thereby intensifying the greenhouse effect and resulting in global climate change.

The Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report: Climate Change 2013 stated that scientific consensus concurs that the global increases in atmospheric concentrations of GHGs since 1750 mainly have resulted from human activities such as fossil fuel use, land use change (e.g., deforestation), and agriculture (IPCC 2007, IPCC 2013). In addition, the report stated that it is likely that these changes in GHG concentrations have contributed to global warming. Confidence levels of claims in this report have increased since

2001, because of the large number of simulations run and the broad range of available climate models (IPCC 2013).

Global climate change is particularly important when discussing water infrastructure and supply. Changes in the climate are expected to cause more severe droughts and changes in annual rainfall and snowpack. Thus, it is important that the water infrastructure and supply be adaptable to meet climate change impacts.

### Greenhouse Gases and Their Emissions

GHGs includes gases that contribute to the natural greenhouse effect as well as gases that are human-generated and are emitted by modern industrial products, such as perfluorocarbons (PFCs), hydro fluorocarbons, (HFCs), and sulfur hexafluoride (SF<sub>6</sub>). These last two families of gases, although not naturally present, have properties that also cause them to trap infrared radiation when they are present in the atmosphere, thus making them GHGs. The effect each of these gases has on global warming is a combination of the volume of their emissions and their global warming potential (GWP). GWP indicates, on a pound for pound basis, how much a gas will contribute to global warming (its potential to trap heat) relative to how much warming would be caused by the same mass of CO<sub>2</sub>. **Table 3.4-10** shows the six GHGs and their respective GWPs.

Table 3.4-10: Greenhouse Gas Overview and Global Warming Potential

GHG	GWP 100-year <sup>1</sup>	Brief Description
CO <sub>2</sub>	1/1	Released into the atmosphere through burning fossil fuels (coal, natural gas and oil), solid waste, trees and wood products, and also because of certain chemical reactions; removed from the atmosphere when it is absorbed by plants and the ocean; remains in the atmosphere for 50 to more than 100,000 years.
CH <sub>4</sub>	28/21	Emitted during production and transport of coal, natural gas, and oil; methane emissions also result from livestock and other agricultural practices and by decay of organic waste in municipal solid waste landfills; remains in the atmosphere for about 10 years.
N <sub>2</sub> O	265/310	Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste; remains in the atmosphere for about 100 years.
HFCs	4-12,400/ 650-11,700	Typically used in refrigeration and air conditioning equipment, as well as in solvents; emissions primarily generated from use in air conditioning systems in buildings and vehicles; remain in the atmosphere from 10 to 270 years.
PFCs	6,630-11,100/ 6,500-9,200	Emitted as by-products of industrial and manufacturing sources; remain in the atmosphere from 800 to 50,000 years.
SF <sub>6</sub>	23,500/23,900	Used in electrical transmission and distribution; remain in the atmosphere approximately 3,200 years.

Sources: EPA 2013 and IPCC 2007.

Notes:

- As scientific understanding of global warming potentials of GHGs improves over time, GWP values are updated in the IPCC scientific assessment reports. However, for regulatory consistency, the Kyoto Protocol fixed the use of GWP values to those published in the IPCC 1996 Second Assessment Report (SAR). The table above shows GWP values for 100 years from both the IPCC 2013 and SAR.

These six gases are the major GHGs that were recognized by the Kyoto Accords. Other GHGs were not recognized by the Kyoto Accords, chiefly because of the smaller role that they play in global climate change or the uncertainties surrounding their effects. One GHG not recognized by

the Kyoto Accords is atmospheric H<sub>2</sub>O, because an obvious correlation does not exist between H<sub>2</sub>O and specific human activities. H<sub>2</sub>O appears to act in a feedback manner; higher temperatures lead to higher H<sub>2</sub>O concentrations, which in turn cause more global warming (IPCC 2003). A second GHG not recognized in the initial Kyoto Accords but subsequently included by the United Nations Framework Convention on Climate Change and recognized in California as a GHG is nitrogen trifluoride.

The most important GHG in human-induced global warming is CO<sub>2</sub>. Although many gases have much higher GWPs than the naturally occurring GHGs, CO<sub>2</sub> is emitted in such vastly higher quantities that it accounts for 82 percent of the GWP of all GHGs emitted by the U.S. (EPA 2015a). Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO<sub>2</sub> emissions over time and, thus, substantial increases in atmospheric CO<sub>2</sub> concentrations. In 2005, atmospheric CO<sub>2</sub> concentrations were about 379 ppm, over 35 percent higher than the pre-industrial concentrations of about 280 ppm (IPCC 2007). In addition to the sheer increase in the volume of its emissions, CO<sub>2</sub> is a major factor in human-induced global warming because of its long lifespan in the atmosphere of 50 to 200 years.

### **California Climate Impacts**

Global temperature increases and other climate changes may have a series of substantial negative effects on the health of California residents and California's economy. Studies have indicated that over the course of the 20<sup>th</sup> century, the Western U.S. has experienced spring temperature increases of 1 to 3 degrees Celsius between the 1970s and 1990s (Reclamation 2013). Effects of climate change include changing precipitation, snow pack levels, and reduced water supply; reduced air quality; higher risk of infestations by pests and pathogens in agricultural and forest environments; increased wildfire risk; alterations in the coastline and coastal habitats; and increased flood risk (CAT 2006). With respect to compromised air quality, warmer temperatures can cause more ground-level O<sub>3</sub>, a pollutant that causes eye irritation and respiratory problems. With regard to water supply, California primarily relies on snowmelt for its drinking water and much of the water used in irrigation during the summer. Global warming could alter, and may already be altering, the seasonal pattern of snow accumulation and snowmelt, and reduce snow pack overall, affecting water supplies.

Reclamation reported on climate change implications for water supplies and related water resources within eight major Western U.S. river basins, including the mid-Pacific Region's Sacramento River, San Joaquin River, Truckee River, and Klamath River Basins. Reclamation stated that based on projections of future precipitation on the broader Western U.S. region, the northwestern and north-central portions of the U.S. may gradually become wetter while the southwestern and south-central portions gradually become drier (Reclamation 2013). Sea-level rise can pose problems for the Sacramento-San Joaquin Delta water infrastructure, result in risks to local water supplies, coastal lands, and native species (Reclamation 2013).

### **California GHG Emission Inventory**

Since 2000, GHG emissions have decreased by 1.6 percent, after reaching a peak in 2004. In 2012, total California GHG emissions were 459 million metric tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>e)<sup>1</sup>. This represents a 1.7 percent increase in total GHG emissions from 2011 and the first emissions increase since 2007. This increase was driven primarily by strong economic growth in the state, the unexpected closure of the San Onofre Nuclear Generating Station, and drought conditions that limited in-state hydropower generation. In 2012, the transportation sector was the largest source of emissions, accounting for approximately 37 percent of the total emissions. On-road vehicles accounted for more than 90 percent of emissions in the transportation sector. The industrial sector accounted for approximately 22 percent of the total emissions. Emissions from electricity generation were about 21 percent of total emissions.

Per capita emissions in California have decreased by 12 percent from 2000 to 2012, even though population increased by 11.4 percent during this period. Per capita emissions from in-state electricity generation have declined by 22 percent from 2000 to 2012.

### **Climate Change Adaptation**

As described above, global climate change is already affecting ecosystems and society throughout the world. Climate change adaptation refers to the efforts undertaken by ecosystems and society to adjust to and prepare for current and future climate change, thereby reducing vulnerability to those changes. Plant and animal species adapt over time to changing conditions; they migrate or change behaviors in accordance with changing climates, food sources, and predators. Similarly, human adaptation has occurred naturally over history; people move to more suitable living locations, adjust food sources, and more recently, change energy sources.

Many national, as well as state and regional, governments, are implementing adaptive practices to address changes in climate, as well as planning for expected future impacts from climate changes. Reclamation's climate change adaptation work consists of basin studies for major river basins in the U.S., which identify adaptation options in the context of climate change (Halofsky, et. Al. 2015). Some examples of adaptations that already are in practice or under consideration include: conserving water and minimizing runoff with climate-appropriate landscaping, capturing excess rainfall to minimize flooding and maintain a constant water supply through dry spells, protecting valuable resources and infrastructure from flood damage, developing new water supply strategies such as water reuse, aquifer storage and recovery, and desalination, and use of water efficient appliances.

## **3.4.6 Greenhouse Gas Emissions Impact Analysis**

### ***Methodology***

This section evaluates whether construction and operation of the proposed Project would result in significant impacts related to GHG emissions. CalEEMod was used to quantify GHG

---

<sup>1</sup> CO<sub>2</sub>e is a metric measure used to compare the emissions from various GHGs based upon their GWP compared to CO<sub>2</sub>. The CO<sub>2</sub>e for a gas is derived by multiplying the tons of the gas by the associated GWP. For instance using a GWP of 21 for CH<sub>4</sub>, 1 ton of CH<sub>4</sub> is equal to 21 tons of CO<sub>2</sub>e.

emissions from the proposed Project construction and operation activities. The same assumptions used in the analysis of air quality impacts was used for GHG emissions. Construction-related GHG emissions were amortized over the operational life of the project (50 years) and combined with operational emission levels, which is one of the approaches recommended by SMAQMD (SMAQMD 2016). Indirect CO<sub>2</sub> emissions were estimated using The Climate Registry's 2012 Sacramento Municipal Utilities District number of 521.73 pounds of carbon dioxide per megawatt hour (lbs/MWh) (The Climate Registry 2015). Please refer to *Section 3.4.5* for a description of the site-specific inputs used for the analysis.

### ***Thresholds of Significance***

Consistent with the Sacramento County Initial Study, SMAQMD recommendations, and Appendix G of the CEQA Guidelines, greenhouse gas emissions would be considered significant if the Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

The incremental increase in GHG emissions associated with the project, both direct and indirect, is evaluated using the 10,000 MT CO<sub>2e</sub> per year level proposed by SMAQMD staff. GHG emissions contribute to a global problem regardless of where they are emitted, and control policies have been developed on a state-wide basis. Thus, it is informative, absent a locally-adopted threshold, to review thresholds adopted by other agencies expert on the subject. This threshold level has been formally adopted by the Bay Area Air Quality Management District and the South Coast Air Quality Management District as the CEQA significance threshold for industrial projects where the air district is the lead agency. These are the two largest air districts in California (in terms of population served). The level of 10,000 MT CO<sub>2e</sub> per year is also notable because it is the level at which most stationary sources are required to inventory and report their emissions to ARB's cap-and-trade program (Ascent 2014). For operational emissions, SMAQMD has adopted a significance threshold for GHG emissions of 10,000 metric tons of CO<sub>2e</sub> per year.

The applicable plans and policies for operational-related emissions were determined to be CARB's Scoping Plan. Specifically, if a project activity does not conflict with CARB's GHG emission reduction policies, it would have a less than significant impact.

### ***Impacts and Mitigation Measures***

#### **Impact GHG-1 Construction and Operational Emissions of GHGs**

Estimates of construction emissions associated with the action alternatives were estimated using CalEEMod and the Road Construction Emissions Model with assumptions specified in Section 3.4.5.

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Using standard equipment assumptions including material hauling trips, the anticipated construction emissions associated with Alternatives 1 and 2 are shown in **Table 3.4-11**. The combustion of carbon-based fuels used in equipment and vehicles and use of electricity generated in part by combustion of carbon-based fuels would lead to greenhouse gas emissions of CO<sub>2</sub>, N<sub>2</sub>O, and NH<sub>4</sub>. The construction phase of the project would use a variety of construction equipment and emit a maximum of 114 MT CO<sub>2</sub>e/year, or approximately 346 MT CO<sub>2</sub>e for the entire construction period.

The operation of the proposed Project would involve a small number of vehicle trips associated with annual maintenance and inspection of the pump station and emissions associated with electricity power demands for the pump station. The GHG emissions associated with maintenance and inspection were not quantified.

The main source of GHG emissions during operations would be from the electricity used to run the pump station. The electricity used by the pump station would result in indirect GHG emissions and was quantified using the SMUD GHG emissions factor through the Climate Registry and eGRID (EPA 2012). The operation of the pump station at buildout when 32,572 AFY of recycled water would be delivered, is estimated to consume 8,870 MWh per year, but offsets other energy use for pumping wastewater to the Sacramento River outfall and for pumping groundwater for irrigation. With reductions of energy use estimated at 5,570 MWh per year, the net energy use would be 3,120 MWh per year, emitting 745 MT CO<sub>2</sub>e per year. The energy consumption number was developed based on anticipated pumping efficiency, energy losses, and anticipated demand. The same assumptions discussed above were applied to this number to create an annual CO<sub>2</sub>e emissions number for operations.

As shown in **Table 3.4-11**, construction activities would result in a total of 346 MT CO<sub>2</sub>e, or approximately 7 MT CO<sub>2</sub>e per year when amortized across the proposed Project's operational life of 50 years. Operation of the proposed Project would result in 745 MT CO<sub>2</sub>e per year, and the combination of operational emissions and amortized construction emissions would result in a net increase of 752 MT CO<sub>2</sub>e per year during the operational life of the project. The increase in GHG emissions associated with the proposed Project would not exceed the 10,000 MT CO<sub>2</sub>e per year threshold, therefore impacts would be less than significant.

Table 3.4-11: Greenhouse Gas Emissions Associated with the Project (Tons of CO<sub>2</sub>e/year)

	CO <sub>2</sub> e
<b>Construction-Related GHG Emissions</b>	<b>Entire Construction Period (MT)</b>
Alternative 1 (Medium Service Area Alternative)	346
Alternative 2 (No Reclamation Funding Alternative)	346
Alternative 3 (Small Service Area Alternative)	<346
<b>Operational-Related GHG Emissions</b>	<b>MT/year</b>
Alternative 1 (Medium Service Area Alternative)	745
Alternative 2 (No Reclamation Funding Alternative)	745
Alternative 3 (Small Service Area Alternative)	<745
<b>Project Totals</b>	<b>MT/year</b>
Alternative 1 – Construction Amortized (50 years operational life) + Yearly Operational Emissions	752
Alternative 2 – Construction Amortized (50 years operational life) + Yearly Operational Emissions	752
Alternative 3 – Construction Amortized (50 years operational life) + Yearly Operational Emissions	752

**Program Elements.** Construction of the proposed distribution pipelines, lateral and turnouts, would entail similar types of construction and could occur in 2020 through 2041; construction emissions, amortized over the 50-year project live would not be projected to be substantially greater than the 7 MT CO<sub>2</sub>e per year estimated for construction of project facilities. However the details and timing of the program elements are not known at this time. Drilling of diluent wells would not require extensive construction and is also expected to result in minor GHG emissions. Construction of the berms for the potential recharge area would require grading, and emissions from construction would be evaluated as part of project-specific supplemental environmental review. With implementation of program elements it is expected that total water delivery would increase to 50,000 AFY, this would result in a commensurate increase in emissions associated with pumping recycled water and a reduction in emissions for pumping for discharge and for groundwater pumping. Emissions could increase to about 1,200 MT CO<sub>2</sub>e per year, which would still be less than the threshold of 10,000 MT CO<sub>2</sub>e per year threshold, therefore impacts would be less than significant

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of the proposed Project, with components that would fall within the footprint of Alternatives 1 and 2. Because Alternative 3 (Small Service Area Alternative) would have a smaller development footprint, it would have similar or lower GHG emissions to Alternatives 1 and 2. As the GHG emissions would either be consistent or lower, the alternative would also have a less than significant impact.



*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, there would be no construction and operational GHG emissions and no impact would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact GHG-2 Consistency with applicable GHG reduction plans**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** The proposed Project would not conflict with any regulations or policies in CARB's Scoping Plan. Furthermore, the proposed Project would be consistent with CARB's First Scoping Plan Update that suggests the need for future infrastructure planning of water resources to ensure adequate supplies during droughts. It would also fulfill the RC-3 goal of the Elk Grove Climate Action Plan through expanding and promoting the use of recycled water (City of Elk Grove 2013). The Climate Action Plan anticipates use of recycled water would result in reduced electricity usage and decreased GHG emissions relative to existing alternatives. One of the main goals of the proposed Project is to utilize recycled water that is currently discharged to the river to provide irrigation water to areas that are in need of water and to protect wildlife refuges. The GHG emissions would be below significance thresholds, as the project would use electric pumps, with the exception of necessary emergency backup generators. The indirect emissions associated with the electricity use of the pumps would decrease over time as a result of existing regulations that require the electricity suppliers to increase the percentage of renewable electricity generating sources to 33 percent by 2020. In addition, recycled water provided for irrigation would reduce the need to pump groundwater at individual well sites, which would offset the emissions associated with generation of power for the pump station. There would be no impact.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Alternative 3 (Small Service Area Alternative) is a smaller version of Alternatives 1 or 2, with components that would fall inside the current project footprint. This would result in similar or lower annual construction and operational emissions and maximum daily construction emissions that are either identical or slightly lower. There would be no impact.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impact on GHG emissions would occur.

**Significance Determination before Mitigation**

No impact for all action alternatives and Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

***Cumulative Impact Analysis***

Because GHG emissions and their contribution to global climate change is a global issue, the criteria above discussed in Impact GHG-1 and Impact GHG-2 address the cumulative impacts of the proposed Project's contributions to GHG emissions. Because emissions would not exceed the applicable SMAQMD significance thresholds for GHG emissions, the proposed Project's GHG emissions are not considered to be cumulatively considerable.

**3.4.7 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

Bureau of Reclamation (Reclamation). 2013. *Technical Memorandum 86-68210-2013-06 Literature Synthesis on Climate Change Implications for Water and Environmental Resources, Third Edition*. Accessed September 30, 2015. Available at: <http://www.usbr.gov/climate/docs/ClimateChangeLiteratureSynthesis3.pdf>.

California Air Resources Board (CARB). 2009. *Almanac Emissions Projection Data-Sacramento County 2015 Estimated Annual Average Emissions*. Available at: [http://www.arb.ca.gov/app/emsmv/emssumcat\\_query.php?F\\_YR=2015&F\\_DIV=0&F\\_SEASON=A&SP=2009&F\\_AREA=CO&F\\_CO=34&F\\_COAB=Y](http://www.arb.ca.gov/app/emsmv/emssumcat_query.php?F_YR=2015&F_DIV=0&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=34&F_COAB=Y). Accessed September 30, 2015.

\_\_\_\_\_. 2011. *Toxic Air Contaminant Identification List*. 2011. Available at: <http://www.arb.ca.gov/toxics/id/taclist.htm>. Accessed September 30, 2015.

\_\_\_\_\_. 2013. *Ambient Air Quality Standards*. Accessed September 30, 2015. Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

\_\_\_\_\_. 2015. *Top 4 Summary – Sacramento County*. Accessed September 30, 2015. Available at: <http://www.arb.ca.gov/adam/topfour/topfour1.php>.

California Climate Action Team (CAT). 2010. *Climate Action Team Report of Governor Schwarzenegger and the Legislature*. Available at: <http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF>. Accessed September 30, 2015.

- Climate Registry, The. 2015. *General Reporting Protocol*. Available at:  
<http://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/>. Accessed October 28, 2015.
- Council on Environmental Quality (CEQ). 2014. Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts. Available at:  
<https://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance>. Accessed December 8, 2015.
- Elk Grove, City of. 2015a. *Climate Action Plan*. Available at:  
[http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/climate-action-plan-public.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/climate-action-plan-public.pdf). Accessed September 30, 2015.
- \_\_\_\_\_. 2015b. *General Plan – City of Elk Grove, CA*. Reflects Amendments through March 2015. Available at:  
[http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/COEG\\_GP\\_Full\\_2015.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/COEG_GP_Full_2015.pdf).
- Halofsky, Jessica, et. al. 2015. Climate Change Adaptation in United States Federal Natural Resource Science and Management Agencies: A Synthesis. April. Available at:  
[http://www.globalchange.gov/sites/globalchange/files/ASIWG\\_Synthesis\\_4.28.15\\_final.pdf](http://www.globalchange.gov/sites/globalchange/files/ASIWG_Synthesis_4.28.15_final.pdf).
- Intergovernmental Panel on Climate Change (IPCC). 2013. *Climate Change 2013: The Physical Science Basis*. Available at:  
[http://www.climatechange2013.org/images/uploads/WGIAR5\\_WGI-12Doc2b\\_FinalDraft\\_All.pdf](http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf)
- \_\_\_\_\_. 2008. *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Available at:  
[http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_synthesis\\_report.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm).
- Office of Environmental Health Hazard Assessment (OEHHA). 2001. *Particulate Emissions from Diesel-Fueled Engines*. Available at:  
[http://oehha.ca.gov/air/toxic\\_contaminants/pdf\\_zip/diesel\\_final.pdf](http://oehha.ca.gov/air/toxic_contaminants/pdf_zip/diesel_final.pdf). Accessed July 18, 2014.
- Sacramento County. 2015. *General Plan-Land Use Element*. Available at:  
<http://www.per.saccounty.net/LandUseRegulationDocuments/Documents/ZoningCodes/Land%20Use%20Element%20Amended%2011.9.11%2c%203.12.13%2c%207.22.15.pdf>
- \_\_\_\_\_. 2011a. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

- \_\_\_\_\_. 2011b. *Climate Action Plan-Strategy and Framework Document*. Available at:  
[http://www.green.saccounty.net/Documents/sac\\_030843.pdf](http://www.green.saccounty.net/Documents/sac_030843.pdf)
- Sacramento Metropolitan Air Quality Management District (SMAQMD). 2016. Greenhouse Gas Emissions. Revised through May 2016. Available at:  
<http://www.airquality.org/ceqa/cequguideupdate/Ch6ghgFINAL.pdf>
- \_\_\_\_\_. 2015a. Particulate Matter Thresholds of Significance, Resolution 2015-022, adopted 28 May 2015. Available at:  
<http://www.airquality.org/ceqa/PMThresholdsSignedResolution5-28-2015.pdf>.
- \_\_\_\_\_. 2015b. *Cumulative Air Quality Impacts*. June 2015. Available at:  
<http://www.airquality.org/ceqa/cequguideupdate/Ch8CumulativeFinal.pdf>
- \_\_\_\_\_. 2015c. *Current AQMD Rules*. Last modified September 25, 2015. Available at:  
<http://www.airquality.org/rules/>. Accessed October 1, 2015.
- \_\_\_\_\_. 2014. *SMAQMD Thresholds of Significance Table*. Revised November 2014. Available at: <http://www.airquality.org/ceqa/cequguideupdate/Ch2TableThresholds.pdf>
- \_\_\_\_\_. 2010. *Basic Construction Emission Control Practices*. Available at:  
<http://www.airquality.org/ceqa/cequguideupdate/Ch3BasicConstructionEmissionControlPracticesFINAL.pdf>
- \_\_\_\_\_. 2009. *Response to Comments on the Draft CEQA Guide*. November 2009. Available at:  
<http://www.airquality.org/ceqa/cequguideupdate/ResponsesToComments.pdf>
- Sacramento Municipal Utilities District. 2014. *SMUD Application for Green-e Energy Certification of the "Greenery Partner" Renewable Energy Option*. November 2014. Available at: <http://www.green-e.org/docs/energy/applications/SMUDGreeneryPartnerApplicationNov2014.pdf>
- United States Environmental Protection Agency (EPA). 2015a. Web page: Overview of Greenhouse Gases. Available at:  
<http://www3.epa.gov/climatechange/ghgemissions/gases/co2.html>.
- \_\_\_\_\_. 2015b. *Current Nonattainment Counties for All Criteria Pollutants*. January 30, 2015. Available at: <http://www3.epa.gov/airquality/greenbk/ancl.html>
- \_\_\_\_\_. 2012. *eGRID 2012 Version 1.0 Year 2010 Summary Tables*. Available at:  
[http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1\\_0\\_year09\\_SummaryTables.pdf](http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_SummaryTables.pdf).

---

EIR

Draft

- \_\_\_\_\_. 2010. *Revisions to the General Conformity Report: 40 CFR Parts 51 and 93: [EPA-HQ-OAR-2006-00669; FRL-9131-7] RIN 2060-AH93*. Available at:  
<http://www3.epa.gov/airquality/genconform/documents/20100324rule.pdf>
- \_\_\_\_\_. 2006. *Greenhouse Gas Emissions from the U.S. Transportation Sector 1990-2003*. Available at: <http://www3.epa.gov/otaq/climate/420r06003.pdf>

### 3.5 Biological Resources

This section describes the environmental setting for biological resources at and near the Project area, and discusses the potential for occurrence of sensitive or important natural resources in the Project area. Relevant regulatory laws and requirements are discussed. Potential impacts are evaluated, and mitigation measures are identified where appropriate to avoid or lessen significant impacts.

The California Natural Diversity Database (CNDDDB) Florin and Bruceville quadrangles (USGS 7.5-minute series) were queried to identify sensitive species and important natural communities that have historically been detected in the vicinity of the proposed Project (CNDDDB 2015). Ten additional quadrangles<sup>1</sup> adjacent to the Florin and Bruceville quadrangles were also queried to understand the broader historic occurrences of these resources, and of other sensitive resources not captured in the narrower two-quad query. A query of the USFWS Information for Planning and Conservation (IPaC) database was also conducted to supplement the CNDDDB query effort (USFWS 2016). Field reconnaissance visits and focused wetland delineation efforts were completed to supplement the CNDDDB queries and to provide detailed, site-specific information for a Wetland Delineation Study and Biological Assessment prepared in association with this Project. In addition, a project coordination meeting was conducted on May 25, 2015 with RMC, CH2M, and California Department of Fish and Wildlife (CDFW) staff to discuss CDFW's written comments on the EIR Notice of Preparation, and to better understand CDFW's initial concerns regarding potential impacts of the proposed Project.

The "Project area" evaluated in this section includes the approximately 13.8-mile-long pipeline alignment from the SRWTP southward to the intersection of Bruceville Road and Twin Cities Road. A uniform 250-foot-wide corridor was assumed for the pipeline construction corridor width<sup>2</sup>. A disturbance area of 10,000 square feet was also considered for a new pump station near the existing SRWTP. Sensitive resources may be directly and/or indirectly impacted by the proposed Project within this defined Project area. In this section, the Project area is also referred to on occasion as the alignment. Elements of the Project that are outside of this defined Project area are discussed at a program-level.

Potential indirect effects to Sacramento River resources (primarily to fish species) resulting from reduced return flows to the Sacramento River are also evaluated in this section. Areas outside of the defined Project area, including the Sacramento River, are not expected to be directly impacted by the proposed Project. Indirect impacts to areas outside of the alignment are anticipated to be nominal, as described later in this section.

---

<sup>1</sup> The ten adjacent 7.5-minute series quadrangles are: Carmichael, Clarksburg, Courtland, Elk Grove, Galt, Isleton, Lodi North, Sacramento East, Sacramento West, and Thornton.

<sup>2</sup> An Area of Potential Effect (APE) was established within the cultural resources investigations completed for the proposed Project. The APE varies between 80 and 250 feet wide for the extent of the pipeline alignment.

### 3.5.1 Environmental Setting

The defined Project area generally crosses through or is adjacent to four different land use types in a north to south direction: 1) disturbed/ruderal vacant lands, 2) dense, urban/residential development, 3) relatively intact vernal pool/vernal swale grassland complexes and large drainage features, and 4) active agricultural lands. These are described below. **Figure 3.5-1** provides an aerial view of the Project area, showing areas of development, major drainage features and areas of agriculture/open space.

Disturbed/Ruderal Lands. Vacant, disturbed grasslands dominate the land cover within the northernmost 2-mile segment of the alignment from the SRWTP southward to approximately the Big Horn Boulevard intersection with Franklin Boulevard. Scattered relict vernal pool features are evident in this area, but past agricultural practices (as evidenced by furrowing) have severely disturbed these currently-vacant and fallowed lands. A wetland delineation report prepared for the proposed Project shows very few aquatic features in this section of the alignment (CH2M HILL 2015). Drainage features (agricultural drains and canals) present in this area were dry during summer 2015 site reconnaissance work. These presumably were constructed to serve historic agricultural land uses, but appear abandoned at present. Several appear to convey seasonal stormwater only. Native and natural vegetation is scarce in this section of the alignment.

Urban Development. From the intersection of Big Horn Boulevard and Franklin Boulevard, proceeding southward for a distance of approximately 2 miles to the intersection of Elk Grove Boulevard with Franklin Boulevard, dense residential housing has been developed at the southern portion of the City of Elk Grove. Natural features and habitats/land cover types of biological importance do not exist in this segment.

Vernal Pool/Vernal Swale Grassland Complexes and Large Drainage Features. Beginning at the intersection of Franklin Boulevard and Elk Grove Boulevard, and proceeding southward along Franklin Boulevard for a distance of about 3 miles (to about 0.7-mile south of Hood Franklin Road), protected conservation lands are located west of the alignment, while dense residential housing of Elk Grove and active agricultural land uses dominate the land cover east of Franklin Boulevard. Extensive vernal pool complexes west of Franklin Boulevard are conserved within the Stone Lakes NWR Wetland Preserve Unit. Most vernal swale features located in this portion of the NWR are tributary to North Stone Lake. Hundreds of vernal pools and features are located in the NWR preserve lands. Potential impacts to vernal features and sensitive species they may support are described later in this section.

Natural watercourses occur infrequently in this section of the alignment and, where present, have been highly modified. Most watercourses in this section were constructed, presumably to convey agricultural water (supply or drainage) or surface-water runoff from urban development. The Ehrhardt Channel is a large drainage corridor located about 0.1-mile south of Elk Grove Boulevard and east of Franklin Boulevard. It is a graded, unlined trapezoidal channel that conveys residential runoff from Elk Grove westward beneath Franklin Boulevard to join a natural drainage pathway through Stone Lakes NWR, ultimately joining North Stone Lake. Historically named the "Shed A Channel", this constructed drainage channel (east of Franklin

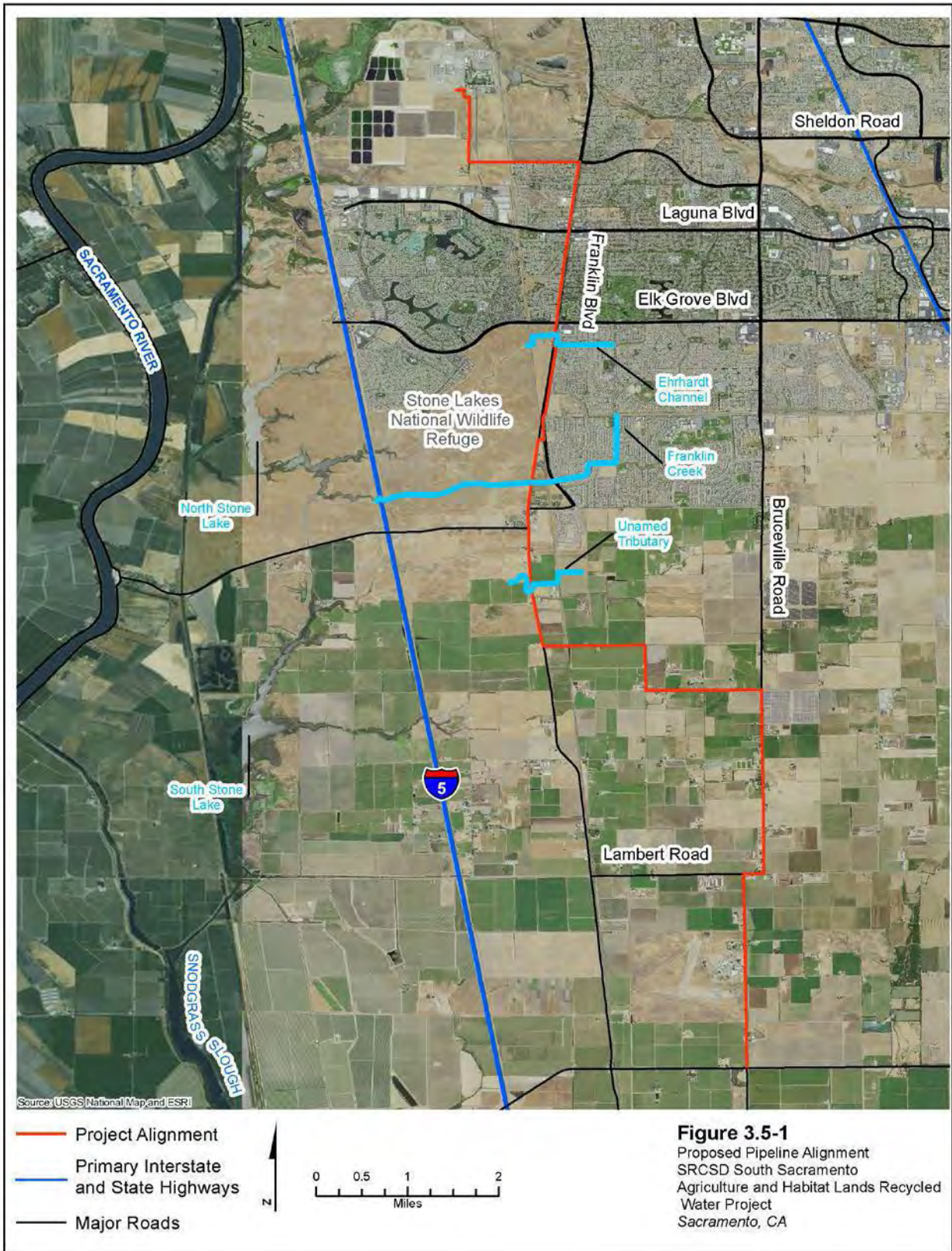


Figure 3.5-1: Aerial Photograph of Project Area



Boulevard) was renamed Ehrhardt Channel by the Elk Grove City Council in 2012 to better reflect its value as a community amenity. Franklin Creek, located about 0.5-mile north of Hood Franklin Road is another large, constructed drainage corridor (unlined trapezoidal channel east of Franklin Boulevard) that primarily captures residential runoff from the southern-most portion of the City of Elk Grove and conveys runoff westward to I-5 in the Stone Lakes NWR and, ultimately, North Stone Lake. Franklin Creek, when originally constructed, was named the "Shed B Channel". It also was renamed in 2012 by the Elk Grove City Council to better reflect its community value as an amenity. Both the Ehrhardt Channel and Franklin Creek appear to support only ephemeral flows.

A large and unnamed natural watercourse crosses beneath Franklin Boulevard about 0.7-mile south of Hood Franklin Road. The corridor has been heavily channelized east of the alignment and is currently impounded and used by a dairy farm as a settling basin. Outflow from the basin flows westward to a realigned natural channel that meanders through NWR lands and ultimately is tributary to South Stone Lake. The drainage appears to support perennial surface flows. The remaining watercourses in this section of the alignment are generally agricultural supply canals and drains. Potential impacts to drainage courses and sensitive species they may support are described later in this section.

Active Agriculture. The remaining portion of the alignment, from south of the natural watercourse described in the previous paragraph to the Project area terminus at the intersection of Bruceville Road and Twin Cities Road, traverses active or idled agricultural lands. Surface water features in this approximately 7-mi long section are largely limited to agricultural canals and drains, with some of these impounded and used for irrigation supply basins. A few undeveloped parcels supporting relict vernal pools and vernal swales are located in this section. Prior to urban and residential development in this portion of Sacramento County, the entirety of the Project area vicinity likely consisted of extensive complexes of vernal pools and swales. Currently, these natural, high-habitat-value features are largely restricted to Stone Lakes NWR.

### **3.5.2 Regulatory Framework**

This section summarizes federal, state, and local laws, policies, and regulations that may be relevant to the proposed Project. Additional permitting and approval processes other than those listed below may be applicable.

#### ***Federal Policies and Regulations***

##### **Endangered Species Act**

The 1973 Endangered Species Act (FESA) (16 USC 1531-1544) as amended provides for the conservation of ecosystems (both through federal action and by encouraging the establishment of state programs) upon which threatened and endangered species of fish, wildlife, and plants depend. The FESA is enforced by the USFWS (with jurisdiction over plants, wildlife, and resident fish) and by National Marine Fisheries Service (NMFS) (with jurisdiction over anadromous fish and marine fish and mammals).

Section 9 of the FESA and federal regulations prohibit the take of fish and wildlife species listed as endangered or threatened (16 USC 1538 (19)). The term "take" means to harass, harm,

pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 USC 1532). "Harm" includes significant habitat modification or degradation that actually kills or injures listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (50 CFR 17.3 (c)). NMFS defines "harm" to include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering.

Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS if they determine that a proposed project may result in take of a listed species or designated critical habitat. Section 10 of the FESA provides a permitting avenue for non-federal actions and applicants to secure incidental take permission. Section 10 requires the preparation of a Habitat Conservation Plan (discussed below).

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act of 1918 (MBTA; 16 United States Code 703-712) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations (CFR) Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a "take" and is potentially punishable by fines and imprisonment. Incidental take permits are not issued for the MBTA. Any proposed project must take measures to avoid the take of any migratory birds, nests, or eggs. The proposed Project will need to demonstrate compliance with the MBTA, and will develop avoidance and minimization measures as needed to avoid take as defined under the MBTA

### **Clean Water Act-Section 404**

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 404 of the CWA is administered by the United States Army Corps of Engineers (USACE), which has jurisdiction over fill materials in essentially all water bodies, including wetlands. Section 404 established a permit program to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. The proposed Project will require Section 404 permit from USACE for regulated dredge and fill activities within jurisdictional waters of the U.S.

### **Clean Water Act-Section 401**

Section 401 of the CWA requires that an applicant for a federal license or permit (e.g. 404 permit) that allows activities resulting in a discharge to waters of the U.S. must obtain a state certification that the discharge complies with other provisions of the CWA. The Regional Water Quality Control Boards (RWQCB) administer the certification program in California. The proposed Project will require a Section 401 certification, or waiver thereof, from the RWQCB for dredge and fill activities within the Project area.

### ***State Policies and Regulations***

#### **California Endangered Species Act (CESA)**

Section 2080 of the California Fish and Game Code prohibits the take of any species that the California Fish and Game Commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California Endangered Species Act (CESA) allows for take incidental to otherwise lawful activities. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species’ populations and their essential habitats. If the project cannot avoid take of species listed under the CESA, the applicant may need to consult with CDFW under Section 2081 for an incidental take permit. Avoidance measures are commonly developed and implemented by a project proponent to avoid the need for a CESA permit.

#### **California Fish and Game Code**

The CDFW Streambed Alteration Program regulates activities that would “substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse” that supports wildlife resources. Project activities within a streambed would require a Streambed Alteration Agreement from CDFW pursuant to Fish and Game Code Section 1600.

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors, including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

Sections 3505, 3511, 3513, 3800, 4700, 5050, and 5515 of the California Fish and Game Code pertain to fully protected wildlife species and strictly prohibit the take of fully protected species. With certain exceptions, the California Department of Fish and Wildlife (CDFW) cannot issue a take permit for fully protected species and avoidance measures are typically implemented to avoid take. Avoidance and minimization measures will be developed and implemented to comply with various sections of the California Fish and Game Code.

### ***Local Policies and Regulations***

#### **Sacramento County General Plan**

##### *Conservation Element*

The Sacramento County General Plan Conservation Element (Sacramento County 2011) includes the following goals, objectives, and policies relevant to the proposed Project:

- **GOAL:** Preserve and manage natural habitats and their ecological functions throughout Sacramento County.

- **Objective:** Mitigate and restore for natural habitat and special status species loss.
- Policy CO-58: Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
- Policy CO-59: Ensure mitigation occurs for any loss or modification to the following types of acreage and habitat function: vernal pools, wetlands, riparian, native vegetative habitat, and special status species habitat.
- Policy CO-60: Mitigation should be directed to lands identified on the Open Space Vision Diagram.
- Policy CO-61: Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
- Policy CO-62: Permanently protect land required as mitigation.
- **GOAL:** Preserve, protect, and enhance natural open space functions of riparian, stream, and river corridors.
- **Objective:** Protect and restore natural stream functions.
- Policy CO-107: Maintain and protect natural function of channels in developed, newly developing, and rural areas.
- **GOAL:** Sacramento County vegetative habitats preserved, protected, and enhanced.
- **Objective:** Heritage and landmark tree resources preserved and protected for their historic, economic, and environmental functions.
- Policy CO-138: Protect and preserve non-oak native trees along riparian areas if used by Swainson's hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- Policy CO-139: Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- Policy CO-140: For projects involving native oak woodlands, oak savannah, or mixed riparian areas, ensure mitigation through the methods described.

## City of Elk Grove General Plan

### *Guiding and Focused Goals*

The following guiding and focused goals from the City of Elk Grove General Plan are relevant to the proposed Project (City of Elk Grove 2015):

- Guiding Goal 3: Protection of the Natural Environment
  - Focused Goal 3-1: Development that recognizes environmental constraints and is designed and operated to minimize impacts on the environment.
- Guiding Goal 4: Preservation and Enhancement of Elk Grove's Unique Historic and Natural Features
  - Focused Goal 4-2: Preservation of the large oak and other tree species that are an important part of the City's historic and aesthetic character.

### *Conservation and Air Quality Element*

The following policies from the Conservation and Air Quality Element of the City of Elk Grove General Plan (City of Elk Grove 2015) are relevant to the proposed Project:

- Policy CAQ-8: Large trees (both native and non-native) are an important aesthetic (and, in some cases, biological) resource. Trees that function as an important part of the City's or a neighborhood's aesthetic character or as natural habitat should be retained to the extent possible during the development of new structures, roadways, parks, drainage channels, and other uses and structures. If trees cannot be preserved onsite, offsite mitigation or payment of an in-lieu fee may be required. Trees that cannot be protected shall be replaced either onsite or offsite as required by the City.
- Policy CAQ-9: Wetlands, vernal pools, marshland, and riparian areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland area occurs, which may be accomplished by avoidance, revegetation, and restoration onsite or creation of riparian habitat corridors.
- Policy CAQ-11: The City shall seek to preserve areas, where feasible, where special-status plant and animal species and critical habitat areas are known to be present or potentially occurring that may be adversely affected by public or private development projects. Where preservation is not possible, appropriate mitigation shall be included in the public or private project.

### **Bufferlands Master Plan**

Regional San manages the SRWTP Bufferlands consistent with management objectives and policies described in the Bufferlands Master Plan. The principle objectives of Bufferlands management are to maintain the function of the Bufferlands, allowing continued SRWTP operation and expansion; provide and maintain extensive areas of open space, high-quality wildlife habitat, and other valuable natural resources; provide areas to mitigate environmental impacts associated with Regional San projects; minimize conflicts and develop beneficial relationships with the local community; promote public enjoyment and appreciation through educational outreach; and generate lease revenues. Consistent with the Sacramento County General Plan, the Bufferlands Master Plan contains policies for the preservation and management of natural habitats and their ecological functions including avoiding, minimizing, and mitigating impacts to special-status species.

### **Sacramento County Swainson's Hawk Ordinance**

Chapter 16.130 of Title 16 of the Sacramento County Code addresses the reduction in Swainson's hawk foraging habitat within unincorporated Sacramento County. Participating in the County's Swainson's hawk Mitigation Program, which is voluntary, is one option for mitigating the loss of foraging habitat within unincorporated areas of the County. Under this program, mitigation for impacts less than 40 acres can be achieved by paying a mitigation fee or providing replacement habitat (title or easement to suitable Swainson's hawk mitigation lands on a per-acre basis); mitigation for impacts of 40 acres or greater can be achieved only by providing replacement habitat under this program. Another option for permitting impacts to Swainson's

hawk is participation in Sacramento County's South Sacramento Habitat Conservation Plan, discussed in detail later in this section.

### **Sacramento County Tree Preservation Ordinance**

The Sacramento County Tree Preservation Ordinance provides protection for trees within the designated urban area of the unincorporated area of Sacramento County. The Tree Preservation Ordinance applies only to the designated urban area, except for projects that require a discretionary land use entitlement, such as a parcel map. The main facilities portion of the project area is within a designated urban area ("public and quasi-public") and subject to the Tree Preservation Ordinance. The tree preservation ordinance applies to trees meeting the following specifications:

- native oak trees with a diameter at breast height (DBH) of 6 inches or greater;
- heritage oak trees, which are defined as California oak trees native to Sacramento County with a DBH of 19 inches (or circumference of 60 inches) or greater; and
- public trees, which are defined as any tree with one-half of its crown diameter (drip line) overlapping public property; and landmark trees, which are defined as especially prominent or stately trees.

No person shall trench, grade or fill within the dripline of any tree or destroy, kill or remove any tree as defined, in the designated urban area of the unincorporated area of Sacramento County, on any property, public or private, without a tree permit, or unless authorized as a condition of a discretionary project approval by the Board of Supervisors, County Planning Commission, Zoning Board of Appeals, the Zoning Administrator or the Subdivision Review Committee. The Tree Coordinator is responsible for administration of the Tree Preservation Ordinance. The ordinance protects all oak trees unless they are specifically designated for removal as part of an approved project. When oaks are removed they must be replaced with the same tree species equaling in sum the diameter of the tree lost. Any person may pay a fee of \$325.00 per inch diameter to remove oaks when their replacement is not possible due to site constraints (Sacramento County 2011).

### **South Sacramento Habitat Conservation Plan**

Sacramento County and its Plan Partners are currently drafting a Habitat Conservation Plan (HCP) to secure permission to incidentally take Covered Species. Covered Species are species that will be listed on the CESA and federal ESA Incidental Take Permits issued by the two Wildlife Agencies (USFWS and CDFW). The South Sacramento HCP (SSHCP), anticipated to be completed and adopted in spring 2017 (Sacramento County, 2016), includes and analyzes projects and activities and estimates the effects from each activity on Covered Species currently identified in the Plan. Projects and activities described in the SSHCP are referred to as "covered activities". HCP-covered activities are conditionally afforded coverage from prohibitions (namely, "take" of Covered Species) if they are implemented in a manner that is consistent with the expectations of and commitments within the HCP.

The proposed Project would be a covered activity within the SSHCP. As such, FESA consistency and permitting requirements will be facilitated by demonstrating consistency with

and satisfying requirements of the SSHCP. Incidental take of state-listed species would be permitted under the California Endangered Species Act (CESA) through a process being completed in conjunction with the SSHCP. Although the SSHCP has not yet been approved, Sacramento County intends to approve the HCP before permitting and construction of the proposed Project is scheduled to start.

The SSHCP establishes an Urban Development Area (UDA) within which most future development is anticipated to occur during the permit term. Outside of the UDA a limited amount of incidental take is requested for specific infrastructure projects (such as this one) and to provide for species conservation activities. Near the proposed Project alignment, the UDA boundary is located near the intersection of Franklin Boulevard with Kammerer Road: north of this junction is within the UDA, and south of this junction is outside of the UDA. HCP conditions for covered activities developed in the HCP Plan Area are different within and outside of the UDA. Mitigation ratios are applied to directly impacted and to indirectly impacted high-value resources (e.g., vernal pools).

Consistency with the SSHCP is demonstrated on a project-by-project basis. Jurisdictional delineations are completed by applicants and results of these project-specific efforts are compared with mapping efforts of the SSHCP. If differences are noted, project delineations are provided to Sacramento County so that they may update the GIS files and information in the SSHCP. If projects-specific impact calculations (based on land cover types) are consistent with the estimates included in the SSHCP, the project would provide compensatory mitigation per the terms and conditions of the SSHCP. In this manner, several different permits and approval processes (e.g., CWA section 404 and 401, FESA, CESA, and Lake and Streambed Alteration Agreements under section 1600 of the Fish and Game Code) are intended to be facilitated by the SSHCP.

The SSHCP's Conservation Strategy is based on the concepts of conservation biology and landscape ecology, biological goals and objectives for the covered species, and the nature, quality, and geographical distribution of the suitable habitats in the HCP Plan Area. The strategy includes requirements to:

- Create an integrated Preserve System that conserves the natural land covers, certain Cropland, and Irrigated Pasture–Grassland in the Plan Area. The Preserve System will preserve at least 33,796 acres for the benefit of the SSHCP Covered Species, and the natural communities, biological diversity, and ecosystem function of the Plan Area.
- Provide for the continued persistence of Covered Species in the Plan Area.
- Protect remaining natural segments of Elder Creek, Frye Creek, Gerber Creek, Morrison Creek, Paseo Central, Sun Creek, and their first and second order tributaries within the Urban Development Area (UDA) portion of the Plan Area.
- Protect all of the Laguna Creek Corridor within the Plan Area.
- Manage preserved lands to enhance populations of Covered Species and maintain biological diversity within the Preserve System.
- Maintain existing watershed functions in the Plan Area to benefit wetlands (aquatic land cover types), and to support aquatic Covered Species and their habitats.

- Re-establish Vernal Pool land cover to ensure the Plan meets County of Sacramento (County), state, and federal requirements for “no-net-loss” of waters and wetlands and to offset impacts to vernal pool Covered Species.
- Re-establish riparian and other aquatic land cover to ensure the Plan meets County, state, and federal requirements for “no-net-loss” of waters and wetlands and to offset impacts to riparian Covered Species.

In short, SSHCP participants implementing covered activities agree to complete specific habitat-level and species-level actions for the benefit of HCP-covered species. Sacramento County will collect development fees from projects (based on impact to habitat ratios, by habitat type) to accomplish the SSHCP’s conservation goals and objectives, and assemble a network of conservation areas.

### 3.5.3 Special-Status Resources

Special-status resources evaluated in this EIR include both sensitive habitats and plant communities, and sensitive species. These are defined below.

#### Special-Status Natural Communities

Special-status natural communities include important habitats or plant associations considered by the CDFW as communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. Nomenclature for these communities was originally established by Holland (1986), but has been modified through time to reflect the current understanding of vegetation associations and their distributions (e.g., Sawyer Keeler-Wolf 1995). Sensitive natural communities are tracked and reported by the California Natural Diversity Database (CNDDDB) along with sensitive species.

A CNDDDB query of the Florin and Bruceville quadrangles and their 10 adjacent quadrangles identified seven special-status natural communities in the vicinity of the Project area (**Table 3.5-1**). Three of these seven natural communities are intersected by the defined Project area. These are coastal and valley freshwater marsh, Great Valley mixed riparian forest, and northern hardpan vernal pool.

Coastal and valley freshwater marsh (CVFWM). This natural community is dominated by perennial emergent monocots like cattails (*Typha* spp.) and tules (*Schoenoplectus acutus*). Locations supporting CVFWMs are often permanently flooded by freshwater and lack significant currents. Prolonged saturation often allows the formation of peaty soils. Historically, the community was extensively distributed in the Central Valley, but is currently much reduced due to land development and reclamation actions. CVFWM was documented at six locations totaling 4.6 acres in the defined wetland survey area of the wetland delineation report prepared for the proposed Project (CH2M, 2015).

Great Valley mixed riparian forest. This community is characterized by tall, dense, winter-deciduous and broad-leafed species including Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), California black walnut (*Juglans hindsii*), Goodding's



willow (*Salix gooddingii*), red willow (*S. laevigata*), yellow willow (*S. lasiandra*), and box elder (*Acer negundo*). Soils supporting this community are typically fine-textured alluvial materials from historic or active river channels, with overbank flooding common. Formerly extensive in the Sacramento and north San Joaquin valleys, this community has been reduced substantially by land clearing for agricultural, flood control, and urban expansion. The wetland delineation report prepared for the proposed Project reports nine locations where forested/scrub-shrub wetlands occur in the defined wetland survey area, totaling 4.4 acres.

Northern hardpan vernal pool. This natural community type is typically characterized by small-statured annual herbs and grasses. Germination and growth of vegetation begins with winter rains that fill pool features when collected water perches on the soil hardpan. Rising spring temperatures evaporate the ponded surface waters, leaving bands of vegetation that circle the drying pools. Once extensive in the Central Valley between Tulare and Fresno counties, northward to Shasta County, northern hardpan vernal pools have been reduced by land conversion such as agriculture and urban development. As described in the wetland delineation report prepared for the proposed Project (CH2M Hill 2015), vernal pools are extensively distributed in the Stone Lakes NWR lands near the northern portion of the alignment, west of Franklin Boulevard. The wetland delineation reports 48 vernal pools/swales within the defined wetland survey area totaling 20.2 acres.

Potential impacts to these special status natural communities are described later in this section. The remaining four special-status natural communities shown in **Table 3.5-1** do not occur in the Project area, and these are not discussed further in this EIR.

### **Wetlands and Other Waters of the U.S.**

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. As describe previously in this section, certain activities within wetlands and other waters of the U.S. are regulated by the USACE under the federal Clean Water Act. The CDFW may regulate activities in wetlands and aquatic areas under Fish and Game Code section 1600 and section 2081, among other sections of code.

A wetland delineation report has been prepared for the proposed Project to document aquatic features within and near the Project area (CH2M HILL 2015), and to support future permitting needs. The wetland delineation report established a wetland survey area within which all aquatic features were identified and quantified (enumerated and areas measured). The wetland survey area included the Project APE (which ranges from 80 to 250 feet wide along the alignment) and a 250-foot buffer on each side of the APE.

Within the defined wetland survey area, the following aquatic feature types and areas were identified: vernal pools and vernal swales (20.2 acres), seasonal wetlands (1.2 acres), freshwater marshes (4.6 acres), scrub-shrub and forested wetlands (4.4 acres), constructed basins (6.4 acres), natural watercourses (0.6-acre), and constructed watercourses (10.4 acres). At the time of writing

this section, the wetland delineation report had not yet been reviewed and verified by the USACE, and these total areas should therefore be considered provisional.

Forested and scrub-shrub wetlands occur in the Project area in association with natural watercourses and constructed watercourses. Most of these habitats are fragmented and likely represent just a fraction of their historic distribution and areal extent. These vegetated communities are more fully developed and in better condition when the associated watercourses are consistently wetted, either perennially or intermittently. Watercourses with ephemeral hydrology rarely support forested or scrub-shrub wetlands in the Project area.

Constructed basins included dairy and agricultural tailwater ponds or settling basins, though some basins appeared to be constructed for irrigation supply sources (based on the associated presence of large water pumps). Freshwater marsh areas in the Project area are located where water sources are perennial, usually near the outlets of constructed basins or at the margins of agricultural supply canals. Seasonal wetlands are uncommon in the Project area and, like vernal pools, are only seasonally wetted.

### Special-Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by Federal, State, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- Species officially listed under the CESA or the FESA as endangered, threatened, or rare;
- Species identified as a candidate for CESA or FESA listing as endangered, threatened, or rare;
- Species identified by CDFW as Species of Special Concern;
- Species listed as Fully Protected under the California Fish and Game Code;
- Species considered by the California Native Plant Society (CNPS) to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR) of 1 or 2. Ranks 1 and 2 include:
  - Rank 1A – Plants presumed to be extinct in California;
  - Rank 1B – Plants that are rare, threatened, or endangered in California and elsewhere;
  - Rank 2 – Plants that are rare, threatened, or endangered in California but more common elsewhere;

All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW’s CNDDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, and 2 may qualify as endangered, rare, or threatened species within the definition of State CEQA Guidelines CCR Section 15380. CDFW recommends, and local governments may require, that CRPR 1A, 1B, and 2 species be addressed in CEQA projects.

The term “California Species of Special Concern” is applied by CDFW to animals not listed under the CESA, but that are considered to be declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. CDFW’s Fully Protected status was California’s first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

A CNDDDB query of the Florin and Bruceville quadrangles (which completely contain the proposed Project elements) and their 10 adjacent quadrangles (which in total contain all Project and program elements) identified 51 special-status species historically detected in the vicinity of the Project area (**Table 3.5-1**). A query of the USFWS IPaC database added one rare plant to this CNDDDB list. Suitable habitat for 31 of these 52 species (13 plants, 3 invertebrates, 4 amphibians/reptiles, and 5 birds) occurs in or near the defined Project area. Conversely, suitable habitat for 21 of the 52 species does not exist in the Project area, and/or their database records are suspect for one or more reasons. These 21 species are not discussed further in this EIR. Additionally, based on site-specific information, loggerhead shrike is known to occur in the Project area. The potential for occurrence of the 32 species for which suitable habitat does occur in or near the defined Project area is discussed below.

While sensitive fish species do not occur in the Project area, a reduction in Sacramento River flows may adversely affect species in that system. For this reason, species profiles for several fish species that may be affected by the Proposed Project or its action alternatives are included in this section.

#### *Plants*

Review of relevant literature and presence of suitable habitat in the Project area suggests that 13 sensitive plant species may potentially occur in the proposed Project area. These are described below.

**Bristly sedge.** Bristly sedge is a perennial, rhizomatous herbaceous species typically found along the edges of marshes and within riparian understories, but also within wet areas of grasslands. Bristly sedge may associate with freshwater marsh species such as cattails and tules, and occurs from sea level to 650 meters above sea level. It blooms from May through September, and the CNDDDB reports 10 occurrences of this species from the Bruceville quad, with most of these from the southern Stone Lakes area and the lower Mokelumne River area. This CRPR 2B.1 species has a moderate potential to occur in the Project area in association with freshwater marshes and ditch features that are regularly and consistently wetted.

**Dwarf downingia.** Dwarf downingia is a small annual and herbaceous vernal pool associate that blooms from March to May. It may also be found in association within mesic grasslands. The CNDDDB reports a 2010 occurrence (of over 1,000 plants) within vernal pools near the Elk Grove Boulevard intersection with I-5. This CRPR 2B.2 species has a moderate potential to occur

within the Project area where it intersects vernal pools or vernal swales. Dwarf downingia is a covered species in the SSHCP.

**Boggs Lake hedge-hyssop.** Boggs Lake hedge-hyssop is an annual herbaceous vernal pool associate that grows at elevations from 10 to 2400m above sea level. It may also associate with freshwater marshes and swamps. The CNDDDB does not report this species within the Bruceville or Florin quads. Five occurrences are reported from vernal pools in adjacent quadrangles (Elk Grove and Carmichael quads). This CRPR 1B.2 and CESA-listed endangered species has a low potential to occur within the Project area where it intersects vernal pools or vernal swales. Boggs Lake hedge hyssop is a covered species in the SSHCP.

**Woolly rose-mallow.** Woolly rose-mallow is a perennial, herbaceous species found in association with freshwater marshes and swamps, and sometimes growing within the riprap of drainage levees, from sea level to 120 meters above sea level. It blooms from June through September. The CNDDDB reports nine occurrences of this species within the Florin and Bruceville quads, most of which include the lower Cosumnes River and Snodgrass Slough areas. This CRPR 1B.2 species has a low potential to occur in the Project area in association with perennially wetted drainage features.

**Northern California black walnut.** Northern California black walnut is a large, deciduous, perennial tree species that typically is found in riparian settings. The CNDDDB reports a single occurrence of this species in the Bruceville quad, along the Sacramento River near Walnut Grove. However, this species is well-represented along the major riverfronts in the Sacramento area, but not recorded in the CNDDDB. This CRPR 1B.1 species has a moderate potential to occur in the Project area along perennially wetted ditches with established and mature riparian vegetation.

**Ahart's dwarf rush.** Ahart's dwarf rush is a small-statured rush species found in vernal pools and mesic grassland areas from 30 to 229 meters above sea level. This annual herb blooms from March through May. The CNDDDB does not report this species from the Florin or Bruceville quads, but does report a single occurrence from a vernal pool complex at Mather AFB in 2006. This CRPR 1B.1 species has a low potential for occurrence with the Project area's vernal pool features. This is a covered species in the SSHCP.

**Delta tule pea.** Delta tule pea is a perennial, herbaceous species that associates with freshwater and brackish water marshes and swamps near sea level (0 to 5 meters above sea level). It blooms from May through September. The CNDDDB reports four occurrences of this species in the Florin and Bruceville quads, with most of these near the tidally-influenced Snodgrass Slough. This CRPR 1B.1 species has a low potential for Project area occurrence in association with freshwater marsh habitats.

**Legenere.** Legenere is an annual, herbaceous vernal pool associate found from sea level to 880 meters above sea level. It blooms from April through June. The CNDDDB reports five occurrences of this species from the Florin and Bruceville quads, one of which (in 1995) is located near the Regional San Bufferlands, near the northern portion of the alignment. This

CRPR 1B.1 species has a moderate potential for occurrence in association with Project area vernal pools and swales. Legenere is a covered species in the SSHCP.

**Heckard's pepper-grass.** Heckard's pepper-grass is an annual, herbaceous species that blooms from March through May and ranges from sea level to 200 meters above sea level. This plant is a California endemic known only from five California counties, including Sacramento County. The CNDDDB reports only two historic occurrences of this species from the 12-quad search area, one of which (in 2010) was located in association with a seasonal wetland pool south of Stone Lake. Heckard's pepper-grass typically associates with alkaline flats in grassland habitats. This CRPR 1B.2 species has a low potential to occur in the Project area in association with seasonal wetland or vernal pool/swale habitats.

**Sanford's arrowhead.** Sanford's arrowhead is a perennial herbaceous species associated with marshes and ponded areas, and in ditches with slow-moving water, occurring from sea level to 650 meters above sea level. It blooms from May through November. The CNDDDB reports 18 occurrences of this species within the Florin and Bruceville quads. Most occurrences are along marshy creeksides near the southern portion of the Project area. This CRPR 1B.2 species has a moderate potential for occurrence in the Project area in association with consistently wetted ditch features. Sanford's arrowhead is a covered species in the SSHCP.

**Marsh skullcap.** Marsh skullcap is a perennial herbaceous species found in association with marshes and swamps, seeps, mesic meadows, and lower montane coniferous forests. It is commonly found growing on logs. This species blooms from June through September and is found from sea level to 1,950 meters above sea level. The CNDDDB reports two occurrences of this species in the Florin and Bruceville quads, both at Snodgrass Slough near the Twin Cities Road crossing. This CRPR 2B.2 species has a low potential for occurrence in the Project area where slow moving or ponded waters are persistent.

**Side-flowering skullcap.** Side-flowering skullcap is a perennial herbaceous species found in association with marshes and swamps, seeps, and mesic meadows. This species blooms from July through September, ranges in elevation from sea level to 500 meters above sea level, and is also commonly found growing on logs. It is known from only three California counties, one of which includes Sacramento County. The CNDDDB reports five occurrences of side-flowering skullcap from the Florin and Bruceville quads, all of which are at Snodgrass Slough. This CRPR 2B.2 species has a low potential for occurrence in the Project area where slow moving or ponded waters are persistent.

**Saline clover.** Saline clover is an annual herbaceous species associated with marshes and swamps, mesic and alkaline valley and foothill grasslands, and vernal pools. It blooms from April through June and ranges in elevation from sea level to 300 meters above sea level. The CNDDDB reports four occurrences of this species from the Florin and Bruceville quads, all of which were found in association with vernal pools in the Stone Lakes NWR. This CRPR 1B.2 species has a low potential for occurrence in vernal pools of the Project area.

### *Invertebrates*

Review of relevant literature and presence of suitable habitat in the Project area suggest that three sensitive invertebrate species may occur in the Project area. These are described below.

**Vernal pool fairy shrimp.** The vernal pool fairy shrimp (VPFS) is currently found in 28 counties across the Central Valley and coastal ranges of California (and in Jackson County of southern Oregon). The species occupies a variety of vernal pool habitats and is distributed more widely than most other fairy shrimp species, but it is generally uncommon throughout its range, and is rarely abundant (USFWS 2005). VPFS are documented by the CNDDDB to occur in the Stone Lakes NWR Wetland Preserve Unit to the west of the Project area, and this species has a moderate potential for occurrence in the Project area where the alignment crosses vernal pool or vernal swale features. VPFS is listed as a threatened species under the FESA, and is an SSHCP covered species.

**Valley elderberry longhorn beetle.** Valley elderberry longhorn beetle (VELB) are obligate associates with their larval host plant, elderberry (*Sambucus* spp.) - typically blue elderberry (*S. mexicana*). Elderberry is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of elderberry by adult VELB, a wood borer, is rarely apparent. Instead, the only exterior evidence of VELB presence is an exit hole created by larvae. The life cycle takes one or two years to complete. This insect species spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived (USFWS 1999). The CNDDDB reports only a single occurrence of VELB in the Bruceville or Florin quads along the Cosumnes River corridor. Where large elderberry bushes occur in the Project area, VELB has a moderate potential for occurrence. This species is listed as threatened under the FESA and is an SSHCP covered species.

**Vernal pool tadpole shrimp.** The vernal pool tadpole shrimp (VPTS) is currently distributed across the Central Valley of California and in the San Francisco Bay area. The species' distribution has been greatly reduced over time as a result of widespread destruction and conversion of vernal pool habitat. VPTS are uncommon even where vernal pool habitats occur (USFWS 2005). VPTS are documented by the CNDDDB to occur in the Stone Lakes NWR Wetland Preserve Unit to the west of the Project area, and this species has a moderate potential for occurrence in the Project area where the alignment crosses higher-value, relatively intact vernal pool features. VPTS is listed as endangered under the FESA, and is an SSHCP covered species.

#### *Amphibians and Reptiles*

Review of relevant literature and presence of suitable habitat in the Project area suggests that two sensitive reptile species and two sensitive amphibian species may occur in the Project area. These are described below.

**Western pond turtle.** The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, which includes permanent to semi-permanent waters of slow moving rivers and streams, ponds, and lakes. Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. The CNDDDB reports five

occurrences of this species in the Florin and Bruceville quads, with most from Stone Lakes NWR. A ditch occurrence is also reported north of Franklin near the Franklin Boulevard intersection with the Western Pacific Railroad alignment. This species is listed as SSC by the CDFW, and is an SSHCP-covered species. Pond turtles have a moderate potential for occurrence in the Project area at locations where permanent slow-moving waters occur.

**California tiger salamander.** California tiger salamander (CTS) habitat includes vernal pools, seasonal and perennial ponds, and surrounding upland areas in grassland, oak savannah, edges of mixed hardwood-conifer woodland and low elevation coniferous forest plant communities from sea level to about 1,067 meters. Adult CTS emerge from their upland refugia at night to feed and migrate to breeding ponds when fall or winter rains start. Eggs are laid in ephemeral ponds (like vernal pools), where juveniles rear and metamorphose before ponds dry up in the spring. Juveniles move out and away from breeding ponds into the surrounding uplands, where they live continuously for several years. Upon reaching sexual maturity, most individuals return to their natal (birth) pond to breed, while others disperse to other ponds. A CTS breeding site is defined as a location where CTS are able to successfully breed in years of normal rainfall and persist during the dry months of the year. Therefore, suitable habitat includes both suitable wetlands and surrounding upland habitats. The CNDDDB does not report this species in either the Florin or Bruceville quads, and only reports a single, very dated (1914) occurrence in the Galt quad. Nevertheless, suitable CTS habitat exists in the vast vernal pool complex habitats associated with the Stone Lakes NWR west of the Project area. This species is listed as threatened under both the FESA and CESA, and is an SSHCP covered species. CTS has a low potential for occurrence in the Project area.

**Western spadefoot (toad).** The western spadefoot associates with ephemeral pools in grasslands and valley-foothill hardwood woodlands throughout the Central Valley and adjacent Sierra foothills. Adults remain in underground burrows during most of the year, but the first rains of fall usually initiate surface movements. Breeding activities in pools normally conclude by the end of March. Tadpoles transform during late spring and juveniles disperse after spending a few hours or days near the breeding pond margins. The CNDDDB does not report this species in either the Florin or Bruceville quads, but reports two occurrences near Mather AFB. Similar to CTS, suitable spadefoot habitat exists in the vernal pool complex habitats associated with the Stone Lakes NWR west of the Project area. Spadefoot is a CDFW SSC and an SSHCP covered species, and has a low potential for occurrence in the Project area.

**Giant garter snake.** The giant garter snake (GGS) is usually found in marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, and rice fields. Upland habitat is used for cover during the snake's active season and for refuge from flood waters during its dormant season. The geographic distribution of GGS is generally limited to wetlands within the Central Valley floor. The CNDDDB reports 10 occurrences of GGS within the Florin and Bruceville quads, many of which are somewhat dated. Locations of occurrence include Elk Grove Creek, Laguna Creek, Beach Lake in Stone Lakes NWR, and a 1976 detection within a ditch near the intersection of Franklin Boulevard and Hood-Franklin Road. This last detection suggests that GGS have a moderate to high likelihood of occurring in the Project area where

suitable habitat exists. GGS is list threatened under both the CESA and FESA, and is an SSHCP covered species.

### *Birds*

Review of relevant literature and presence of suitable habitat in the Project area suggests that six sensitive bird species may occur in the Project area. These are described below.

**Tricolored blackbird.** Tricolored blackbirds are highly colonial and typically establish nests in and near freshwater marshes dominated by cattails and bulrushes, and in grain fields in the San Joaquin Valley, especially fields that have relatively large amounts of invasive mustards or mallows. Nesting occurs typically from April through July. The CNDDDB reports 10 occurrences from the Franklin and Bruceville quads, with a number of these very near the defined Project area. However, most occurrences are fairly dated, likely reflecting the accelerated decline of this species since the mid-1980s. On 10 December 2015, the California Fish and Game Commission designated the tricolored blackbird as a candidate for protection under CESA. The species is protected under CESA while the Commission considers full listing. The USFWS is also evaluating a petition to list the species under the FESA; the review period began on 17 November 2015, although, unlike the CESA, additional protections will not go into effect until a decision on listing is announced (the “12-month review period” sometimes takes longer than a year). Tricolored blackbird is an SSHCP covered species. This species has a moderate-potential for occurrence in the Project area where freshwater marsh habitat exists or where large stands of Himalayan blackberry provide potential nesting habitat.

**Western burrowing owl.** Burrowing owls are ground-dwelling residential or migratory species that exhibit high site fidelity to the ground squirrel (or other mammal) burrows they typically adopt and occupy. Burrowing owls are typically found in short-grass grasslands, open scrub habitats, and a variety of open, human-altered environments, such as the edges of canals or roadways, ditches, and drains along agricultural fields. The CNDDDB reports 16 occurrences within the Florin and Bruceville quads, with several of these from the Regional San Bufferlands, Stone Lakes NWR, and near the Cosumnes River corridor south of the Project area. This species in considered a SSC species by CDFW, and is an SSHCP covered species. Burrowing owl is unlikely to occupy burrows within the defined Project area, but has a moderate potential to occupy nearby grasslands.

**Swainson's hawk.** Swainson's hawks are migratory, arriving in the Central Valley in late-February to early-March, with nesting typically occurring in April through June. By September, most Swainson's hawk have left California for South America, where they overwinter. Swainson's hawks require large, open grasslands with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Swainson's hawks often nest in proximity to riparian systems as well as using lone trees or groves of trees in agricultural fields. CNDDDB reports 80 occurrences of Swainson's hawk from the Florin and Bruceville quads, many of which are near the proposed Project area. Swainson's hawk is listed under the CESA as threatened and is an SSHCP covered species. This species has a high potential to nest in or relatively near the Project area where suitable nest trees occur.



**White-tailed kite.** White-tailed kite is a year-round resident of California typically found in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields. They hunt over lightly grazed or ungrazed fields where there may be larger prey populations than in more heavily grazed areas. This species nests in the upper portion of trees that may be 10–160 feet tall. These can be open-country trees growing in isolation, or at the edge of or within a forest. The nesting season typically ranges from February through October. The CNDDDB reports only a single occurrence of this species in the Florin and Bruceville quads: within the Regional San Bufferlands property, but it is likely that nesting is more widespread than reported. White-tailed kite is an SSHCP covered species, and is considered SSC and fully-protected by the CDFW. It has a moderate potential to nest in or near the Project area.

**Loggerhead shrike.** Loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. The highest densities occur in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Loggerhead shrikes typically avoid completely treeless and shrubless areas and urbanized and densely wooded areas. In California, loggerhead shrikes nest from March into May, with young fledging in July or August. Nests are built on stable branches in shrubs or trees, usually well-concealed. The CNDDDB does not report this species from the query area, but it is known to occur at the Bufferlands. Loggerhead shrike is an SSHCP Covered Species and is listed as SSC by the CDFW. It has a moderate potential to nest in Project area trees and shrubs where they abut open grasslands.

**Song sparrow (Modesto pop.).** Formerly referred to as the Modesto song sparrow and afforded subspecies status (*M. m. mailliardi*), the Modesto Population of song sparrow is a year-round resident of California that is distributed only in the north-central portion of the Central Valley, with highest densities known from the Butte Sink area of the Sacramento Valley and in the Sacramento-San Joaquin River Delta. Nesting occurs from March to June (peaking in May) in freshwater marshes and riparian thickets. CNDDDB reports 10 occurrences of this species within the Florin and Bruceville quads, most of which are from the Sacramento River and Snodgrass Slough areas. This species is listed as SSC by the CDFW. It has a moderate potential for occurrence in the Project area within freshwater marsh and riparian habitats.

### *Fish*

Several sensitive fish species that may be impacted by the proposed Project occur in the Sacramento River and Delta regions. These are described below.

**Longfin smelt, Delta smelt, and Sacramento splittail** are residents of the Bay-Delta and the lower portions of the Sacramento River system. Longfin smelt is a candidate for listing under the FESA and is state listed as threatened. Delta smelt is listed as federal threatened and state endangered. Sacramento splittail is a California species of special concern. Delta smelt critical habitat is designated in the Delta, the lower Sacramento River to I-Street Bridge, and the lower San Joaquin River near Vernalis (USFWS 1994).

**Steelhead and salmon** are anadromous, spending much of their life-cycle as adults in the ocean, and returning to spawn in their natal freshwater streams and rivers. Over-summering (holding), spawning, incubation, and rearing of **steelhead, California Central Valley (CCV) Distinct Population Segment (DPS)** (federal threatened) and **Chinook salmon, Central Valley spring-run (SRC) Evolutionarily Significant Unit (ESU)** (federal and state threatened) occurs mainly in the colder headwaters of tributaries to the Sacramento River. Adults and smolts primarily use the Sacramento River mainstem as movement habitat to and from tributary streams. For SRC, self-sustaining populations occur in Deer, Mill, and Butte creeks. CCV steelhead inhabit and spawn in more Sacramento River tributaries than do SRC. Juvenile steelhead and SRC migrate to the ocean after hatching and rearing for some time in natal streams (generally less than 1 or 2 years). Critical habitat for CCV steelhead is designated in the Delta, the Sacramento River mainstem below Keswick Dam, many Sacramento River and San Joaquin River tributaries, and elsewhere (NMFS 2005). Critical habitat for SRC is designated on the Sacramento River mainstem and many of its tributaries, and in the Delta (NMFS 2005).

**Chinook salmon, Sacramento River ESU winter-run** (federal and state endangered), unlike Central Valley steelhead and Central Valley spring-run Chinook, spawn in the mainstem of the Sacramento River from Keswick Dam downstream to approximately Tehama. Adults return to the Sacramento River from November through May or June, with spawning occurring from late-April through mid-August, and peak spawning in May and June. Fry emergence occurs from mid-June through mid-October. Fry typically emerge beginning in July, with juveniles dispersing to rearing habitats shortly after emergence. Juveniles rear from July through March, and emigrate to the ocean peaking in March and April. Winter-run Chinook salmon are particularly sensitive to excessive water temperatures. Recommended temperatures by life-stage are: migrating adults (<65 F), holding adults (<60 F), spawning (53 to 57.5 F), egg incubation (<55 F), juvenile rearing (53 to 57.5 F), and smoltification (<64 F) (Reclamation 2008). Critical habitat for WRC is designated on the Sacramento River mainstem below Keswick Dam, and in the Bay-Delta (NMFS 1993).

**Green sturgeon, southern DPS** (federal threatened, SSC) are also anadromous. Adults move up the Sacramento River in March and April, spawning in the mainstem between Hamilton City and Keswick Dam between April and June. Eggs adhere to and between rocky substrates. Hatchlings rear in the same area as spawned for 1 to 2 months. Incubating and rearing green sturgeon are sensitive to water temperature, with 63-64 F the upper limit of optimal temperature for embryos, and 66-75 F optimal for rearing juveniles. Incubating eggs died when water temperature reached 73-79 F (Reclamation 2008). Juveniles rear from 1 to 4 years in freshwater and estuarine habitats, with ocean residence taken up thereafter (Reclamation 2008). Critical habitat for green sturgeon is designated within the Bay-Delta, the Sacramento River mainstem below Keswick Dam, the lower Yuba and Feather rivers, and elsewhere (NMFS 2009).

Table 3.5-1: Potential for Occurrence of Sensitive Natural Community Types and Sensitive Species in Project Area and Vicinity

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
<b>Communities</b>				
Coastal and valley freshwater marsh	N/A	N/A	Permanently to regularly flooded wetland areas dominated by herbaceous emergent species like cattails and bulrushes	Occurs. Patchily distributed in association with drainages that cross alignment. Mapped in wetland delineation report.
Elderberry savanna	N/A	N/A	Open to moderately-closed stands of elderberry ( <i>Sambucus</i> spp.) on floodplains, generally reflecting past disturbance and lack of flood flows.	Does not Occur. Community not present along alignment. May be present in association with natural drainage corridors to south and west.
Great Valley cottonwood riparian forest	N/A	N/A	Community dominated by medium to tall (to 100 feet), broad-leaved winter-deciduous trees including Fremont cottonwood and valley oak.	Does not Occur. Community not present along alignment. May be present in association with natural drainage corridors to south and west.
Great Valley mixed riparian forest	N/A	N/A	Community composed of medium to tall, broad-leaved winter-deciduous trees including Fremont cottonwood, California sycamore, California black walnut, Goodding's willow, red willow, yellow willow, and box elder.	Occurs. Remnant stands patchily located in association with drainages that cross alignment. Mapped in wetland delineation report.
Great Valley valley oak riparian forest	N/A	N/A	Historically occurred extensively along the highest parts of floodplains. Dominated by valley oak, Oregon ash, and California sycamore.	Does not Occur. Community not present along alignment. May be present in association with natural drainage corridors to south and west.
Northern hardpan vernal pool	N/A	N/A	Hummocky complexes that form on old alluvial fans on acidic, iron-silica hardpans. Usually in grassland matrices.	Occurs. Widespread and abundant near northern portion of alignment in Stone Lakes NWR lands. Mapped in wetland delineation report.
Valley oak woodland	N/A	N/A	Valley oak woodlands vary from open savannahs to closed canopy forests. Dense stands occur along natural drainages in deep soils.	Does not Occur. Community not present along alignment. May be present in association with natural drainage corridors to south and west.
<b>Plants</b>				
Large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	FE/CE/1B.1	Cismontane woodland and valley and foothill grasslands at 275-550 meter elevation.	Unlikely. Known from fewer than 5 natural occurrences at moderate elevations of east-facing slopes of the coast range in the northern San Joaquin Valley. Not reported from the project area vicinity.

## EIR

Draft

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
Ferris' milk-vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	—/—/1B.1	Vernally mesic meadows and seeps, and sub-alkaline flats in valley and foothill grasslands. 2-75 meter elevation.	Unlikely. Suitable habitat not present in Project area. CNDDDB reports a single, dated (1954) occurrence from 10-quadrant area (in the Yolo Bypass). Not reported from the Project area vicinity.
watershield	<i>Brasenia schreberi</i>	—/—/2B.3	Freshwater marshes and swamps. 30-2,200 meter elevation.	Unlikely. Out of range. Single dated record in CNDDDB from personal collection. Not field verified.
bristly sedge	<i>Carex comosa</i>	—/—/2B.1	Marshes and swamps. 0-650 meter elevation.	May Occur. Suitable habitat exists in Project area. CNDDDB reports several occurrences near Stone Lakes.
Bolander's water hemlock	<i>Cicuta maculata</i> var. <i>bolanderi</i>	—/—/2B.1	Coastal freshwater or brackish water marshes and swamps. 0-200 meter elevation.	Unlikely. Out of range. Single dated record in CNDDDB from personal collection. Not field verified.
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	—/—/2B.2	Freshwater marshes and swamps. 15-280 meter elevation. Parasitic plant.	Unlikely. Out of range. Single dated record in CNDDDB from personal collection. Not field verified.
dwarf downingia	<i>Downingia pusilla</i>	—/—/2B.2	Vernal pools in valley and foothill grasslands. 1-445 meter elevation.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	—/CE/1B.2	Vernal pools, freshwater marshes and swamps. 10-2,400 meter elevation.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species.
woolly rose-mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	—/—/1B.2	Freshwater marshes and swamps. Often in riprap on sides of levees. 30-2,200 meter elevation.	May Occur. Suitable habitat exists in Project area.
northern California black walnut	<i>Juglans hindsii</i>	—/—/1B.1	Riparian forest and riparian woodland. 0-440 meter elevation.	May Occur. Suitable habitat exists in Project area.
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	—/—/1B.2	Valley and foothill grasslands. 30-230 meter elevation.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
Delta tule pea	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	—/—/1B.2	Freshwater and brackish water marshes/swamps. 0-5 meter elevation.	May Occur. Suitable habitat exists in Project area.
legenere	<i>Legenere limosa</i>	—/—/1B.1	Vernal pools. 1-880m elev.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
Heckard's pepper-grass	<i>Lepidium latipes</i> var. <i>heckardii</i>	—/—/1B.2	Alkaline flats in valley and foothill grasslands. 2-200 meter elevation.	May Occur. Suitable habitat exists in Project area.
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	—/CR/1B.1	Marshes and swamps (brackish or freshwater), and riparian scrub. 0-10 meter elevation. Typically in low elevation portions of Delta.	Unlikely. Suitable habitat not present in Project area.

EIR

Draft

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
<i>Delta mudwort</i>	<i>Limosella australis</i>	—/—/2B.1	Mud banks of marshes, swamps, and riparian scrub. 0-3 meter elevation. Typically in low elevation portions of Delta.	Unlikely. Suitable habitat not present in Project area.
slender Orcutt grass	<i>Orcuttia tenuis</i>	FT/SE/1B.1	Vernal pools; particularly gravelly-based. 35-760 meter elevation.	Unlikely. Suitable habitat not present in Project area. Range is primarily north of the Project area. SSHCP-covered species
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FE/SE/1B.1	Vernal pools. 30-100 meter elevation.	Unlikely. Out of range. Single dated record in CNDDDB from personal collection. Not field verified. SSHCP-covered species
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	—/—/1B.2	Shallow freshwater marshes and swamps. 0-650 meter elevation.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
marsh skullcap	<i>Scutellaria galericulata</i>	—/—/2B.2	Lower montane coniferous forest, meadows and seeps (mesic), marshes and swamps. 0-2,100 meter elevation.	May Occur. Suitable habitat exists in Project area.
side-flowering skullcap	<i>Scutellaria lateriflora</i>	—/—/2B.2	Meadows and seeps (mesic), marshes and swamps from 0-500 meter elevation.	May Occur. Suitable habitat exists in project area.
Suisun Marsh aster	<i>Symphyotrichum lentum</i>	—/—/1B.2	Brackish and freshwater marshes and swamps. 0-3 meter elevation.	Unlikely. Out of range.
saline clover	<i>Trifolium hydrophilum</i>	—/—/1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. 0-300 meter elevation.	May Occur. Suitable habitat exists in Project area.
<b>Invertebrates</b>				
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/—	All life stages associated with a variety of artificial and natural vernal pools and ephemeral swales in grassland communities.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT/—	All life stages associated with elderberry trees ( <i>Sambucus</i> spp.) in the Central Valley. Found in riparian communities along rivers and streams.	May Occur. May occur where host plants are located within alignment corridor. SSHCP-covered species
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE/—	All life stages associated with a variety of artificial and natural vernal pools in grassland communities.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
<b>Fish</b>				
Sacramento perch	<i>Archoplites interruptus</i>	—/SSC	Historically found in sloughs, slow-moving rivers, and lakes of the Central Valley. Extant relict populations exist in Clear Lake and near Alameda Creek in gravel ponds.	Unlikely. Out of range, and suitable habitat not present in Project area. Not known from any of the Stone Lakes NWR lakes/ponds.

## EIR

## Draft

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
green sturgeon, southern Distinct Population Segment (DPS)	<i>Acipenser medirostris</i>	FT/SSC	Anadromous. Spawns in Sacramento River mainstem below Keswick Dam.	Occurs. In Bay, Delta, and Sacramento River mainstem.
Southern DPS green sturgeon critical habitat				Designated in the San Francisco Bay-Delta, the Sacramento River mainstem below Keswick Dam, several Sacramento River tributaries, and elsewhere.
Delta smelt	<i>Hypomesus transpacificus</i>	FT/SE	Endemic to the upper delta region of the Sacramento-San Joaquin River system.	Occurs. In Bay, Delta, and lower Sacramento River system.
Delta smelt critical habitat				Designated in the Delta, the lower Sacramento River mainstem below I Street Bridge, and elsewhere.
steelhead: California Central Valley DPS	<i>Oncorhynchus mykiss</i>	FT/—	Anadromous. Spawns in Sacramento River and some San Joaquin River tributaries	Occurs. In Bay, Delta, and Sacramento River tributaries.
CCV steelhead critical habitat				Designated in the Delta, the Sacramento River mainstem below Keswick Dam, many Sacramento River tributaries, and elsewhere.
Chinook salmon: Central Valley spring-run Evolutionarily Significant Unit (ESU)	<i>Oncorhynchus tshawytscha</i>	FT/ST	Anadromous. Spawns in Sacramento River tributaries	Occurs. In Bay, Delta, and Sacramento River tributaries.
CVSRC ESU critical habitat				Designated in the Delta, the Sacramento River mainstem below Keswick Dam, and many Sacramento River tributaries.
Chinook salmon: Sacramento River winter-run ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE	Anadromous. Spawns in the Sacramento River mainstem below Keswick Dam.	Occurs. In Bay, Delta, and Sacramento River mainstem.
WRC SR ESU critical habitat				Designated in the San Francisco Bay-Delta and the Sacramento River mainstem below Keswick Dam, and elsewhere.
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	—/SSC	Found in slow-moving river sections, dead-end sloughs, and marshes of the Delta, Suisun Bay, and associated marshes. Requires flooded vegetation for spawning and juvenile foraging.	Occurs. In Delta, and lower Sacramento River system.
longfin smelt	<i>Spirinchus thaleichthys</i>	FC/ST	Typically found in open waters of estuaries (e.g., Bay-Delta) in salinities of 15-30 ppt. Ranges upstream in the Sacramento River mainstem to near Sacramento International Airport.	Occurs. In Bay, Delta, and lower Sacramento River system.

EIR

Draft

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
Amphibians and Reptiles				
western pond turtle	<i>Actinemys marmorata</i>	—/SSC	Highly aquatic and associated with riparian habitat including streams, rivers, sloughs, ponds, and artificial water bodies with deep pools, basking sites, and aquatic vegetation.	May Occur. May occur in larger drainage ditches with consistent ponded water and aquatic vegetation. SSHCP-covered species
California tiger salamander	<i>Ambystoma californiense</i>	FT/ST	Require mammal burrows or crevices in winter, and nearby seasonal water sources (i.e., vernal pools) for reproduction.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
foothill yellow-legged frog	<i>Rana boylei</i>	—/SSC	Partly-shaded shallow streams with cobble substrate and at least 15 weeks of consistent (contiguous) water to allow metamorphosis.	Unlikely. Suitable habitat not present in Project area. CNDDDB reports a single occurrence in 1958 5 mi north of Lodi in association with the Mokelumne River corridor.
western spadefoot (toad)	<i>Spea hammondi</i>	—/SSC	Require seasonal water sources (e.g., vernal pools) in grasslands and valley and foothill hardwood woodlands.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
giant garter snake	<i>Thamnophis gigas</i>	FT/ST	Endemic to the Central Valley. Highly aquatic and occurs in drainages with vegetated pools and banks. May also be found in artificial situations such as flooded rice fields. Use mammal burrows or crevices for hibernation and cover.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
Birds				
tricolored blackbird	<i>Agelaius tricolor</i>	—/SC	Colonial species found throughout the Central Valley in wetland areas with dense vegetation such as cattails, tules, and bulrushes, as well as Himalayan blackberry, milk thistle, and stinging nettle. Forage on insects in grassland and agricultural fields.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
golden eagle	<i>Aquila chrysaetos</i>	—/CFP	Nest in cliff-walled canyons and large trees near rolling foothills and mountain areas.	Unlikely. Nesting habitat not present in Project area. CNDDDB reports foraging observation only in 1991. Winter visitor to Bufferlands, Stone Lakes NWR, and Cosumnes Preserve lands.
western burrowing owl	<i>Athene cucularia</i>	—/SSC	Require burrows in/near open grassland foraging areas.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species

EIR

Draft

Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
Swainson's hawk	<i>Buteo swainsoni</i>	—/ST	Nests primarily in riparian or isolated trees adjacent to pasture, grassland, and agricultural areas.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT/SE	Nests in dense riparian forests along broad, flood-bottoms of larger rivers.	Unlikely. Suitable nesting habitat not present in Project area. CNDDDB reports 2009 occurrence near Snodgrass Slough.
white-tailed kite	<i>Elanus leucurus</i>	CFP	Dense-topped trees next to meadows, marshes, or grasslands.	May Occur. Suitable habitat exists in Project area. SSHCP-covered species
loggerhead shrike	<i>Lanius ludovicianus</i>	—/SSC	Nests mainly in shrublands or open woodlands near open grassland foraging areas.	Regional San notes this species is present in Project area. SSHCP-covered species
song sparrow (Modesto pop)	<i>Melospiza melodia</i>	—/SSC	Nests in riparian scrub-shrub and wetland habitat of the north-central portion of the Central Valley. Most abundant in wetlands of the Delta and the Butte Sink area.	May Occur. Suitable habitat exists in Project area.
purple martin	<i>Progne subis</i>	—/SSC	Cavity nester in low-elevation coniferous forests. Nests in weep holes under bridges in Sacramento.	Unlikely. Suitable nesting habitat not present in Project area. Not reported by the CNDDDB within the Florin or Bruceville quads. CNDDDB reports 9 occurrences, all of which are associated with roadway bridges.
bank swallow	<i>Riparia riparia</i>	—/ST	Colonial nester. Requires vertical cliffs and stream banks of fine-textured sands near water.	Unlikely. Nesting habitat not present in Project area. CNDDDB reports two occurrences in the American River Parkway.
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE	Migratory. Summer resident of low riparian scrub in southern California.	Unlikely. Out of range. CNDDDB reports two occurrences near the Yolo Bypass. Also recorded at Bufferlands and Cosumnes River Preserve.
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	—/SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. In California, resident of San Joaquin Valley and Colorado River Valley areas.	Unlikely. CNDDDB reports single occurrence from 1899 in Florin and Bruceville quads (near Freeport). No other occurrences reported by the CNDDDB within the broad 10 quad query region. Rare visitor to SLNWR, Bufferlands, Cosumnes River Preserve.



Resource/ Common Name	Scientific Name	Status Fed/CA/CNPS	General Habitat Description	Potential for Occurrence in Project /Action Area
Mammals				
western red bat	<i>Lasiurus blossevillii</i>	—/SSC	Roosts in foliage of trees and shrubs, commonly near water. Known primarily from the San Francisco Bay area, and also the Central Valley and surrounding foothills.	Unlikely. Suitable roosting habitat not present in Project area. SSHCP-covered species
riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	FE/SE	Riparian habitat with thick understory vegetation associated with San Joaquin River in northern Stanislaus County.	Out of range. CNDDDB reports a single occurrence at the White Slough Wildlife Area along the Mokelumne River.
American badger	<i>Taxidea taxus</i>	—/SSC	Typically found in open grasslands and rangelands with friable soils and rodents for prey.	Unlikely. Suitable habitat not present in the Project area. Badgers may occur in grassland habitats west of the Project area near the Regional San Bufferlands and the Stone Lakes NWR. CNDDDB reports a single, dated (1938) occurrence within the Florin and Bruceville quads. SSHCP-covered species

Notes:

Key to Status Codes:

CRPR - California Rare Plant Rank:

1A – May be extirpated in California

1B.1 – rare throughout its range and seriously threatened in California

1B.2 – rare throughout its range and moderately threatened in California

2B.1—rare and seriously threatened in California, but more common elsewhere

2B.2 – rare and moderately threatened in California, but more common elsewhere

2B.3—rare but not very threatened in California, but more common elsewhere

CFP – California Fully Protected

CH – Critical Habitat

FE – Federal Endangered

FT – Federal Threatened

SC – State Candidate

SE – State Endangered

SR – State Rare

ST – State Threatened

SSC – State Species of Special Concern

### 3.5.4 Impact Analysis

This section describes potential impacts that could occur with implementation of the proposed Project alternatives.

#### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist, an impact would be considered significant if the proposed Project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

#### ***Impacts and Mitigation Measures***

**Impact BIO-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** A number of sensitive species (plants, invertebrates, amphibians and reptiles, birds) have the potential to occur in or near the Project area. Construction of the proposed Project could kill or injure individuals, particularly during ground-disturbing activities such as grubbing, grading, and excavating. Construction related equipment and storage/moving of construction materials could also impact sensitive species. Habitat for sensitive species could also be adversely affected by Project construction, and this could indirectly impact sensitive species. Substantial impacts to sensitive species, either directly, or indirectly through habitat impacts, may occur, and this would be a potentially significant impact. Most sensitive species

and their habitats with the potential to occur in the Project area are covered species and conserved habitats in the SSHCP. Although the SSHCP has not yet been approved, it is thought that the HCP may be approved before construction of the proposed Project is scheduled to start. It was thus deemed appropriate to propose mitigation that would be consistent with the SSHCP. If the SSHCP is not approved before the start of construction, Regional San is committed to implementing the mitigation actions that are included in the Draft SSHCP, though, permitting agencies may require additional or different mitigation than measures prescribed in the SSHCP.

As such, four mitigation approaches have been identified: **Mitigation Measure BIO-1a** is applicable to habitats for all sensitive species, regardless of whether they are covered in the SSHCP; this mitigation thus addresses avoidance of habitats and land cover types for sensitive species covered and not-covered by the SSHCP. **Mitigation measures under BIO-1b** address compensation for any unavoidable effects on sensitive habitats and land cover types included in the SSHCP; because those habitats are used by both SSHCP-covered and non-SSHCP-covered species this measure addresses impacts to all sensitive species in the Project area. **Mitigation measures under BIO-1c** address sensitive species covered in the SSHCP. **Mitigation measures under BIO-1d** address sensitive species not covered in the SSHCP. Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-1d** would reduce impacts to sensitive species and their habitats to less than significant.

**Program Elements.** The same sensitive species and their habitats that have the potential to occur in the defined Project area also likely occur in the areas that would support development of the distribution mains, service connection laterals, turnouts, groundwater recharge area, diluent wells, and Stone Lakes NWR habitat areas. Impacts to species and their habitats in these program element areas would be similar to those in the Project element area. Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-1d** would reduce impacts to sensitive species and their habitats to less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Construction impacts of the Small Service Area Alternative would be similar to the proposed Project, but less extensive because less construction would be required. Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-1d** would reduce impacts to sensitive species and their habitats to less than significant.

*Alternative 4 (No Project Alternative)*

Sensitive species or their habitats would not be impacted by the No Project Alternative. Therefore no impacts to sensitive species and their habitats would occur.

**Significance Determination before Mitigation.**

Potentially Significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures****Mitigation Measure BIO-1a: Avoid Impacts (Both Permanent and Temporary) to the Extent Feasible to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-Covered Sensitive Species (All Action Alternatives).**

Regional San and its contractors will avoid and minimize permanent and temporary impacts to habitats and land cover types used by sensitive species potentially occurring in the Project Area (**Table 3.5-1**). Avoidance and minimization of habitat areas will be accomplished during Project design work, and/or during construction by implementing best management practices, including establishment of buffer zones, installation of fencing around sensitive habitats, and implementation of a storm water pollution prevention plan (SWPPP) to reduce the potential for sediments or contaminants to enter sensitive habitats.

**Mitigation Measure BIO-1b: Mitigate Impacts to Habitats and Land Cover Types Used by HCP-Covered and Non-HCP-Covered Sensitive Species (All Action Alternatives)**

To mitigate unavoidable losses to habitats used by sensitive species (both SSHCP-covered and non-SSHCP-covered) in the Project area, Regional San shall participate in and comply with the habitat-level conservation measures identified in the SSHCP. Conservation commitments of the SSHCP summarized below are presented as mitigation measures, and would be implemented by Regional San even if the SSHCP is not adopted. Details for implementation of these measures can be referenced in Section 7.3.2 of the draft SSHCP. As noted previously, if the SSHCP is not approved prior to the project permitting phase, regulatory and permitting agencies may require mitigation that is different from measures prescribed in the SSHCP. In this circumstance, Sacramento County would not manage implementation of the SSHCP and would not receive monies from SSHCP participants to implement the SSHCP. Applicants would likely work directly with federal and state permitting agencies to secure necessary environmental permits. This section assumes SSHCP participation.

- To mitigate impacts to vernal pool associated species, provide funding to compensate for unavoidable losses of vernal pool habitat at the following ratios: 3:1 (2 acres preservation and 1 acre re-establishment/establishment) for direct impacts; 2:1 for indirect impacts (2 acres preservation). Provide funding to compensate for unavoidable losses of direct impacts to swale habitat at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment) and a 1:1 ratio (1 acre preservation) for indirect impacts.
- To mitigate impacts to seasonal wetland associated species, provide funding to compensate for unavoidable losses of seasonal wetland, seasonal swale, and seasonal impoundment habitat at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment).
- To mitigate impacts to open water associated species, provide funding to compensate for unavoidable losses of this habitat at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment).
- To mitigate impacts to freshwater marsh associated species, provide funding to compensate for unavoidable losses of this habitat at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment).
- To mitigate impacts to species associated with streams and creeks, provide funding to compensate for unavoidable losses of these habitats at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment).

- To mitigate impacts to species associated with mixed riparian woodland and mixed riparian scrub habitat, provide funding to compensate for unavoidable losses of these habitats at a 2:1 ratio (1 acre preservation and 1 acre re-establishment/establishment) ratio.
- To mitigate impacts to species associated with croplands and valley grassland habitats, provide funding to compensate for unavoidable losses of these land cover types at a 1:1 ratio (1 acre preservation).

**Mitigation Measure BIO-1c: Mitigate Impacts to HCP-Covered Species (All Action Alternatives).**

Regional San shall participate in and comply with the species-specific conservation measures identified in the SSHCP for SSHCP-covered species. Conservation commitments of the SSHCP listed below are presented as mitigation measures, and would be implemented by Regional San even if the SSHCP is not adopted. The following species-specific measures have been taken directly from the SSHCP. Where "Implementing Entity" is used below, it refers to Sacramento County or the SSHCP implementing agency.

- **Sacramento Orcutt Grass and Slender Orcutt Grass:** Due to their rarity, take of either of these species is not permitted under the SSHCP, with the exception of take related to Preserve management and monitoring (see SSHCP Section 5). If a project site is located within 1 mile of the Mather Core Recovery Area and the site contains vernal pools, the project site will be surveyed for Sacramento and slender Orcutt grass by an approved biologist following California Department of Fish and Wildlife (CDFW) rare plant survey protocols or most recent CDFW guidelines to determine if Sacramento and/or slender Orcutt grass is present. An approved biologist will conduct the field investigation to identify and map occurrences.

Where known or new Sacramento or slender Orcutt grass occurrences are found, they will be protected within an SSHCP Preserve that is at least 50 acres. The occurrence will be located interior to the Preserve at a distance of no less than 300 feet from the edge of the Preserve boundary. If Regional San encounters a previously undiscovered occurrence of Sacramento or slender Orcutt grass at the project site, Regional San will contact the SSHCP Implementing Entity or Land Use Authority Permittee with authority over the project (under the HCP), who will coordinate with the Wildlife Agencies for written concurrence of avoidance to ensure that the project does not cause take of the species.

- **California Tiger Salamander (CTS).** The SSHCP has modeled CTS habitat in the SSHCP Plan Area. Ground-disturbing activities within California tiger salamander modeled habitat will occur outside the breeding and dispersal season (occur after July 31 and before October 15), to the maximum extent practicable. If Covered Activities must be implemented in mapped, modeled habitat during the breeding and dispersal season (after October 15 and before July 31), construction activities will not start until 30 minutes after sunrise and must be complete 30 minutes prior to sunset.

If an activity must be implemented in modeled habitat during the breeding and dispersal season (after October 15 and before July 31), exclusion fencing will be installed around

the project footprint before October 15. Temporary high-visibility construction fencing will be installed along the edge of work areas, and exclusion fencing will be installed immediately outside of the temporary high-visibility construction fencing to exclude California tiger salamanders from entering the construction area or becoming entangled in the construction fencing. Exclusion fencing will be at least 1 foot tall and be buried at least 6 inches below the ground to prevent salamanders from going under the fencing. Fencing will remain in place until all construction activities within the construction area are complete. No project activities will occur outside the delineated project footprint. An approved biologist must inspect the exclusion fencing and project site every morning before 7:00 a.m. for integrity and for any entrapped California tiger salamanders. However, the SSHCP Implementing Entity may, with approval of the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), determine that it is appropriate for an activity to not erect fencing for certain long and linear projects if it appears that the exclusion fencing will likely trap individuals or cause more take of California tiger salamander than it would prevent.

If activities must be implemented in modeled habitat, an approved biologist experienced with California tiger salamander identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place, and will inspect the project site for California tiger salamander every morning before 7:00 a.m., or prior to construction activities. The approved biologist will also train construction personnel on the required California tiger salamander avoidance procedures, exclusion fencing, and correct protocols in the event that a California tiger salamander enters an active construction zone.

If activities must be implemented in modeled habitat, all excavated steep-walled holes or trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes or trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within California tiger salamander modeled habitat will be inspected for California tiger salamanders by the approved biologist prior to being moved.

If a California tiger salamander is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately (California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS)). Construction activities will be suspended in a 100-foot radius of the animal until the animal is relocated by an approved biologist with appropriate handling permits from the Wildlife Agencies. Prior to relocation, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the salamander, within 1 business day to the

Wildlife Agencies. The biologist will report any take of listed species to USFWS and CDFW immediately. Any worker who inadvertently injures or kills a California tiger salamander or who finds dead, injured, or entrapped California tiger salamander(s) must immediately report the incident to the approved biologist.

If erosion control is implemented within California tiger salamander modeled habitat, non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that salamanders are not trapped (no monofilament). Coconut coir matting and fiber rolls with burlap are examples of acceptable erosion control materials. This limitation will be communicated to the contractor through use of special provisions included in the bid solicitation package.

If project activities are within SSHCP-mapped California tiger salamander modeled habitat, rodent control will be allowed only in developed portions of a project site. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

- **Western Spadefoot Toad (WST):** The SSHCP has modeled WST habitat in the SSHCP Plan Area. Ground-disturbing activities within western spadefoot mapped, modeled habitat will occur outside the breeding and dispersal season (after May 15 and before October 15), to the maximum extent practicable.

If activities must be implemented in modeled habitat after October 15 and before May 15, exclusion fencing will be installed around the project footprint before October 15, and the project site must be monitored by an approved biologist following rain events. Temporary high-visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude western spadefoot from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed. No project activities will occur outside the delineated project footprint.

If activities must be implemented in mapped, modeled habitat in the breeding and dispersal season (after October 15 and before May 15), an approved biologist experienced with western spadefoot identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place, and will inspect the project site daily for western spadefoot prior to construction activities. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western spadefoot enters an active construction zone.

If an activity occurs in western spadefoot modeled habitat, all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar

material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot modeled habitat will be inspected for western spadefoot by the approved biologist prior to being moved.

If erosion control is implemented within western spadefoot modeled habitat, non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

If activities must be implemented in modeled habitat during the breeding and dispersal season (after October 15 and before May 15), and a western spadefoot is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the western spadefoot within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife immediately. Any worker who inadvertently injures or kills a western spadefoot or who finds dead, injured, or entrapped western spadefoot(s) must immediately report the incident to the approved biologist.

- **Western Pond Turtle (WPT):** The SSHCP has modeled WPT habitat in the SSHCP Plan Area. If modeled habitat for western pond turtle is present within a project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate western pond turtle aquatic habitat within the project footprint and within 300 feet of the project footprint. Western pond turtle aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Regional San will map all existing or potential sites and provide those maps to the Local Land Use Permittees and the SSHCP Implementing Entity. Locations of delineated western pond turtle habitat must also be noted on plans that are submitted to a Local Land Use Permittee. Regional San will use this information to finalize project design. Project activities may occur throughout the year as long as western pond turtle habitat is identified and fully avoided. Otherwise, Regional San will implement the following additional measures:



Maintenance and improvements to existing structures may occur throughout the year as long as western pond turtle habitat is identified and avoided, and movement of equipment is confined to existing roads. Otherwise, construction and ground-disturbing activities must be conducted outside of western pond turtle's active season. Construction and ground-disturbing activities will be initiated after May 1 and will commence prior to September 15. If it appears that construction activities may go beyond September 15, Regional San will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1, to determine if additional measures are necessary to minimize take.

If a project activity is occurring in western pond turtle modeled habitat, an approved biologist experienced with western pond turtle identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for western pond turtle prior to construction activities. The approved biologist will also training construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western pond turtle enters an active construction zone.

If construction activities will occur in western pond turtle aquatic habitat, aquatic habitat for the turtle will be dewatered and then remain dry and absent of aquatic prey (e.g., crustaceans and other aquatic invertebrates) for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to western pond turtle. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent turtles from attempting to burrow or move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Western pond turtle habitat outside construction fencing will be avoided by all construction personnel. The fencing and work area will be inspected by the approved biologist to ensure that the fencing is intact and that no turtles have entered the work area before the start of each work day. Fencing will be maintained by the contractor until completion of the project. If, after exclusion fencing and dewatering, western pond turtles are found within the project footprint or within 300 feet of the project footprint, Regional San will discuss the next best steps with the Implementing Entity and Wildlife Agencies.

If a project activity occurs within western pond turtle modeled habitat, all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction

pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western pond turtle modeled habitat will be inspected for western pond turtle by the approved biologist prior to being moved.

If erosion control is implemented within western pond turtle modeled habitat, non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that turtles are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

Construction and maintenance vehicles will observe a 20-mile-per-hour speed limit within western pond turtle modeled upland habitat.

If a western pond turtle is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the turtle, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a western pond turtle or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

After completion of ground-disturbing activities, Regional San will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation and placing appropriate artificial or natural basking areas in waterways and wetlands. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

- **Giant Garter Snake (GGS):** The SSHCP has modeled GGS habitat in the SSHCP Plan Area. If modeled habitat for giant garter snake is present within the project footprint or within 300 feet of the project footprint, then an approved biologist will conduct a field investigation to delineate giant garter snake aquatic habitat within the project footprint and adjacent areas within 300 feet of the project footprint. Giant garter snake aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, agricultural ditches, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Regional San will map all existing or potential sites and provide these

maps to the Local Land Use Permittees and the Implementing Entity. Locations of delineated giant garter snake habitat must also be noted on plans that are submitted to a Local Land Use Permittee. Regional San will use this information to finalize project design. Project activities may occur throughout the year as long as giant garter snake habitat is identified and fully avoided. Otherwise, Regional San will implement the following additional measures:

Project activities that do not fully avoid giant garter snake modeled habitat will be conducted during the snake's active season. Construction and ground-disturbing activities will be initiated after May 1 and will end prior to September 15. If it appears that construction activities may go beyond September 15, Regional San will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1. The Local Land Use Permittee and the Implementing Entity will discuss with the Wildlife Agencies additional measures necessary to minimize take.

If a project activity is occurring in giant garter snake modeled habitat, an approved biologist experienced with giant garter snake identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for giant garter snake prior to construction activities. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a giant garter snake enters an active construction zone.

If construction activities will occur in giant garter snake aquatic habitat, aquatic habitat will be dewatered and then remain dry and absent of aquatic prey (e.g., fish and tadpoles) for 15 days prior to initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to giant garter snake. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Giant garter snake habitat outside construction fencing will be avoided by all construction personnel. The fencing and the work area will be inspected by the approved biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each work day. The fencing will be maintained by the contractor until completion of the project.

If an activity occurs in giant garter snake modeled habitat, all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first.

All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within giant garter snake modeled habitat will be inspected for giant garter snake by the approved biologist prior to being moved.

If erosion control is implemented within giant garter snake modeled habitat, non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure snakes are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

If a giant garter snake is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the giant garter snake within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a giant garter snake or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

After completion of ground-disturbing activities, Regional San will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation. Refer to the U.S. Fish and Wildlife Service's (USFWS) Guidelines for the Restoration and/or Replacement of Giant Garter Snake Habitat (USFWS 1997), or the most current USFWS guidelines at the time of the activity. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

- **Tricolored Blackbird (TCBB):** The SSHCP has modeled TCBB habitat in the SSHCP Plan Area. If modeled habitat for tricolored blackbird is present within a project footprint or within 500 feet of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting or foraging sites are present within the project footprint and adjacent areas within 500 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Within the SSHCP Plan Area, potential tricolor blackbird nest sites are often associated with freshwater marsh and seasonal wetlands, or in thickets of willow, blackberry, wild rose, thistle, and other

thorny vegetation. Tricolored blackbirds are also known to nest in crops associated with dairy farms. Foraging habitat is associated with annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields (such as large tracts of alfalfa and pastures with continuous haying schedules and recently tilled fields), cattle feedlots, and dairies. Regional San will map all existing or potential nesting or foraging sites and provide these maps to the Local Land Use Permittees and Implementing Entity.

Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, the approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

If active TCBB nests are found within the project footprint or within 500 feet of any project-related activity, Regional San will establish a 500-foot temporary buffer around the active nest until the young have fledged.

If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related activity, then an approved biologist experienced with tricolored blackbird behavior will be retained by Regional San to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with Regional San, the Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone.

On SSHCP Agricultural Preserves, pesticides (including herbicides) will not be applied from January 1 through July 15.

- **Burrowing Owl (BUOW):** The SSHCP has modeled BUOW habitat in the SSHCP Plan Area. Surveys within modeled habitat are required for both the breeding and non-

breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, egg shell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250-foot buffer established by the approved biologist around suitable burrows.

Prior to any ground disturbing activity, an approved biologist will conduct pre-construction surveys in all areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total), or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, Regional San must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are found, Regional San may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction.

If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:

***During Breeding Season:*** If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance

is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and Regional San develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria:

- The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.
- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.
- If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies.
- If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.
- The Implementing Entity and Wildlife Agencies will respond to a request from Regional San to review the proposed construction monitoring plan within 21 days.

***During Non-Breeding Season:*** During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning over-wintering sites:

- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer.
- If the owls are gone for at least 1 week, Regional San may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls

from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.

- Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

During construction activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year SSHCP Permit Term.

All activities adjacent to existing or planned SSHCP Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.

Rodent control will be allowed only in developed portions of a project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

- **Swainson's Hawk (SWHA):** The SSHCP has modeled SWHA habitat in the SSHCP Plan Area. If modeled habitat for Swainson's hawk is present within a project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a survey



to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Nest sites are often associated with riparian land cover, but also include lone trees in fields, trees along roadways, and trees around structures. Nest trees may include, but are not limited to, Fremont's cottonwood (*Populus fremontii*), oaks (*Quercus* spp.), willows (*Salix* spp.), walnuts (*Juglans* spp.), eucalyptus (*Eucalyptus* spp.), pines (*Pinus* spp.), and Deodar cedar (*Cedrus deodara*). Regional San will map all existing and potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee.

Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

If active nests are found within the project footprint or within 0.25 mile of any project-related activity, Regional San will establish a 0.25 mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.

If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by Regional San to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Regional San, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone

- **Other Covered Raptor Species.** To avoid direct and indirect effects of Covered Activities on covered raptor species, the following measures will be implemented. for Cooper's hawk (*Accipiter cooperii*), loggerhead shrike (*Lanius ludovicianus*), northern

harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*). The following measures do not apply to ferruginous hawk (*Buteo regalis*), as they do not nest in the Plan Area. The following measures also do not apply to Swainson's hawk or burrowing owl, as specific measures have been developed for these covered raptor species.

The SSHCP has modeled habitat for "other Covered raptors" in the SSHCP Plan Area. If modeled habitat for a covered raptor species is present within a project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Regional San will map all existing or potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee.

Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Pre-construction surveys will be conducted during the raptor breeding season.

If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, Regional San will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged.

If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by Regional San to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Regional San, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone.

**Mitigation Measure BIO-1d: Mitigate Impacts to Sensitive Non-HCP-Covered Species (All Action Alternatives)**

Several sensitive species with a low- to moderate potential to occur in or near the Project area are not included as covered species in the SSHCP. For these species, Regional San shall implement the following mitigation measures:

- **Non-SSHCP-Covered Sensitive Plants.** Prior to construction-related disturbance of natural community types and land covers in the Project area, a botanical survey(s) will be completed to determine if sensitive plant species occur in the Project area. Surveys will be conducted during the appropriate time of the year to facilitate detections and identifications. Sensitive non-SSHCP-covered plant species detected in the Project area will be avoided as feasible. If impacts to sensitive non-covered plant species cannot be feasible avoided, Regional San will coordinate with Sacramento County and the resource agencies (CDFW and/or USFWS) as appropriate to determine the course of action, which may include relocation of plants to the SSHCP Preserve System or another conserved location.
- **Non-SSHCP-Covered Birds:** Song sparrow (Modesto population) or other sensitive, non-SSHCP-covered bird species may occur in the Project area. Prior to disturbance of natural community or land covers, Regional San or its contractors will conduct nesting bird surveys to determine if active nesting is occurring in the Project area. All active nests will be avoided to the extent feasible and a 25-foot buffer will be established and maintained around each active nest until such time that the nest is vacated.

**Significance after Mitigation**

Less than significant for all action alternatives.

**Impact BIO-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction of the proposed Project could substantially and adversely affect riparian habitat or other sensitive natural communities known to occur in the Project area (CH2M HILL 2015). Impacts would occur where ground-clearing, grading, and excavating activities are implemented. Riparian habitat has been mapped by Regional San at several locations in the Project area (CH2M HILL 2015) that may be impacted by the proposed Project or its action alternatives. Northern hardpan vernal pool, coastal and valley freshwater marsh, and Great Valley mixed riparian forest natural communities, all considered sensitive community types, occur in the Project area. Implementation of **Mitigation Measures BIO-1a, BIO-1b and BIO-2** would reduce impacts to riparian habitats and other sensitive natural communities to less than significant.

**Program Elements.** Riparian habitats and sensitive natural communities that occur in the defined Project area also assumed to occur in the areas that would support development of the distribution mains, service connection laterals, turnouts, groundwater recharge area, diluent

wells, and Stone Lakes NWR habitat areas. Impacts to habitats and communities in these Program areas would be similar to those in the Project area. Implementation of **Mitigation Measure BIO-2** would reduce impacts to riparian habitats and other sensitive natural communities to less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Impacts to riparian habitat and other sensitive natural communities would be similar under Alternative 3 (Small Service Area Alternative) to Alternative 1 (Medium Service Area Alternative) since necessary facilities to be constructed are very similar. Fewer distribution mains and laterals associated with the lower volume of recycled water would require less construction and impacts to habitats and communities would be less than Alternative 1 (Medium Service Area Alternative). Implementation of **Mitigation Measures BIO-1a, BIO-1b and BIO-2** would reduce impacts to riparian habitats and other sensitive natural communities to less than significant.

*Alternative 4 (No Project Alternative)*

No riparian habitat or sensitive natural community would be adversely affected under the No Project Alternative.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No Impact for Alternative 4 (No Project Alternative)

**Mitigation Measures**

Implement **Mitigation Measures BIO-1a and BIO-1b**, and the following:

**Mitigation Measure BIO-2: Secure Regulatory Permits to Impact Riparian Habitat and other Sensitive Natural Communities (All Action Alternatives)**

Regional San has delineated and described riparian habitats and other sensitive natural communities (as identified by the CDFW, and summarized in Table 3.5-1) in the Project area. These habitats and communities are described earlier in this section, and are quantified in the wetland delineation report prepared for the proposed Project (CH2M HILL 2015). Regional San shall obtain all necessary permits and approvals required to impact riparian habitat and sensitive natural communities, to the extent that these impacts may occur with development of any of the action alternatives. Necessary permits and approvals will include Clean Water Act permits (section 404 and 401), FESA and CESA permits, and CDFW Lake and Streambed Alteration Agreement, and would include measures to avoid, minimize and compensate for any impacts so as to avoid any net loss in habitat value. Mitigation would include restoration of any habitats that were affected temporarily during construction, and could include purchase of credits from a mitigation bank if there are any permanent impacts to sensitive natural communities.

**Significance after Mitigation**

Less than significant for all action alternatives.

**Impact BIO-3 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction of Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative) would potentially impact federally-protected wetlands in the Project area. Surface water quality could also be impacted with implementation of the alternatives. The specific magnitudes and locations of impacts to federally protected wetlands have not been finalized, but total impacts to Waters of the U.S. are anticipated to be less than 0.5 acre. Operational delivery of irrigation water to the service area would likely supplement hydrology to aquatic features (including federally-protected wetlands) within the Project area, increasing the reliability, frequency, and volume of water supply currently available to federally protected wetlands and other aquatic features in the Project area. This would be a beneficial effect. Impacts to wetlands are thus expected to be confined to temporary construction impacts, and implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-2, and BIO 3** would ensure restoration of any wetlands that were affected during construction.

**Program Elements.** The Project would deliver treated water to Stone Lakes NWR to supplement irrigation water for high-value natural communities and sensitive habitats (including federally-protected wetlands), and the species that use these communities and habitats. This is also a beneficial effect. Some federally-regulated wetlands could be impacted during construction of water conveyance facilities under the program elements of the Project. . Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-2, and BIO 3** would reduce impacts to federally protected wetlands to less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Impacts to federally-protected wetlands would likely be less than impacts associated with Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) because less construction would be needed for Alternative 3 (Small Service Area Alternative). The same amount water would still be delivered to Stone Lakes NWR under this alternative; therefore beneficial effects would be the same as under Alternative 1 (Medium Service Area Alternative). Implementation of **Mitigation Measures BIO-1a, BIO-1b, BIO-2, and BIO 3** would reduce impacts to federally protected wetlands to less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project alternative, federally protected wetlands would not be impacted by Project construction activities. Irrigation water would not be provided to Stone Lakes NWR and its high-value resources, including federally-protected wetlands.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

Implement **Mitigation Measures BIO-1a, BIO-1b, and BIO-2** and the following:

**Mitigation Measure BIO-3: Secure Clean Water Act Permits/Approvals (All Action Alternatives)**

Regional San has prepared a wetland delineation report to identify and characterize aquatic resources within the vicinity of the Project area (CH2M HILL 2015) and will use this information to avoid wetlands and waters of the U.S. to the extent feasible. Once verified by the USACE, the delineation will be used to secure permits/approvals under sections 404 and 401 of the Clean Water Act. The wetland delineation report will also be used to demonstrate consistency with the SSHCP and its terms and conditions for CWA and Endangered Species Act compliance. Compliance with SSHCP habitat-level conservation measures is assumed to satisfy mitigation requirements under Section 404 permitting, and conservation measures would be implemented by Regional San even if the SSHCP is not adopted. As stated earlier in this section, Regional San may be required to work directly with the U.S. Army Corps of Engineers to satisfy Section 404 permitting needs for project impacts to wetlands and other waters of the U.S. if permitting associated with the SSHCP is not finalized at the time of the project permitting phase.

Mitigation may include restoration of affected jurisdictional areas to ensure no net loss of wetland functions and values. Mitigation may also include preservation or enhancement of existing wetland habitat, or creation of wetland habitat.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact BIO-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites**

Two impacts are evaluated under Impact BIO-4: direct impacts to drainage corridors of the Project area during construction and operation activities (Impact BIO-4a), and indirect impacts to the Sacramento River and Delta resulting from Project operation (Impact BIO-4b).

**Impact BIO-4a Impact movement of native resident species in drainage corridors of the Project area.**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Project area drainage features with fragmented and disturbed riparian vegetation may be impacted during construction activities. Previous and existing intensive land uses within the Project area have resulted in degraded conditions such that no intact, high-value drainage corridors or riparian vegetation occur in the Project area. Drainage corridors associated with the Ehrhardt Channel, Franklin Creek, and the unnamed tributary to Stone Lake south of Hood Franklin Road (discussed earlier in this section) are highly degraded and likely function poorly as migratory corridors for native resident species. Direct impacts to drainage corridors would be limited to the construction phase of the Project, as these features would be available for use as movement corridors following construction.

*Alternative 4 (No Project Alternative)*

Under No Project Alternative, there would be no impact to native species movement within existing drainage corridors or elsewhere in the Project area.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact BIO-4b Impact movement or reproduction of sensitive or important fish species in the Sacramento River or Delta region**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** By reclaiming and delivering for irrigation, recharge and wetland use at full Project buildout, a maximum of 50,000 acre-feet per year (TAFY) of treated wastewater that otherwise would be discharged to the Sacramento River, the proposed Project and No Reclamation Funding Alternative would reduce flows in the Sacramento River at Freeport by up to 108 cfs during periods of peak irrigation demand. Flows would be redirected (withheld from discharge) during every month on the pattern shown in **Table 3.5-2**, with the largest reduction from expected future return discharges occurring during the irrigation season of May through September. Without implementation of wintertime irrigation, the proposed Project is expected to use an average of 32,572 AFY, with discharge reductions in each month as shown in **Table 3.5-3**.

Table 3.5-2: Monthly Reduction in Discharges from SRWTP under Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) at full Project Buildout, including Wintertime Irrigation

Month	Maximum Monthly Reduction in AF	Maximum Monthly Reduction in cfs
January	3,492	56.8
February	3,492	62.3
March	3,567	58.0
April	2,195	36.9
May	6,088	99.0
June	6,428	108.0
July	6,428	104.5
August	6,425	104.5
September	3,875	65.1
October	1,018	16.6
November	3,495	58.7
December	3,493	56.8
<b>TOTAL ANNUAL</b>	50,000	

Table 3.5-3: Monthly Reduction in Discharges from SRWTP under Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) without Wintertime Irrigation

Month	Maximum Monthly Reduction in AF	Maximum Monthly Reduction in cfs
January	7	0.1
February	7	0.1
March	81	1.3
April	2,195	36.9
May	6,088	99.0
June	6,428	108.0
July	6,428	104.5
August	6,425	104.5
September	3,875	65.1
October	1,018	16.6
November	10	0.2
December	8	0.1
<b>TOTAL ANNUAL</b>	<b>32,572</b>	

Although reductions in discharges from the SRWTP would reduce flows at Freeport, the Project would lead to increases in groundwater recharge that would benefit the groundwater basin, and higher groundwater levels would result in increased flows in the Cosumnes, lower Mokelumne, and Sacramento rivers because more water would remain in those rivers instead of recharging the groundwater basin. Once the groundwater basin reaches approaches a long-term balance, the Project is expected to increase streamflows by about 45,000 AFY with implementation of wintertime irrigation. Before wintertime irrigation can be implemented, and irrigation is only occurring during the growing season, the Project is projected to increase streamflows by over 28,000 AFY. These return flows are shown in **Table 3.5-4** and **Table 3.5-5**.

Table 3.5-4: Groundwater-Induced Increases in Streamflows with Implementation of Wintertime Irrigation

Month	Average monthly return flows in AF	Average monthly return flows in CFS
January	5,155	83.8
February	5,125	91.5
March	5,810	94.5
April	5,032	84.6
May	4,579	74.5
June	3,779	63.5
July	3,024	49.2
August	2,064	33.6
September	1,575	26.5
October	1,905	31.0
November	2,982	50.1
December	4,164	67.7
<b>TOTAL ANNUAL</b>	<b>45,194</b>	



Table 3.5-5: Groundwater-Induced Increases in Streamflows without Wintertime Irrigation

Month	Average monthly return flows in AF	Average monthly return flows in CFS
January	3,263	53.1
February	3,215	57.4
March	3,587	58.3
April	3,147	52.9
May	2,981	48.5
June	2,536	42.6
July	1,993	32.4
August	1,288	21.0
September	937	15.7
October	1,156	18.8
November	1,840	30.9
December	2,625	42.7
<b>TOTAL ANNUAL</b>	<b>28,569</b>	

As storage in the groundwater basin increases, the net effect of the discharge reduction is substantially reduced. These benefits are not fully realized until the groundwater system reaches a new balance with the surface water system. At the end of the simulation period modeling projects that the net change in annual flows is a reduction of about 4,000 AF without wintertime irrigation and about 4,800 AF with wintertime irrigation. Due to return flows produced by higher groundwater levels, and because those flows are larger in winter months when contractors are not taking as much water, the Project is expected to result in virtually no change in Delta outflows (an increase of 2.1 TAFY without wintertime irrigation or an increase of 0.9 TAFY with wintertime irrigation).

As described in *Section 3.10, Hydrology and Water Quality* section of this EIR, the maximum impact of this discharge reduction when it occurs during “balanced” conditions (when CVP and SWP [collectively, water project] reservoirs are releasing stored water) is to require the additional release of stored water from reservoirs to maintain water quality standards. Conversely, the maximum impact of this discharge reduction when it occurs during “excess” conditions (when there is adequate Delta outflow and water project reservoirs are not releasing stored water) is to reduce flows through the Delta and out to San Francisco Bay.

**Impacts during “Excess” Operational Conditions.** “Excess” operational conditions typically occur in wetter water year types (SWRCB D-1641 40-30-30 Index wet and above normal year types). During excess operational conditions, water project reservoirs are generally not making releases of stored water from reservoirs. Excess operational conditions generally occur 50 percent of the time during the period of time in which the Project-related discharge reductions would occur. Excess conditions occur specifically 95 percent of the time in April, 84 percent in May, 40 percent in June, 11 percent in July, 20 percent in August, 54 percent in September, and 89 percent in October. If all months and all years were considered, excess conditions would occur 70 percent of the time.

The discharge reductions shown by month in **Table 3.5-2** would result in reduced Sacramento River flows from Freeport to the Delta during excess operational conditions. Reductions of the magnitude and pattern shown in Table 3.5-2 represent decreases in river flow of, on average: -0.2

percent in April, -0.6 percent in May, -0.6 percent in June, -0.6 percent in July, -0.7 percent in August, -0.6 percent in September, and -0.2 percent in October, considering the 82-year period of record from 1922 to 2003 at Freeport using the CalSim II model. Project-related reductions in Sacramento River flows for other months range from -0.2 percent in February to -0.5 percent in November. For these reasons, impacts of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) would be negligible to Sacramento River flows, water temperatures and to Delta salinity gradients during excess operational conditions, and the impacts to sensitive fish species using the reach of the Sacramento River below Freeport, and the Delta, are also anticipated to be negligible under these conditions.

**Impacts during “Balanced” Operational Conditions.** During balanced operational conditions, water project reservoirs are generally making releases to meet demands lower in the system, and to meet Delta flow and salinity requirements and Delta exports. Balanced operational conditions generally occur 50 percent of the time during the period of time in which Project-related reductions would occur. Balanced conditions occur 5 percent of the time in April, 16 percent in May, 60 percent in June, 89 percent in July, 80 percent in August, 46 percent in September, and 11 percent in October. Project-related proportional reductions during balanced operational conditions typically occur in drier water year types (SWRCB D-1641 40-30-30 Index critically dry and dry year types) and in the summer months (June, July, August). During balanced operational conditions, a discharge reduction of flow at Freeport has the potential effect of depleting storage in project reservoirs (mainly Shasta Lake), if increased releases are required to meet regulatory requirements.

Reductions of the magnitude and pattern shown in **Table 3.5-2** represent proportional decreases (during balanced conditions) of on average -0.4 percent in April, -1.1 percent in May, -0.9 percent in June, -0.6 percent in July, -0.8 percent in August, -0.3 percent in September, and -0.2 percent in October, considering the 82-year period of record from 1922 to 2003 at Freeport using the CalSim II model. Sacramento River flows are unchanged in February, March, and December, and are decreased by -0.5 percent in January. During balanced conditions, water project operations would respond to these nominal reductions in flows by making reservoir releases, resulting in no net change in Sacramento River flows below Freeport.

Over the 82-year period of record from 1922 to 2003, sequential drought years during the periods 1929-1934 and 1986-1992 created circumstances in the CalSim II model simulation where the Proposed Project would have reduced Shasta storage by up to about 35,000 AF without wintertime irrigation and about 30,000 AF with wintertime irrigation over a worst-case 6-year drought period without changes to retain more cold water at Shasta Lake. This decrease in storage could create thermal impacts to fisheries habitat downstream of Shasta. Such thermal impacts could stress temperature-sensitive fish species that spawn in the Sacramento River mainstem, like winter-run Chinook salmon and green sturgeon. The magnitude and importance of Project-related temperature changes associated with a worst-case 6-year drought period have not been modeled. Implementation of **Mitigation Measure HYD-4** would ensure that discharge reductions during balanced operational conditions are timed to reduce impacts associated with reduced Shasta storage to less than significant.

*Alternative 3 (Small Service Area Alternative)*

Alternative 3 (Small Service Area Alternative) would result in smaller reductions to discharges to the Sacramento River as compared to Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative). As such, potential impacts to fish resources in the Sacramento River would be less than those potentially occurring under Alternatives 1 and 2. Implementation of **Mitigation Measure HYD-4** would ensure that discharge reductions during balanced operational conditions are timed so as to reduce impacts associated with reduced Shasta storage to less than significant.

*Alternative 4 (No Project Alternative)*

With no Project, there would be no reduction in discharges to the Sacramento River and therefore No Impact to sensitive fish resources of the Sacramento River and Delta.

**Significance Determination before Mitigation**

Less than significant for all action alternatives under excess operational conditions.

Potentially significant for all action alternatives under balanced conditions. Spawning green sturgeon and spawning winter-run Chinook salmon in the Sacramento River mainstem below Keswick Dam could be impacted by incremental and serial depletions of Shasta Lake cold water storage.

No impact for Alternative 4 (No Project Alternative) under both excess operational and balanced operational conditions.

**Mitigation Measures**

**Mitigation Measure HYD-4: Coordinate Operations with Relevant Resource Agencies (All Action Alternatives).**

To minimize potential thermal impacts to the Sacramento River downstream of Lake Shasta during critically dry years due to losses of cold water storage from reduced treated wastewater discharges, Regional San shall work with the Bureau of Reclamation and other relevant resource agencies to make appropriate operational changes in recycled water use and timing of discharge reductions in the spring months when the cold water pool in Shasta is critical. In critically dry years when storage in Lake Shasta falls below 2,400,000 AF in April, Regional San will coordinate with Central Valley Operations staff to reduce deliveries of recycled water to farmers in April and May if needed to avoid thermal impacts to the Sacramento River below Lake Shasta, as determined by the Sacramento River Temperature Model being utilized by Reclamation in the given year.

**Significance Determination after Mitigation**

Less than significant for all action alternatives under excess or balanced operational conditions.

**Impact BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Sacramento County General Plan, Bufferlands Master Plan, and City of Elk Grove General Plan policies regarding habitat and species preservation would be addressed by complying with Mitigation Measures BIO-1(a through d) and BIO-2 above. No additional plan inconsistencies would occur. Some trees may need to be trimmed or removed to accommodate construction and installation of the proposed Project. Sacramento County has a Tree Preservation Ordinance that protects various species and sizes of trees within its jurisdiction. Regional San would participate in and comply with the terms and conditions of this ordinance. Compliance with Mitigation Measure BIO-5 would reduce impacts from tree trimming or removal to less than significant.

*Alternative 4 (No Project Alternative)*

No trees would be trimmed or removed under the No Project Alternative. Therefore no impact to trees would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

**Mitigation Measure BIO-5: Comply with Sacramento County Tree Preservation Ordinance (All Action Alternatives)**

Regional San shall participate in and comply with the terms and conditions of the Sacramento County Tree Preservation Ordinance. Native oak trees with a DBH of six inches or greater, street or public trees, and landmark trees shall not be destroyed, killed, or removed without a permit. The ordinance protects all oak trees unless they are specifically designated for removal as part of an approved project. When oaks are removed they must be replaced with the same tree species equaling in sum the diameter of the tree lost.

**Significance after Mitigation**

Less than significant for all action alternatives.

**Impact BIO-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The SSHCP is currently being drafted and, as such, has not been formally adopted. There is no other adopted HCP, NCCP, or other approved conservation plan guiding development in the Project area. Regional San anticipates that the SSHCP will be completed and formally adopted prior to Project permitting. The recycled water pipeline Project

is an SSHCP-covered activity, and Regional San intends to participate in the SSHCP and comply with terms and conditions of the SSHCP to gain regulatory permits and approvals necessary for completion of the proposed Project. For these reasons the action alternatives would have no impact on consistency with relevant conservation plans.

*Alternative 4 (No Project Alternative)*

Under The No Project Alternative, there would be no Project or Action and therefore no need for conservation plan consistency.

**Significance Determination**

There would be no impact under all action alternatives and the No Project Alternative.

***Cumulative Impact Analysis***

The geographic scope of potential operational impacts on aquatic biological resources extends to the entire Sacramento River watershed. As noted in the discussion of Impact BIO-4b, the evaluation of effects on aquatic resources was based on modeling using CalSim II. Modeling of Project impacts was thus done in the context of ongoing operations of other projects that divert water from the system, and considers cumulative effects. Even when considering other potential diversions in the communities of Colusa, Woodland and Biggs (as identified in **Table 3.0-1**), cumulative impacts to aquatic species are expected to be less than significant with implementation of **Mitigation Measure HYD-4**.

For terrestrial resources, impacts of the proposed Project are confined to Sacramento County, where past development has resulted in a substantial loss of native habitat to other uses. Future projects proposed in the vicinity of the Project area, including development projects in Sacramento County and the City of Elk Grove (see **Table 3.0-1**) would be required to mitigate significant impacts on terrestrial biological resources, in compliance with CEQA, the Federal ESA, CESA, and other State, local, and Federal statutes. Significant and unavoidable impacts to species that are protected under ESA or CESA would not be permitted under law. Both of these acts require that any take of species is minimized and fully mitigated. The development of the proposed SSCHCP, and its implementation if approved, aims to ensure that cumulative development within the County would not substantially affect special-status species. However, the SSCHCP is currently undergoing environmental review and is not an adopted plan.

As described above, the proposed Project has the potential to affect sensitive species and habitats. **Mitigation Measures BIO-1a through 1d, BIO-2, BIO-3 and BIO-5** include provisions to reduce, avoid, and/or compensate for impacts in accordance with the requirements of ESA and CESA and other regulatory programs that protect habitats, such as CWA Section 404, and in compliance with Sacramento County General Plan goals and policies for resource protection. Through full implementation of the mitigation measures, potential Project-related impacts would be avoided, reduced, or compensated to such an extent that they are not expected to not result in a considerable contribution to a cumulative impact. Therefore, the Project would not result in a cumulatively considerable contribution to a cumulatively significant biological resource impact; the cumulative impact would be **less than significant**.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

See **Mitigation Measures BIO-1a through 1d, BIO-2, BIO-3, HYD-4 and BIO-5.**

**Significance Determination after Mitigation**

Less than significant.

### **3.5.5 References**

CH2M HILL. 2015. Wetland delineation for the Sacramento Regional County Sanitation District Recycled Water Project. Prepared for RMC Water and Environment. September.

CNDDDB (California Natural Diversity Database). 2015. Rarefind 5. Queries of USGS 7.5-minute series quadrangles: Bruceville, Carmichael, Clarksburg, Courtland, Elk Grove, Florin, Galt, Isleton, Lodi North, Sacramento East, Sacramento West, and Thornton. Query completed on: November 13, 2015.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. The Resources Agency, Department of Fish and Game. Non-game Heritage Program. October.

NMFS (National Marine Fisheries Service). 1993. Designated Critical Habitat; Sacramento River winter-run Chinook salmon. Federal Register 58: 33212-33219.

NMFS (National Marine Fisheries Service). 2005. Endangered and Threatened Species; Designation of critical habitat for seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 70: 52488-52627.

NMFS (National Marine Fisheries Service). 2009b. Endangered and Threatened Wildlife and Plants; Final Rulemaking to Designate Critical Habitat for the Threatened Southern Distinct Population Segment of North American Green Sturgeon. Federal Register 74: 52300-52351.

Sacramento County. 2016. South Sacramento Habitat Conservation Plan fact sheet. Informational website available at: <http://www.southsachcp.com/>. Accessed on May 26, 2016.

Sawyer, J.O., and T. Keeler-Wolf. 1995. A manual of California vegetation. California Native Plant Society, Sacramento, California. 471 pages.

USFWS (U.S. Fish and Wildlife Service). 1994. Endangered and Threatened Wildlife and Plants; Critical Habitat Determination for the Delta Smelt. Federal Register 59: 65256-65278.

- USFWS (U.S. Fish and Wildlife Service). 1997. Guidelines for the Restoration and/or Replacement of Giant Garter Snake Habitat
- USFWS (U.S. Fish and Wildlife Service). 1999. Conservation guidelines for the valley elderberry longhorn beetle. United States Department of the Interior. Sacramento Fish and Wildlife Office. July.
- USFWS. (U.S. Fish and Wildlife Service). 2004. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Tiger Salamander; and Special Rule Exemption for Existing Routine Ranching Activities; Final Rule. 50 CFR 17. Federal Register, August 4, 2004.
- USFWS (U.S. Fish and Wildlife Service). 2005. Recovery plan for vernal pool ecosystems of California and Southern Oregon. Region 1. Portland, Oregon.
- USFWS (U.S. Fish and Wildlife Service). 2016. Online query of the IPaC (Information for Planning and Conservation) resource database, available at <https://ecos.fws.gov/ipac>. Queried on June 27, 2016.
- U.S. Bureau of Reclamation (Reclamation). 2008. Biological Assessment on the continued long-term operations of the Central Valley Project and the State Water Project. U.S. Department of the Interior. Bureau of Reclamation. Mid-Pacific Region. Sacramento, California. August.

## 3.6 Cultural Resources

This section discusses the cultural resources inventory, assessments and findings for the proposed Project. The cultural resources inventory was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) and Section 106 of the National Historic Preservation Act (NHPA) to assess the potential to affect historical resources and historic properties, respectively. Cultural resources include prehistoric and historic archaeological sites; districts and objects; standing historic structures, buildings, districts and objects; and locations of important historic events or sites of traditional/cultural importance to various groups. The evaluation of impacts on cultural resources is based on the Cultural Resources Inventory Report prepared by CH2M HILL (2015).

### 3.6.1 Area of Potential Effects

Regional San proposes to expand the recycled water system from existing facilities in the SRWTP, which is located at 8521 Laguna Station Road in Elk Grove on an approximately 3,200-acre site. The entire SRWTP site is located north of Laguna Boulevard in the unincorporated area of Sacramento County, between Franklin Boulevard and Interstate 5 (I-5). The site's northern boundary is predominantly south of the future Cosumnes River Boulevard. Additionally, Regional San would construct a pump station at the SRWTP (see Figure 2-3) and new pipelines. Recycled water would be conveyed to the irrigated lands and to the Stone Lakes NWR by a new transmission pipeline, which would extend 13.8 miles from the existing SRWTP to Twin Cities Road.

The area studied for potential impacts to cultural resources comprises approximately 260-acres and consists of a corridor ranging from 100 to 150 feet wide situated within existing road rights-of-way; the corridor includes staging and laydown areas to be used for equipment staging and storage (see **Figure 2-2** in *Chapter 2, Alternatives Description of the Proposed Project*). This area of potential effects (APE) is 13.8 miles long, within which the 18- to 60-inch pipeline would be placed. The proposed alignment would be located along the following roads: Big Horn Boulevard, Franklin Boulevard, Core Road, Eschinger Road, Bruceville Road, and Lambert Road. The Project is located within the jurisdictions of Florin, Elk Grove, and Franklin, in Sacramento County, California at approximately 18-22 feet above mean sea level (msl).

The proposed Project includes construction of a pump station at the SRWTP, but the entire plant site has already been evaluated for cultural resources as part of the EchoWater Project. Environmental documentation for that project assumed disturbance of the entire SRWTP site, so the Project would not result in any new impacts on cultural resources at the SRWTP. Nevertheless the pump station site at the SRWTP is included in the evaluation of cultural resources impact.



### 3.6.2 Environmental Setting

#### ***Paleontological Setting***

Paleontological resources are the fossilized remains or impressions of plants and animals. Sensitivity for paleontological resources depends on the age of the underlying soils at a particular site and the degree of previous disturbance. The entire Project area is located within the Pleistocene-age Riverbank Formation (California Geological Survey 1981), which has a potential to contain paleontological resources. No known paleontological resources have been identified within the SRWTP (Ascent Environmental 2014).

#### ***Cultural Context***

In central California, which includes the north-central valley, cultural resources minimally represent 12,000 years of prehistory. Although written historical sources tell the story of only the past 200 years, archaeologists have reconstructed general trends of prehistory in the region. The central valley of California is established as a region that extends to the Siskiyou Mountains in the north and as far south as the Tehachapi Mountains (CH2M HILL 2015).

#### ***Prehistory***

##### **Paleo-Indian Period (12,000 to 5,000 years ago)**

The Paleo-Indian Period covers the interval from the first documented presence of humans in California in the late Pleistocene until approximately 5,000 years ago. Artifacts and cultural activities from this period represent a predominantly hunting culture; diagnostic artifacts include extremely large, often fluted two-sided tools known as bifaces, which are associated with use of the spear and the atlatl. Populations appeared to have been relatively small and highly mobile, living in temporary camps near readily available water. Abundant evidence exists that humans were present in North America for at least the past 12,000 years. Also fragmentary, but growing, evidence exists that humans were present long before that date. Linguistic and genetic studies suggest that human colonization of North America may have occurred 20,000 to 40,000 years ago. The earliest sites in central California are Fluted Point Tradition and Western Pluvial Lakes Tradition sites found at Tracy, Tulare, and Buena Vista lakes (CH2M HILL 2015).

##### **Windmill Pattern (5,000 to 3,000 years ago)**

For the region, the cultural sequence begins with the Windmill Pattern. The majority of the known Windmill Pattern sites date to approximately 5,000 to 2,250 years ago. Windmill populations moved seasonally between the valleys in the winter and the Sierra Nevada foothills in the summer. Fishing and hunting were the primary subsistence strategies. Windmill sites are characterized by tools related to hunting, fishing, and milling and include mortars, baked clay balls, trident fish spears, two types of angling hooks, pecan-sized baked clay fish line sinkers, bone awls and needles, polished charmstones, shell working and shell appliqué, and flaked tools, including projectile points (CH2M HILL 2015). Mortuary practices frequently consisted of fully extended burials, oriented towards the west with abundant funerary paraphernalia.

### **Berkeley Pattern (3,000 to 1,250 years ago)**

The majority of known Berkeley Pattern sites dates to approximately 3,000 to 1,250 years ago. In response to environmental and technological factors, economies became more diversified and sedentary, while population growth and expansion occurred. The Berkeley Pattern subsistence relied less on hunting and fishing than did the Windmill Pattern though riverine exploitation and occupation continues; sites are diversely distributed through various environments. Increase dependence on plant goods defines the artifact assemblage encountered in Berkeley sites in the form of milling stones. Mortars and pestles are present in far greater numbers than in preceding cultural periods. Other artifacts characterizing Berkeley sites include shell and steatite beads, slate pendants, ear ornaments, distinctive diagonal flaking of large concave base points, and greater numbers of bone tools of superior manufacture. Mortuary practices also differ from the previous. There is a marked preference towards a flexed versus an extended interment, orientation is not always to the west and there is a noticeable decrease in the number of burial goods found in cemeteries.

### **Augustine Pattern (1,250 to 250 years ago)**

The Augustine Pattern generally dates from 1,250 to 250 years ago. Augustine Pattern sites are much more widespread than Berkeley Pattern sites and are characterized by intensive fishing, hunting, and acorn gathering. Population densities are much higher and exchange systems are more sophisticated and include the advent of using clamshell disk beads for goods exchange. The period is marked by intensive fishing, hunting and gathering, specifically with an increase in acorn use. High variability in funerary artifacts seems to indicate more social stratification. Cremations and flexed burials are common. Artifacts associated with the Augustine Pattern include the bow and arrow, shaped mortars and pestles, and pottery in some parts of central California (CH2M HILL 2015). Elaborate trade networking, decrease in previous technologies, increase in the use of the bow and arrow, and cremations are hallmarks of this pattern.

### ***Ethnohistory***

The Project is in the territory associated with the ethnographic and historic boundaries of the Miwok (CH2M HILL 2015). The Miwok occupied the areas from the inner Coast Ranges near Mount Diablo and into the Delta region to the Sierra Nevada and were distinct as three groups: the Bay Miwok, Plains/Lake Miwok and Northern Sierra Miwok (CH2M HILL 2015). The Plains/Lake Miwok occupied the Project area and as far north as American River.

Similar to other groups in California, the Miwok practiced a hunting and gathering economy. For all Miwok subsistence was based primarily on hunting, gathering, and fishing. Only tobacco was occasionally planted and cultivated. Hunted animals included deer, antelope, tule elk, and rabbit. Quail, pigeons, jays, and flickers were trapped. Duck and other water fowl were caught in nets. A wide variety of plant foods were gathered, but the acorn was the most important and the Miwok gathered several different varieties. Nuts, seeds, and roots were also gathered and many different types of plants were eaten as greens (Levy 1978). In historic times, the Miwok traded with the Yokuts and Costanoan (CH2M HILL 2015).

The indigenous lifeway apparently disappeared by the early 1800s because of disruption by new diseases, a declining birth rate, the impact of the mission system, depredation by prospectors on

their way to the gold country, and later displacement by Euro-American farming. As with other native California groups, the Miwok were transformed from hunters and gatherers into agricultural laborers who lived at the missions and worked with former neighboring groups such as the Costanoan and Esselen.

### **Historic Period**

In 1542, Juan Rodriguez Cabrillo explored the California coast by ship. Much of the early exploration of California was conducted this way. California's interior, including the Delta region and Central Valley, remained unexplored by Europeans until the beginning of the Spanish Period.

In California, the historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1834), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

### **Spanish/Mission Period (1769-1820)**

The Spanish period spans 1769 to 1820, beginning with the founding of the first mission, the Mission San Diego de Alcalá in 1769. It was not until March 1772 that the first formal European expedition, led by Pedro Fages, entered the northern San Joaquin Valley. The purpose of the Fages expedition was to find an overland route to Point Reyes. The company kept to the shoreline until they reached the mouth of the San Joaquin River and first observed the valley it traversed (CH2M HILL 2015). Shortly after the Fages expedition returned to Monterey, Father Francisco Garcés entered the San Joaquin Valley and made the first observations of the area. His observations included native villages, wide rivers, large tule swamps, and huge herds of tule elk.

The nearest mission to the Project area was the Mission San Francisco, which was founded in 1776 by members of the de Anza Expedition. A measles epidemic swept through the mission in 1806, and many at the mission succumbed to the disease.

### **Mexican/Rancho Period (1821-1848)**

Mexico became independent of Spain in 1821 and the Decree of Secularization, passed in 1834, effectively ended the Mission Period in California. The following years were marked by the proliferation of cattle ranching throughout the region, as the last Mexican governor of California, Pio Pico, granted vast tracts of land to Mexican (and some American) settlers. The former mission lands were then opened for grants by the Mexican government to citizens who would colonize the area and develop the land, generally for grazing cattle and sheep (CH2M HILL 2015).

### **American Period (1848-Present)**

Following the signing of the Treaty of Guadalupe Hidalgo in 1848, the United States took possession of California; in 1850, California was accepted into the Union of the United States primarily because of the population increase created by the Gold Rush of 1849. The treaty bound the United States to honor the legitimate land claims of Mexican citizens residing in captured territories. The Land Act of 1851 established a board of Land Commissioners to review these records and adjudicate claims, and charged the Surveyor General with surveying confirmed land

grants. In order to investigate and confirm titles in California, American officials acquired the provincial records of the Spanish and Mexican governments that were located in Monterey. Those records, most of which were transferred to the U.S. Surveyor General's Office in San Francisco, included land deeds and sketch maps (CH2M HILL 2015).

During the American period, in addition to cattle and sheep ranches, a growing number of farms appeared. A rural community cultural pattern existed in the Project area from approximately 1860 to 1930. This pattern consisted of communities that lived within well-defined geographic boundaries, shared common bonds, and solved shared problems. They lived on farmsteads tied together by a common school district, church, post office, and country store. These farmsteads and dispersed farming communities gave way to horse ranches, dairies, and nurseries, which in turn were replaced by the newly established roadside service complex. The roadside service industry thrived in the highly mobile, mechanized, pre- and post-war society, which was linked by state and federal roadways.

### **Sacramento County**

In 1808, a Spanish expedition into the Sacramento Valley was headed by Gabriel Moraga. Moraga, upon coming onto the valley, named it Sacramento after the Holy Sacrament, a name first given to the great river that traverses the region (CH2M HILL 2015). After various attempts to explore the region via the waterways, in 1826, Jedediah Strong Smith, an American, was the first to successfully blaze an overland trail into the valley; a year later, Smith opened another trail going north from the Sacramento River, naming it the Buenaventura (Kyle 1990). In 1828 Smith and his group forged routes leading from Sacramento through what is commonly known as the Trinity and Humboldt regions and into Oregon; this provided an entryway by the Hudson's Bay Company for trapping, hunting and trade (CH2M HILL 2015).

In 1839, the first Euro-American settlement was founded by John A. Sutter, a German born Swiss settler who had been granted citizenship by the region's then Mexican Governor Juan B. Alvarado (CH2M HILL 2015). At this time, the valley remained largely unoccupied by the Spanish/Mexicans and it had been entirely devoid of other Euro-American settlers. Populations of Native Americans still retained a presence in the Sacramento Valley. Concerns about Native American raids lead to Sutter's proposal to establish a fort. Construction of the fort, named New Helvetia (but known today as Sutter's Fort), was completed by 1844. New Helvetia became a refuge to new settlers, as these newcomers were afforded work and the trading post within the community became a significant center for the region (CH2M HILL 2015). After turning the fort over to his son, in 1849, John Sutter Junior began plans for the construction of a port city at the confluence of the American River and the Sacramento River. Sacramento was founded that year and was formally incorporated in California as Sacramento City in 1850.

The Sacramento Valley developed into a significant farming region, and by 1850 it was a major agricultural producer within the new state of California. The Homestead Act, passed by Congress in 1862, involved the transferring of 160 acres of open public land to any American that filed for a land patent and satisfied the act's requirements. These consisted of the applicant being head of household, over 21 years old, making land improvements, occupying the property for five

consecutive years, and paying \$1.25 per acre. This act further encouraged western expansion and settlement in the valley.

Initially, crops grown in the region included potatoes, beans, and onions. After 1870, Delta farmers diversified and began growing wheat, oats, barley, and fruit trees. By the 1910s, the region was producing approximately two-thirds of California's potato, asparagus, bean, onion, and celery crops (CH2M HILL 2015). In the Sacramento Valley, dairy farming became a major industry and it experienced a boom as California had a high demand for its products. To date, agriculture and dairy farming remains an important industry in the Sacramento Valley.

### **Railroad**

In 1856, the only rail line in central/northern California was the Sacramento Valley Railroad, which ran east from the coast to Folsom, California. The Atchison, Topeka, Santa Fe railroad (ATSF) was chartered in 1859 and broke ground in Topeka, Kansas, in 1868. The ATSF was part of the Transcontinental railroad. The Western Pacific Railroad (WPR) was founded in 1862 to help connect in the west to the Transcontinental railroad. The connection was completed by 1869. With the opening of the west by rail to the rest of the county, additional lines and railroad companies were established. Additionally, the Oakland, Antioch and Eastern Railway was constructed, linking San Francisco to Sacramento and traversing the Redwood Canyons through Moraga Valley (CH2M HILL 2015). The section of the WPR which runs almost parallel to Franklin Boulevard in the Project area was completed in 1909 and has been owned by Union Pacific Railroad (UPR) since 1980.

### **Elk Grove**

Elk Grove was founded in 1850 by James Hall. Aided by the western expansion of the railroad, it became a prominent community in Sacramento County. Hall built a hotel, named the Elk Grove Hotel and Stage Stop, along Upper Stockton Road. For the largely agricultural community in the region, this was an important center for commerce and travel. Elk Grove experienced a building boom in the early 20<sup>th</sup> Century with the construction of the Toronto Hotel, a post office, a bank, drug store, and other businesses (CH2M HILL 2015). The current jurisdiction of Elk Grove includes the historic communities of Bruceville, Franklin, Hood and seven others, as well as the Mexican land grants of Leidesdorff's Rancho Rio de los Americanos and Sheldon and Daylor's Rancho Omochumnes (CH2M HILL 2015). In 1988, Old Town Elk Grove was listed on the National Register of Historic Places (NRHP) as a Historic District.

### **Franklin**

Franklin is a small farming community in south Sacramento County with a current population under 160 people. Named after the Franklin House, built in 1856 by Andrew George, the community was originally known as George Town (CH2M HILL 2015). By 1862, the community had a post office. The hub of the town contains a relocated two story Victorian house first named Oakwood, built in 1886 and moved to 10466 Franklin Boulevard in 2005, and a dozen 1920s commercial buildings flanking Franklin Boulevard. In the southwest end of the town lies the Franklin Cemetery containing the grave of Alexander Hamilton Willard, a member of the Lewis and Clark Expedition. Willard settled in California in 1852 and died in 1865 (CH2M HILL 2015). His grave is listed as a California Historical Landmark.

**Literature Search**

A literature search was conducted at the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) on May 18, 2015. The records search included a review of all recorded prehistoric and historic archaeological sites and historic architectural resources, as well as all known cultural resource survey and excavation reports documented in the National Archaeological Database (NADB). The literature search area consisted of the Project APE, approximately 260 acres, and a 0.5-mile buffer. Additionally, the NRHP, the California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historic Interest were all examined. Historic maps ranging from 1855 to 1953 were also examined. The 1855 General Land Office Township 6N Range 5E map and 1855 General Land Office Township 7N Range 5E map depict the northern end of the Project area as cultivated fields and general agricultural community, also shown is an early alignment of Lower Stockton/Telegraph Road, which was realigned by 1909.

A total of 48 prior cultural resource studies have been conducted within the study area; 20 of these studies were conducted within the APE from 1980 through 2010 and resulted in over 50 percent of the APE having been previously examined for presence of cultural resources. The literature search revealed that a total of 23 sites have been previously recorded within the broad study area. Five historic period sites are located within the APE. Seventeen historic period sites and one prehistoric site as well as a California Historical Landmark (No. 657 Grave of Alexander Hamilton Willard) are located within the 0.5-mile search radius, but well outside the APE. **Table 3.6-1** depicts all previously recorded sites located within the APE.

Table 3.6-1: Previously Recorded Cultural Sites within the APE

Source: CHRIS North Central Information Center.

Site Number	Site Description	Site Description	NRHP/CRHR Evaluation/Year
P-34-000491	Historic	Western Pacific Railroad	Not eligible/2005 & 2014
P-34-000764	Historic	Backer Ranch	Not eligible/1994
P-34-000766	Historic	Nicholas Ranch Annex (destroyed)	Not eligible/1994
P-34-000829	Historic	9853 Franklin Rd. (destroyed)	Not eligible/1995
P-34-004499	Historic	Dump/trash	Not eligible/2012

**Native American Consultation**

The California Native American Heritage Commission (NAHC) was contacted on May 26, 2015, to request information about traditional cultural properties such as cemeteries and sacred places in the Project area. The NAHC responded on June 9, 2015 with a list of Native Americans interested in consulting on development projects. Each of these individuals/groups was contacted by letter on June 17, 2015. No response expressing concerns or requests have been received as of the date of this report. The NAHC record search of the Sacred Lands file did not indicate the presence of Native American cultural resources in the Project survey area. The record search conducted at the NCIC of the CHRIS also did not indicate the presence of Native American

traditional cultural properties. Native American consultation is being conducted by Reclamation and is ongoing. No concerns have been identified to date.

### Survey

#### Archaeological Resources

An intensive, systematic pedestrian survey was conducted on June 16 through 19, 2015 as detailed in the technical report prepared by CH2M HILL (2015). The APE, as defined in Section 3.6.1, was completely inventoried using pedestrian transects spaced no more than 15 meters apart.

The APE is predominantly located within agricultural, residential and some commercial zones in the Sacramento County historic communities of Bruceville, Franklin and Florin and the City of Elk Grove. Ground visibility throughout the survey corridor was generally poor as the APE contains a large percentage of paved roads, agricultural fields with vegetation, residential, and disturbed ground surfaces. Fallow fields, cut banks and other soil exposures were thoroughly assessed. Within the APE the survey area included streets, fenced fields, dairy farms, residential properties, irrigation ditches, culverts, bridges, driveways, and other built elements. Disturbances from agricultural activities, utilities, road construction and maintenance, and residential and commercial development within the survey area have affected 100 percent of the horizontal and an unknown percentage of the vertical APEs.

No archaeological resources of any kind were observed as a result of the pedestrian survey.

#### Architectural Resources

A historic architecture survey was conducted from July 17 through 19, 2015 as detailed in the technical report prepared by CH2M HILL (2015). Five architectural resources were newly recorded in the APE (**Table 3.6-2**). All five newly recorded resources were recorded on DPR 523 forms, additionally, updates to DPR forms for the previous five recorded resources were made as required (**Table 3.6-1**). A description of each newly-recorded resource is given below.

Table 3.6-2: Cultural Resources Newly Recorded during the Proposed Project Cultural Resources Survey

Site ID Number	Site Period	Site Description	NRHP/CRHR Status	Project Effects
Temporary CH-S-01	Historic	Unnamed paved road	Not eligible	No adverse effects
Bridge No. 24C0156	Historic	1933 Bridge	Not eligible	No adverse effects
Temporary CH-S-03	Historic	Drainage pipe	Not eligible	No adverse effects
24C0153	Historic	1933 Bridge	Not eligible	No adverse effects
24C0157	Historic	1933 Bridge	Not eligible	No adverse effects

#### *Temporary Site CH-S-01*

This is an unnamed paved road that is depicted in the 1909 Franklin, CA 7.5 Minute USGS quadrangle, and was observed during pedestrian survey. A 15-foot portion of the approximate 1-mile road is within the APE as it starts off of Franklin Boulevard in the east and continues west

towards I-5. Approximately 25 feet east of Franklin Boulevard, the road is inaccessible because it lies within a wildlife preserve and is behind fencing.

*Bridge No. 24C0156*

This bridge was observed during the survey and is also recorded in the Caltrans Structure Maintenance and Investigations: Historic Significance, Local Agency Bridges 2014 inventory (Caltrans 2014). Bridge #24C0156 is concrete and continuous, cast-in-place slab style. It was built in 1933 and measures 38 feet in length and is 30 feet wide (road width).

*Temporary Site CH-S-03*

This resource is a drainage feature that includes a refurbished wooden pipe from a pre-1930s city/county water main. The original owner of the residence salvaged the pipe after it was decommissioned and installed it in his driveway along with a concrete pipe and tiles as a drainage, c. 1954. The entire feature measures 9 feet 9 inches in length at the top, 1 foot 6 inches at the bottom (it tapers), and is 3 feet in height. The feature is located at the entrance of the driveway of a private residence.

*Bridge No. 24C0153*

This bridge is recorded in the Caltrans Structure Maintenance and Investigations: Historic Significance, Local Agency Bridges 2014 Inventory (Caltrans 2014). Bridge #24C0153 is concrete and continuous, cast-in-place slab style. The bridge was built in 1925 and reconstructed in 1933; it measures 65 feet in length and is 36 feet wide (road width). No bridge number is listed on the bridge itself.

*Bridge No. 24C0157*

This bridge is recorded in the Caltrans Structure Maintenance and Investigations: Historic Significance, Local Agency Bridges 2014 inventory (Caltrans 2014). Bridge #24C0157 is concrete and continuous, cast-in-place slab style. It was built in 1933 and measures 36 feet in length and is 30 feet wide (road width).

***Determinations of Eligibility***

A total of ten historic architectural sites were documented within the APE; five were previously recorded and five were newly recorded. Each resource was evaluated for its potential to meet both CRHR and NRHP criteria.

**Site P-34-000491**

This portion of the Western Pacific Railroad was built in 1909 and runs almost parallel to Franklin Boulevard in the historic community of Franklin, as seen in historic and modern USGS topographic maps. The rail line has been modernized and is active. UPR purchased the rail line in 1980 and continues to maintain it. At the time of first recordation, it was assessed as not eligible to the CRHR/NRHP and has since been updated several times and re-evaluated, with each update concurrence on its ineligibility has been reached (CH2M HILL 2015). This resource would not be affected by Project construction.

**Site P-34-000764**



This site is the historic Backer Ranch located at 3431 Sims Rd. in Elk Grove. The site was originally the property of Jacob Miller and later the 390-acre area was purchased and established as a dairy farm by Fredrick Backer in 1890. Much of the dairy farm's facilities and the residence have been removed since its purchase in 1960; the only remnants are a barn and pumphouse, built in the 1940s. This site was evaluated as not eligible to the CRHR/NRHP (CH2M HILL 2015). This resource would not be affected by Project construction.

**Site P-34-000766**

This site is the historic Nicolaus Ranch Annex located at 3501 Dwight Rd. in Elk Grove. The site consists of a house and detached garage built c.1950 and was evaluated as not eligible to the CRHR/NRHP (CH2M HILL 2015). This resource would not be affected by Project construction.

**Site P-34-000829**

This site is a historic residence located at 3853 Franklin Boulevard in Elk Grove. The building was recorded as a one and a half story residence with little architectural significance, built in 1924. This resources was evaluated as not fulfilling any of the applicable criteria for the NRHP (CH2M HILL 2015). An update to the record in 2006 reported this site had been destroyed and a new residential community had been established (CH2M HILL 2015).

**Site P-34-004499**

This is a historic site consisting of a utility pole, a pump, and two irrigation cisterns within a fenced area. It is located within an empty field and exact age is undetermined. It has been evaluated as not eligible to the CRHR/NRHP (CH2M HILL 2015). This resource would not be affected by Project construction.

**Temporary Site CH-S-01**

This unnamed road was originally a private road and apparently was later expanded to be used as a local travel corridor. This resource does not meet any of the criteria for the CRHR or NRHP<sup>1</sup>. It is not associated with any events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States, (Criterion 1/A), it is not associated with the lives of persons important to local, California or national history (Criterion 2/B), it does not embody a distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values (Criterion 3/C), and the resource is not likely to yield any important new information about the prehistory or history of the local area, California or the nation (Criterion 4/D). It is recommended that this resource not be considered eligible to the CRHR/NRHP. This resource would not be affected by Project construction.

**Bridge No. 24C0156**

This bridge was originally built in 1933 over an unnamed drainage. It is found in the Caltrans database (Caltrans 2014) and has been evaluated by Caltrans and recommended as ineligible to

---

<sup>1</sup> CRHR criteria are numbered 1 through 4 and correspond to NRHP criteria A through D. Both are referenced here.

the CRHR/NRHP because it does not meet any of the criteria for listing (CH2M HILL 2015). This resource would not be affected by Project construction.

### **Temporary Site CH-S-03**

This resource is a culvert feature and it was built c. 1954 from refurbished materials. It is not associated with any events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States, (Criterion 1), it is not associated with the lives of persons important to local, California or national history (Criterion 2), it does not embody distinctive characteristics of a type, period, region or method of construction or represent the work of a master or possess high artistic values (Criterion 3), and the resource is not likely to yield any important new information about the prehistory or history of the local area, California or the nation (Criterion 4). It is recommended that this resource not be considered eligible to the CRHR/NRHP. This resource would not be affected by Project construction.

### **Bridge No. 24C0153**

This bridge was originally built in 1925 and was reconstructed in 1933. Caltrans previously recommended this bridge as ineligible to the CRHR/NRHP (Caltrans 2014) because it does not meet any of the criteria for listing. This resource would not be affected by Project construction.

### **Bridge No. 24C0157**

This bridge was originally built in 1933. Caltrans has assessed this bridge as ineligible to the CRHR/NRHP (Caltrans 2014) because it does not meet any of the criteria for listing. This resource would not be affected by Project construction.

### ***Potential for Buried Archaeological and Paleontological Resources***

The potential for an area to contain buried resources can often be assessed by an examination of topography, soil types, and proximity to water. The Pleistocene-age Riverbank formation that underlies the Project area has the potential to contain paleontological resources. Buried archaeological sites are found in many contexts, especially alluvial fans and stream terraces. Buried sites are more likely in certain locations near water courses where deposition is deep, where previous studies have shown there is a higher density of sites, or where there is ongoing deposition. All of these conditions were taken into account to assess the sensitivity for sub-surface archaeological deposits at the Project site.

The Project area has been generally utilized for agricultural activities for the past 100 years or so. The APE has been heavily disturbed by decades of agricultural use, construction of roads, utilities, and regular road maintenance and upgrades. Maintained alluvial channels flank the roads. Storm water drainages, ditches, and other infrastructure have contributed to heavy disturbance within the roadway corridor where Project construction would occur.

Importantly, ground disturbances from the Project are expected to be entirely limited within the existing road prism and existing pipeline corridor. Given these conditions, it is therefore considered unlikely that buried intact archaeological or paleontological resources could be

present and the APE is considered to possess low sensitivity for historical and paleontological resources and historic properties.

### 3.6.3 Regulatory Framework

#### *Federal Policies and Regulations*

The protection of historic properties is governed by several federal laws and regulations, including the NHPA (1966), the Archaeological and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the Archaeological Resources Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). Section 106 of the NHPA states that federal agencies must take into account the effect of the undertaking on any district, site, building, structure, or object that is included in, or eligible for, inclusion in the NRHP.

The enabling legislation for Section 106 is contained in 36 CFR 800 "Protection of Historic Properties." The Section 106 process entails the following three basic steps:

- Identify historic properties potentially affected by the undertaking.
- Assess adverse effects on historic properties.
- Seek ways to avoid, minimize, or mitigate any adverse effects on historic properties.

In accordance with 36 CFR Part 800, determinations regarding the potential effects of an undertaking on historic properties are presented to the State Historic Preservation Office, federally recognized Native American Tribes, and other interested parties.

Under Section 106 of the NHPA, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative. Following are examples of adverse effects:

- Physical destruction or damage
- Alteration inconsistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties
- Relocation of the property
- Change in the character of the property's use or setting
- Introduction of incompatible visual, atmospheric, or audible elements
- Neglect and deterioration
- Transfer, lease, or sale out of federal control without adequate preservation restrictions

### **National Register of Historic Places**

The preservation of historic properties first became national policy with the passage of the Antiquities Act of 1906. The Historic Sites Act of 1935 and the NHPA in 1966 continued the goal of preserving historic properties. The NRHP was established as part of the NHPA.

Cultural resources include prehistoric and historic archaeological sites, districts, and objects; standing historic structures, buildings, districts, and objects; locations of important historic events; and sites of traditional or cultural importance to various groups. 36 CFR Part 800 defines a historic property as any prehistoric or historic district, site, building, structure, or object listed in, or eligible for listing in, the NRHP. The criteria used to evaluate properties for the NRHP are provided in 36 CFR 60 and listed in the following bullets. A resource must meet one or more of these following criteria to be considered for eligibility:

- Be associated with events that have made a significant contribution to the broad patterns of history (Criterion A)
- Be associated with the lives of persons significant to our past (Criterion B)
- Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components might lack individual distinction (Criterion C)
- Have yielded, or have the potential to yield, information important to prehistory or history (Criterion D)

Generally, properties must be 50 years old to be eligible for the NRHP, but those that have achieved significance within the past 50 years may be eligible if they are of exceptional importance.

In addition to meeting one or more of these criteria, a resource must retain integrity to be considered a historic property. Integrity is the authenticity of the physical identity, as evidenced by the survival of characteristics that existed during the resource's period of significance. Historic properties must retain enough of their historic character or appearance to be recognizable and to convey the reasons for their significance. The seven aspects of integrity, presented in 36 CFR 60, are location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance and is not eligible for the NRHP still might have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historic information or specific data.

### ***State Policies and Regulations***

#### **CEQA Guidelines**

According to the CEQA Guidelines Appendix G (2002), impacts to cultural resources would be considered significant if the Project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5

- Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5
- Disturb any human remains, including those interred outside of formal cemeteries

A historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources as defined in subdivision (k) of Section 4020.1, and included as such in a local register, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, shall not preclude a lead agency from determining whether the resource may be a historical resource.

Pursuant to Section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources of the State California Environmental Quality Act), a resource shall be considered to be historically significant if it meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States (Criterion 1)
- It is associated with the lives of persons important to local, California, or national history (Criterion 2)
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criterion 3)
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4)

In addition to the above criteria, a resource must retain integrity to be considered historically significant. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Rehabilitation or restoration does not necessarily discount a resource from eligibility. Integrity must also be evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR, if it maintains the potential to yield significant scientific or historical information or specific data.

An adverse effect on a cultural resource is defined as:

- Substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings
- Demolishes or materially alters those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register

Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

### **California Register of Historical Resources**

As provided in California PRC Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the California PRC, automatically includes all California properties already listed in the NRHP. It also includes those formally determined to be eligible for listing in the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of the State Historical Landmarks and in the State Inventory of Historical Resources), as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include various other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance)

The CRHR follows the lead of the NRHP in utilizing the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute, but was selected as a reasonable span of time after which a professional evaluation of historical value/importance can be made.

### **California Public Resources Code**

The Public Resources Code protects paleontological resources through Section 5097.5 which prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any

paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted permission.

### **Local Policies**

#### **Sacramento County General Plan**

The county's General Plan (County of Sacramento 2011) recognizes the importance of cultural resources on lands over which it has jurisdiction and outlines goals, policies, and procedures for managing these resources. The General Plan "Conservation Element" *Section VIII Cultural Resources* states that its intent is to promote the inventory, protection and interpretation of the cultural heritage of Sacramento County, including historical and archaeological settings, sites, buildings, features, artifacts and/or areas of ethnic historical, religious or socioeconomic importance. Policies included in the General Plan regarding cultural resources are: CO-150 through CO-164 guide archaeological resources and protection, CO-164 through CO-168 encourage historic structures preservation, CO-169 through CO-171 address destruction of cultural resources sites, and CO-172 through CO-175 support public education and awareness.

#### **City of Elk Grove General Plan**

##### *Historical Resources Element*

The City's General Plan (City of Elk Grove 2015) contains a Historical Resources Element, which outlines recommended policies to aid in the protection of cultural resources. The recommended policies specifically addressing cultural resources are:

- Policy HR-1: Encourage the preservation and enhancement of existing historical and archaeological resources in the City.
- Policy HR-2: The City supports the goals and objectives for the *Comprehensive Statewide Historic Preservation Plan for California 2000-2005*.
- Policy HR-3 Encourage restoration, renovation, and/or rehabilitation of all historic structures.
- Policy HR-4: Support the use of federal financial incentive programs to encourage preservation of historic structures.
- Policy HR-5: Maintain and improve the aesthetic quality and architectural diversity of the Old Town historical district.
- Policy HR-6: Protect and preserve prehistoric and historic archaeological resources throughout the City.

### **3.6.4 Impact Analysis**

#### **Methodology for Analysis**

This section evaluates whether construction and operation of the proposed Project would result in significant impacts to historical resources and/or historic properties. As identified in *Chapter 2, Alternatives and Proposed Project*, the pump station and transmission pipeline are being evaluated at a project-specific level and construction of the remaining facilities, including the

distribution mains, service connection laterals, turnouts, potential recharge area, diluent wells, and the Stones Lake NWR, are being evaluated at the program level. From a cultural resources perspective, the potential impacts would be similar whether they are at the project level or the program level. The primary difference is that the construction schedule and the potential construction-related trips have been identified for the project-level activities, but are not yet known for the program-level components. Like the project-level activities, the program-level activities, particularly the construction of approximately 25 miles of distribution mains which would occur in the public ROW, would result in temporary surface disturbance. For this reason, the potential cultural resources impacts of the Project and program elements are discussed together. Detailed inventory to identify the potential presence of cultural resources in the construction area for the Project has only been performed for the project-level facilities, and additional inventory would be required before construction of the program-level elements.

A total of ten known historic resources have been recorded and are located within the APE. Of these, five were previously recorded. Two of the previously recorded resources have been destroyed; these resources were previously evaluated and recommended not eligible to the NRHP/CRHR. Five newly recorded resources were documented within the APE; three are bridges and would be completely avoided by construction activities. Two newly recorded resources (Temporary Site Numbers CH-S-01 and CH-S-03) are located within the direct impact area where construction of the pipeline would occur and have potential to be impacted by construction. However, neither of these resources appear to meet any criteria for listing on the CRHR or NRHP and therefore are not recommended as qualifying as historical resources or historic properties, respectively.

The proposed Project as described and reported in this document would not adversely affect historical resources or historic properties in any way.

Surface disturbance as a result of proposed Project activities would be strictly contained and limited to the existing disturbed road prisms. In addition, the pipeline would be buried and has no potential to directly or indirectly affect architectural resources.

No historical resources or historic properties would be adversely affected by the proposed Project. The APE is considered to have a low sensitivity for buried resources.

### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist and Appendix G of the CEQA Guidelines, an impact on cultural resources would be considered significant if the proposed Project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.



EIR

Draft

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

The threshold for measuring the intensity of an impact on historic properties was based on 36 CFR Part 800, which is the implementing regulation for Section 106 of the NHPA.

### ***Impacts and Mitigation Measures***

#### **Impact CR-1 Potential to result in a substantial adverse change in the significance of a historical, archaeological or paleontological resource.**

*Alternative 1 (Medium Service Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Alternative)*

**Project and Program Elements.** Although the proposed Project would not affect any known historical, archaeological or paleontological resources, construction could result in the substantial adverse change in the significance of a buried archaeological or paleontological resource. Neither the pedestrian survey, existing records, consultation with tribal representatives, nor a review of the records held by the Native American Heritage Commission yielded any information concerning potential archaeological sites, features, traditional use areas, or Sacred Land listings within or adjacent to the Project site at the SRWTP or in the pipeline corridor.

Historic and archaeological resources could be impacted in the event of an inadvertent resource discovery during Project construction. Once the buried pipeline is built, there is no reasonable possibility of adversely impacting the significance of a historic resource. However, the potential for disturbance during the construction phase is considered a potentially significant impact. There is also the potential for the discovery of paleontological resources or human remains during construction. The destruction or disturbance of these resources would result in a significant impact. With implementation of **Mitigation Measures CR-1a through CR-1c**, potential impacts to historical, archaeological, and paleontological resources would be reduced to a less-than-significant level. If previously undiscovered resources are found, these resources would be evaluated and mitigation would be required that would result in the recording, protecting, and/or preserving these resources

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts to historical resources would occur.

#### **Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

**Mitigation Measure CR-1a: Discovery of Previously Unknown Historic or Archaeological Resources during Construction (All Action Alternatives)**

If during excavation or earth moving activities, potential historic or archaeological resources are encountered, the County or local jurisdiction shall be notified and a professional archaeologist meeting the minimum qualifications in archaeology as set forth in the Secretary of the Interior's Standards and Guidelines shall be contracted by Regional San and dispatched to assess the nature and significance of the find in the following manner:

- All excavation and/or grading within 20 meters of the discovery area shall cease immediately. The responding archaeologist may, after analyzing the discovery, authorize an alternate (or reduced) buffer around the materials to ensure adequate evaluation and protection of potential historic and/or archaeological resource(s) during continued construction operations.
- Additional evaluation of the historic and/or archaeological resource(s) shall be conducted and significance of the materials determined. If the discovery is considered significant, the archaeologist shall develop and implement a late-discovery mitigation strategy in conjunction with Regional San, to minimize and/or avoid the impact through preparation and implementation of an avoidance, evaluation, or recovery plan that Regional San will implement. Such a plan may involve resource avoidance (preservation in place), or could include recovery and archival research (e.g., excavation, documentation, curation, data recovery, or other appropriate measures).

**Mitigation Measure CR-1b: Note on Construction Plans (All Action Alternatives)**

Regional San shall require the inclusion of a note on all construction plans specifying that construction, excavation, and earthwork shall cease immediately if historical, archaeological, or paleontological resources are discovered to enable a professional archaeologist to assess, evaluate, and mitigate or avoid the potential impacts to resources as appropriate.

**Mitigation Measure CR-1c: Discovery of Paleontological Resources During Construction (All Action Alternatives)**

If paleontological resources are discovered during earth moving activities, the construction crew shall immediately cease work near the find. A qualified paleontologist shall assess the nature and importance of the find and if the resource is determined to be significant, prepare an avoidance, evaluation, or recovery plan, which Regional San will implement. Such a plan may involve resource avoidance (preservation in place), or could include recovery and archival research, (e.g., excavation, documentation, curation, data recovery, or other appropriate measures) as well as additional monitoring.

**Significance after Mitigation**

Less than significant for all action alternatives.

**Impact CR-2 Development of the Project and the off-site infrastructure has the potential to disturb human remains, including those interred outside of formal cemeteries.**

*Alternative 1 (Medium Service Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Alternative)*

**Project and Program Elements.** While the proposed Project has the potential to disturb human remains, this impact is not anticipated as no cemeteries are known to occur within or in proximity to the Project site or off-site infrastructure alignment. Further, no evidence of a cemetery or burial area was identified during the data research and field work. In the event excavation and digging associated with construction activities result in the inadvertent exposure of human remains, **Mitigation Measure CR-2** would reduce impacts to a less-than-significant level.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts related to the potential to disturb human remains would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measure CR-2: Discovery of Human Remains (All Action Alternatives)**

If human remains are encountered during the construction of the Project site or the off-site infrastructure corridor, California Health and Safety Code Section 7050.5 requires that all disturbance at the site cease immediately within a 100 foot radius of the discovery, the County Coroner be notified, and a determination of origin and disposition provided by the Coroner pursuant to Public Resource Code Section 5097.98. If the remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impact Analysis***

Cumulative development anticipated in Sacramento County, including growth projected by adopted general plans, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in this section, there are no known cultural or historic resources present on the Project site. **Mitigation Measures CR-1a, CR-1b, CR-1c, and CR-2** would require any

unknown cultural resources which are discovered during development of the Project to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of mitigation measures, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources. Therefore, the Project would have a less than cumulatively considerable contribution to impacts to cultural resources.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

See **Mitigation Measures CR-1a, CR-1b, CR-1c, and CR-2.**

**Significance Determination after Mitigation**

Less than significant.

**3.6.5 References**

- Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District Echo Water Project*. September 12, 2014.
- California Geological Survey. 1981. Regional Geologic Map No. 1A, 1:250,000 scale, Compilation by: D. L. Wagner, C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno, available on line at: <http://www.quake.ca.gov/gmaps/RGM/sacramento/sacramento.html>
- Caltrans. 2014. *Structure Maintenance & Investigations: Historical Significance – Local Agency Bridges*. Available at: [http://www.dot.ca.gov/hq/structur/strmaint/hs\\_local.pdf](http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf). Accessed June 19, 2015.
- CH2M HILL. 2016. *Draft Cultural Resources Inventory Report for the South Sacramento County Agriculture and Habitat Lands Recycled Water Project, Sacramento County, California*.
- County of Sacramento. 2011. *General Plan: Conservation Element Section VIII Cultural Resources*. Available at: <http://www.per.sacounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/GP%20Elements/Conservation%20Element.pdf>. Accessed July 15, 2015.
- Elk Grove, City of. 2015. *Elk Grove General Plan: Historic Resources Element*. Available at: [http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/09\\_HistoricResources.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/09_HistoricResources.pdf). Accessed July 15, 2015

ESA. 2014. Sacramento Regional County Sanitation District Wastewater Treatment Facility  
Cultural Resources Inventory – Confidential – Not For Public Distribution, October  
2014.

## 3.7 Energy Resources

This section presents the physical and regulatory setting for energy resources and evaluates the potential impacts related to energy consumption associated with implementation of the proposed Project.

### 3.7.1 Environmental Setting

#### ***California Setting***

In 2014, California generated approximately 200,000 gigawatt hours (GWh) of electricity every year, transporting that electricity over 32,000 miles of transmission lines throughout the state (California Energy Commission [CEC] 2015a). In 2014, California imported approximately 30 percent of the electricity needed to serve California from the Pacific Northwest and the U.S. Southwest. Natural gas provides 61 percent of the in-state electric generation and is the main source for electricity generation within California. In 2014, the California electricity mix (inclusive of in-state generation and imports) included natural gas (44.5 percent), nuclear (8.5 percent), large hydroelectric plants (5.5 percent), and coal (6.4 percent). The remaining 35.1 percent was supplied from renewable resources such as wind, solar, geothermal, biomass, small hydroelectric facilities, and other unspecified sources of power (CEC 2015a). In-state hydroelectricity generation continued its multiyear decline due to ongoing drought conditions, dropping 32 percent from 2013 generation levels, and 61 percent since 2011, the last 'wet' year in California (CEC 2015a). The deficit in hydroelectric generation was made up by renewable energy, specifically utility-scale solar photovoltaic, solar thermal, and wind generation (CEC 2015a).

The CEC estimates that California's energy consumption between 2014 and 2026 will grow between 0.54 and 1.27 percent per year, with peak demand growing between -0.32 and 0.97 percent over the same period (CEC 2015b). Further, additional energy efficiency measures are needed to meet the Assembly Bill (AB) 32 greenhouse gas (GHG) reduction goal of reducing statewide GHG emissions to 1990 levels by 2020. Information on AB 32 is presented in *Section 3.4, Air Quality and Greenhouse Gas Emissions*. California has a renewable energy target based on the Senate Bill 350 signed by Governor Brown in 2015, which specifies that the amount of electricity generated and sold to retail customers per year from renewable energy resources be increased to 50 percent by 2030.

#### ***Regional Setting***

SMUD is the nation's sixth-largest community-owned electric service provider. It serves a population of 1.4 million in a 900-square-mile service area in Sacramento County and small portions of Placer and Yolo Counties. Power from non-carbon-emitting (renewable) resources is 50 percent of total power distributed by SMUD (SMUD 2015a). SMUD's power comes from various sources including hydropower, natural-gas-fired generators, solar and wind power, and power purchased on the wholesale market (SMUD 2015b).

Pacific Gas and Electric Company (PG&E) is one of the largest combination natural gas and electric utilities in the country. PG&E's service area covers Eureka in the north down to Bakersfield in the south and is bound by the Pacific Ocean to the west and Sierra Nevada to the east. It covers a total of 70,000 square miles and serves approximately 16 million people (PG&E 2015a).

Approximately half of the electricity it delivers to its customers is renewable and from greenhouse gas-free resources. In 2012, the power mix provided to customers consisted of non-emitting nuclear generation (21 percent), hydroelectric facilities (11 percent), renewable resources (19 percent), natural gas (27 percent), and unspecified power (21 percent) which is power that is not traceable to specific generation sources. PG&E is adding more renewable resources such as solar, wind, geothermal, biomass, and small hydroelectric to its power mix and is on track to achieving 33 percent renewables by 2020 (PG&E 2015b).

### ***Project Vicinity***

#### **SRWTP**

Biogas is created from the digestion of solids at the SRWTP. Since 1995, this gas has been captured and diverted to a SMUD-owned cogeneration facility located next to the plant, referred to as the Carson Ice-Gen Project. Up to 100 megawatts (MW) of power is generated by the facility. SMUD delivers the power to the local power grid, but can also send it directly to the SRWTP to power all onsite facilities, acting as an emergency backup power supply system, allowing for system operation if the local power grid fails.

In 2012, SMUD began compressing the digester gas for injection into a SMUD-owned, natural gas utility pipeline for delivery to the Cosumnes Power Plant (CPP) in Rancho Seco, approximately 20 miles southeast of the SRWTP. The CPP generates up to 1,110 MW using a combination of SRWTP biogas and natural gas (Ascent 2014).

As described in *Chapter 2, Alternatives and Proposed Project*, there is currently no recycled water delivery to irrigation customers in South County, the Stone Lakes NWR, or to a recharge area. According to the Feasibility Study prepared for the proposed Project and action alternatives, the SRWTP currently discharges to the Sacramento River via a 1.7-mile-long, 102-inch-diameter outfall pipeline. The discharge occurs by gravity approximately 20 percent of the time, and is pumped the remaining 80 percent, for an energy usage of approximately 630 kW (RMC Water and Environment 2014). Irrigation in the project area is currently implemented through groundwater pumping, which consumes energy at each individual pump.

#### **City of Elk Grove and South County**

Electricity and natural gas are provided to Elk Grove by SMUD. Elk Grove is also served by PG&E and Suburban Propane, which operates a distribution facility in Elk Grove. SMUD and PG&E both operate programs and offer rebates to encourage energy efficiency and conservation (City of Elk Grove 2015). South County receives electricity from SMUD and gas from PG&E (Sacramento County 2011).

### **3.7.2 Regulatory Framework**

This section describes laws and regulations at the federal, state, and local level that may apply to the proposed Project.

#### ***Federal Policies and Regulations***

##### **National Energy Conservation Policy Act**

The National Energy Conservation Policy Act serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it is regularly updated and amended by subsequent laws and regulations. This act is the foundation of most federal energy requirements.

#### ***State Policies and Regulations***

##### **California Energy Action Plan**

California's Energy Action Plan II is the state's principal energy planning and policy document (CPUC and CEC 2005). The plan describes a coordinated implementation plan for state energy policies and refines and strengthens California's original Energy Action Plan I published in 2003. California Energy Action Plan II identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. It adopts a loading order of preferred energy resources to meet the state's needs and reduce reliance on natural gas and other fossil fuels, also important for achieving GHG emission reductions from the electricity sector.

Energy efficiency and demand response<sup>1</sup> are considered the first ways to meet the energy needs of California's growing population. Renewable energy and distributed generation are considered the best ways on the supply side. To the extent that energy efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, CEC supports clean and efficient fossil fuel-fired generation to meet California's energy needs. The 2008 Energy Action Plan Update provides a status update to the 2005 Energy Action Plan II and continues the goals of the original California Energy Action Plan (CPUC and CEC 2008).

##### **State Alternatives Fuel Plan**

The State Alternatives Fuel Plan (California Air Resources Board [CARB] and CEC 2007) presents strategies and steps that California must take to increase the use of alternative fuels without adversely affecting air quality, water quality, or causing negative health effects. The plan recommends alternative fuel targets of 9 percent in 2012, 11 percent in 2017, and 26 percent by 2022. The plan also presents a 2050 Vision that extends the plan outcomes and presents a transportation future that greatly reduces the energy needed for transportation, provides energy through a diverse set of transportation fuels, eliminates over-dependency on oil, and achieves an 80 percent reduction in GHG emissions. With these goals, more than 4 billion gasoline gallon equivalents (20 percent) would be displaced by alternative fuels in 2020. CEC estimates that by

---

<sup>1</sup> Demand response is the reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure.



2050, alternative fuels could provide more than half of the energy needed to power California's transportation system.

### **Title 24**

In 1978, the Title 24 energy standards referred to as the Energy Efficiency Standards for Residential and Nonresidential Buildings, were enacted by the California legislature with the goal of reducing energy use. These standards, as described Title 24, part 6 of the California Code of Regulations, were last updated in 2008 by the California Energy Commission. The new standards which went into effect January 1, 2010 require a 15 percent increase in energy savings compared with the 2005 Building Efficiency Standards, on average.

### **Local Policies and Regulations**

#### **Sacramento County General Plan**

The Sacramento County General Plan has the following goals related to energy use (Sacramento County 2011):

- Reverse the historical trend of increasing per capita energy consumption.
- Shift toward using more renewable energy sources.

#### **City of Elk Grove General Plan**

There are no relevant goals or policies in the City of Elk Grove General Plan relating to energy resources.

### **3.7.3 Impact Analysis**

#### **Methodology for Analysis**

This section evaluates whether construction and operation of the proposed Project alternatives would result in significant impacts related to energy resources. Energy consumption as it relates to greenhouse gas emissions is evaluated in *Section 3.4, Air Quality and Greenhouse Gas Emissions*.

#### **Thresholds of Significance**

Per Appendix F of the CEQA Guidelines, an impact to energy resources would be significant if the proposed Project would:

- Result in inefficient, wasteful, or unnecessary consumption of fuels or other energy resources, especially fossil fuels such as coal, natural gas, and oil.

#### **Impacts and Mitigation Measures**

##### **Impact ENE-1 Inefficient, Wasteful, or Unnecessary Use of Energy Resources.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction of the proposed pump station and transmission pipeline would require the use of fuels (primarily gas, diesel, and motor oil) for a variety of construction activities, including excavation, grading, and vehicle travel. During these activities, fuel for construction worker commute trips would be minor in comparison to the fuel used by construction equipment. While the precise amount of construction and operation-related energy consumption is uncertain, use of these fuels would not be wasteful or unnecessary because their use is necessary to contribute to the long-term distribution, use, and reliability of water resources within the Project area.

However, excessive idling and other inefficient site operations during construction could result in the inefficient use of fuels. Fuels would not be used wastefully during construction because doing so would not be economically sustainable for contractors. In addition, implementing the Sacramento Metropolitan Air Quality Management District's (SMAQMD) required emission control practices (see *Section 3.4, Air Quality and Greenhouse Gas Emissions*), would reduce air pollutant emissions by a variety of methods including limiting idling, would also reduce inefficient use of fuels. The implementation of this measure would reduce impacts associated with the inefficient use of construction-related fuels to less than significant. The Feasibility Study for the proposed Project determined that the proposed project would decrease energy consumption in two areas: (1) avoided groundwater pumping energy and (2) avoided wastewater discharge energy (RMC 2014).<sup>2</sup> The avoided cost of groundwater pumping would translate to a reduction in energy consumption by approximately 5,000 MWh per year.<sup>3</sup> Because less water would be discharged into the Sacramento River, the proposed Project would also reduce energy consumption from avoided wastewater discharge by 750 MWh per year.

The proposed pump station's energy usage would be approximately 8,870 MWh/year to convey 32,500 AFY of recycled water from the SRWTP to users. The energy reduction from avoiding groundwater pumping and wastewater discharge would not completely offset the proposed Project's pump station energy. However the estimates from the Feasibility Study did not quantify the energy use of the 12 pumps at Stone Lakes NWR currently used to fill the wetland units, which would be reduced with the proposed Project's pressurized delivery of recycled water.

The pump station would be designed to operate as efficiently as feasible. Water would be distributed at the lowest possible pressure to minimize friction losses, which would reduce the energy need for pumping. The pump station would use high efficiency pumps employing variable frequency drives, which reduce energy demand. Pumping could occur 24-hours a day during periods of peak irrigation demand. There would be no pumping during the rainy season when there is no demand for water.

---

<sup>2</sup> The Feasibility Study evaluated three alternatives. The proposed Project, which would deliver an estimated 32,572 AFY of recycled water, is slightly larger than the approximately 29,000 AFY Medium Program Alternative evaluated in the Feasibility Study. Estimates for the proposed Project are scaled up from the Medium Program Alternative evaluated in the Feasibility Study.

<sup>3</sup> As estimated in the Feasibility Study, avoided energy use for groundwater pumping would be approximately 0.154 MWh/AF. Providing 32,572 AFY of recycled water would avoid 5,016 MWh of energy use for pumping.

The SRWTP operations require substantial levels of energy, which would increase with the proposed Project. Regional San currently maintains several programs at the SRWTP that reduce overall energy consumption; which would continue to be maintained with Project implementation. These programs include water, methane, and biosolids recycling programs (Ascent 2014). In addition, biogas reduced in the anaerobic digesters is provided to SMUD as a renewable energy resource for use at its cogeneration plant and at its Cosumnes power plant (Ascent 2014). Implementation of these programs, the reduction in energy consumption from avoiding groundwater pumping and wastewater discharge, and reducing the need to use pumps at Stone Lakes NWR would ensure that the increased energy use as a result of the proposed Project would not be inefficient, wasteful, or unnecessary.

**Program Elements.** Construction and operational impacts associated with pipeline implementation for the program elements would be similar to those described above. Construction would result in fuel and energy consumption and the potential inefficient use of fuel. However, Regional San would be required to implement SMAQMD's emission control practices, which would reduce inefficient use of fuels. Impacts during construction would be less than significant. Consumption of operational energy would increase as additional recycled water is pumped to irrigation users, but these increases would be offset by further reductions in energy for wastewater discharge and for groundwater pumping.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction- and operation-related effects. Because there would be fewer miles of pipelines compared to Alternative 1 (Medium Service Area Alternative), this alternative is expected to result in less energy consumption. Regional San would still be required to implement SMAQMD's emission control practices to ensure efficient use of fuels.

Similar to Alternative 1 (Medium Service Area Alternative), operation of the alternative would require power to operate the pump station to convey recycled water from the SRWTP to users; this energy use would not be inefficient, wasteful, or unnecessary.

*Alternative 4 (No Project Alternative)*

Under this alternative, no facilities would be constructed. Therefore, no impacts on energy resources would occur during construction. Energy would still be required to obtain irrigation water from other sources.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

### ***Cumulative Impact Analysis***

Short-term construction energy use would be minimized through measures that would ensure efficient use of fuels, and operational energy use would offset existing energy requirements for obtaining irrigation water. The proposed Project is thus not expected to contribute to cumulative energy impacts.

### **Significance Determination before Mitigation**

Less than significant.

### **Mitigation Measures**

No mitigation measures are required.

## **3.7.4 References**

- Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.
- California Air Resources Board (CARB) and California Energy Commission (CEC). 2007. State Alternatives Fuels Plan Commission Report. December, 2007. Available at: <http://www.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF>
- California Energy Commission (CEC). 2015a. Total Electricity System Power, 2014 Total System Power: Changes from 2013. Accessed May 24, 2016.
- \_\_\_\_\_. 2015b. 2015 Integrated Energy Policy Report. Available at: [http://www.energy.ca.gov/2015\\_energypolicy/index.html](http://www.energy.ca.gov/2015_energypolicy/index.html)
- California Public Utilities Commission (CPUC) and California Energy Commission (CEC). 2005. State of California Energy Action Plan II. September 21, 2005. Available at: [http://www.energy.ca.gov/energy\\_action\\_plan/2005-09-21\\_EAP2\\_FINAL.PDF](http://www.energy.ca.gov/energy_action_plan/2005-09-21_EAP2_FINAL.PDF)
- \_\_\_\_\_. 2008. 2008 Update Energy Action Plan. February, 2008. Available at: <http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>
- Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.
- Kleinschmidt Associates. 2008. *Cosumnes River Preserve Management Plan*. March 2008.
- Pacific Gas & Electric (PG&E). 2015a. *Company Profile*. Available at: <http://www.pge.com/en/about/company/profile/index.page>. Accessed March 30, 2015.

\_\_\_\_\_. 2015b. *Clean Energy Solutions*. Available at:  
<http://www.pge.com/en/about/environment/pge/cleanenergy/index.page>. Accessed March 30, 2015.

RMC Water and Environment. 2015. *Sacramento Regional County Sanitation District South County Recycled Water Feasibility Study*. January 2015.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

Sacramento Municipal Utility District (SMUD). 2015a. *Company Profile*. Available at:  
<https://www.smud.org/en/about-smud/company-information/company-profile.htm>.  
Accessed March 3, 2015.

\_\_\_\_\_. 2015b. *Power Sources*. Available at: <https://www.smud.org/en/about-smud/company-information/power-sources.htm>. Accessed March 3, 2015.

## 3.8 Geology and Soils

This section presents the physical and regulatory setting for geology and soils in the area of the proposed Project and evaluates the potential impact from its implementation.

### 3.8.1 Environmental Setting

#### ***Regional Setting***

There are eleven geomorphic provinces in California, each consisting of a naturally defined geologic region with distinct landscape and unique features based on geology, faults, topographic relief, and climate. The Project area falls within the Great Valley geomorphic province, an alluvial plain approximately 50 miles wide and 400 miles long in the central part of California. The Sacramento Valley, drained by the Sacramento River, forms the northern part of the province and the San Joaquin Valley, drained by the San Joaquin River, forms the southern portion. Sediments have been deposited in the Great Valley geomorphic province almost continuously since the Jurassic era, approximately 160 million years ago (California Geological Survey [CGS] 2002). The Great Valley largely consists of Quaternary deposits from the Pleistocene and Holocene epochs. These deposits are primarily non-marine consolidated and unconsolidated alluvium, lake, playa, and terrace deposits that have been accumulating over millions of years (CGS 2010).

#### ***Seismicity***

##### **Earthquake Fault**

The Project area is not located within a Fault-Rupture Hazard Zone designated by the Alquist-Priolo Earthquake Fault Zoning Act of 1972 and Special Publication 42. There are no active faults zoned under the Alquist-Priolo Earthquake Fault Zoning Act in or near the Project area (CGS 2007). While not mapped under the Alquist-Priolo Earthquake Fault Zoning Act, the closest fault is the Vaca fault, a potentially active fault, approximately 20 miles west of the Project area. A potentially active fault is a fault that has shown evidence of surface displacement within the last 1.6 million years. Due to its location in relation to active faults, Sacramento County is less affected by seismic activity and other related geologic hazards than other locations throughout California. However, historically, there has been seismic-related damage in the County, usually from large seismic events in the San Francisco Bay area. The greatest amount of seismicity in the County was in 1892 when an earthquake occurred in Yolo County. The damage in Sacramento County was limited to cracks in chimneys and statuary falling from buildings. The 1906 San Francisco earthquake and the 1989 Loma Prieta earthquake did not result in significant damage in Sacramento County (Sacramento County 2011).

##### **Liquefaction**

Areas in the County most susceptible to seismic and geologic hazards are areas that are subject to liquefaction (Sacramento County 2011). Liquefaction typically occurs in loose, saturated sediments of primarily sandy composition in the presence of ground accelerations caused by earthquakes. When liquefaction occurs, the sediments involved have a total or substantial loss of

shear strength and behave like a liquid or semi-viscous substance. Three general conditions must be met for liquefaction to occur: (1) strong seismic ground-shaking of relatively long duration; (2) loose, or unconsolidated, recently deposited sediments consisting primarily of silty-sand and sand; and (3) water-saturated sediments within about 50 feet of the surface. There are no areas susceptible to liquefaction within the project area.

### ***Landslides***

The Project/Area consists of flat terrain. The potential for landslides in the County is limited to the eastern portion of the County from the Placer County line to the Cosumnes River, outside of the Project area (Sacramento County 2011).

### ***Mineral Resources***

In Sacramento County, mineral resources include natural gas, petroleum, sand, gravel, clay, gold, silver, peat, topsoil, and lignite. The County's sand and gravel deposits are located primarily in the Old American River channel, south of Rancho Cordova, outside of the Project area. Peat and lignite are not currently commercially mined. There are no known gas regions or mineral deposits in the Project area (Sacramento County 2011).

### ***Soils***

#### ***Soil Types***

Soils in the Project area are capable of supporting a variety of crops, which has made the area valuable for agricultural purposes. Soils in the Project area include alluvium, which is flood basin soil rich with organic and mineral compounds, and bench soils, which lack the high percentage of organic material found in the flood basin soils. The soils and their characteristics are included in **Table 3.8-1** based on information from the Natural Resources Conservation Service (NRCS). Soils in Sacramento County are classified by their suitability for crop use based on the U.S. Soil Conservation Service (SCS) system. Classes I and II are considered prime soil in which almost all crops can be grown successfully, while limited agricultural soils are classified as III and IV. Classes V, VI, and VII are soils that are more suited for rangeland, woodland, or wildlife habitat. Soils not suitable for agricultural use are classified as VIII (Sacramento County 2011).

Table 3.8-1: Soils in the Project Area

Soil	Description
Bruella Sandy Loam (111)	Very deep, well and moderately well drained soils formed in alluvium from granitic rock sources. Bruella soils are on low terraces and fans and have slopes of 0 to 5 percent. Slow runoff, moderately slow permeability.
Clear Lake Clay (114 and 115)	Very deep, poorly drained soils that formed in fine textured alluvium derived from sandstone and shale. Clear Lake soils are in basins and in swales of drainageways. Slopes are 0 to 2 percent. Negligible to high runoff, slow to very slow permeability.
Galt Clay (151 and 152)	Moderately deep, moderately well drained soils that formed in fine textured alluvium from mixed but dominantly granitic rock sources. Galt soils are on low terraces, basins and basin rims and have slopes of 0 to 5 percent. Medium to very high runoff, slow permeability.
San Joaquin Series (213, 214, 216, 217, 218, 219 Durixeralfs Complex, Galt Complex, Urban Land Complex)	Moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. They are on undulating low terraces with slopes of 0 to 9 percent. Medium to very high runoff, very slow permeability.

Source: NRCS 2013, 2015

### Potential for Expansive Soils and Subsidence

Expansive soils are soils capable of absorbing high amounts of water. As more water is absorbed by the soil, it begins to expand, thus potentially damaging structures, including pipelines. When soil is dried, it shrinks. Soil in the Project area is characterized as clay with little or no swelling potential (United States Geological Survey [USGS] 1989).

Sacramento County experiences five different kinds of subsidence, or the gradual settling of the earth's surface with little or no horizontal motion:

1. Compaction of unconsolidated soils by earthquakes;
2. Compaction by heavy structures;
3. Erosion of peat soils;
4. Peat oxidation; and
5. Fluid withdrawal.

Items 3 and 4 are specific to the Delta and occur outside the Project area. Groundwater pumping (i.e. fluid withdrawal) for residential, commercial, and agricultural uses causes the most significant subsidence in the County, which is known to occur primarily within the southwestern portion of the County. There are potential subsidence areas in the Project area (Sacramento County 2011).

### 3.8.2 Regulatory Framework

This section describes the laws and regulations that may apply to the proposed Project. The applicable state and local laws, regulations, and policies related to geology and soils for the proposed Project are described as follows.



### ***Federal Policies and Regulations***

There are no federal policies or regulations associated with geology and soils that apply to the proposed Project.

### ***State Policies and Regulations***

#### **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act was adopted in 1972, and is designed to restrict certain development along active faults. The Act requires that the State Geologist delineate earthquake fault zones around the surface traces of active faults and to maintain maps outlining these zones. The CGS defines active faults as those that have been active within the last 11,000 years. The purpose of these zones is to prevent the construction of buildings used for human occupancy within an earthquake fault zone. In addition to delineating earthquake fault zones, the Act requires disclosure of properties located within an earthquake fault zone when buying or selling a property. The Act was first designated as the Alquist-Priolo Geologic Hazard Zones Act, but was later changed to the Alquist-Priolo Special Studies Zones Act in 1975 and changed again in 1994 to the Alquist-Priolo Earthquake Fault Zoning Act (CGS 2007).

#### **Seismic Hazard Mapping Act**

The California Seismic Hazard Mapping Act (Public Resources Code [PRC] Sections 2690-2699.6) was passed in 1990, following the Loma Prieta earthquake, to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The act directs the California Department of Conservation to identify and map areas prone to the earthquake hazards of liquefaction, earthquake-induced landslides, and amplified ground shaking. It requires site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures before permitting most developments designed for human occupancy in the Zones of Required Investigation.

#### **California Building Code**

The California Building Code (CBC), which is codified in California Code of Regulations (CCR) Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

The CBC is based on the International Building Code. The 2007 CBC is based on the 2006 International Building Code published by the International Code Conference. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (e.g. flood, snow, wind) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or

structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

### ***Local Policies and Regulations***

#### **Sacramento County General Plan**

##### *Agricultural Element*

The Sacramento County General Plan (Sacramento County 2011) Agricultural Element contains the following objective and policy that may be applicable to the proposed Project:

- Objective: Reduce soil erosion
  - Policy AG-28: The County shall actively encourage conservation of soil resources.

##### *Conservation Element*

The Conservation Element includes the following goal that may be relevant to the proposed Project and geology and soils:

- **GOAL:** Preserve and protect long-term health and resource value of agricultural soils.

#### **City of Elk Grove and Sacramento County Land Grading and Erosion Control Ordinance**

The City's Land Grading and Erosion Control Ordinance (Title 16 Chapter 16.44 of the City Code) and County's Land Grading and Erosion Control Ordinance (Title 16 Chapter 16.44 of the County Code) both establish administrative procedures, minimum standards of review, and implementation and enforcement procedures for controlling erosion, sedimentation and other pollutant runoff, including construction debris and hazardous substances used on construction sites, and disruption of existing drainage and related environmental damage caused by land clearing and grubbing, grading, filling, and land excavation activities. This ordinance requires a grading and erosion control permit for grading, filling, excavating, storing, or disposing of, or clearing and grubbing over 350 cubic yards of soil, or clearing and grubbing more than one acre of land within the City or unincorporated area of the County (City of Elk Grove 2015a, Sacramento County 2015).

The intent of the ordinance is to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of water courses, and the disruption of natural or City or County authorized drainage flows caused by construction activities, and to comply with the

provisions of their respective National Pollutant Discharge Elimination System (NPDES) Permits (City of Elk Grove 2015a, Sacramento County 2015).

Sections 16.44.060 of both City and County ordinances do not require a grading and erosion control permit for underground utilities.

### **City of Elk Grove General Plan**

#### *Conservation and Air Quality Element*

The Conservation and Air Quality Element includes the following relevant policy (City of Elk Grove 2015b):

- Policy CAQ-5: Roads and structures shall be designed, built and landscaped so as to minimize erosion during and after construction.

#### *Safety Element*

The City of Elk Grove General Plan Safety Element identifies the following goals and policies that may be relevant to the proposed Project (City of Elk Grove 2015b):

- Policy SA-26: The City shall seek to ensure that new structures are protected from damage caused by geologic and/or soil conditions.

### **3.8.3 Impact Analysis**

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed Project and alternatives would result in significant impacts related to geology and soils. It is based on the review of available geologic maps and literature in consideration of seismic and geologic risks with potential to affect the proposed Project facilities and the potential for operation of the facilities to affect the public.

#### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist, an impact would be considered significant if the proposed Project would:

- Result in substantial soil erosion, siltation or loss of topsoil;
- Exacerbate existing environmental hazards or conditions, resulting in a substantial risk of loss, injury, or death;
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available; or
- Result in a substantial loss of an important mineral resource.

#### ***Criteria Requiring No Further Evaluation***

Criteria listed above that are not applicable to actions associated with the proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available* – the proposed Project would not generate wastewater and would not include the installation of septic tanks or alternative wastewater disposal systems. Therefore, there would be no impacts associated with soils supporting septic tanks or alternative wastewater disposal systems and no further evaluation is warranted.
- *Result in a substantial loss of an important mineral resource* – The Project area is not located within any areas of mineral resources or significant mineral deposits (Sacramento County 2011). Thus, no impact to mineral resources would occur and no further evaluation is warranted.

### **Impacts and Mitigation Measures**

#### **Impact GEO-1 Result in Substantial Soil Erosion, Siltation or Loss of Topsoil.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Construction activities involving ground disturbance, such as excavation, stockpiling, and grading could result in increased erosion, sedimentation and siltation to surface waters. A review of soil data shows that soils within the proposed Project area have a range of slow to high runoff potential (see **Table 3.8-1**), indicating potentially significant impacts from soil erosion. Construction activities associated with Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) are anticipated to disturb more than 1.0 acre of soil. Therefore, construction of these alternatives would be required to comply with the Construction General Permit (Order No. 2009-0009-DWQ), which is issued by the SWRCB. The Construction General Permit requires development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include a site map(s) showing the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the site. The SWPPP must include Best Management Practices (BMPs) the discharger would use to protect stormwater runoff; a visual monitoring program; and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs. Compliance with the Construction General Permit would ensure construction of facilities implements the mandated BMPs, and therefore would not result in substantial soil erosion, siltation, or the loss of topsoil. Impacts would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. A SWPPP would be prepared as required to comply with the Construction General Permit, reducing potential soil erosion, siltation and the loss of topsoil impacts to a less-than-significant level.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts related to soil erosion, siltation, or loss of topsoil would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact GEO-2 Exacerbates existing environmental hazards or conditions, resulting in a substantial risk of loss, injury, or death.**

*Alternative 1 (Medium Size Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** A project that places development in an existing or future hazard area is not considered under CEQA to have a significant impact on the environment, unless the project would exacerbate the environmental hazard or condition. This analysis therefore focuses on whether seismic impacts could cause the proposed Project's facility to fail, and if that failure would cause a secondary impact that could exacerbate an environmental hazard.

The Project area consists of flat terrain and is not in an area subject to landslides. The Project area is also underlain by soils characterized as clay with little or no swelling potential. Therefore, the proposed Project would have no impact related to landslides or expansive soil conditions.

As described above, Sacramento County is less affected by seismic activity and other related geologic hazards than other locations throughout California. However, seismic events could still result in secondary seismic impacts associated with unstable soils such as lateral spreading, liquefaction, and subsidence. Lateral spreading is the lateral movement of saturated soils due to earthquake induced liquefaction. If not designed correctly, the proposed Project's facilities could be subject to misalignment of pipelines, failure of joints, and recycled water leakage from pipelines after a seismic event. Leakage from pipelines could saturate soils, contributing to conditions for liquefaction, lateral spreading, and subsidence. Structural failures could thus result in increased risk to safety. However, the geotechnical analysis required as part of the California Building Standards Code would incorporate appropriate standard engineering practices and specifications in facility design to minimize risk of structural failure in a seismic event, and would reduce secondary impacts that may occur as a result.. Therefore, impacts would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Similar to Alternative 1 (Medium Service Area Alternative), through incorporation of standard engineering practices and specifications in the facility design, impacts would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, impacts associated with unstable soils would not occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

No mitigation measures are required.

***Cumulative Impacts***

The geographic scope of potential cumulative impacts related to geology and soils encompasses the proposed Project component sites and immediate vicinity. There are three cumulative projects in the immediate vicinity of the proposed pump station and transmission pipeline. Cumulative projects could have geologic and soils impacts similar to the proposed Project, however geologic and soils impacts are generally site-specific and depend on local geologic and soil conditions. All cumulative development projects are required to individually meet NPDES requirements and implement grading and erosion control plans, conduct geotechnical evaluations, incorporate appropriate standard engineering practices, and comply with stringent building requirements. Cumulative utilities projects and associated structures are also required to be designed to withstand seismic forces to the maximum extent possible. The proposed Project would comply with the Construction General Permit during construction and also incorporate appropriate standard engineering practices to ensure seismic stability during operations. Therefore, the proposed Project would not contribute to cumulative geologic, soils, or seismic impacts.

**Significance Determination before Mitigation**

Less than significant.

**Mitigation Measures**

No mitigation measures are required.

**3.8.4 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

- California Geological Survey (CGS). 2002. California Geomorphic Provinces Note 36. Available at: [http://www.conservation.ca.gov/cgs/information/publications/cgs\\_notes/note\\_36/Documents/note\\_36.pdf](http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf). Accessed April 15, 2015.
- \_\_\_\_\_. 2007. Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps, Special Publication 42 Interim Revision 2007. Available at: <ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf>. Accessed April 14, 2015.
- \_\_\_\_\_. 2010. 2010 Geologic Map of California, Map No. 2. Available at: <http://www.quake.ca.gov/gmaps/GMC/stategeologicmap.html>. Accessed April 15, 2015.
- Elk Grove, City of. 2015a. *Elk Grove Municipal Code Title 16, Chapter 16.44 Land Grading and Erosion Control*. Reflects Amendments through September 9, 2015.
- \_\_\_\_\_. 2015b. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.
- Natural Resources Conservation Service (NRCS). 2013. *Simplified Guide to Soil Taxonomy*. September 1, 2013.
- \_\_\_\_\_. 2015. Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed September 24, 2015.
- Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.
- \_\_\_\_\_. 2015. *Sacramento County Code Title 16, Chapter 16.44 Land Grading and Erosion Control*. Reflects Amendments through September 9, 2015.
- United States Geological Survey (USGS). 1989. Swelling clays map of the conterminous United States. Available at: [http://ngmdb.usgs.gov/Prodesc/proddesc\\_10014.htm](http://ngmdb.usgs.gov/Prodesc/proddesc_10014.htm). Accessed April 15, 2015.

## 3.9 Hazards and Hazardous Materials

This section presents the physical and regulatory setting for hazards and hazardous materials surrounding the proposed Project and analyzes the potential for impacts related to hazards and hazardous materials associated with implementation of the proposed Project.

### 3.9.1 Environmental Setting

#### *Regional Setting*

Given its setting and projected rate of urban growth, Sacramento County is at risk of several hazards. Hazards can be caused by nature (e.g., earthquakes or floods), can be man-made (e.g., fires caused by arson or carelessness), or result from a combination of both natural and man-made causes (Sacramento County 2011).

Potential hazards within the Project area include potential release of toxic or hazardous substances used by commercial and industrial businesses, or from accidents on truck routes and/or railroad lines passing through the area. I-5 and other major routes traverse the project area, and are used by vehicles carrying hazardous substances (City of Elk Grove 2015).

#### *Known Contamination Sites*

Two online databases, the California Department of Toxic Substances Control (DTSC) EnviroStor Hazardous Waste and Substances Site List and the SWRCB GeoTracker database, were searched for known contamination sites within and surrounding the Project area, defined as within 1,000 feet of the proposed project components.

The EnviroStor database identifies sites that have known contamination or sites for which there may be reasons for further investigation. Specifically, it lists the following site types: Federal Superfund sites (National Priority List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. Sites that are in the Hazardous Waste and Substances Site List - Site Cleanup (Cortese List) are also identified.

GeoTracker is an online tool that provides regulatory data regarding sites that impact groundwater, particularly those that require groundwater cleanup, as well as permitted facilities such as those operating underground storage tanks and land disposal sites.

A search of the EnviroStor database (DTSC 2015a) shows three known contamination sites within 1,000 feet of the proposed project facilities, while the GeoTracker database (SWRCB 2015) search shows ten contamination sites. Two of the sites identified using EnviroStor consisted of a sites where a Phase 1 Environmental Site Assessment identified no contaminants, and a site where inspection indicated that no further action was needed. Of the ten sites identified using GeoTracker, all but two are considered case closed; one is inactive and the other is open. These sites are summarized in **Table 3.9-1** and **Table 3.9-2**. Additionally, a search of the Hazardous Waste and Substances Sites list was conducted. There are no Cortese sites in the Project area (DTSC 2015b).



Table 3.9-1: Contamination Sites Identified by EnviroStor within and Surrounding the Project Area (within 1,000 feet of Project Components)

Site Name	Location	Site Type	Description	Status
Franklin Auxiliary Field #6 (J09CA0809) (80000567)	South of Lambert Road, east of Franklin Boulevard, West of Bruceville Road, north of Twin Cities Rd	Military Evaluation	The 640-acre site consists of four runways, and abandoned hangars and barracks. Two of the runways are still in commercial and private airport use. The site is now occupied by the county correctional facility and a large solid waste landfill. Potential contaminants of concern include lead, radioactive isotopes potentially left by airfield operations, vehicle storage and refueling, and the landfill. In 2010, DTSC determined no further action is required.	No further action

Source: DTSC 2015a

Table 3.9-2: Contamination Sites Identified by GeoTracker within and Surrounding the Project Area (within 1,000 feet of Project Components)

Site Name	Location	Site Type	Description	Status
Wastewater Treatment Plant Site (T0606700040)	8521 Laguna Station Road, Elk Grove, CA 95624	Leaking Underground Storage Tank (LUST) Cleanup Site	A potential leak was discovered and reported in 1986. The case was closed that year. Gasoline was a potential contaminant of concern at the Regional San SRWTP. A "No Further Action" letter was sent to Regional San in 1998 from the Sacramento County Environmental Management Department, as required by the CA Underground Storage Tank Regulations.	Completed; Case Closed
Biosolids/Solids Disposal Facility (L10007002783)	8521 Laguna Station Road, Elk Grove, CA 95758	Land Disposal Site	Regional San sent a letter to the Compliance and Enforcement Section of the RWQCB in August 2014 to provide notification that a monitoring well at the SRWTP had been abandoned. The cleanup status has been open since January 1965.	Open
Gil's Garage (T0606701001)	10413 Franklin Boulevard, Elk Grove, CA 95624	LUST Cleanup Site	A potential leak was discovered in November 1997 during a site assessment. The case was closed in March 2000.	Completed; Case Closed
Govan Property (T0606700723)	10434 Franklin Boulevard, Elk Grove, CA 95758	LUST Cleanup Site	A site assessment was conducted in September 1992 in which a leak was identified. The case was closed in March 1996.	Completed; Case Closed
Private Residence (SL0606790171)	East of Highway 99, south of Kammerer Road	Cleanup Program Site	A diesel leak was discovered in February 2006. In July 2006 a site assessment was conducted and the case was then closed in December. The site is listed as a private residence with a future land use of commercial. SWRCB must be notified prior to subsurface work, development, or a change a land use. Excavation of	Completed; Case Closed

Site Name	Location	Site Type	Description	Status
			contaminated soils is not allowed without agency review and approval.	
Elk Grove Milling Inc (T0606701014)	8320 Eschinger Road, Elk Grove, CA 95624	LUST Cleanup Site	In April 1998 a gasoline leak was discovered. The case was closed in October 2000.	Completed; Case Closed
RCCC-Sheriff's Station (T0606700173)	12500 Bruceville Road, Elk Grove, CA 95624	LUST Cleanup Site	The case began in February 1986 when a gasoline leak was discovered and reported. A site assessment was conducted in May 1986. The case has been closed since June 1998.	Completed; Case Closed
Franklin Field (SLT5S4763729)	South of Lambert Road, east of Franklin Boulevard, west of Bruceville Road, north of Twin Cities Road	Cleanup Program Site	In January 1981 a site assessment was conducted, the site was made inactive, and the case was ultimately closed.	Completed; Case Closed
Franklin Field Airport (SL1851182899)	Near the intersection of Bruceville Road and Twin Cities Road, north of Twin Cities Road	Cleanup Program Site	The potential contaminants of concern include 4,4-DDD, 4,4-DDE, aldrin, DDD / DDE / DDT, pesticides/herbicides, and toxaphene. In 1993 a site assessment was completed and remediation (excavation of contaminated soil) took place in 2001. The case was closed in 2003. In 2008, Sacramento County sent the RWQCB a letter describing the land use covenant for the site. The site is precluded from being used for residential property	Completed; Case Closed
Flint Ranch/Cosumnes River Preserve (SL606739825)	8210 Twin Cities Road, Galt, CA 95632	Cleanup Program Site	A leak was discovered and reported in November 2006. The case was closed that same month. .	Inactive

Source: SWRCB 2015

### **Grit and Screening Landfill at SRWTP**

An existing grit and screenings landfill area is located adjacent to the area that is being considered for the proposed pump station. The landfill occupies 23 acres, of which about eight acres were historically used for waste disposal. The landfill was operated as an unlined Class III solid waste disposal site that accepted waste from December 1982 to January 1993. The landfill is permitted under RWQCB WDR No. R5-2003-0076. The California Department of Resources Recycling and Recovery (CalRecycle) references the landfill by its solid waste information system (SWIS) number: 34-AA-0029. During operation, trenches were excavated into native soils, filled with waste, and then covered with soil. The landfill was officially closed in 1994 by the installation of a final soil cover. The landfill is currently in the post-closure maintenance and monitoring phase. The EIR for the EchoWater Project evaluated removal of the landfill to provide adequate space for proposed facilities. (Ascent Environmental 2014)

### ***Airports***

Of the five airports operated by the County of Sacramento, only one is within the Project area – the Franklin Field Airport – located a mile northeast of the intersection of Twin Cities Road and Franklin Boulevard in south Sacramento County in the recycled water service area. It is a small public use airport that has approximately 36,000 flights each year, most of which are flight training activities. It does not have an air traffic control tower or staff as it serves the general aviation community exclusively (Sacramento County Airport System 2015).

The airport has two perpendicular runways. There are no fueling, service, or repair facilities on site. The sole use of the airport is by general aviation aircraft for training and touch-and-go activity, as well as crop dusters during the planting and spraying season. The airport is surrounded by agricultural use and, on the east side, the Rio Cosumnes Correctional Center.

### **3.9.2 Regulatory Framework**

Hazardous materials and wastes can result in public health hazards if released to soil, groundwater, or air. Hazardous materials as defined in Section 25501(o) of the California Health and Safety Code are materials that, because of their “quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released to the workplace or environment.” Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications, as well as to a limited extent in residential areas.

A waste is any material that is relinquished, recycled, or inherently waste-like. CCR Title 22 Section 66261.1, et seq. contains regulations for the classification of hazardous wastes. Article 3 criteria classify waste as hazardous if it is toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). Article 4 also lists specific hazardous wastes, while Article 5 identifies specific waste categories, including Resource Conservation and Recovery Act (RCRA) hazardous wastes, non-RCRA hazardous wastes, extremely hazardous wastes, and special wastes. If improperly handled and released to soil, groundwater, or air (in the form of vapors, fumes, or dust), hazardous materials and wastes can result in public health hazards.

This section describes laws and regulations that may apply to the proposed Project.

#### ***Federal Policies and Regulations***

##### **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

CERCLA, also referred to as the Superfund law, regulates the potential for liability for cleanup of hazardous substances, provides for defense against liability, identification of contaminated sites, defines hazardous substances, petroleum products, and petroleum exclusions. The Superfund Amendments and Reauthorization Act (SARA), includes emergency planning and community right-to-know. Under CERCLA, facilities must report where toxic chemicals are transferred, chemical-specific information, and supplemental information, along with identification information for their facility to the U.S. Environmental Protection Agency (USEPA). Hazardous substances must be reported, and releases to the environment accounted for.

### **Resource Conservation and Recovery Act (RCRA)**

RCRA regulates potential health and environmental problems associated with solid waste hazards and nonhazardous waste. RCRA defines solid waste as garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility, and other discarded materials. Solid waste can be either hazardous or non-hazardous. Hazardous waste is waste that burns readily, is corrosive, or reactive, or if it contains certain amounts of toxic chemicals or has been included on the USEPA's list of hazardous wastes. RCRA regulates the disposal of waste and aims to reduce waste generation. It restricts which facilities can receive hazardous wastes and regulates facilities to ensure proper handling of materials.

### **Emergency Planning and Community Right-To-Know Act (EPCRA)**

EPCRA was passed in 1986 and requires federal, state, and local governments to create chemical emergency response plans for releases of hazardous substances. It also requires reporting on hazardous and toxic chemicals to increase awareness and access to information on chemicals and individual facilities. It requires that facilities report accidental releases of certain chemicals and hazardous substances, and provide such information to the public. Facilities must create and make available Material Safety Data Sheets (MSDS) that describe the chemicals in question and health effects associated with them. Chemical inventories must also be reported if they require an MSDS.

### **Hazardous Materials Worker Safety Requirements**

The federal Occupational Safety and Health Administration (OSHA) is the federal agency responsible for ensuring worker safety. The federal regulations for worker safety are contained in Code of Federal Regulations (CFR) Title 29, as authorized in the Occupational Safety and Health Act of 1970; these regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling.

### **Preliminary Remediation Goals**

USEPA has published screening levels, referred to as Regional Screening Levels (RSLs), for the evaluation of chemicals commonly found in soil or groundwater where a release of hazardous materials has occurred (USEPA 2016). For an industrial worker, these screening levels are conservative estimates of safe levels of a chemical that a worker could be exposed to in soil and groundwater. If the concentration of a chemical in the soil or groundwater is below the RSL, then it can be assumed that the chemical would not pose a health risk to the worker. Screening levels would generally be lower for industrial workers than construction workers because the industrial worker would be exposed to the hazard over a lifetime while the construction worker would only be exposed for the duration of construction. Therefore, safe levels of chemicals in soil and groundwater would generally be higher for construction workers than industrial workers.

### **U.S. Department of Transportation Hazardous Materials Transportation Act**

The U.S. Department of Transportation (USDOT) and USEPA enforce and implement federal laws and regulations related to the transportation of hazardous materials. The Hazardous Materials Transportation Act directs the USDOT to establish regulations for the safe storage and transportation of hazardous materials. CFR 49, 171-180 defines the types of materials that are defined as hazardous, the required marking of vehicles transporting the hazardous materials, and regulates the transportation of hazardous materials.

### ***State Policies and Regulations***

#### **California Environmental Protection Agency**

The California Environmental Protection Agency (CalEPA) is authorized by the EPA to enforce and implement federal hazardous materials laws and regulations. CalEPA consists of the Air Resources Board (ARB), Department of Pesticide Regulation (DPR), Department of Resources Recycling and Recovery (CalRecycle), Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment (OEHHA), and the State Water Resources Control Board (SWRCB). CalEPA's DTSC protects California and Californians from exposure to hazardous waste, primarily under the authority of RCRA and the California Health and Safety Code. DTSC requirements include preparation of written programs and response plans, such as Hazardous Materials Business Plans (HMBPs). DTSC programs also include dealing with aftermath clean-ups of improper hazardous waste management, evaluation of samples taken from sites, enforcement of regulations regarding use, storage and disposal of hazardous materials, and encouragement of pollution prevention.

#### **California Health and Safety Code**

The California Health and Safety Code contains statewide regulations designed to protect public health and safety. Sections of the state code relevant to the proposed project include the Hazardous Materials and the Hazardous Waste and Substances Site List (Cortese List), which is developed under Section 65962.5 of the California Government Code. The list is compiled and maintained by the DTSC under the California EPA. The Cortese List is a list of all sites identified as having hazardous waste releases.

Facilities that handle, store, use, treat, dispose of, or generate hazardous materials are required to create hazardous-waste management programs under Division 20, Chapter 6.5, section 25100 et seq. Facilities that generate hazardous wastes in excess of 26,400 pounds per year, or extremely hazardous wastes in excess of 26.4 pounds per year, must adhere to California Health and Safety Code Section 25244.12 et seq. This section of the code requires facilities to determine the types and amounts of wastes generated, identify procedures to reduce waste generation, develop written documentation that addresses waste reduction, develop a source-reduction evaluation review and plan, prepare a plan summary and hazardous waste management report, and a report summary. Hazardous materials handling, reporting requirements, and local agency surveillance programs are regulated under the California Health and Safety Code, Section 25500 et seq.

#### **California Department of Forestry and Fire Protection (CAL FIRE): State Responsibility Areas (SRAs) System**

Fire hazards were initially characterized according to a number of systems including the California Department of Housing and Urban Development (HUD) Study System of 1973 which combined fuel loading, slope, and fire weather information to determine the Fire Hazard Severity of an area. Non-federal areas identified as having a fire hazard are referred to as SRAs because the State has the primary financial responsibility of preventing and suppressing fires. The agency responsible for suppressing fires in SRAs is the California Department of Forestry. Local fire agencies are responsible for suppressing fires in private property within City limits. Legislative mandates passed in 1981 (Senate Bill 81, Ayala, 1981) and 1982 (Senate Bill 1916, Ayala, 1982) that became effective on July 1, 1986, required CAL FIRE to develop and implement a system to

rank the fire hazards in California. Areas were rated as moderate, high or very high based primarily on fuel types. Thirteen different fuel types were considered using the 7.5-minute quadrangle maps by the U.S. Geological Survey as base maps. SRAs include all lands regardless of ownership, except for cities and federal lands.

### **Local Policies and Regulations**

#### **Franklin Field Airport Comprehensive Land Use Plan**

A Comprehensive Land Use Plan was prepared by the Airport Land Use Commission (ALUC 1992). The primary goals of the plan are:

- To protect the airport from encroachment by incompatible land uses.
- To safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general by protecting them from the adverse effects of aircraft noise and reducing the number of people exposed to airport-related hazards.
- To ensure that no structures affect navigable airspace.

The plan outlines height restrictions for new structures surrounding the airport, noise restrictions, and safety restrictions (ALUC 1992).

#### **Sacramento County Multi-Hazard Mitigation Plan**

In 2004, the Sacramento County Multi-Hazard Mitigation Plan was prepared to meet the requirements of the Disaster Mitigation Act of 2000 with the purpose of reducing or eliminating long-term risk to people and property from natural hazards in the County (AMEC 2004). During preparation of the Plan, the Hazard Mitigation Planning Committee (HMPC) established the following goals and objectives:

- GOAL #1: Reduce exposure to hazard related losses.
  - Objective 1.2: Protect critical facilities, utilities, and infrastructure.
- GOAL #2: Promote awareness of hazards and vulnerability among citizens, business, industry and government.
  - Objective 2.1: Develop a seasonal multi-hazard public education campaign to be implemented annually.

In order to achieve the goals, a series of recommended action items were identified. The plan was adopted by the governing boards of the participating agencies (AMEC 2004).

#### **Sacramento County General Plan**

The Sacramento County General Plan (Sacramento County 2011) contains the Safety Element with the goal of reducing the potential risk of death, injuries, property damage, or economic/social dislocation as a result of fires, flood, earthquakes, landslides and other hazards, and the Hazardous Materials Element which describes the proper use, handling, and disposal of hazardous materials to minimize impacts on humans and the environment.

### *Safety Element*

The Safety Element of the General Plan identified the following goal and policy that may be related to the proposed project (Sacramento County 2011):

- **GOAL:** Minimize the loss of life, injury, and property damage due to fire hazards.

### *Hazardous Materials Element*

The Hazardous Materials Element identifies the following objectives and policies that may be relevant to the proposed Project (Sacramento County 2011):

- **Objective:** Protect the residents of Sacramento County from the effects of a hazardous material incident via the implementation of various public health and safety programs.
  - Policy HM-4: The handling, storage, and transport of hazardous materials shall be conducted in a manner so as not to compromise public health and safety standards.
  - Policy HM-8: Continue the effort to prevent groundwater and soil contamination.
  - Policy HM09: Continue the effort to prevent surface water contamination.

## **City of Elk Grove General Plan**

### *Guiding Goal and Focused Goal*

The City of Elk Grove has identified the following guiding goal and focused goal related to hazards and hazardous materials (City of Elk Grove 2015):

- Guiding Goal 1: A high quality of life for all residents.
  - Focused Goal 1-1: A safe community, free from manmade and natural hazards.

### *Safety Element*

The Safety Element of the General Plan contains the following policies that are relevant to hazards and the proposed Project (City of Elk Grove 2015):

- Policy SA-1: The City will seek to maintain acceptable levels of risk of injury, death, and property damage resulting from reasonably foreseeable safety hazards in Elk Grove.
- Policy SA-8: Storage of hazardous materials and waste shall be strictly regulated, consistent with state and federal law.
- Policy SA-9: The City shall seek to ensure that all industrial facilities are constructed and operates in accordance with up-to-date safety and environmental protection standards.
- Policy SA-32: Cooperate with the Elk Grove Community Services District (EGCSD) Fire Department to reduce fire hazards, assist in fire suppression, and promote fire safety in Elk Grove.

## **Sacramento County Code**

Title 6, Chapter 6.96 of the Sacramento County Code establishes standards and procedures regarding the reporting of the location, type, quantity, and health risks of hazardous materials handled, used, stored or disposed of within the unincorporated area of Sacramento County, and

within the incorporated territory of each municipality within Sacramento County. Chapter 6.96.095 includes two lists of hazardous materials that are exempt from the inventory provisions: substances that would not pose a present and potential danger to the environment or to human health and safety if released into the environment; and hazardous materials under stated circumstances that would not pose a present or potential danger to the environment or to human health and safety if released into the environment. In addition, hazardous materials at temporary construction job sites stored no more than 90 days and in quantities of 55 gallons or more for liquid, 500 pounds or more for solid and 200 cubic feet or more for compressed gas at standard temperature and pressure, are exempt from the requirements of the code. If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Because construction of the transmission pipeline is anticipated to last more than 90 days, the construction exemption outlined in Sacramento County Code 6.96.095 may not apply.

### ***SRWTP Emergency Response Plans and Requirements***

The SRWTP has site specific plans for emergency response, as well as procedural requirements.

### **Emergency Response and SRWTP's Emergency Response Program**

General emergency response for the SRWTP is provided by the Cosumnes Fire Department as the first responder for fire and other emergency services. Hazardous materials/waste spills are managed via a contract with a licensed hazardous waste hauler (Ascent 2014).

### **Spill Prevention, Control, and Countermeasure Plan (SPCC)**

The SPCC, last updated in 2013, documents, defines, and describes the practices, procedures, structures, and equipment used to prevent, control, and/or mitigate releases of petroleum, oil, and lubricant products to the environment. The plan provides general information about existing petroleum usage and storage onsite, and provides standard procedures and other requirements for the loading, unloading, containment, and use of petroleum onsite. The SPCC also provides for emergency spill response, notification, and reporting; and implements requirements for training, inspections, and record keeping in accordance with federal requirements. The SPCC is on file at the SRWTP site (Ascent 2014).

### ***Other Related Planning Efforts***

#### **County of Sacramento Emergency Operations Plan**

The County of Sacramento Emergency Operations Plan was prepared and adopted to provide a basis for coordinated response before, during, and after a disaster affecting the County. It identified the following operations goals for agencies in Sacramento County that would be implementing the Plan (Sacramento County 2012):

- Mitigate hazards.
- Meet basic human needs.
- Address needs of the People with Access and Functional Needs.
- Restore essential services.



- Support community and economic recovery.

The operational priorities are to save lives, protect healthy and safety, protect property, and preserve the environment. To achieve the goals and priorities, the plan established the organization framework of the California Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS) (Sacramento County 2012).

### **Sacramento County Evacuation Plan**

The Sacramento County Evacuation Plan was prepared to document the strategy for the County's response to emergencies involving evacuation of persons from an impacted area to a safe area. It incorporates the Incident Command System and principles of the SEMS and NIMS. The Plan achieves the following (James Lee Witt Associates 2008):

- Supports activation of the Sacramento County Emergency Operations Center and other County Departmental Operations Centers;
- Provides overall operational guidance for public alert and warning, movement of evacuees, and care and shelter;
- Provides a concept of operations for a medium or large-scale evacuation event;
- Provides the roles of key departments and agencies during an evacuation.

### **3.9.3 Impact Analysis**

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed facilities would result in significant impacts related to hazards or hazardous materials. Impacts are evaluated based on the known potentially hazardous materials that would be used or stored on site during construction and operation, potential for accidental hazardous substance release, and presence of other health-threatening factors in the proposed project vicinity.

#### ***Thresholds of Significance***

Consistent with Sacramento County Initial Study, a hazard or hazardous materials impact would be considered significant if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Expose the public or the environment to a substantial hazard through reasonably foreseeable upset conditions involving the release of hazardous materials;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5 and, resulting in a substantial hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;

- Result in a safety hazard for people residing or working in the vicinity of an airport/airstrip;
- Expose people residing or working in the project area to aircraft noise levels in excess of applicable standards;
- Result in a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft; or
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

**Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to the proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials* – The proposed Project would not involve the routine transport, use or disposal of hazardous materials as it consists of operation of pipelines, a pump station, diluent wells (driven by electricity), and a potential recharge pond. Thus, the proposed Project would not create any significant hazards to the public or the environment associated with the transport, use or disposal of hazardous materials. No impact would occur and no further discussion is warranted.
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school* – Construction would involve the use of fuels, lubricants, paints, solvents, and other construction materials that are considered hazardous. Use and storage of these materials could result in exposure of workers or the public through spills or improper handling, and construction would occur within one quarter mile of Marion Mix Elementary School. However, all use of hazardous materials during construction would be subject to compliance with federal, State and local hazardous materials regulations. It is thus expected that routine use of these materials in accordance with these laws and regulations would not result in adverse effects on the public or the environment. No impact would occur and no further discussion is warranted.
- *Be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment* – The proposed Project is not located on a site included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5 (Cortese List). As such, the proposed project is not located on a Cortese List site and would not create a significant hazard to the public or the environment.
- *Expose people residing or working in the project area to aircraft noise levels in excess of applicable standards* – The project would not generate aircraft noise, and would not introduce new residents or workers into the area exposed to noise from Franklin Field.
- *Result in a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft or result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks* – The proposed Project is a recycled water project where proposed facilities are located on or

below ground. None of the above-ground structure would encroach upon Franklin Field or its airspace, and the proposed Project would not change the air traffic patterns of the nearby airport. Thus, no impact would occur and no further discussion is warranted.

### ***Impacts and Mitigation Measures***

#### **Impact HAZ-1 Expose the Public or Environment to a Substantial Hazard through Reasonably Foreseeable Upset Conditions Involving the Release of Hazardous Materials into the Environment.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** During construction the contractor would use limited quantities of fuels, oils, lubricants, solvents and other materials that are classified as hazardous. All materials would be stored, handled and used in accordance with applicable laws.

Some excavated materials would be hauled off site and disposed of as required by state and federal regulations, and waste would be classified and disposed of properly.

There is the potential to encounter unknown contaminated soils as well as hazardous sites as identified by EnviroStor and Geotracker. As described in the *Known Contamination Sites* section, the three hazardous sites identified by EnviroStor require no further action and nine of the 10 sites identified by Geotracker are either closed or inactive; the remaining site is open and located at the SRWTP. There would be no impact associated with hazardous materials resulting from construction of the transmission pipeline near the sites identified as “no further action required” and the “closed” or “inactive” sites. Construction within the SRWTP would avoid known contaminated sites. In addition, the existing closed Grit and Screenings Landfill site would be avoided, if feasible, unless the landfill has been fully or partially removed as part of the EchoWater Project. Other unidentified areas of contaminated soils may be present at the SRWTP or along the pipeline alignment, and construction of the proposed pump station and pipeline could result in the exposure of construction workers to potentially contaminated soils due to improper removal of existing hazardous materials on site or from other historic releases of hazardous materials to soil or groundwater in the area. Thus, construction of the proposed pump station and pipeline could result in potentially significant impacts related to hazardous materials. Implementation of **Mitigation Measure HAZ-1**, which would require studies to assess the presence of soil and/or groundwater contamination and identify disposal methods, would reduce potential impacts related to exposure to hazardous materials to a less-than-significant level.

**Program Elements.** The pipelines, potential recharge area, and diluent wells are not on or near any identified hazardous sites. However, similar to construction of the project elements, there is the potential to encounter previously unidentified areas of contamination. Implementation of **Mitigation Measure HAZ-1** would reduce impacts related to exposure to hazardous materials to a less-than-significant level.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), and would result in the same potential for release of hazardous materials. The difference is that the area of impact under Alternative 3 (Small Service Area Alternative) would be smaller because the extent of improvements would be less. Potential impacts related to exposure to hazardous materials would be reduced to a less-than-significant level with the implementation of **Mitigation Measure HAZ-1**.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no hazardous materials impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measure HAZ-1: Conduct Phase I Study along Transmission Pipeline (All Action Alternatives)**

Prior to the start of construction, a Phase I hazardous waste/hazardous materials study for soil and groundwater contamination shall be completed for the transmission pipeline. The recommendations set forth in the Phase I assessment shall be implemented to the satisfaction of applicable agencies before construction begins. If Phase I assessments indicate the potential for contamination within the construction zone of the pipelines, Phase II studies shall be completed before construction begins. Phase II studies will include soil and groundwater sampling and analysis for anticipated contaminants. The Phase II sampling is intended to identify how to dispose of any potentially harmful material from excavations, and to determine if construction workers need specialized personal protective equipment while constructing the pipeline through that area. If soil or groundwater contaminated by potentially hazardous materials is exposed or encountered during construction that was not identified in the Phase I assessment, the appropriate hazardous materials agencies shall be notified. Any contaminated soil that is encountered during construction shall be disposed of in accordance with applicable regulations, at an approved landfill.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact HAZ-2 Result in a Safety Hazard for People Residing or Working in the Project Area within Two miles of a Public Use Airport.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The Franklin Field Airport is located in the southern portion of the recycled water service area within a quarter mile of the recycled water distribution mains located on Bruceville Road and Franklin Boulevard between Lambert Road and Twin Cities Road. As described above, the Comprehensive Land Use Plan for Franklin Field Airport was prepared by the Airport Land Use Commission in 1992, which identified height restrictions, noise restrictions, and safety restrictions for areas surrounding the airport. Because the proposed pump station is approximately 10 miles north-northwest of the airport, restrictions identified in the plan would not be applicable. The project facilities in close proximity to the airport include pipelines. However, because the proposed pump station would be 25-feet-tall and the transmission pipelines would be below ground facilities, they would not be considered an obstruction to air navigation by the Federal Aviation Administration (FAA) or penetrate the height notification limits of FAA Part 77 (ALUC 1992). Additionally, pipelines would not interfere with the operating compatibility of the airport, or endanger pilots or passengers of aircraft.

As discussed in the Comprehensive Land Use Plan, the area surrounding the airport is exposed to the potential for aircraft accidents, which resulted in the establishment of safety areas in order to minimize the number of people exposed to aircraft crash hazards. Because the pipelines would be underground and would not require above ground facilities that exceed height restrictions, the potential hazard for people residing or working in the project area within two miles of the Franklin Field Airport is considered less than significant.

**Program Elements.** There are no public airports in the vicinity of the program elements. There would be no impacts related to a safety hazard for these elements.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The recycled water service area for Alternative 3 (Small Service Area Alternative) is smaller than that of Alternative 1 (Medium Service Area Alternative) and does not extend as far south. The pipelines associated with Alternative 3 (Small Service Area Alternative) are within 2 miles of the Franklin Field Airport. Because the pipelines would be underground, the potential safety hazard for people residing or working in the project area is considered to be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no safety hazard impacts related to airports would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact HAZ-3 Impair Implementation of or Physically Interfere with an Adopted  
Emergency Response Plan or Emergency Evacuation Plan.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding  
Alternative)*

**Project and Program Elements.** The proposed Project would not conflict with the goals and objectives identified in the Sacramento County Multi-Hazard Mitigation Plan (AMEC 2004). Construction would not increase exposure of the public to natural hazards.

Long-term operation of the proposed Project would not result in any hazards that would conflict with the Multi-Hazard Mitigation Plan because the Project would only involve conveying recycled water to agricultural and environmental users. In addition, operations would adhere to the SRWTP Emergency Response Plan.

Refer to *Section 3.14, Transportation*, Impact TR-4, for a discussion of impacts associated with the potential for construction to interfere with the accessibility of roadways to emergency vehicles. Implementation of **Mitigation Measure TR-1** would require the preparation and implementation of a traffic management plan, which would reduce impacts associated with interference with emergency response, emergency access and circulation to a less-than-significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative). Similar to Alternative 1 (Medium Service Area Alternative), this alternative would involve conveying recycled water to agricultural and environmental users, and would adhere to the SRWTP Emergency Response Plan. Impacts from construction would be the similar to those identified for Alternative 1 (Medium Service Area Alternative) and would be reduced to less than significant with implementation of **Mitigation Measure TR-1**.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, there would be no emergency response plan conflicts.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

See **Mitigation Measure TR-1**.

**Significance after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impact Analysis***

The geographic scope of potential cumulative impacts related to hazards and hazardous materials is the proposed pump station and transmission pipeline and their immediate surrounding area. With respect to the use of hazardous materials and hazardous materials in the environment, effects are generally limited to site-specific conditions. For cumulative effects on emergency response plans, the effects can extend to regional roadways that could be affected by construction-related traffic.

Two cumulative projects, EchoWater and rehabilitation of digesters 6 and 7 projects at the SRWTP, would be in the immediate vicinity of the proposed pump station. The Capital Southeast Connector would be in the immediate vicinity of the proposed transmission pipeline at Hood Franklin Road. The cumulative projects would entail the use of fuels, motor oil and lubricants during construction, which may be considered hazardous materials. The improper use, handling, and storage of these materials could pose a risk to the public and the environment, resulting in a potentially significant, cumulative impact. However, hazardous material use for the construction and operation of the proposed Project and cumulative projects would be managed in accordance with federal, state, and local hazardous materials regulations. These regulations would apply equally to cumulative projects, would be site-specific, and minimize the risk of hazardous materials exposure.

Compliance with applicable laws and regulations and implementation of **Mitigation Measure HAZ-1** would reduce the potential hazardous materials impact to a less-than-significant level. Therefore the proposed Project's contribution to the risk of hazardous materials exposure would not be cumulatively considerable.

Cumulative impacts related to interference with implementation of an adopted emergency response plan or emergency evacuation plan could result if the proposed Project in combination with the projects listed in **Table 3.0-1** obstructed or caused unacceptable traffic delays on an adopted emergency evacuation or response route. The proposed pump station would be within the existing fenceline of the SRWTP and the transmission pipeline would be underground. The proposed Project would not cause unacceptable delays because as discussed in *Section 3.14, Transportation and Traffic*, because there would be no increased traffic associated with the operations, and implementation of **Mitigation Measure TR-1** during construction would reduce the potential to conflict with emergency vehicle access to a less-than-significant level. Thus, the proposed Project would not result in a cumulatively considerable contribution to emergency response plans.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

See **Mitigation Measures HAZ-1** and **TR-1**.

**Significance Determination after Mitigation**

Less than significant.

**3.9.4 References**

Airport Land Use Commission (ALUC). 1992. *Franklin Field Comprehensive Land Use Plan*. December 1988, Amended December 1992.

AMEC. 2004. *Sacramento County, California Multi-Hazard Mitigation Plan*. December 2004.

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Sacramento County Fire Hazard Severity Zone (FHSZ) Map*. November 6. Available at: [http://www.fire.ca.gov/fire\\_prevention/fire\\_prevention\\_wildland\\_zones\\_maps.php](http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps.php). Accessed March 9, 2015.

California Department of Toxic Substances Control (DTSC). 2015a. EnviroStor Database Map. Accessed March 5, 2015. Available here: <http://www.envirostor.dtsc.ca.gov/public/>

\_\_\_\_\_. 2015b. EnviroStor Hazardous Waste and Substances Site List (Cortese List). Available at: [http://www.envirostor.dtsc.ca.gov/public/search.asp?PAGE=8&CMD=search&ocierp=False&business\\_name=&main\\_street\\_number=&main\\_street\\_name=&city=&zip=&county=&branch=&status=ACT%2CBKLG%2CCOM&site\\_type=CSITES%2COPEN%2CFU DS%2CCLOSE&cleanup\\_type=&npl=&funding=&reporttype=CORTESE&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&federal\\_superfund=&state\\_response=&voluntary\\_cleanup=&school\\_cleanup=&operating=&post\\_closure=&non\\_operating=&corrective\\_action=&tiered\\_permit=&evaluation=&spec\\_prog=&national\\_priority\\_list=&senate=&congress=&assembly=&critical\\_pol=&business\\_type=&case\\_type=&display\\_results=&pub=&hwmp=False&permitted=&pc\\_permitted=&inspections=&complaints=&ORDERBY=county&next=Next+50](http://www.envirostor.dtsc.ca.gov/public/search.asp?PAGE=8&CMD=search&ocierp=False&business_name=&main_street_number=&main_street_name=&city=&zip=&county=&branch=&status=ACT%2CBKLG%2CCOM&site_type=CSITES%2COPEN%2CFU DS%2CCLOSE&cleanup_type=&npl=&funding=&reporttype=CORTESE&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&display_results=&pub=&hwmp=False&permitted=&pc_permitted=&inspections=&complaints=&ORDERBY=county&next=Next+50). Accessed March 6, 2015.

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

James Lee Witt Associates. 2008. *Sacramento County Evacuation Plan, An Annex to the County Emergency Operations Plan*. November 2008.

Sacramento County Airport System. 2015. *Franklin Field Airport – About*. Available at: <http://www.sacramento.aero/f72/about/>. Accessed April 2, 2015.



Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2012. *County of Sacramento Emergency Operations Plan*. December 2012.

State Water Resources Control Board (SWRCB). 2015. GeoTracker Map. Available at: <http://geotracker.waterboards.ca.gov/>. Accessed March 5, 2015.

United State Environmental Protection Agency (USEPA). 2016. *Regional Screening Levels (Formerly PRGs)*. May 2016.

## 3.10 Hydrology and Water Quality

The Hydrology and Water Quality section describes the environmental setting for hydrology and water quality in the Project area, as well as potential impacts from the proposed Project.

### 3.10.1 Environmental Setting

#### *Regional Hydrology*

The Project is located in the southern portion of Sacramento County. The Sacramento River and Cosumnes Rivers are within close proximity, to the west and east, respectively. The American River flows through Sacramento County, but is approximately nine miles north of the most northern Project facility – the pump station at the SRWTP. The proposed Project location and regional water bodies are shown in **Figure 3.10-1**. The Project area is in the Lower Sacramento watershed. The Sacramento River watershed encompasses approximately 23,500 square miles and produces an average annual runoff of approximately 17 million acre-feet (AF) (Water Forum and SCWA 2006).

The entire Project area is within the Sacramento Valley Groundwater Basin, and overlies a portion of the South American Subbasin, which is a groundwater subbasin defined by the Department of Water Resources (DWR, Bulletin 118) as extending from the Sierra Nevada to the Sacramento River, bounded on the north by the American River and on the south by the Cosumnes and Mokelumne Rivers.

As shown in **Figure 3.10-1**, the proposed pump station, portions of the transmission pipeline, the potential recharge area, and Stone Lakes NWR are within the 100-year floodplain (Zones A and AE). The Federal Emergency Management Agency (FEMA) identifies geographic areas with varying levels of flood risk defined as flood hazard zones. These zones are then depicted on Flood Insurance Rate Maps (FIRMs) or Flood Hazard Boundary Maps. The Project area is within Zones X, A, and AE, each of which is described as follows (Sacramento County 2011):

- Zone X: areas outside the 100-year floodplain. Mandatory purchase requirements for flood insurance and minimum building standards do not apply to this zone.
- Zone A: corresponds to the 100-year floodplain for requiring federal backed mortgages to purchase flood insurance.
- Zone AE: corresponds to the 100-year floodplain for requiring federal backed mortgages to purchase flood insurance. New buildings constructed in this zone must be elevated to the Base Flood Elevations identified by FEMA (i.e. the 1 percent annual chance flood level).

The existing SRWTP is contained within a perimeter levee system, which is designed to provide protection from 200-year flood flows.

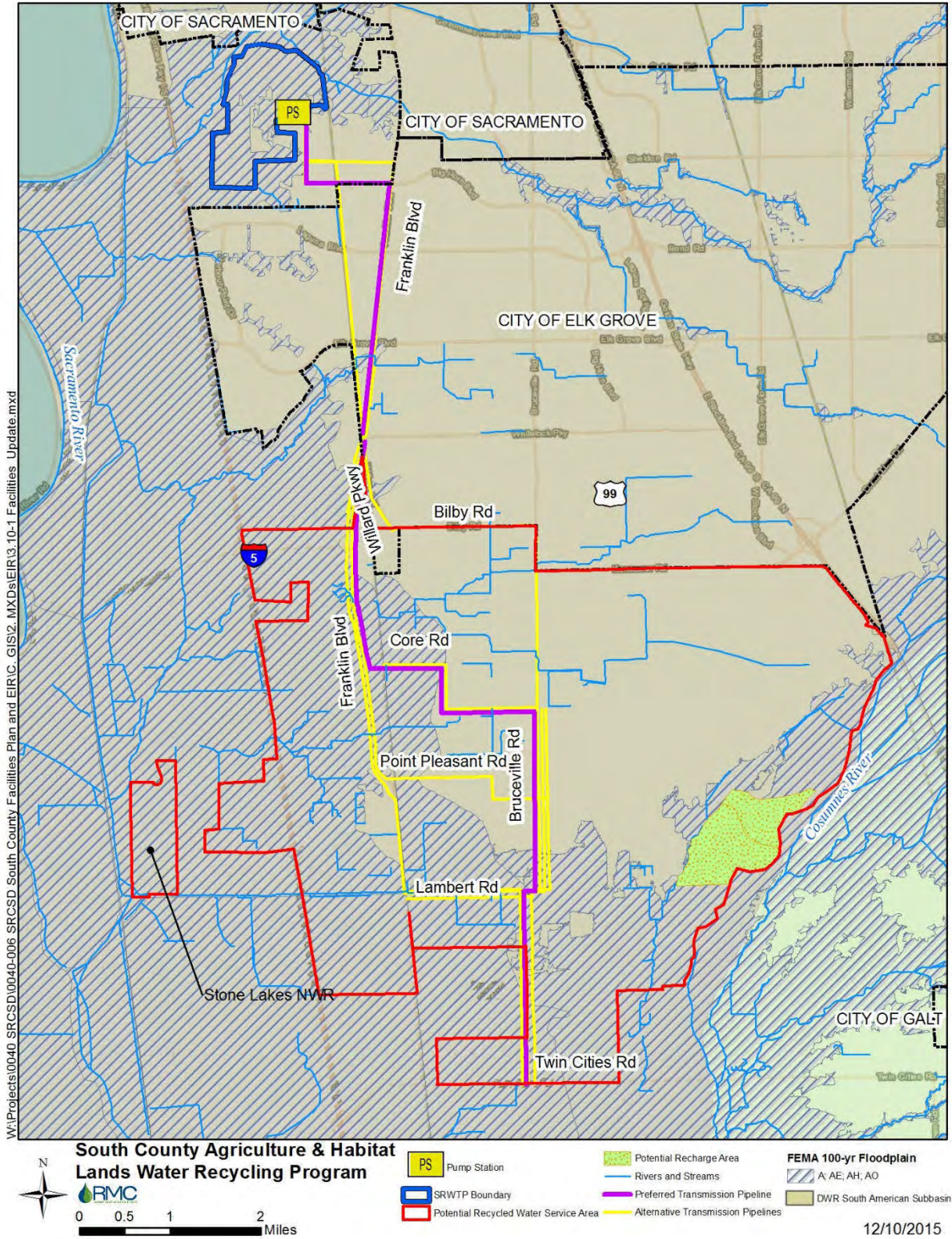


Figure 3.10-1: Regional Hydrology Within and Surrounding the Project Area

## Surface Water

### Water Features

#### *Sacramento River*

The Sacramento River is located approximately 1.8 miles west of the proposed Project area (at the nearest point from the proposed pump station). The river drains a 26,146-square-mile basin that spans the entire northern Central Valley of California. The portion of the Sacramento River to the west of the Project area falls within the Delta Waterways (Eastern Portion and Northern Portion) which is on the federal Clean Water Act Section 303 (d) Impaired Water Bodies list for chlorpyrifos, dichloro-diphenyl-trichloroethane (DDT), diazinon, dieldrin, Group A pesticides, invasive species, mercury, chlordane, PCBs and unknown toxicity (SWRCB 2010).

As discussed in *Chapter 1, Introduction*, the SRWTP treats wastewater and then discharges the treated effluent into the Sacramento River near the town of Freeport. The SRWTP is permitted to discharge up to 181-mgd of Average Dry Weather Flows. On December 9, 2010, the Central Valley Regional Water Quality Control Board adopted a new National Pollutant Discharge Elimination System (NPDES) permit for the SRWTP which requires treatment equivalent to disinfected tertiary treated recycled water to be produced for discharge to the Sacramento River. The WDRs have been amended since then several times. The NPDES permit was renewed in April 2016.

The Sacramento River and associated Delta are the main water supply sources for the Central Valley Project (CVP), and are major contributors to the State Water Project (SWP). The Shasta Dam and Reservoir were constructed as an integral element of the CVP, with Shasta Reservoir representing about 41 percent of the total reservoir storage capacity of the CVP. Operations of Shasta Reservoir are affected by numerous regulatory conditions and demands on the system, including agricultural and urban water supply, as well as biological requirements for flows and water temperature. Timing, duration, and depth of releases (deeper water for colder releases) vary with existing environmental conditions (flow levels and water temperature) and time of year (biological seasonality). Long-term average and average by water year type flows for the Sacramento River at Freeport (near the SRWTP discharge location) are shown in **Table 3.10-1**. Values "Without Project" reflect the modeled existing conditions based on an 82-year period of record from 1922 through 2003.

Table 3.10-1: Sacramento River Average Monthly Flow at Freeport by Water Year Type

Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Long-term</b>												
<b>Full Simulation Period<sup>1</sup></b>												
No Project	11,273	16,029	22,691	31,180	37,745	32,288	23,451	19,088	16,320	19,065	14,126	17,971
Proposed Project (50,000 AFY <sup>3</sup> )	11,246	15,977	22,635	31,096	37,668	32,222	23,409	18,986	16,243	18,991	14,058	17,921
Difference	-27	-52	-56	-84	-77	-66	-43	-102	-77	-73	-69	-50
Percent Difference <sup>4</sup>	<b>-0.2%</b>	<b>-0.3%</b>	<b>-0.2%</b>	<b>-0.3%</b>	<b>-0.2%</b>	<b>-0.2%</b>	<b>-0.2%</b>	<b>-0.5%</b>	<b>-0.5%</b>	<b>-0.4%</b>	<b>-0.5%</b>	<b>-0.3%</b>
<b>Water Year Types<sup>2</sup></b>												
<b>Wet (32%)</b>												
No Project Alternative	13,806	21,069	25,080	50,180	57,509	49,768	38,203	31,557	23,356	20,095	16,218	28,461
Proposed Project (50,000 AFY)	13,764	21,009	25,005	50,112	57,443	49,698	38,166	31,453	23,254	20,028	16,155	28,431
Difference	-43	-60	-74	-68	-66	-70	-37	-103	-103	-67	-63	-31
Percent Difference	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>-0.1%</b>
<b>Above Normal (15%)</b>												
No Project Alternative	12,461	19,357	23,429	37,712	45,441	42,526	25,988	20,631	16,382	22,210	16,610	22,005
Proposed Project (50,000 AFY)	12,438	19,293	23,358	37,645	45,358	42,469	25,943	20,523	16,306	22,131	16,563	21,978
Difference	-24	-65	-71	-67	-83	-57	-45	-108	-76	-79	-47	-27
Percent Difference	<b>-0.2%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.2%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.5%</b>	<b>-0.5%</b>	<b>-0.4%</b>	<b>-0.3%</b>	<b>-0.1%</b>
<b>Below Normal (17%)</b>												
No Project Alternative	12,722	15,894	27,232	22,548	31,621	22,917	17,946	14,501	13,828	21,313	15,986	13,827
Proposed Project (50,000 AFY)	12,659	15,827	27,163	22,480	31,538	22,845	17,903	14,393	13,765	21,248	15,925	13,750
Difference	-62	-67	-70	-68	-83	-72	-43	-109	-63	-64	-61	-77
Percent Difference	<b>-0.5%</b>	<b>-0.4%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.2%</b>	<b>-0.8%</b>	<b>-0.5%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>-0.6%</b>

EIR

Draft

Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Dry (22%)</b>												
No Project Alternative	8,642	12,231	21,869	17,115	23,066	20,189	13,358	10,980	12,613	18,491	11,600	10,476
Proposed Project (50,000 AFY)	8,620	12,167	21,802	17,056	22,964	20,122	13,315	10,888	12,555	18,411	11,530	10,391
Difference	-22	-65	-67	-59	-101	-67	-42	-91	-58	-81	-70	-86
Percent Difference	<b>-0.3%</b>	<b>-0.5%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.8%</b>	<b>-0.5%</b>	<b>-0.4%</b>	<b>-0.6%</b>	<b>-0.8%</b>
<b>Critical (15%)</b>												
No Project Alternative	6,851	7,637	12,713	14,648	16,394	13,261	10,517	8,041	9,478	11,923	8,730	7,286
Proposed Project (50,000 AFY)	6,889	7,650	12,747	14,458	16,344	13,200	10,464	7,941	9,410	11,843	8,620	7,255
Difference	38	13	34	-190	-51	-61	-53	-100	-67	-80	-111	-31
Percent Difference	<b>0.6%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>-1.3%</b>	<b>-0.3%</b>	<b>-0.5%</b>	<b>-0.5%</b>	<b>-1.2%</b>	<b>-0.7%</b>	<b>-0.7%</b>	<b>-1.3%</b>	<b>-0.4%</b>

Source: CH2MHILL 2016.

Notes:

1. Based on the 82-year simulation period
2. As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)
3. AFY= acre-feet per year. The proposed Project was assumed to divert 50,000 AFY at ultimate implementation of all program elements, including wintertime irrigation
4. Relative difference of the monthly average

### *Cosumnes River*

The Cosumnes River is located immediately adjacent to the recycled water service area and potential recharge pond. The Cosumnes River watershed encompasses the southern portion of El Dorado County, the northwestern portion of Amador County and much of southern and eastern Sacramento County. The river empties into the lower reaches of the Mokelumne River and ultimately the Sacramento-San Joaquin Delta. The Cosumnes River, which is the only river in the western Sierra Nevada with no major dams, relies principally on groundwater to provide base flows for fish and wildlife (RMC 2014b). The portion of the Cosumnes River immediately east of the recycled water service area is on the 303(d) Impaired Water Bodies list for E. coli, invasive species, and sediment toxicity.

### *Other Water Features*

A number of drainages occur within the Project area, including Franklin Creek (approximately 1,500 feet north of Franklin Boulevard and Bilby Road) and a drainage approximately 800 feet south of Franklin Boulevard and Elk Grove Boulevard. A number of irrigation ditches are located throughout the Project area along roadways.

## **Water Quality**

### *Beneficial Uses*

The Central Valley Regional Water Quality Control Board (CVRWQCB) prepared the Water Quality Control Plan (or Basin Plan) for the Sacramento and San Joaquin River drainage basins; the Basin Plan was last updated in October 2011. The basins are bound by the Sierra Nevada to the east, the Coast Range and Klamath Mountains to the west, the California-Oregon border to the north, and the San Joaquin River to the south. The basins cover approximately 25 percent of the total area of the State, over 30 percent of the State's irrigable land, and provide approximately 51 percent of the State's water supply. Surface waters from both river basins meet to form the Sacramento-San Joaquin Delta, which ultimately drains to San Francisco Bay.

The Basin Plan designates the beneficial uses for the drainages within the Project area and also establishes water quality objectives in order to prevent degradation of waters in the basin and protect the identified beneficial uses. Beneficial uses of waterways surrounding the Project area, including the lower Cosumnes River and Sacramento River include the following (CVRWQCB 2011):

- Municipal and Domestic Supply (MUN) – use of water for drinking water supply.
- Agriculture (AGR) – use of water for farming, horticulture, or ranching.
- Industry (IND) – use of water for industrial activities that do not depend on water quality, such as mining, cooling water supply, and gravel washing.
- Recreation – Contact (REC-1) – use of water for recreational activities involving bodily contact with water, where ingestion of water is possible (e.g., swimming, surfing, fishing).

- Recreation – Non-contact (REC-2) – use of water for recreational activities involving proximity to water, but no bodily contact with or possibility of ingestion of water (e.g., picnicking, boating, camping, sightseeing).
- Warm Freshwater Habitat (WARM) – use of water for warm water ecosystems, such as the preservation or enhancement of aquatic habitats, vegetation, fish, and wildlife.
- Cold Freshwater Habitat (COLD) – use of water for cold water ecosystems, such as the preservation or enhancement of aquatic habitats, vegetation, fish, and wildlife.
- Fish Migration (MIGR) – use of water that supports habitats necessary for migration of aquatic organisms, such as anadromous fish.
- Fish Spawning, Reproduction and/or Early Development (SPWN) – use of water that supports high quality aquatic habitats suitable for reproduction and early development of fish.
- Wildlife Habitat (WILD) – use of water that supports terrestrial or wetland ecosystems.

Most of these beneficial uses are dependent upon water quality. Sacramento River water quality data indicates that the Sacramento River supports these beneficial uses, most of the time (Ascent 2014). Waters of the Sacramento River are generally of high quality with moderate amounts of alkalinity and minerals present and low levels of disinfection by-product precursors. Turbidity levels tend to be higher in the winter months than spring months, and are usually associated with reservoir releases or stormwater runoff (Water Forum and SCWA 2006).

Water quality concerns along the lower Cosumnes River are elevated levels of nitrogen, phosphorus, suspended sediments, and mercury. CVRWQCB has developed Total Maximum Daily Loads (TMDLs) for total mercury and methyl mercury and a Basin Plan Amendment for mercury in the Delta (Kleinschmidt Associates 2008).

#### *SRWTP Effluent Sources*

Wastewater flows to the SRWTP originate as municipal water supplies, which come from both surface and groundwater sources. About 40- to 50 percent of the effluent originates as groundwater (Regional San 2015).

#### *SRWTP Water Quality*

The Regional San SRWTP currently treats wastewater to secondary treatment levels and discharges the treated effluent to Sacramento River near the town of Freeport. The treated discharge adds 165 TAF to the Sacramento River annually. In December 2010, and amended in 2011, 2012, and 2013, the CVRWQCB issued Regional San a new NPDES permit that requires the entire effluent flow from the SRWTP to attain a Title 22 tertiary equivalent quality and to provide nutrient removal. The NPDES permit was renewed in April 2016. In adopting the permit, the CVRWQCB cited as justification for the requirement to implement tertiary treatment, including filtration, the need to develop and use recycled water, including Basin Plan policy requiring that dischargers evaluate how reuse or land disposal of wastewater can be optimized.

Regional San is implementing the EchoWater Project to achieve compliance with the new permit requirements. As part of that project a pilot study was conducted to select the appropriate treatment technology. **Table 3.10-2** provides the projected recycled water quality based on the



pilot study results. Improvements being constructed as part of the EchoWater Project include new tertiary treatment processes for ammonia and nitrate removal, filtration, and enhanced disinfection.

Table 3.10-2: Projected Recycled Water Quality

Parameter	Units	Projected Regional San Recycled Water
Ammonia	mg-N/L	Below detection limit (<0.04)
Nitrate	mg-N/L	10 <sup>1</sup>
Salinity (TDS)	mg/L	510
Arsenic	ug/L	1.6
Boron	mg/L	0.25
Cadmium	ug/L	0.017
Calcium	mg/L	24
Chloride	mg/L	94
Copper	ug/L	3.1
Lead	ug/L	0.054
Magnesium	mg/L	11
Nickel	ug/L	2.6
Potassium	mg/L	14
Adjusted sodium adsorption ratio	--	4.1
Selenium	ug/L	0.8
Sodium	mg/L	97
Total Alkalinity	mg/L as CaCO <sub>3</sub>	76
Total Coliform	MPN/100 mL	<2 <sup>2</sup>
Total Phosphorous	mg-P/L	4.8
Turbidity	NTU	<2 <sup>2</sup>
TSS	mg/L	Below Detection Limit (<3)
Zinc	ug/L	59

Source: Brown and Caldwell 2013.

Notes:

1. Pilot test result was 12 mg/L, but permit limit is 10 mg/L. External carbon addition or acetic acid would be implemented at full scale to comply with permit limitations.
2. Not tested during the pilot project. Values are based on Title 22 tertiary filtration and disinfection requirements

### Stone Lakes NWR

The Stone Lakes NWR is managed by USFWS to support migratory waterfowl through habitat creation and protection. USFWS evaluates potential supplemental water supplies to determine if water quality is appropriate for use in a National Wildlife Refuge, using a tool known as the Rapid Assessment. The Rapid Assessment process is intended to provide Refuge Managers and Applicants with an effective and efficient basis for determining if water, treated wastewater, stormwater, sediment, soil, biosolids, or other materials are appropriate for placement on National Wildlife Refuges. The assessments evaluates water quality parameters including alkalinity, fecal coliform, hardness, pH, temperature, total suspended solids, nutrients and metals to determine suitability for use in a refuge.

### Flooding

Many of the farmlands in South County are prone to flooding. To help reduce flood damage to these areas, an extensive system of levees and pumps has been developed and implemented. Urbanization in Sacramento County has increased the amount of impervious surfaces and

channelization of natural streams, thus increasing runoff and channelization. This results in higher peak flows and more flooding (Sacramento County 2011).

To help manage floods and increase flood protection in the County, an extensive system of dams, levels, weirs, and pump stations was developed on the Sacramento and American Rivers, as well as multiple creeks (Sacramento County 2011).

## **Groundwater**

### **Groundwater Basin**

The Project area is entirely within the DWR South American Subbasin. For purposes of groundwater management, groundwater in Sacramento County is divided into three basins – North, Central, and South Basins (see **Figure 3.10-2**). The Project area overlies a portion of the Central Sacramento Groundwater Basin, which is under the jurisdiction of the Sacramento Central Groundwater Authority (SCGA) (see **Figure 3.10-3**). The Central Sacramento Groundwater Basin overlies most of the DWR South American Subbasin (DWR Bulletin 118-2003). The Board of Directors of the Sacramento Central Groundwater Authority (SCGA) consists of sixteen members, including Regional San. Groundwater is contained in a shallow aquifer (the Modesto Formation) and a deep aquifer (the Mehrten Formation). The shallow and deep aquifers are separated by a discontinuous clay layer that serves as a semi-confining layer. The Mehrten formation outcrops near the Sierra Nevada foothills and is typically characterized by fine black sands. The shallow aquifer extends approximately 200 to 300 feet below the ground surface. The base of the potable water portion of the deep aquifer is approximately 1,400 feet below ground surface (Water Forum and SCWA 2006).

Groundwater is located approximately 10 to 30 feet below mean sea level depending on the exact location in the Project area. The groundwater elevations within the Central Basin are shown in **Figure 3.10-3** and **Figure 3.10-4** (RMC 2014). The basin currently supplies water for several agencies within the Sacramento region and is the primary source of water in the Project area. Landowners that would receive recycled water from the proposed Project currently pump groundwater from private wells for crop irrigation.

Groundwater levels in the basin declined during the middle to late part of the twentieth century, mainly as a result of pumping to meet agricultural and municipal water demands in the basin. From the 1950s and 60s to the 80s, groundwater elevations declined by 20 to 30 feet. Water levels stabilized and recovered by about 10 feet, until the drought began in 1987. From 1987 to 2003, water levels declined by 15 feet. After 2003, water levels recovered once again (Water Forum and SCWA 2006). Proactive water supply management activities over the past two decades have resulted in more stable conditions in the groundwater basin. However, the South American Subbasin continues to be classified as a high priority basin under the California Statewide Groundwater Elevation Monitoring (CASGEM) Basin Prioritization. Lowered groundwater levels have also resulted in a reduction of river base flows in the Cosumnes River during certain times of the year (see **Figure 2-6** in *Chapter 2*).

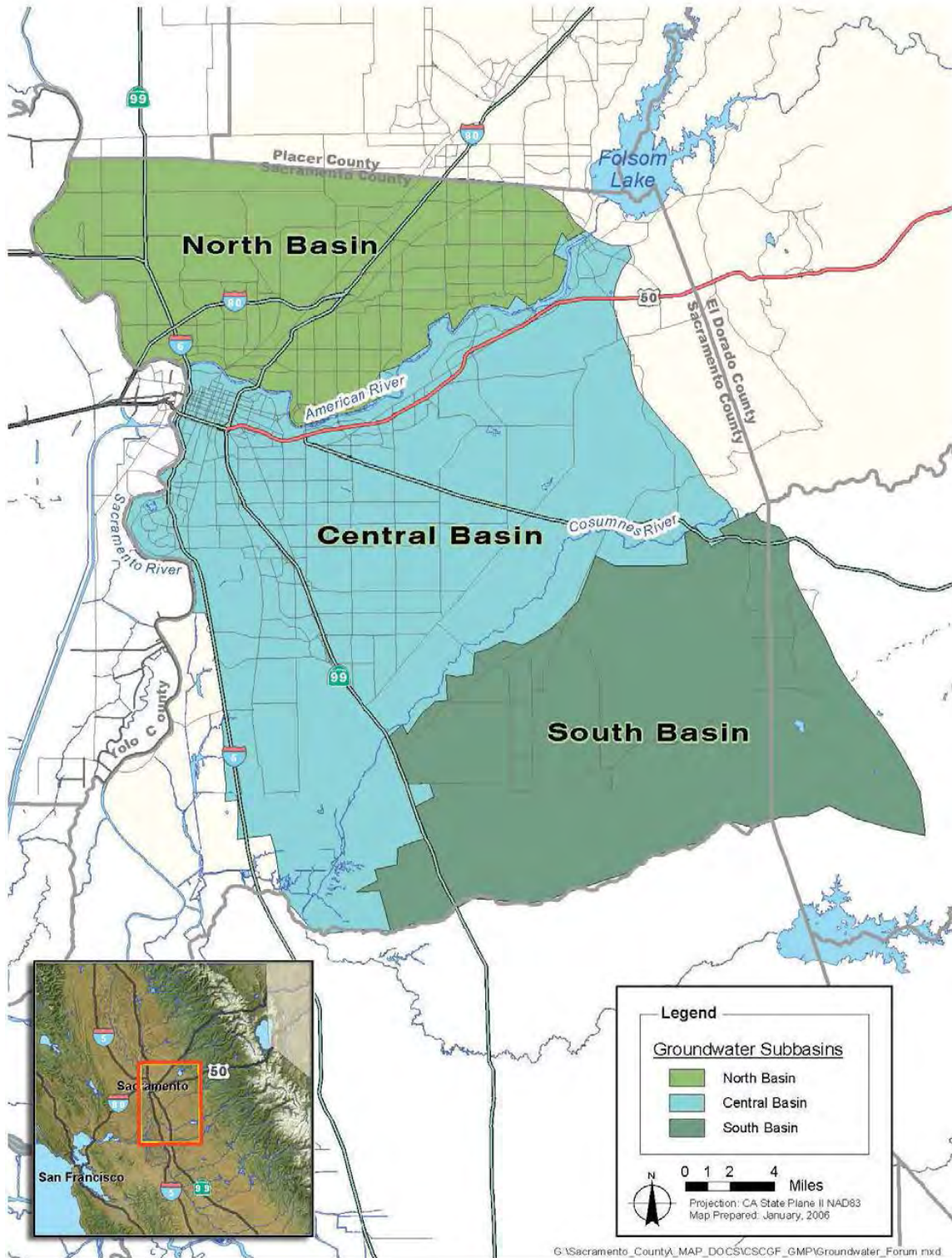


Figure 3.10-2: Groundwater Basins in Sacramento County

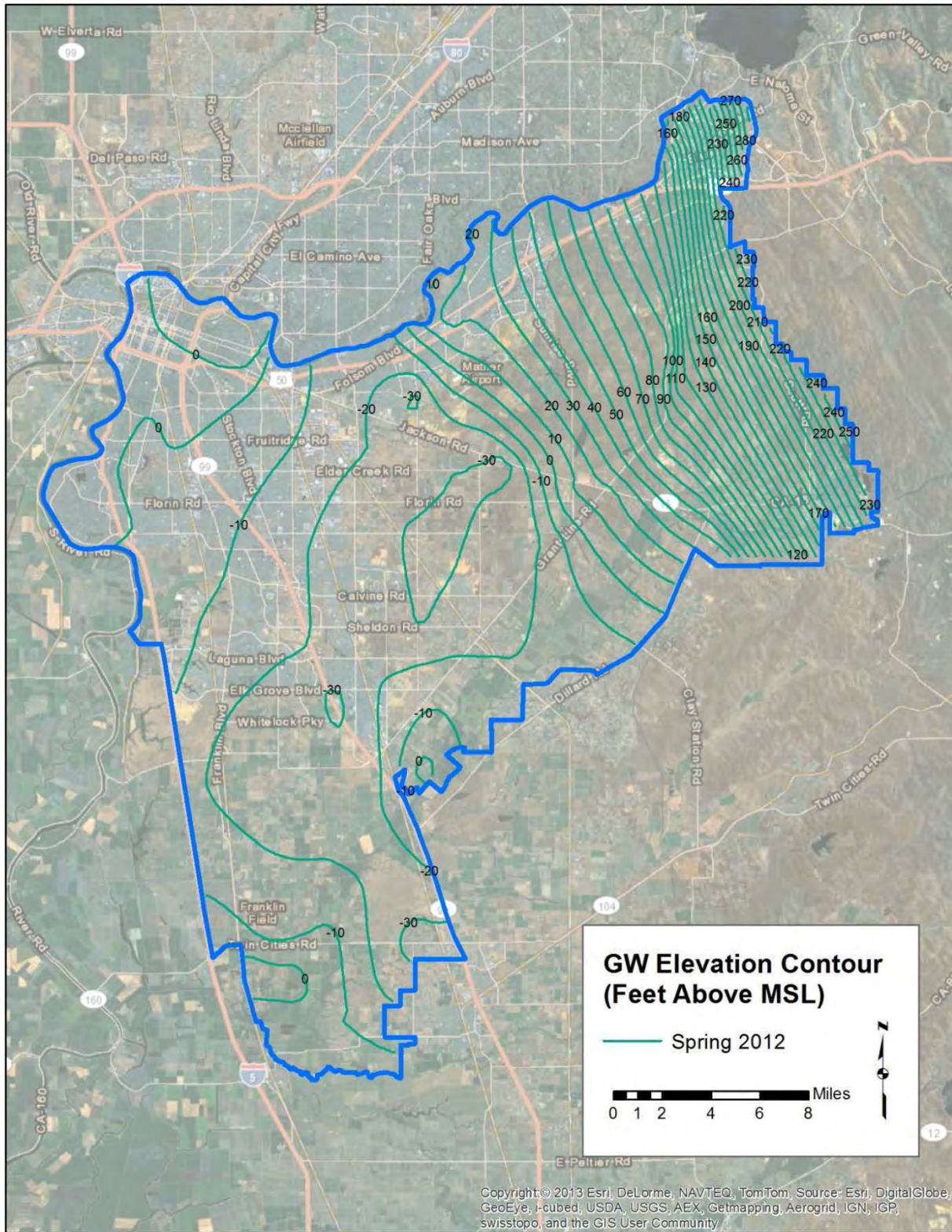


Figure 3.10-3: Spring 2012 Groundwater Contour Elevation Map

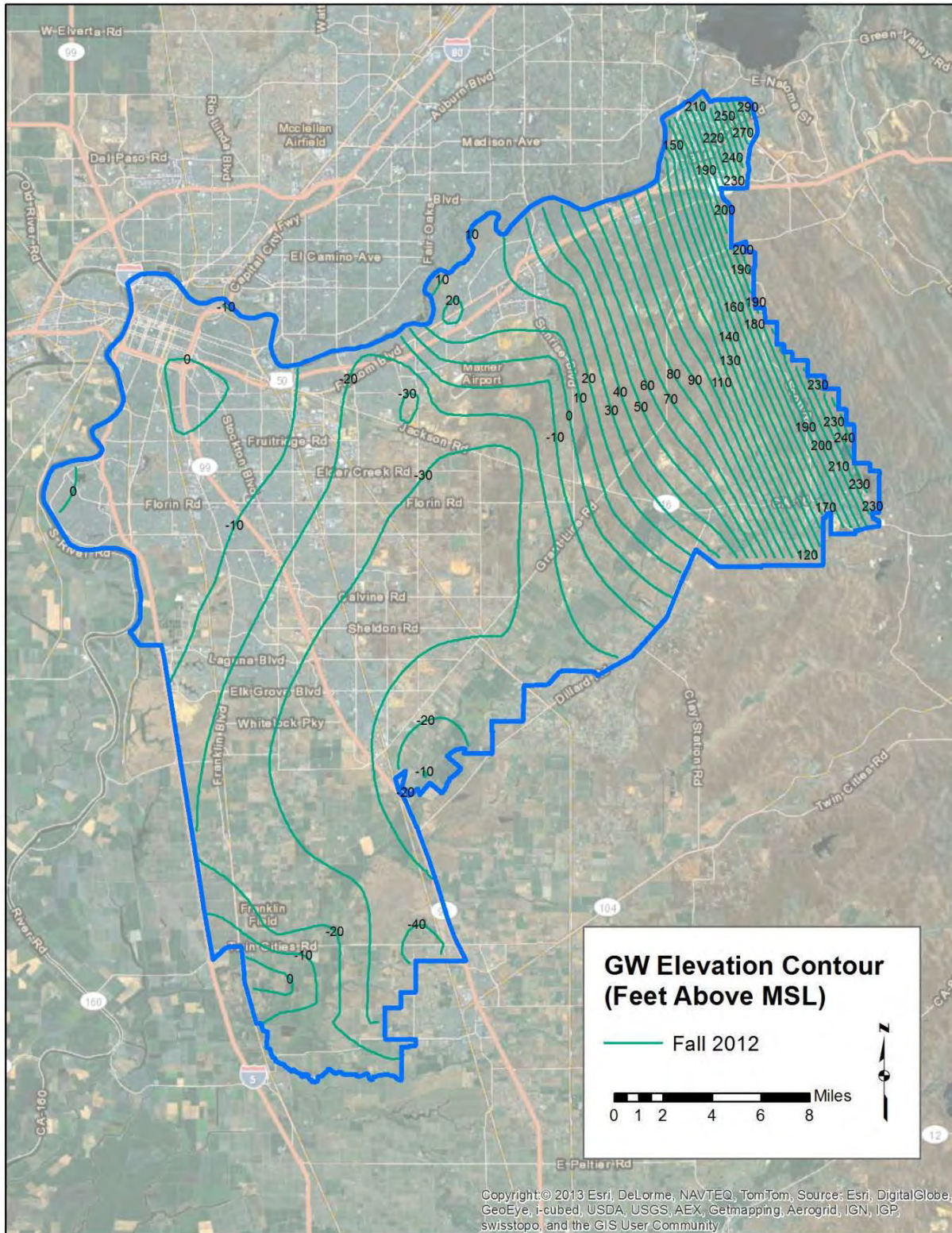


Figure 3.10-4: Fall 2012 Groundwater Elevation Contour Map

### Groundwater Quality

Water quality analysis of the groundwater in the Central Basin has revealed that the shallow aquifer system has higher quality than the deep aquifer system. According to the Central Sacramento County Groundwater Management Plan, in addition to iron and manganese, the deep aquifer system also has higher concentrations of total dissolved solids (TDS), but groundwater typically meets the drinking water quality standards for TDS. However, at depths greater than 1,400 feet, TDS concentrations exceed 2,000 milligrams per liter (mg/L); therefore, the groundwater is not potable unless treated by reverse osmosis (RO). TDS concentrations in most municipal wells comply with the secondary drinking water standards. Iron and manganese concentrations range from nondetect levels to 16,000 mg/L, while most wells have average concentrations 200 mg/L or less. Manganese concentrations range from nondetect levels to 1,700 mg/L, with most wells averaging at 50 mg/L. While there are known contaminant plumes in the groundwater basin (e.g. from sources such as Mather Field or Aerojet), none are within the Project area (Water Forum and SCWA 2006).

Typically, the shallow aquifer is used for private domestic wells and requires no treatment (other than disinfection for public drinking water systems), while the deep aquifer requires treatment for iron and manganese (Water Forum and SCWA 2006). **Table 3.10-3** shows existing groundwater quality in the Project area.

Table 3.10-3: Groundwater Quality

Parameter	Units	Existing South Sacramento County Groundwater <sup>1</sup>
Ammonia	mg-N/L	0.6
Nitrate	mg-N/L	3.1
Salinity (TDS)	mg/L	128
Arsenic	ug/L	2.1
Boron	mg/L	0.18
Calcium	mg/L	14
Chloride	mg/L	9.1
Magnesium	mg/L	7.9
Nickel	ug/L	Below detection limit
Selenium	ug/L	Below detection limit
Sodium	mg/L	13.7
Total Alkalinity	mg/L as CaCO <sub>3</sub>	72
Total Phosphorous	mg-P/L	0.14
Turbidity	NTU	17.7
Zinc	ug/L	44.3

Notes:

1. Data represents average of existing water quality data from 7 wells in South Sacramento County, with multiple samples from each between 2000 and 2014 (RMC 2015b)

### 3.10.2 Regulatory Framework

This section describes laws and regulations at the federal, state, and local level that may apply to the proposed Project.

## ***Federal Policies and Regulations***

### **Clean Water Act**

The federal Clean Water Act (CWA) is the primary surface water protection legislation throughout the country, administered by the USEPA. By employing a variety of regulatory and nonregulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” The CWA regulates both the pollutant content of point-source discharges and addresses polluted runoff (EPA 2003a).

The proposed Project is subject to regulations governing discharge from point sources and “wet-weather point sources,” such as urban storm sewer systems and construction sites, as defined in Sections 1311–1330 of the CWA (Title 33, Chapter 26, Subchapter III of the United States Code [USC]).

#### *Section 303(d)*

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of technology-based effluent limitations by point-source dischargers. Section 303(d) further requires states to develop a Total Maximum Daily Load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of pollutant loading that the water body can receive and still meet water quality standards.

In 2011, the USEPA gave final approval to a revised list of impaired water bodies (hereinafter referred to as the 303(d) list) prepared by the State. As previously described, the Sacramento and Cosumnes Rivers are listed for several constituents. TMDLs have been approved for some of the constituents (SWRCB 2010).

#### *Section 401*

Section 401 of the CWA requires that state water quality standards be met and that construction, dredging, and disposal activities not cause concentrations of chemicals in the water column that exceed state standards. Section 401 requires water quality certification from a RWQCB for issuance of a 404 permit (typically if construction affects a wetland or water of the U.S.). If a Section 404 permit were required for the proposed Project, then a 401 certification from the RWQCB would also be required.

#### *Section 402*

Section 402 of the CWA states that discharge of pollutants to “waters of the U.S.” is unlawful unless the discharge is authorized and in compliance with an NPDES permit. The USEPA has granted the State primacy in administering and enforcing the provisions of the CWA and the NPDES permit program. The NPDES permit program is the primary federal program that regulates point-source and non-point-source discharges to the waters of the U.S. Section 402 would apply to non-point discharges that could occur during construction. In California, USEPA authorizes the State Water Resources Control Board (SWRCB) to oversee the NPDES program through the RWQCBs. There are several types of NPDES permits relevant to the proposed Project as described in the following sections.

*Individual NPDES Permits (including discharge permits for Publicly-Owned Treatment Works).* All point source dischargers to waters of the U.S. not governed by a general permit are required to apply for an individual NPDES permit with the Regional Board, unless a specific exemption or waiver is provided. The RWQCB then issues an individual NPDES permit and waste discharge requirements (for any requirements specific to discharges into waters of the State), along with monitoring provisions to ensure compliance. The Regional San SRWTP operates under its existing individual NPDES permit (Order R5-2010-0114). Regional San is in the process of implementing treatment facilities to meet the requirements of the NPDES permit (Title 22 equivalent) and would continue to discharge to the Sacramento River, in accordance with its NPDES permit. The proposed Project would reduce the amount of recycled water discharged to the River with the primary new point of discharge being agricultural customers. Regional San would maintain its NPDES permit and comply with the General Order for Recycled Water Use (see section below) to provide recycled water to agricultural and environmental users as part of the proposed Project.

*General Order for Recycled Water Use.* On June 7, 2016, the SWRCB adopted Water Reclamation Requirements for Recycled Water Use with an effective date of August 6, 2016. This permit replaces the previous statewide Waste Discharge Requirements for Recycled Water Use (2014-0090-DWQ), which were adopted in 2014 to streamline permitting for recycled water in response to the Governor's January 17, 2014 proclamation of a Drought State of Emergency. Coverage under the General Order is limited to treated municipal wastewater for non-potable uses. All uses of recycled water must be consistent with Salt and Nutrient Management Plans approved by the RWQCB (SWRCB 2014). Additionally, recycled water projects permitted under this General Order must be in compliance with all applicable Title 17 and 22 requirements, WDRs or NPDES permits for recycled water production facilities, applicable Water Recycling Use Permit issued by the recycled water Administrator, applicable CEQA mitigation measures, California Water Code section 1211, and other prohibitions, specifications, requirements, and provisions laid out in the General Order.

The proposed Project would be covered under the Water Reclamation Requirements for Recycled Water Use. Regional San would serve as the Administrator under the order by submitting a Notice of Intent (NOI) and application fee to the Regional Water Board for authorization.

*General Permit for Discharges of Storm Water Associated with Construction Activity.* In 2009, the SWRCB adopted an amended General Permit for Discharges of Storm Water Associated with Construction Activity, NPDES Order No. CAS000002, Order No. 2009-0009-DWQ (Construction General Permit). Effective July 1, 2010, the amended General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include a site map(s) showing the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the site. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect stormwater runoff; a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of



BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Because the proposed Project would disturb more than one acre, coverage under the General Construction Permit and development of a SWPPP would be required.

*Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters.* On May 31, 2013, the CVRWQCB adopted Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters, Order R5-2013-0074 NDPES No. CAG995001 (General Order for Dewatering). Individuals, public agencies, private businesses, and other legal entities discharging relatively pollutant-free wastewaters that pose little or no threat to the quality of surface waters, for a duration of either 4 months or less in duration or have an average dry weather flow less than 0.25 mgd, may obtain authorization under this General Order to discharge. As discussed in Chapter 2, Alternatives Description and Proposed Project, dewatering will likely sometimes be employed in the pipeline trenches. It is expected that dewatering would not exceed 0.25 mgd and that the proposed Project would be eligible for coverage under the General Order. If dewatering were to exceed 0.25 mgd, an alternative NPDES permit would be needed in order to discharge water from dewatering operations. This same permit would be expected to cover discharges that would be required for hydrostatic testing of the pipeline at the completion of construction.

#### *Section 404*

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” The U.S. Army Corps of Engineers (USACE) is given the principal authority to regulate discharges of dredged or fill material, under oversight by the U.S. EPA. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” Under Section 404, USACE is responsible for issuing permits (typically called Section 404 permits) authorizing the placement of dredged or fill materials into jurisdictional waters, which would be required if construction affected a wetland or water of the U.S.

#### **National Flood Insurance Program (NFIP)**

NFIP was created to promote flood awareness and reduce flood losses of properties within Special Flood Hazard Areas. Drainage and related flooding hazards are managed in response to requirements established by the National Flood Insurance Act of 1986 and the Flood Disaster Protection Act of 1973, as amended. In implementing NFIP, FEMA requires that new construction in a flood hazard area meet minimum design standards to place occupied structures above flood hazard areas.

#### ***State Policies and Regulations***

##### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act is contained in the California Water Code, Division 7, §13000 et seq. It is the principal law governing water quality (surface and

groundwater) regulation in California. It is the policy of the state, as set forth in Porter-Cologne, that the quality of all the waters of the state shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation. Porter-Cologne directs the SWRCB to formulate and adopt state policies for controlling water quality and designates the SWRCB as the state water pollution control agency for all purposes stated in the CWA. Porter-Cologne establishes the policies that are to be implemented and authorities that are to be used in achieving the goals of the CWA.

### **SWRCB and RWQCB**

The SWRCB and RWQCBs are responsible for preserving, enhancing, and restoring “the quality of California’s water resources and ensuring their proper allocation and efficient use for the benefit of present and future generations.” The SWRCB develops statewide regulations governing water use and point-source and nonpoint-source pollutant discharge, while the RWQCBs work in smaller regions throughout the state to implement SWRCB policies and regulations. RWQCBs also establish additional region- and area-specific regulations and policies to achieve water quality goals under the CWA and Porter-Cologne Water Quality Control Act. The Project area lies within the jurisdiction of the Central Valley RWQCB.

### **Water Quality Control Plan (Basin Plan)**

The Basin Plan for the Sacramento and San Joaquin River drainage basins is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan:

- Designates beneficial uses for surface and ground waters;
- Sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy;
- Describes implementation programs to protect the beneficial uses of all waters in the Region;
- Encourages the reuse of treated wastewater and requires that dischargers evaluate how reuse can be optimized; and
- Describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan [California Water Code Sections 13240 thru 13244, Section 13050(j)].

The Basin Plan is used as the regulatory authority for water quality standards established in local NPDES permits and other RWQCB decisions.

### **San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan (Bay-Delta WQCP)**

The Bay-Delta WQCP establishes water quality control measures that contribute to the protection of the beneficial uses of the Delta (State Water Board 2006). As with other State water quality control plans, the Bay-Delta WQCP identifies the beneficial uses to be protected, the water quality objectives for reasonable protection of the beneficial uses, and a program of implementation for achieving the water quality objectives. The 2006 Bay-Delta WQCP adoption

did not involve substantial changes to the prior 1995 WQCP. The 1995 WQCP was developed as a result of the December 15, 1994, Bay Delta Accord, which committed the SWP and CVP operations to new Delta habitat objectives. The new objectives were adopted by the State Water Board in 1999 through a water rights decision (D-1641) for SWP and CVP operations. One key feature of the 1995 WQCP is the estuarine habitat objectives (“X2”) for Suisun Bay and the western Delta. The X2 standard refers to the position at which 2 parts per thousand salinity occurs in the Delta estuary; it is designed to improve shallow-water fish habitat in the spring of each year. Other elements of the WQCP include export-to-inflow ratios intended to reduce entrainment of fish at the export pumps, Delta Cross Channel gate closures, minimum Delta outflow requirements, and San Joaquin River salinity and flow standards. The Bay-Delta WQCP contains specific numeric standards for Delta inflow and outflow, chloride, and EC at various locations in the Delta. EC standards in the Delta exist for agricultural, fish, and wildlife beneficial uses. EC is a measure of water’s ability to conduct an electric current, and is an indirect measure of the concentration of dissolved salts in water.

### Recycled Water Policy

The Statewide Recycled Water Policy was originally approved on May 14, 2009. An amendment to the Policy was approved on April 25, 2013. The Policy specifies the following goals for California regarding recycled water:

- Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030.
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

In the Policy, the State Water Board acknowledges the potential for salts and nitrogen compounds to be of concern relative to the use of recycled water and the potential impacts on groundwater quality because high levels of salts and nutrients can make groundwater unsuitable for drinking. The policy therefore calls for the preparation of Salt/Nutrient Management Plans (SNMPs) to aid in management of these compounds relative to groundwater quality when evaluating and approving recycled water projects.

In April 2013, the SWRCB adopted an amendment to the Recycled Water Policy that provided monitoring requirements for Constituents of Emerging Concern (CECs) for groundwater recharge projects using recycled water. There are eight CECs for which the Recycled Water Policy requires monitoring, at least in the initial assessment phase of projects that include surface application of recycled water for groundwater recharge of a groundwater basin designated for municipal use. For four of these CECs, monitoring trigger levels have been developed (**Table 3.10-4**). The recycled water policy specifies different monitoring scenarios depending on the ratio of the detected levels of the CEC in the recycled water to the monitoring trigger level.

Table 3.10-4: CECs to be included in Baseline Monitoring for Groundwater Recharge Project Including Surface Application of Recycled Water (Not for Irrigation)

Constituent	Constituent Group	Relevance/ Indicator Type	Monitoring Trigger Level (µg/L)
17β-estradiol	Steroid hormones	Health	0.009
Caffeine	Stimulant	Health & Performance	0.35
N-Nitrosodimethylamine (NDMA)	Disinfection byproduct	Health	0.01
Triclosan	Antimicrobial	Health	0.35

**California Code of Regulations Water Recycling Criteria**

Title 22 of the CCR, Division 4, Environmental Health, Chapters 1 through 3 outline California’s health laws related to recycled water. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and assurance of reliability in the production of recycled water. The SWRCB has jurisdiction over the distribution of recycled wastewater and the enforcement of Title 22 regulations.

The existing Title 22 Water Recycling Criteria address treatment requirements for three types of recycled water uses: Landscape Irrigation, Recreational Impoundments, and Industrial Uses. The treatment requirements are intended to protect public health based on the expected degree of human contact with recycled water under each type of use. Treatment requirements are expressed as treatment process requirements (e.g., bio-oxidation, coagulation) as well as performance standards (e.g., disinfection standards and contaminant reduction).

As described in *Chapter 2, Alternatives Description and Proposed Project*, the proposed Project would deliver Title 22 disinfected tertiary treated recycled water to irrigated lands in South County. Title 22 disinfected tertiary treated recycled water qualifies for “unrestricted reuse,” which allows the highest allowable uses, including landscape irrigation, use in recreational impoundments, and cooling towers. To be used as a source supply for this designation, the recycled water shall be at all times adequately oxidized, coagulated, clarified, filtered, and disinfected water. To be considered adequately disinfected, the median number of coliform organisms in the recycled water may not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters over a seven-day period and recycled water must meet certain turbidity requirements (CCR Section 60304).

Specifically, Chapter 3, Article 3 of Title 22 indicates that disinfected tertiary recycled water can be used for surface irrigation of food crops (including edible root crops, where the recycled water comes into contact with the edible portion of the crop), parks and playgrounds, school yards, residential landscaping, and unrestricted-access golf courses. Orchards and vineyards where the recycled water does not come into contact with the edible portion of the crop must be treated at least to undisinfected secondary level for surface irrigation (CCR Section 60304).

In addition to uses of recycled water, Chapter 3 of Title 22 also specifies use area requirements. A regulation applicable to the Project includes limitations on irrigation in the vicinity of water supply wells. The regulations state that within 50 feet of any domestic water supply well,

irrigation with disinfected tertiary recycled water cannot take place unless five criteria are met, including but not limited to demonstration in a geological investigation that an aquitard exists at the well between the uppermost aquifer being draw from and the ground surface, and that the ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well (CCR Section 60310[a]).

Other requirements related to use areas that are applicable to the proposed Project include:

- Posting signs to inform the public in areas where recycled water is in use;
- Confining recycled water to authorized use areas;
- Restricting irrigation of disinfected tertiary recycled water within 50 feet of any domestic water supply well;
- Use of purple recycled water distribution and transmission system piping to indicate that it contains recycled water;
- Prohibition of the over-application or any direct runoff of applied recycled water (recycled water would be applied to landscaped areas at agronomic rates to meet the evapotranspiration requirements, which minimizes surface runoff); and
- Other requirements designed to ensure that recycled water use does not adversely affect public health.

### **Sustainable Groundwater Management Act**

The Sustainable Groundwater Management Act (SGMA) is a package of bills, specifically Senate Bill 1168, Assembly Bill 1739, and Senate Bill 1319, passed and enacted in California in 2014. SGMA requires the formation of locally controlled Groundwater Sustainability Agencies (GSAs), which must develop and implement Groundwater Sustainability Plans (GSPs) in groundwater basins or subbasins that DWR designates as medium or high priority to achieve “sustainable groundwater management.” SGMA defines sustainable groundwater management as “the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.” As stated previously, the Project is located in the DWR South American Subbasin, which is designated as a high priority basin. The proposed Project is expected to increase groundwater levels in the basin. SCGA is considering developing a groundwater banking project in the future.

### **Antidegradation Policy**

SWRCB Resolution No. 68-16 established a state policy requiring that discharges to both surface and groundwater shall be regulated to achieve “the highest water quality consistent with maximum benefit to the people of the State”. The intent of the resolution is that where waters of the State are of higher quality than required by state policies (as established by RWQCBs in the water quality objectives in the Water Quality Control Plan for each basin), any discharges that would degrade that quality are prohibited unless they can be shown to meet the following conditions:

1. The discharge must be consistent with maximum benefit to the people of the state.
2. The discharge must not unreasonably affect present and anticipated beneficial use of such water.

3. The discharge must not result in water quality less than that prescribed in state policies (i.e. water quality objectives in Water Quality Control Plans).

Discharges to high quality waters are required to use the best practicable treatment or control of the discharge to maintain the highest water quality consistent with the maximum benefit to the people of the State.

### ***Local Policies and Regulations***

The discussion of existing local policies and regulations focuses on Sacramento County, which is the location for all construction of new physical facilities associated with the proposed Project.

### **Sacramento County General Plan**

#### *Conservation Element*

The Sacramento County General Plan (Sacramento County 2011) guides development for the County with a 20-year planning horizon. The following goals/policies in the Sacramento County General Plan, Conservation Element would apply to the proposed Project:

- **GOAL:** Ensure that a safe, reliable water supply is available for existing and planned urban development and agriculture while protecting beneficial uses of Waters of the state of California, including important associated environmental resources.
  - Objective: Manage groundwater to preserve sustainable yield.
    - CO-10: Support local watershed initiatives that enhance groundwater recharge.
  - Objective: Ensure the most efficient use of water in urban and agricultural areas.
    - CO-14: Support the use of recycled wastewater to meet non-potable water demands where financially feasible.
    - CO-15: Support effective agricultural water conservation practices, including the use of recycled wastewater where financially feasible.
  - Objective: Manage water supply to protect valuable water-supported ecosystems.
    - CO-20: Support preservation and restoration of the Cosumnes River riparian ecosystem.
    - CO-22: Support water management practices that are responsive to the impacts of Global Climate Change such as groundwater banking and other water storage projects.
- **GOAL:** Preserve, protect, and enhance natural open space function of riparian, stream and river corridors.
  - Objective: Maintain the natural character of the 100-year floodplain by limiting fill and excavation.
  - Objective: Conserve and protect the Sacramento, Cosumnes, Mokelumne and American Rivers to preserve natural habitat and recreational opportunities.

## City of Elk Grove General Plan

### *Conservation and Air Quality Element*

The following goals and policies from the Conservation and Air Quality Element of the City of Elk Grove General Plan are relevant to hydrology and water quality and the proposed Project (City of Elk Grove 2015):

- Policy CAQ-12: The City shall seek to ensure that the quality of groundwater and surface water is protected to the extent possible.
- Policy CAQ-15: The City shall encourage water supply service providers and County Sanitation District 1 to design water supply and recycled water supply facilities in a manner that avoids and/or minimizes significant environmental effects. The City shall specifically encourage the Sacramento County Water Agency to design well facilities and operation to minimize surface flow effects to the Cosumnes River.
- Policy CAQ-20: Fill may not be placed in any 100-year floodplain as delineated by currently effected FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans unless specifically approved by the City. No fill shall be permitted in wetland areas unless approved by the City and appropriate state and federal agencies.

### **SRWTP NPDES Order**

In December 2010, the CVRWQCB issued Regional San a new NPDES (Order No. R5-2010-0114, NPDES No. CA0077682) that require the entire effluent flow from the SRWTP to attain a Title 22 tertiary equivalent quality. It was then amended in 2011 (Order No. R5-2011-0083), 2012 (Order No. WQ 2012-0013), 2013 (Order No. R5-2013-0124), 2014 (Order Nos. R5-2014-0102, R5-2014-0103 and R5-2014-0122) and 2015 (Order No. R5-2015-0097). The current facilities at the SRWTP are not able to meet the adopted NPDES permit requirements. Regional San's previous NPDES permit for the SRWTP, which was in effect through December 2010 (Order No. 5-00-188), required secondary treatment and disinfection. To achieve compliance with the new, adopted NPDES permit, Regional San is implementing its EchoWater Project. The adopted NPDES permit allows a discharge flow of 181 mgd of average dry weather flow (ADWF). It requires Regional San to reduce total nitrogen and ammonia levels in its effluent, install tertiary filtration treatment for pathogen removal (consistent with Title 22 Standards). Nitrate and ammonia removal is required by May 2021, while Title 22 compliance is required by May 2023 (Ascent 2014).

### ***Other Related Planning Efforts***

Other planning documents relevant to the proposed Project and hydrology and water quality are described below.

### **SCGA Basin Management Report, 2011-2012**

In 2014, SCGA prepared its Biennial Basin Management Report to document management activities and basin-wide hydrologic conditions to help ensure long-term sustainability of the region's groundwater resources. Basin Management Objectives were identified to manage and monitor the basin to benefit all groundwater users in the Central Basin of the Sacramento Groundwater Basin. The five objectives include (RMC 2014):

- Maintain the long-term average groundwater extraction rate at or below 273,000 acre-feet/year;
- Maintain specific groundwater elevations within all areas of the basin consistent with the Water Forum “solution”;
- Protect against any potential inelastic land surface subsidence by limiting subsidence to no more than 0.007 feet per one foot of drawdown in the groundwater basin;
- Protect against any adverse impacts to surface water flows in the American, Cosumnes, and Sacramento Rivers; and
- Meet water quality objectives including:
  - Total Dissolved Solids (TDS) concentration of less than 1,000 mg/l,
  - Nitrate concentration of less than 45 mg/l, and
  - Volatile Organic Compounds (VOC).

### **Cosumnes River Preserve Management Plan**

The Cosumnes River Preserve Management Plan is described in *Chapter 3.2, Land Use and Agriculture*.

### **Water Forum Agreement**

The Water Forum Agreement is described in *Chapter 1, Introduction*.

### **Central Sacramento County Groundwater Management Plan**

After the Water Forum Agreement was signed, the Water Forum Successor Effort was formed to continue work outlined in the agreement, including the development of a governance structure for the Central Sacramento Groundwater Basin. The Central Sacramento County Groundwater Forum (CSCGF) was established and a recommendation to prepare the Central Sacramento County GWMP was made. The purpose of the GWMP is to ensure a long-term reliable groundwater supply for beneficial use within the Central Basin. The GWMP identified the following Basin Management Objectives (Water Forum and SCWA 2006):

- Maintain a long-term average groundwater extraction rate of 273,000 acre-feet/year (AFY).
- Establish specific minimum groundwater elevations within all areas of the basin consistent with the Water Forum “solution.”
- Protect against any potential inelastic land surface subsidence.
- Protect against any adverse impacts to surface water flows.
- Develop specific water quality objectives for several constituents of concern.

### **Central Valley Flood Management Planning (CVFMP)**

The CVFMP was launched in 2008 to guide, manage, and implement integrated flood management actions for the Sacramento and San Joaquin valleys and resulted in the development of the 2012 Central Valley Flood Protection Plan (CVFPP) (DWR 2012). The purpose of the CVFPP is to guide the management of flood risk along the Sacramento and San Joaquin River systems. It was prepared in coordination with local flood management agencies, SWRCB, the USACE, FEMA, and Reclamation. The CVFPP identified the primary goal of improving flood



risk management to reduce the chance of flooding and damages once flooding occurs, and improve public safety, preparedness, and emergency response through the following:

- Identifying, recommending, and implementing structural and non-structural projects and actions that benefit lands currently receiving protection from facilities of the State Plan Flood Control (SPFC).
- Formulating standards, criteria, and guidelines to facilitate implementation of structural and non-structural actions for protecting urban areas and other lands of the Sacramento and San Joaquin river basins and the Delta.

Supporting goals were to improve operations and maintenance, promote ecosystem functions, improve institutional support, and promote multi-benefit projects (DWR 2012).

### **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)**

The CV-SALTS effort began in 2006 by the CVRWQCB and SWRCB to address salinity and nitrate problems in California's Central Valley and to adopt long-term solutions to lead to enhanced water quality and economic sustainability. CV-SALTS is the process SWRCB requires to develop scientific and regulatory tools to manage salinity and nutrients in the Central Valley. The tools developed through this planning process will help to prepare a Basin Plan Amendment resulting in changes to the objectives and implementation program for salt and nutrient management and will result in completion of an SNMP.

In 2008, the Central Valley Salinity Coalition (CVSC) was formed as the working group for the CV-SALTS effort. Regional San is a member and participates on the Board of Directors. CV-SALTS participants work together to achieve the following goals (CVSC and CV-SALTS 2015):

- Sustain the Valley's lifestyle.
- Support regional economic growth.
- Retain a world-class agricultural economy.
- Maintain a reliable, high-quality urban water supply.
- Protect and enhance the environment.

To date, the Initial Conceptual Model has been completed, as well as the Strategic Salt Accumulation Land and Transport Study (SSALTS), which will be used to identify a range of alternatives for salt disposal under CV-SALTS. Work on the second phase of the conceptual model is ongoing. Procurement for the SNMP, CEQA documentation, and economic studies were completed in fall 2013. CEQA scoping meetings were conducted and other outreach efforts have been conducted. Monthly meetings were and continue to be conducted. Preparation of the CV-SALTS SNMP is underway.

### **3.10.3 Impact Analysis**

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed Project and alternatives would result in significant impacts to hydrologic resources. Evaluation of impacts to

surface water and groundwater was accomplished using the SWP and CVP hydrology and system operations model, CalSim II, which was developed to simulate and evaluate changes to the complex water resources system of California under alternative conditions. The model simulates operations of the SWP, CVP, and other water districts/facilities in the Central Valley and approximates changes in storage reservoirs, river flows, and exports from the Delta that would result from a change in hydrologic conditions, water supply demands, facilities, requirements or operational policies. The model was used to evaluate potential changes in how the system would need to be operated as a result of reduction in discharges to the Sacramento River associated with the proposed Project.

Two separate scenarios were evaluated to determine Project impacts:

- Initial implementation of project-level facilities, which would focus on irrigation during the growing season and would use an average of 32,572 AFY of recycled water and up to 37,000 AFY in higher demand (drier) years; and
- Implementation of all program elements, which would use up to 50,000 AFY of recycled water for summertime irrigation, managed wetlands, a potential groundwater recharge area, and implementation of wintertime irrigation to augment groundwater recharge.

Modeling using CalSim II was conducted to evaluate the effect of the maximum 50,000 AFY annual reduction in discharge, which would occur when all program elements are implemented; modeling assumed a maximum rate reduction of 108 cfs (CH2M Hill, 2016). Modeling was also conducted to estimate the effects of the initial irrigation component, when recycled water delivery would average 32,572 AFY (and a maximum of 37,000 AFY) at projected buildout. The maximum discharge reduction for this scenario is also 108 cfs because without implementation of wintertime irrigation use of recycled water is limited to the growing season. The peak use of recycled water thus occurs in June for both scenarios.

CalSim II is a regional scale, monthly time-step model that uses projected hydrologic data based on the historical distribution of hydrology in the period of record of the 1922 through 2003 water years (82-year period of record). The model evaluates CVP and SWP operations throughout the period of record as if projected conditions, population, land and water use, regulatory requirements, facilities and operating agreements were present throughout the entire period of record. The CalSim II model results are used to identify operational controls and trace the impact of flow changes through a wide range of hydrologic and operational conditions. The simulation model is valuable to consider reservoir and other dynamic responses of an alternative (e.g. Delta salinity controls, water supply allocations) (Reclamation, 2008), but because it cannot totally emulate the way the system is operated, results may be overly conservative, because actual effects could be reduced through the system operators' ability to use judgement to make real time adjustments based on actual operating data and results.

To evaluate the potential impact of the proposed Project on groundwater levels, modeling was conducted using the Sacramento Area Integrated Water Resources Model (SacIWRM), an integrated hydrologic model that includes groundwater flow simulation, surface flow simulation, and stream-aquifer interaction. Groundwater modeling was also done for the same two scenarios as described above: annual recycled water delivery of 32,572 AFY (and a maximum of 37,000

AFY) at buildout of the project-level facilities, and 50,000 AFY with inclusion of wintertime irrigation, which results in the maximum possible discharge reduction at ultimate implementation of all program-level components. The modeling is thus conservative in its estimate of the amount of recycled water that could be used. The model simulated 84 years of operation, repeating the 42-year hydrologic conditions of 1970 to 2011 two times (RMC 2016). Because this period includes an extended drought period (1986-1992), it adequately reflects conditions that have occurred during the recent drought.

The SacIWRM model was used to estimate the extent to which increased groundwater levels from use of recycled water for irrigation would result in increased flows in the Cosumnes and Sacramento Rivers. Results of the SacIWRM model were integrated with the CalSim II model to determine the overall effect on Delta outflows considering both the reduction in discharge, which reduces inputs to the surface water system, and increases in streamflows that result from higher groundwater levels.

### ***Thresholds of Significance***

Hydrology- and water quality-related impacts associated with the proposed Project were analyzed in accordance with Appendix G of the CEQA Guidelines, along with an additional consideration relevant to projects that have the potential to affect surface flows in the Sacramento River. For the purposes of this analysis, an impact to hydrology and water quality would be significant if the Project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or substantially interfere with groundwater recharge;
- Substantially alter the existing drainage pattern of the project area and/or increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems;
- Create substantial sources of polluted runoff or otherwise substantially degrade water quality;
- Develop within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map or within a local flood hazard area;
- Place structures that would impede or redirect flood flows within a 100-year floodplain;  
or
- Expose people or structures to a substantial risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Interfere with or cause changes to CVP or SWP system operations.

### ***Criteria Requiring No Further Evaluation***

Criteria listed above that are not applicable to actions associated with the proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or create flooding on or off site* – The proposed Project, which consists of pipelines and a pump station, would contribute minimal runoff water. The proposed pipelines would be buried underground within public road rights-of-way and would not create or contribute runoff. The proposed pump station would create minimal to no new impervious surfaces, and runoff would be accommodated by the existing storm drainage system at the SRWTP. Thus, the proposed Project would not create or contribute substantial runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Thus, no impact would occur and no further evaluation is required. Further, the recycled water irrigation program would be operated in a manner to minimize off-site runoff, both because recycled water would be subject to volumetric charges, which provide incentives not to waste water, and because the Statewide Recycled Water Order, under which the project would operate, prohibits excess runoff.
- *Develop within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map or within a local flood hazard area* – The proposed Project would not involve construction of residential housing, and therefore would not place new housing within a flood hazard area or areas that could be exposed to sea level rise. No impact would occur and no further evaluation is required.
- *Place structures that would impede or redirect flood flows within a 100-year floodplain* – Portions of the pipeline, the pump station at the SRWTP, Stone Lakes NWR, and the potential recharge area would be located within a 100-year flood hazard zone (generally in areas near the Sacramento and Cosumnes Rivers, see **Figure 3.10-1**). However, no occupied structure would be constructed as part of the proposed Project. Pipelines would be buried and would not affect flood flows. Above-ground facilities would be limited to air valves along the new pipelines, the new pump station at the SRWTP, diluent wells at the potential recharge area (if needed), and small berms (three feet high or less) to keep wintertime water on site. The pump station would be integrated within the EchoWater Project facilities and would be located within the existing SRWTP perimeter levee system, which is designed to provide protection from 200-year flood flows. Therefore, the construction of the new pump station would not increase the level of existing encroachment of the SRWTP site on the floodplains of the Sacramento River or the Laguna-Morrison Creek channels. None of the above-ground facilities would impede or redirect flood flows. Thus, the proposed Project would not impede or redirect flood flows in areas of 100-year flood hazards, and no further evaluation is required.
- *Expose people or structures to a substantial risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam* – The proposed Project would include very limited above ground structures and would not appreciably impact flood flows or runoff volumes. The proposed Project would have no impact on any levees or dams and would not increase the risk of failure of any levee or dam. The proposed Project would redirect 50 TAF of recycled water from the SRWTP from discharge to the Sacramento River to existing customers for irrigation of crops and managed wetlands. Thus, the proposed Project would not expose people or structures to a risk of loss, injury or death involving flooding. No impacts would occur and no further evaluation is required.

### ***Impacts and Mitigation Measures***

#### **Impact HYD-1 Violate Water Quality Standards or Waste Discharge Requirements, Create Substantial Sources of Polluted Runoff or Otherwise Substantially Degrade Water Quality**

*Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, dewatering and grading activities could result in increased erosion and sedimentation to surface waters during construction of the proposed Project. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution), a contributor to the degradation of water quality. In addition, hazardous materials associated with construction equipment could adversely affect surface and groundwater quality if spilled or stored improperly. In accordance with the Construction General Permit, a SWPPP would be developed for the proposed Project that would detail Best Management Practices for all Project construction activities including excavation, dewatering, and stockpiling. During construction of the proposed Project, dewatering would be conducted to remove excess groundwater from excavations created for installation of the pipeline and the proposed pump station. Dewatering operations would be conducted in accordance with the General Order for Dewatering or other appropriate NPDES permit. The discharge from the dewatering operations would be evaluated and made part of the Project SWPPP.

Once the pipeline is constructed, hydrostatic testing would need to be conducted, and water from the testing would also need to be discharged. Water from testing would be discharged in accordance with the General Order for Dewatering or other appropriate NPDES permit.

The Construction General Permit and the General Order for Dewatering are well established regulatory processes that effectively limit threats to water quality from construction activities such as those that would be conducted as part of the proposed Project. With implementation of **Mitigation Measures HYD-1a, HYD-1b, and HYD-1c**, potential impacts would be reduced to less than significant.

Operation of the proposed Project would result in an additional point of discharge of Regional San's recycled water, providing water to agricultural customers with a reduction in the amount of discharge to Sacramento River. Regional San would continue to discharge recycled water to the Sacramento River, in accordance with its NPDES permit (Order R5-2011-0114). Regional San would maintain its NPDES permit and comply with the General Order for Recycled Water Use to provide recycled water to agricultural and urban irrigation users as part of the proposed Project, therefore not violating related water quality standards or waste discharge requirements. The Project would implement Basin Plan policy to optimize reuse and land disposal of wastewater. All uses of recycled water would also be required to be consistent with a Salt and Nutrient Management Plan, which would need to be approved by the RWQCB (SWRCB 2014). The Project area is anticipated to be covered programmatically by the CV-SALTS SNMP.

**Program Elements.**

*Construction of All Facilities.* Potential impacts from construction activities for the program elements would be similar to those for the Project elements. **Mitigation Measures HYD-1a, HYD-1b, and HYD-1c** would reduce the construction-related impacts to less than significant.

*Operation of Stone Lakes Managed Wetland.* Suitability of recycled water for use at the Stone Lakes Refuge has been evaluated using the USFWS Rapid Assessment tool. Recycled water quality was projected based on pilot treatment studies because Regional San is in the process of constructing advanced treatment facilities at the SRWTP, and those facilities are not yet operational. Levels of constituents in recycled water from the pilot studies are acceptable for use at the refuge for all parameters except for phosphorus, which would require additional evaluation. The acceptance level for phosphorus is 0.047 mg/L<sup>1</sup>, and the level of phosphorus in the recycled water from the pilot study was 4.8 mg/L, which is substantially higher than the acceptance level.

The phosphorus criterion used in the USFWS Rapid Assessment tool is extremely low, and may not be warranted for Stone Lakes, given that existing source water (stormwater runoff into Stone Lakes) has phosphorus concentrations above 0.5 mg/l and appears to cause no water quality concerns. The criterion for phosphorus is conservative because it is based on reference conditions and not on levels determined to affect water quality. Phosphorus would only rise to a level of concern if it were a nutrient limiting biological production in this environment, which is likely nitrogen-limited. Higher phosphorus concentrations are likely still safe for use in wildlife refuges, and EPA (2001) has indicated that their acceptance levels are appropriate as a starting point for development of water quality criteria that consider the characteristics of the specific receiving water.

There is also uncertainty that the reported phosphorus concentration from the pilot facility reflects the quality of recycled water that would be produced by the EchoWater facility because the current mean phosphorus concentration in SRWTP effluent is 2.28 mg/L without filtration (Ascent Environmental 2014). Prior to any final agreements with USFWS to deliver recycled water to the Stone Lakes NWR, additional studies of EchoWater effluent would be performed to demonstrate that water quality is acceptable. **Mitigation Measure HYD-1d** would be implemented to ensure that recycled water of suitable quality is provided to the Stone Lakes NWR and that impacts would be less than significant.

*Operation of Potential Recharge Area.* Use of recycled water for groundwater recharge in the potential recharge area would be permitted under a WDR obtained by Regional San. Operation of the potential recharge area would comply with the Division of Drinking Water recycled water regulations as described in Title 22, Division 4, Chapter 3 of the CCR. As described in *Chapter 2, Alternatives Description and Proposed Project*, recycled water would need to be diluted as part of the recharge component. Three diluent wells would be installed to provide groundwater as diluent water unless project-specific regulations are developed, which would be Regional San's intent in order to maximize the benefits of the recharge and minimize the potential adverse

---

<sup>1</sup> Acceptance level is based on USEPA reference conditions for Ecoregion I, which includes the Central Valley.

effects. The exact locations of the wells have not yet been determined, but the wells would be sited to meet all Title 22 requirements, including retention time of the recycled water underground. Impacts to water quality from the potential recharge area and diluent wells are potentially significant. Impacts could include, for example, the potential for mobilization of contaminants in groundwater from changing groundwater levels in the Central Sacramento Groundwater Basin, water quality impacts to the groundwater basin or to the Cosumnes River. Because the details of the potential recharge area are not yet available, **Mitigation Measure HYD-1e** would be implemented.

One common concern with the use of recycled water involves CECs, which include classes of chemicals such as pharmaceuticals, pesticides, and industrial chemicals. Many CECs are potentially present in recycled water, surface waters, and groundwater, but the ability to detect many of these chemicals at low concentrations is so recent that a robust framework for interpreting their potential human or ecosystem health effects is unavailable. Although there is currently no applicable regulatory guidance regarding CECs in recycled water used as part of a project such as the proposed Project, in California, the most well-established regulations and policies related to CECs in recycled water are associated with the Recycled Water Policy. A Blue Ribbon Panel with extensive knowledge developed next step recommendations by prioritizing which CECs to monitor and evaluate. The SWRCB adopted the Recycled Water Policy in May 2009 and in April 2013, based on the recommendations of the Blue Ribbon Panel, adopted an amendment to the Recycled Water Policy that provided CEC monitoring requirements for surface application of recycled water for groundwater recharge of a groundwater basin designated for municipal use. The proposed Project would comply with the Recycled Water Policy.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components of Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Potential construction-related impacts would be reduced to less than significant with the implementation of **Mitigation Measures HYD-1a through 1c**. Implementation of **Mitigation Measures HYD-1d and HYD-1e** would ensure that recycled water of suitable quality is provided to the Stone Lakes NWR and impacts to water quality from the potential recharge area and diluent wells, if needed, are less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no water quality impacts or erosion/sedimentation associated with construction of these facilities would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

### **Mitigation Measures**

#### **Mitigation Measure HYD-1a: Comply with the Construction General Permit (All Action Alternatives)**

To minimize the impacts to water quality from construction activities, the proposed Project shall implement measures contained in the Construction General Permit including the development of a SWPPP.

#### **Mitigation Measure HYD-1b: Implement BMPs to Control Erosion and Sediment During Construction (All Action Alternatives)**

The SWPPP shall specify that all construction activities shall implement multiple BMPs to provide effective erosion and sediment control. These BMPs shall be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMPs to be implemented as part of this mitigation measure shall include, but are not limited to, the following measures:

- Temporary erosion control measures, such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover, shall be employed for disturbed areas;
- Dirt and debris shall be swept from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events;
- Grass or other vegetative cover will be re-established on unpaved areas of the construction site as soon as possible after disturbance. In paved areas, any removed paving will be replaced as soon as possible; and
- Soil stockpiling sites will be located such that they do not drain directly into nearby surface water bodies.

Multiple BMPs used in combination, properly installed and maintained, can achieve significant sediment removal. BMPs proposed by the project contractor shall be subject to approval Regional San, who shall require that all parties performing construction under the proposed Project incorporate into contract specifications the requirement that the contractor(s) comply with and implement these provisions. The contractor shall also include provisions for monitoring during and after construction activities to verify that these standards are met.

#### **Mitigation Measure HYD-1c: Comply with the General Order for Dewatering or Other Appropriate NPDES Permit (All Action Alternatives)**

To minimize the impacts to water quality from dewatering activities, the Regional San shall implement measures contained in the General Order for Dewatering or other appropriate NPDES permit or Waste Discharge Requirement.

#### **Mitigation Measure HYD-1d: Ensure Adequate Water Quality for Stone Lakes NWR (All Action Alternatives)**

To avoid adverse impacts to Stone Lakes NWR, Regional San shall work with USFWS to ensure that recycled water is of suitable quality before water is provided to the Refuge. Recycled water shall not be supplied to the Refuge until water quality concerns are addressed. If needed and desired by USFWS, water quality enhancement could be provided through a treatment wetland (a constructed wetland designed to remove nutrients from recycled water before discharge to the Refuge), which would be located in the Refuge.



**Mitigation Measure HYD-1e: Perform Detailed Analysis of Groundwater Impacts from Recharge Area and Diluent Wells (All Action Alternatives)**

As established by SWRCB Resolution No. 68-16, Regional San would complete a two-step process to comply with the policy. The first step would be to determine if the discharge (groundwater recharge with recycled water) would degrade high quality water. If there is no degradation, then the project is allowed. If there is an anticipated degradation, the discharge may be allowed if any change in water quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect present and anticipated beneficial use of such water, and (3) will not result in water quality less than that prescribed in state policies (e.g. water quality objectives in Water Quality Control Plans). The second step of the anti-degradation analysis would be to document any activities that result in discharges to such high quality waters and demonstrate that these discharges utilize the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the State. The antidegradation analysis and groundwater evaluation would be conducted at the time the recharge element is defined, and the groundwater recharge element would only be implemented if recharge can be accomplished without substantially degrading groundwater quality.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact HYD-2 Substantially Deplete Groundwater Supplies or Substantially Interfere with Groundwater Recharge**

*Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction and operation of the proposed Project would not deplete groundwater supplies as neither would involve extraction of groundwater. The existing source of water supply in the Project area is primarily groundwater pumped from private wells. Use of tertiary recycled water for agricultural irrigation in South County would offset groundwater pumping and as such reduce dependence on the Central Sacramento Groundwater Basin. Specifically, the proposed Project would provide recycled water to meet 2/3 of the maximum month demand during peak use periods and 100 percent of the demand in off-peak months (September through May), thus conserving groundwater. The proposed Project would not deplete groundwater supplies; instead, it would benefit the groundwater basin and would result in no adverse impacts related to groundwater supply depletion. Because supplying recycled water for irrigation would allow reductions in groundwater pumping, the proposed Project would result in substantial increases in groundwater storage in the Central Basin.

Results of groundwater modeling using SacIWRM show that the proposed Project would produce measureable increases in groundwater elevations in and near the Project area. After 10 years, with implementation of irrigation during the growing season, groundwater storage is expected to increase by 200,000 AF, as compared to the baseline condition without the proposed Project. Over the long term, groundwater levels in the Central Basin are projected to increase by

approximately 20 to 25 feet in the center of the proposed irrigation area, and groundwater storage would increase by 379,000 AF as shown by the lower, blue line in **Figure 3.10-5**.

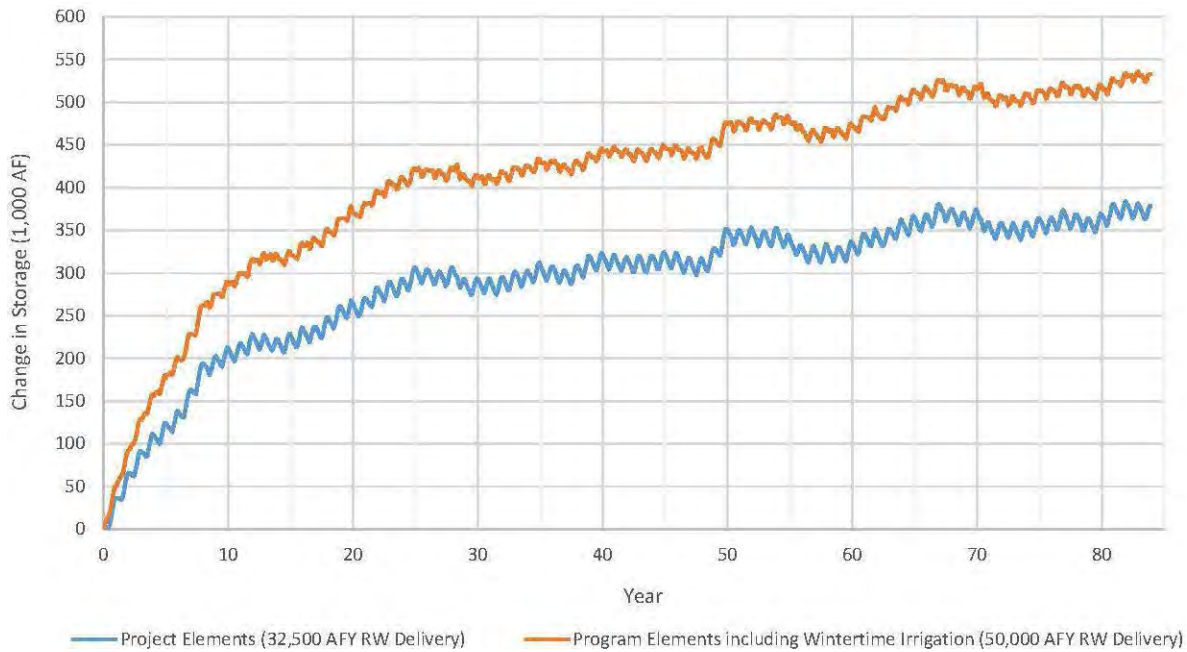


Figure 3.10-5: Increase in Groundwater Storage with Project and Program Implementation

**Figure 3.10-6** shows increases in groundwater levels in the Central Basin with implementation of Project Elements. Increases depict groundwater levels at the end of the modeling simulation period when storage has approached its maximum levels.

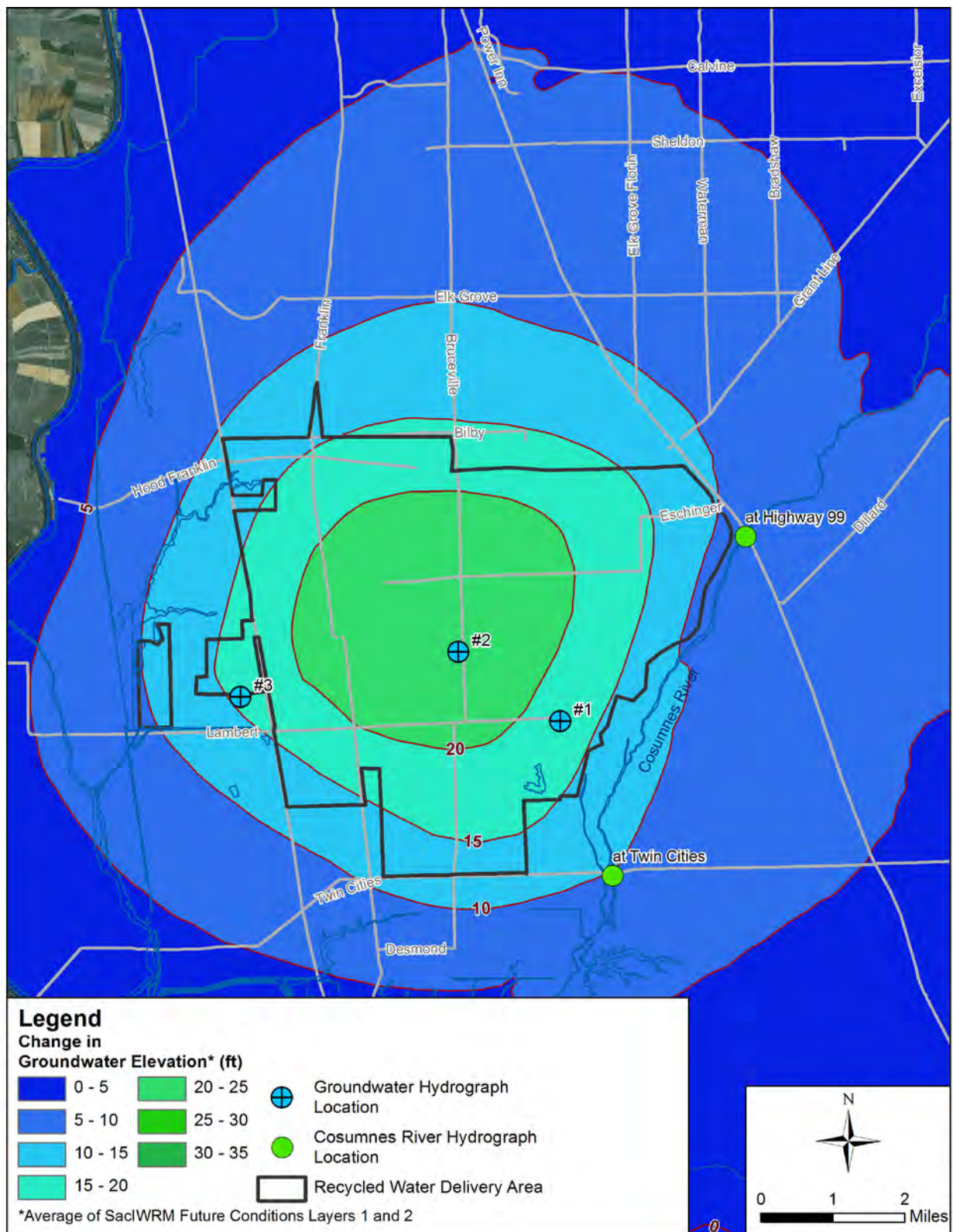


Figure 3.10-6: Changes in Groundwater Elevation due to Project Implementation, as Compared to Baseline without Project

**Program Elements.**

*Operation of Stone Lakes Managed Wetland.* The proposed Project would provide recycled water to Stone Lakes NWR, offsetting its current source of water, surface water. Therefore, this component of the Project would have no effect on groundwater supplies or recharge other than the beneficial effects on groundwater levels discussed above.

*Operation of Potential Recharge Area and Wintertime Irrigation.* The proposed Project would potentially include a recharge pond and implementation of wintertime irrigation, both of which would allow for the recharge of the groundwater basin (using recycled water) during certain seasons. This component would increase groundwater recharge and thus would benefit the Central Sacramento Groundwater Basin and increase Cosumnes River base flow. With full implementation of all program elements, including wintertime irrigation, groundwater storage in the Central Basin is projected to increase by 533,000 AF, as shown by the upper, orange line in **Figure 3.10-5**. The increase in storage would occur over time and the full benefits would only be realized as program elements are implemented, but if all program elements are in place within 20 years, an increase in groundwater storage of 300,000 AF or more could be realized, with gradual increases continuing as shown above. The proposed Project would provide a benefit to the groundwater basin and would result in no adverse effects related to groundwater recharge.

*Operation of Diluent Wells.* The diluent wells that may be required for the recharge pond, if project specific requirements that would obviate the need for diluent wells are not adopted, would not substantially deplete groundwater supplies as they would extract an amount that would then be used directly for groundwater recharge with the recycled water generated from the proposed Project. Overall impact of the program elements would be an increase in groundwater storage in the Project area, which is a beneficial impact.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both Project and program components of Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts to groundwater recharge would occur. However, agricultural users would continue to pump groundwater to meet water supply needs, which could contribute to depleting groundwater supplies in the Central Sacramento Groundwater Basin as supplies become limited and demands grow, resulting in a potentially significant impact.

**Significance Determination before Mitigation**

Beneficial for all action alternatives. Potentially significant for Alternative 4 (No Project Alternative).

**Impact HYD-3 Substantially Alter the Existing Drainage Pattern of the Project Area and/or Increase the Rate or Amount of Surface Runoff in a Manner which would Result in Flooding On or Off Site**

*Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The proposed Project would add very little impervious surface to the landscape as the aboveground facilities are limited to air valves along the new pipelines and the new pump station at the SRWTP. The pump station would be integrated within the EchoWater Project facilities. The above-ground facilities are too small to have any appreciable impact on surface runoff or existing drainage patterns.

The proposed Project has the potential to temporarily alter the existing drainage patterns of creeks or waterways during construction as pipeline crossings would be necessary. Pipelines would cross Franklin Creek and several unnamed drainages. However, as described in *Chapter 2, Alternatives Description and Proposed Project*, the transmission pipeline would use trenchless technology for all creek/drainage crossings (see **Table 2-3**). Therefore, construction would not alter the existing drainage pattern in the Project area. Once the pipelines are installed, there would be no potential for alteration of drainage patterns or generation of runoff. Impact of construction and operation are thus expected to be less than significant. The proposed Project would be operated in a manner to minimize off-site runoff, both because recycled water would be subject to volumetric charges, which provide incentives not to waste water, and because the Statewide Recycled Water Order, under which the project would operate, prohibits excess runoff.

**Program Elements.** Similar to the Project elements, the program elements do not consist of above-ground facilities, other than the diluent wells. Therefore, the amount of impervious surfaces and the amount or rate of surface runoff would not increase. Distribution mains and service collection laterals that would be constructed in future phases are also assumed to use trenchless technology for crossing of streams and drainages. Potential impacts are therefore expected to be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Construction- and operation-related water quality impacts from the Small Service Area Alternative (both Project and program elements) would be similar to those described for the Proposed Project. Impacts are expected to be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts on drainage patterns or surface runoff would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

### **Mitigation Measures**

No mitigation measures are required.

### **Impact HYD-4 Interfere with or Require Changes to CVP or SWP Operations**

*Alternative 1 (Medium Service Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** The proposed Project would result in calculable reductions in flows in the Sacramento River, although decreases in flows at Freeport would almost always be less than 1 percent of the total river flow. Changes in flows were estimated using CalSim II, which was used to project changes in flows due to reduction in discharge and due to increases in groundwater –induced streamflows that would increase as a result of the Project. (Potential biological impacts associated with reductions in flows in the Sacramento River are discussed in *Section 3.5, Biological Resources.*)

Effects of the Project's reduction in discharge vary depending on the water year type. When there are "excess" conditions, and there is sufficient flow in the Delta such that CVP and SWP reservoirs are not releasing stored water (which occurs about 70 percent of the time when considering all months and all years), Project-related reductions in discharges have minimal effect on the system. Under "balanced" conditions, when the CVP and SWP reservoirs are releasing stored water, modeling provides projections that the reduction in discharge that would occur under the proposed Project would reduce flows in the Sacramento River at Freeport. As previously noted in Section 3.5, Biological Resources, discharge reductions would result in reduced Sacramento River flows at Freeport. Reductions in discharge represent decreases in river flow of, on average: -0.4 percent in April, -1.1 percent in May, -0.9 percent in June, -0.6 percent in July, -0.8 percent in August, -0.3 percent in September, and -0.2 percent in October, considering the 82-year period of record from 1922 to 2003 at Freeport using the CalSim II model. Sacramento River flows are unchanged in February, March, and December, and are decreased by -0.5 percent in January. During balanced conditions, the model predicts that water project operations would respond to these nominal reductions in flows by making reservoir releases, resulting in no net change in Sacramento River flows below Freeport.

The potential effects would be reduced by increased streamflows to the Delta resulting from changes in the interaction of groundwater and surface water as a result of the Project. The higher groundwater levels due to in-lieu recharge result in reduced groundwater recharge from the Cosumnes River and other tributaries to the Delta. Instead of recharging groundwater, these flows remain in the river and flow to the Delta. These streamflows increase over the life of the Project, reaching their highest as the Project approaches a new balance between the groundwater and surface water systems. As shown in **Figure 3.10-5**, groundwater levels increase rapidly for the first 10 years, and continue to increase markedly until the rate of increase levels off after about 25 years. Increases in groundwater levels continue after that, but at a slower rate. The Project also results in decreased groundwater flowing into the Central Basin from surrounding basins, because of the projected increases in groundwater levels in the Central Basin. The increase in Cosumnes River and tributary streamflows and reduced groundwater inflow from surrounding areas are a beneficial effect of the Project.

Based on groundwater modeling using SacIWRM, **Figure 3.10-7** shows the relationship between reduction in groundwater pumping (shown in blue fill) and the resultant increases in groundwater in storage (blue line), decreases in water recharging the groundwater basin from streams (orange fill) and decreases in groundwater flowing into the basin from surrounding basins outside of the model area (gray fill). Long-term results are shown by the second half of the simulation, indicating that, within the model area, out of the 32,572 AFY of recycled water used for irrigation (which provides in-lieu recharge of the groundwater basin), 28,569 AFY (88%) goes to increased streamflow, resulting in a net depletion of 4,000 AFY (RMC 2015a).

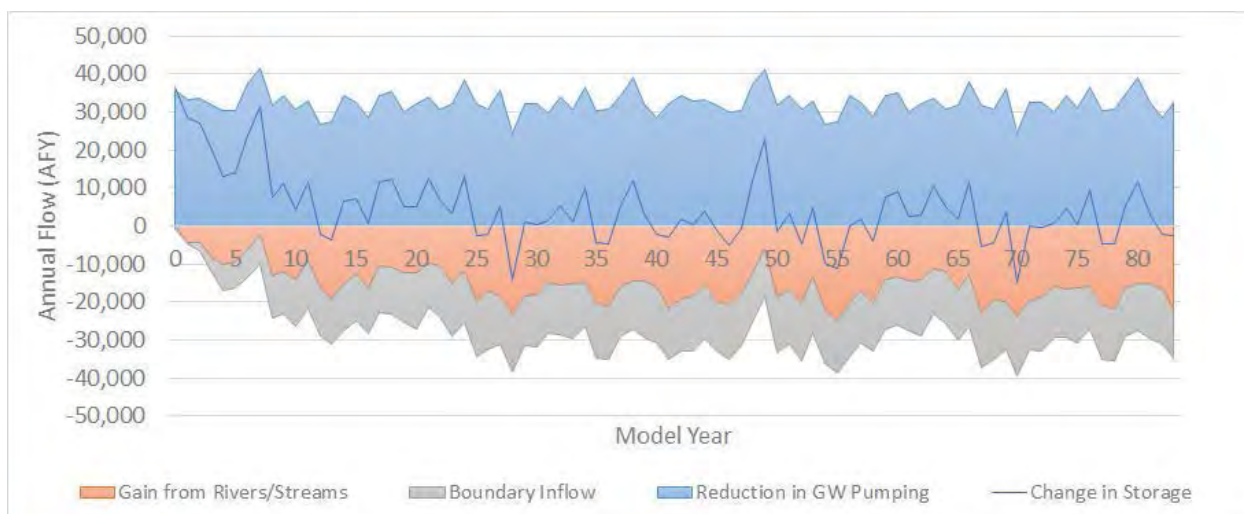


Figure 3.10-7: SacIWRM Simulated Reduction in Groundwater Pumping and Associated Benefits to Groundwater and Surface Water

Because these flows enter the system downstream of the SRWTP discharge location, there would still be lower flows in the stretch of the Sacramento River below Freeport, but the overall effect of the project on Delta outflows is substantially reduced by the groundwater-induced increased streamflows that result from the Project. Although flows increase gradually as groundwater storage increases (as shown in **Figure 3.10-5**), at the end of the simulation period the discharge reduction of 32,572 AFY is balanced by increased groundwater-induced streamflow of about 28,569 AFY. **Table 3.10-5** shows Delta outflows with and without the implementation of the project-level elements, assuming a discharge reduction of 32,572 AFY, and demonstrates the effects of both the reduction of wastewater discharge and the increase in groundwater-induced streamflows. The net effect is that there is no meaningful reduction in total Delta outflow, and long-term average Delta outflows actually increase in eight out of twelve months with Project implementation. Even during critical dry years the magnitude of changes is less than 1.5 percent, with increased flows in several months.

Table 3.10-5: Sacramento/San Joaquin River Delta Monthly Outflow by Water Year Type with Implementation of Project Elements

Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Long-term</b>												
<b>Full Simulation Period<sup>1</sup></b>												
No Project	5,942	11,480	20,871	41,889	52,430	42,330	30,953	21,902	12,373	7,887	4,343	9,712
Proposed Project (32,572 AFY <sup>3</sup> )	5,927	11,483	20,885	41,909	52,447	42,376	30,966	21,862	12,356	7,877	4,347	9,716
Difference	-16	3	14	20	17	46	13	-41	-18	-10	4	4
Percent Difference <sup>4</sup>	<b>-0.3%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>0.0%</b>
<b>Water Year Types<sup>2</sup></b>												
<b>Wet (32%)</b>												
No Project Alternative	8,383	18,345	23,677	83,496	95,664	78,692	55,826	39,956	22,378	11,198	5,102	19,532
Proposed Project (32,572 AFY)	8,372	18,341	23,691	83,509	95,693	78,735	55,847	39,905	22,331	11,189	5,085	19,556
Difference	-11	-4	14	13	29	43	21	-51	-47	-9	-17	24
Percent Difference	<b>-0.1%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>-0.3%</b>	<b>0.1%</b>
<b>Above Normal (15%)</b>												
No Project Alternative	5,906	13,276	18,127	46,359	60,552	50,948	32,946	23,526	11,314	9,573	4,000	11,784
Proposed Project (32,572 AFY)	5,919	13,255	18,138	46,389	60,592	51,018	32,957	23,475	11,305	9,556	4,000	11,784
Difference	13	-21	11	30	40	70	11	-50	-9	-16	0	0
Percent Difference	<b>0.2%</b>	<b>-0.2%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Below Normal (17%)</b>												
No Project Alternative	5,697	9,387	26,091	21,862	35,993	22,818	22,817	15,836	7,908	7,205	4,017	3,885
Proposed Project (32,572 AFY)	5,679	9,366	26,104	21,901	36,006	22,864	22,825	15,816	7,906	7,202	4,017	3,875
Difference	-18	-21	13	39	13	46	9	-20	-2	-3	0	-10
Percent Difference	<b>-0.3%</b>	<b>-0.2%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.3%</b>



Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Dry (22%)</b>												
No Project Alternative	4,182	6,919	23,293	14,390	22,702	19,624	14,602	10,063	6,772	5,071	4,002	3,155
Proposed Project (32,572 AFY)	4,167	6,923	23,290	14,432	22,707	19,672	14,615	10,027	6,769	5,059	4,016	3,145
Difference	-15	4	-3	42	5	48	13	-37	-3	-13	13	-10
Percent Difference	<b>-0.4%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>-0.4%</b>	<b>0.0%</b>	<b>-0.2%</b>	<b>0.3%</b>	<b>-0.3%</b>
<b>Critical (15%)</b>												
No Project Alternative	3,617	4,092	7,813	11,886	14,407	11,750	9,089	5,997	5,368	4,046	3,937	3,000
Proposed Project (32,572 AFY)	3,566	4,161	7,853	11,857	14,394	11,778	9,089	5,959	5,364	4,039	3,978	3,000
Difference	-51	68	40	-29	-12	28	0	-38	-3	-7	41	0
Percent Difference	<b>-1.4%</b>	<b>1.7%</b>	<b>0.5%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>-0.6%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>1.0%</b>	<b>0.0%</b>

Source: CH2MHILL 2016.

Notes:

1. Based on the 82-year simulation period
2. As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)
3. AFY= acre-feet per year. The proposed Project was assumed to divert 32,572 AFY with implementation of all project elements
4. Relative difference of the monthly average

To determine the effects these changes would have on other facilities in the Sacramento River basin, a range of parameters were modeled and reviewed. Over the 82-year period of record from 1922 to 2003, sequential drought years during the periods 1929-1934 and 1986-1992 created circumstances in the CalSim II model simulation where the proposed Project is predicted to reduce CVP storage (Lake Shasta, Trinity Lake and Folsom Lake) by up to 45,000 AF over a worst-case 6-year drought period. Depletion levels are relative to worst-case storage levels of 1,500,000 AF in Trinity, Shasta and Folsom Lakes combined (a 3 percent reduction). If the sequential drought years occurred soon after the start of operations, the model predicts the proposed Project would reduce combined CVP storage by up to 63,000 AF over a worst-case 6-year drought period (a 4 percent reduction). This is a conservative conclusion because the use of recycled water will likely take 10 to 20 years to ramp up to use of 32,572 AFY, and initial discharge reductions would likely be substantially less than this. The following summarizes the specific changes that were observed. Results are provided for the end of the modeling simulation period, when effects of discharge reductions are reduced by the groundwater-induced increased streamflows that result from the Project. Changes at the start of operations are generally larger than at the end of the simulation period because over time the increase in groundwater levels resulting from the project increases river flows, thereby reducing the net effect of the project.

- Shasta Lake storage – reduced storage on average in Critically Dry years (D1641 40-30-30 year type); month-over-month reductions coincide with the pattern and magnitude of discharge reductions coordinated with other CVP storage (Trinity Lake and Folsom Lake). The proposed Project would reduce Shasta storage by about 35,000 AF over a worst-case 6-year drought period (as compared to a storage level of 750,000 AF without the Project); CVP storage (Shasta Trinity and Folsom Lakes combined) would be reduced by up to 45,000 AF in a worst-case 6-year drought. Without operational changes to retain storage, the majority (80 to 90 percent) of this impact would be to storage and associated cold water pool conditions at Shasta Lake
- Trinity Lake storage – reduced storage on average in Critically Dry years (D1641 40-30-30 year type); month-over-month reductions coincide with the pattern and magnitude of discharge reductions coordinated with other CVP storage (Shasta Lake and Folsom Lake)
- Sacramento River below Keswick Dam flows – some increased flow releases in Dry and Critically Dry years (D1641 40-30-30 year type) in late Spring and Summer months (increased releases to replace the flow from discharge reductions)
- Lake Oroville storage – reduced storage less than one percent; month-over-month reductions coincide with the pattern of discharge reductions
- Feather River below Thermalito Dam flows – some increased flow releases in Dry and Critically Dry years (D1641 40-30-30 year types) in summer and fall months
- Folsom Lake storage – reduced storage in Dry and Critically Dry years (D1641 40-30-30 year type); month-over-month reductions coincide with the pattern and magnitude of discharge reductions coordinated with other CVP storage (Shasta Lake and Trinity Lake)
- Delta outflow – reduced outflows generally less than one percent; some reductions in October of Critically Dry years (D1641 40-30-30 year type), as mentioned above.

- CVP and SWP contract deliveries – reduced CVP deliveries on average by 2,000 AFY in Below Normal, Dry and Critically Dry years (D1641 40-30-30 year types); reduced SWP deliveries on average by 2,000 AFY in Dry years (D1641 40-30-30 year type). Effects at the start of operations (year 0) are potentially greater with total deliveries reduced by up to 9,000 AFY. At start of operations, SWP exports would be reduced by 4,000 AFY (0.2 percent of the 2,600,000 AFY exports that would occur without the Project); CVP exports would be reduced by 5,000 AFY (0.2 percent of the 2,300,000 AFY exports that would occur without the proposed Project). The worst-case reduction would be for south-of-Delta CVP agricultural contracts, which would be reduced by 0.4 percent (a 5,000 AFY reduction from the 1,170,000 AFY deliveries without the proposed Project).

Although impacts of the discharge reduction are balanced by increases in streamflows that result from higher groundwater levels produced by the Project, there is a potential that the Project would require adjustments in CVP and SWP operations, and the potential for reduction in Shasta storage is considered to be a significant impact, because the reduction in storage, without operational adjustments, could create thermal effects in the Sacramento River downstream of CVP reservoirs. Generally, storage impacts that occur when Lake Shasta is below 2,400,000 AF in summer lead to temperature impacts downstream. Management of temperature is important for maintenance of appropriate conditions for fisheries, and Reclamation is required to manage Shasta release temperatures to not exceed 56° F at specified compliance locations that are chosen in consultation with the Sacramento River Temperature Task Group. Implementation of **Mitigation Measure HYD-4** would reduce the impact to less than significant. During a prolonged drought, Project operations could be modified to discharge more water to the Sacramento River, while irrigation demands are met through increased groundwater pumping. Additional groundwater would be available for irrigation due to the increase in groundwater storage that would be achieved through in-lieu recharge resulting from the use of recycled water.

It should be noted that CVP and SWP Delta exports, and by connection CVP and SWP upstream reservoir releases for Delta inflows to support Delta outflow requirements and Delta export objectives, are under the discretion of the operators of these two projects, who can reduce allocations to contractors. While it is observed through the model results that Regional San discharge reductions could potentially impact the CVP and SWP project operations, it is up to the operators of these two projects to control how any such impact is manifested. In any event, the predicted worst-case reduction in exports would be extremely small, and not substantial, and as such would have a less than significant impact on the water supply aspect of CVP and SWP operations.

**Program Elements.** Modeling and analysis for the program elements assumes the full 50,000 AFY reduction in discharge from the Project and incorporates the additional groundwater recharge that would result from wintertime irrigation. Changes described above for CVP facilities are similar, but generally somewhat larger than for the Project elements, consistent with the increased magnitude of discharge reduction. **Table 3.10-1** shows projected changes in monthly flows in the Sacramento River at Freeport when all Project and program elements are implemented, resulting in a discharge reduction of 50,000 AFY (effect on flows at Freeport is very similar for the Project elements, which would reduce discharge by 32,572 AFY). **Table**

**3.10-6** shows Delta outflows with and without full implementation of all Project and program-level elements (including wintertime irrigation), assuming a discharge reduction of 50,000 AFY, and demonstrates the effects of both the reduction of wastewater discharge and the increase in groundwater-induced streamflows. The net effect is that there is no meaningful reduction in total Delta outflow, and long-term average Delta outflows actually increase in six out of twelve months with implementation of program elements. Even during critical dry years the magnitude of changes is typically less than 1.5 percent, with increased flows in several months. For the same reasons stated for the Project elements, impacts to the water supply aspect of CVP and SWP operations would not be significant.

With implementation of **Mitigation Measure HYD-4**, potential impacts to CVP storage in Shasta would be reduced to less than significant, because discharge reductions would be reduced in critical years as needed to ensure that adverse effects to the Sacramento River are avoided.

Table 3.10-6: Sacramento/San Joaquin River Delta Monthly Outflow by Water Year Type with Implementation of Program Elements

Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Long-term</b>												
<b>Full Simulation Period<sup>1</sup></b>												
No Project	5,942	11,480	20,871	41,889	52,430	42,330	30,953	21,902	12,373	7,887	4,343	9,712
Proposed Project (50,000 AFY <sup>3</sup> )	5,930	11,481	20,867	41,893	52,428	42,356	30,995	21,877	12,363	7,880	4,346	9,713
Difference	-12	1	-4	4	-2	26	41	-26	-10	-7	3	1
Percent Difference <sup>4</sup>	<b>-0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>0.0%</b>
<b>Water Year Types<sup>2</sup></b>												
<b>Wet (32%)</b>												
No Project Alternative	8,383	18,345	23,677	83,496	95,664	78,692	55,826	39,956	22,378	11,198	5,102	19,532
Proposed Project (50,000 AFY)	8,379	18,338	23,674	83,497	95,676	78,714	55,882	39,934	22,349	11,191	5,089	19,545
Difference	-4	-7	-2	0.2	12	22	56	-22	-28	-7	-13	13
Percent Difference	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.3%</b>	<b>0.1%</b>
<b>Above Normal (15%)</b>												
No Project Alternative	5,906	13,276	18,127	46,359	60,552	50,948	32,946	23,526	11,314	9,573	4,000	11,784
Proposed Project (50,000 AFY)	5,906	13,269	18,120	46,365	60,564	50,997	32,992	23,500	11,312	9,559	4,000	11,784
Difference	0	-7	-7	6	12	49	46	-25	-2	-14	0	0
Percent Difference	<b>0.0%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Below Normal (17%)</b>												
No Project Alternative	5,697	9,387	26,091	21,862	35,993	22,818	22,817	15,836	7,908	7,205	4,017	3,885
Proposed Project (50,000 AFY)	5,686	9,372	26,089	21,878	35,993	22,842	22,856	15,801	7,909	7,200	4,017	3,878
Difference	-10	-16	-2	16	0	24	39	-35	1	-5	0	-7
Percent Difference	<b>-0.2%</b>	<b>-0.2%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>-0.2%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>-0.2%</b>

## EIR

Draft

Analysis Period	Monthly Flow (CFS)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Dry (22%)</b>												
No Project Alternative	4,182	6,919	23,293	14,390	22,702	19,624	14,602	10,063	6,772	5,071	4,002	3,155
Proposed Project (50,000 AFY)	4,173	6,908	23,272	14,409	22,680	19,653	14,640	10,042	6,770	5,069	4,007	3,146
Difference	-9	-11	-21	20	-22	29	38	-21	-2	-3	5	-9
Percent Difference	<b>-0.2%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>-0.2%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>-0.3%</b>
<b>Critical (15%)</b>												
No Project Alternative	3,617	4,092	7,813	11,886	14,407	11,750	9,089	5,997	5,368	4,046	3,937	3,000
Proposed Project (50,000 AFY)	3,567	4,157	7,832	11,857	14,385	11,761	9,103	5,968	5,365	4,038	3,978	3,000
Difference	-50	65	19	-29	-21	12	14	-29	-3	-8	42	0
Percent Difference	<b>-1.4%</b>	<b>1.6%</b>	<b>0.2%</b>	<b>-0.2%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>-0.5%</b>	<b>0.0%</b>	<b>-0.2%</b>	<b>1.1%</b>	<b>0.0%</b>

Source: CH2MHILL 2016.

## Notes:

1. Based on the 82-year simulation period
2. As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999)
3. AFY= acre-feet per year. The proposed Project was assumed to divert 50,000 AFY at ultimate implementation of all program elements, including wintertime irrigation
4. Relative difference of the monthly average

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Construction- and operation-related Sacramento River flow impacts from the Small Service Area Alternative (both Project and program elements) could be similar to those described for the Proposed Project. As such, implementation of **Mitigation Measure HYD-4** would result in less than significant impacts. However, due to the smaller scale of discharge reductions under this Project alternative, more detailed analysis and modeling of this scenario may reveal less than significant impacts to Sacramento River flows. If such results are determined, **Mitigation Measure HYD-4** would not be necessary.

*No Project Alternative*

Under the No Project Alternative, no facilities would be constructed and discharges from SWRCB to the Sacramento River would continue to occur, although the water would be treated to tertiary treatment levels. Therefore, no impacts on reduction in flows would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No Impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measure HYD-4: Coordinate Operations with Relevant Resource Agencies (All Action Alternatives).**

To minimize potential thermal impacts to the Sacramento River downstream of Lake Shasta during critically dry years due to losses of cold water storage from reduced treated wastewater discharges, Regional San shall work with the Bureau of Reclamation and other relevant resource agencies to make appropriate operational changes in recycled water use and timing of discharge reductions in the spring months when the cold water pool in Shasta is critical. In critically dry years when storage in Lake Shasta falls below 2,400,000 AF in April, Regional San will coordinate with Central Valley Operations staff to reduce deliveries of recycled water to farmers in April and May if needed to avoid thermal impacts to the Sacramento River below Lake Shasta, as determined by the Sacramento River Temperature Model being utilized by Reclamation in the given year.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impacts***

The geographic scope for construction impacts is limited to the area in which the pump station and pipelines would be constructed. Other projects that would be constructed within the SRWTP and vicinity would all be required to comply with the Construction General Permit and to implement erosion control BMPs during construction. Cumulative construction-period water quality impacts are thus expected to be less than significant.

The geographic scope of potential operational impacts extends to the entire Sacramento River watershed. Evaluation of Project impacts used the SWP and CVP hydrology and system operations model, CalSim II, which was developed to simulate and evaluate changes to the complex water resources system of California under alternative conditions. The model simulates operations of the SWP, CVP, and other water districts/facilities in the Central Valley and

approximates changes in storage reservoirs, river flows, and exports from the Delta that would result from a change in hydrologic conditions, water supply demands, facilities, requirements or operational policies. Modeling of Project impacts was done in the context of ongoing operations of other projects that divert water from the system, and thus considers cumulative effects. Because the CalSim II model would not have considered effects of other recycled water projects that might reduce discharges to the Sacramento River system, the evaluation of impacts has also considered reasonably foreseeable future discharge reductions as reflected in the State Water Resources Control Board web page that provides notices of Wastewater Change Petitions (SWRCB 2015). The communities of Colusa, Woodland and Biggs are all proposing recycled water projects that would reduce discharges in the Sacramento River watershed (see **Table 3.0-1** in *Section 3.0*). Total discharge reduction would be 1.86 cfs, which would be in addition to the maximum 108 cfs reduction associated with the proposed Project during peak periods at full implementation. The additional discharge reductions are minimal as compared to the flows in the Sacramento River at Freeport, where average flows range from about 19,000 to 14,000 cfs during the May to August time period when the demand for recycled water is highest and flows in the river are lowest.

### **Cumulative Effects of California WaterFix**

Sacramento River flows could also be affected if the California WaterFix is implemented. The California Department of Water Resources and Bureau of Reclamation are currently considering a project to provide more reliable delivery of water exports from the Delta through the State Water Project and the Central Valley Project. Originally developed as the Bay Delta Conservation Plan (BDCP), Alternative 4A, California WaterFix, has been identified as the preferred alternative, but environmental documentation for this option has not been completed, and a final decision regarding project implementation has not been made. Timing for implementation, if approved, is thus uncertain.

Evaluation of effects of the proposed Project depends on the timing of balanced and excess conditions, which dictates whether CVP and SWP reservoirs release stored water. These conditions would be expected to change under the California WaterFix, which could result in the following conditions:

- Export operations would be more dependent on excess flow conditions and conveyance of these excess flow through the North Delta Diversion intake
- Frequency of balanced conditions would likely increase in the Spring due to higher outflow requirements and upstream releases required to meet those requirements
- Ability to operationally respond and recover from a storage deficit (regardless of cause) would likely decrease with the increase in balanced conditions frequency

CalSim II modeling has shown that the Project's individual effects on CVP and SWP operations would be minimal, because reductions in discharge are almost entirely offset by increases in surface water flows due to higher groundwater conditions, which would benefit the Delta as a whole. The Cal WaterFix Alternative 4A could exacerbate potential Shasta storage impacts of the proposed Project. However, since the Project's impacts to storage can be fully mitigated, the Project would not contribute considerably to a cumulative impact to storage. Modeling has projected that CVP and SWP water service contractor deliveries would be reduced by 5,000 AFY at ultimate program implementation (a reduction of 4,000 AFY for Delta exports and a



EIR

Draft

reduction of 1,000 AFY for deliveries to water users upstream of the discharge location on the Sacramento River). Reclamation staff have expressed concern about the effect of any Project-related reductions in deliveries in light of the curtailment of deliveries to contractors during recent drought conditions. However, the Project's contribution to the cumulative impact to CVP/SWP water supply deliveries is not considered to be cumulatively considerable. Year to year changes in hydrology affect export allocations on the order of millions of AFY (allocations can vary from 100 percent to 0 percent of contracted amounts in the worst case), and the minor changes associated with the project (a reduction of 0.2 percent) are not expected to result in a cumulative considerable change in deliveries to CVP or SWP contractors.

With implementation of **Mitigation Measure HYD-4**, the cumulative impacts of the discharge reduction are expected to be less than significant).

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measure**

See **Mitigation Measure HYD-4**.

**Significance Determination after Mitigation**

Less than significant.

**3.10.4 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

Brown and Caldwell. 2013. *Advanced Treatment Technology Pilot Project Report*.

California Department of Water Resources (DWR). 2012. *Central Valley Flood Protection Plan*. June 2012.

Central Valley Regional Water Quality Control Board (CVRWQCB). 2011. *The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region, Fourth Edition, the Sacramento River Basin and the San Joaquin River Basin*. Revised October 2011.

Central Valley Salinity Coalition (CVSC) and CV-SALTS. 2015. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) webpage. Available at: <http://cvsalinity.org/>. Accessed March 11, 2015.

CH2M Hill. 2016. *Regional San South Sacramento County Agriculture and Habitat Lands Recycled Water Program – CalSim-II Modeling and Results*. June 2016

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

- Kleinschmidt Associates. 2008. *Cosumnes River Preserve Management Plan*. March 2008.
- Water Forum and SCWA. 2006. *Central Sacramento County Groundwater Management Plan*. February 2006.
- Reclamation. 2008. *Central Valley Project and State Water Project Operations Criteria and Plan Biological Assessment, Appendix D CALSIM-II Model*. May 2008. Available at: [http://www.usbr.gov/mp/cvo/OCAP/sep08\\_docs/Appendix\\_D.pdf](http://www.usbr.gov/mp/cvo/OCAP/sep08_docs/Appendix_D.pdf).
- Regional San. 2015. *Sacramento Regional Wastewater Treatment Plant's Submittal of the Annual Water Supply Characterization Report for 2013*.
- RMC Water and Environment (RMC). 2016. *Technical Memorandum, Integrated Groundwater and Surface Water Modeling for the South County Ag Program*.
- \_\_\_\_\_. 2015a. *Technical Memorandum, Mitigating Impacts of Groundwater/Surface Water Interaction on CALSIM Modeling Performed for the South County Ag Program*.
- \_\_\_\_\_. 2015b. *Sacramento Regional County Sanitation District South County Recycled Water Feasibility Study*. January 2015.
- \_\_\_\_\_. 2014. *SCGA Basin Management Report, 2011-2012*. August 2014.
- Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.
- State Water Resources Control Board (SWRCB). 2010. *2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) – Statewide*. Available at: [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml?wbid=CAR5440000020021002100850](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml?wbid=CAR5440000020021002100850). Accessed April 9, 2015.
- \_\_\_\_\_. 2014. *General Order for Recycled Water Use Fact Sheet*. Available at: [http://www.waterboards.ca.gov/water\\_issues/programs/land\\_disposal/docs/wd/042914fs\\_recwtr\\_genodr.pdf](http://www.waterboards.ca.gov/water_issues/programs/land_disposal/docs/wd/042914fs_recwtr_genodr.pdf). Accessed April 9, 2015.
- \_\_\_\_\_. 2015. *Notices of Petitions 2015*. Available at: ([http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/applications/petitions/2015.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/petitions/2015.shtml)). Accessed December 7, 2015.
- United States Environmental Protection Agency (USEPA), 2001. *Ambient Water Quality Criteria Recommendations – Information Supporting the development of State and Tribal Nutrient Criteria. River and Streams in Nutrient Ecoregion I*. EPA 922-B-01-012. December 2001.

*This page intentionally left blank*

## 3.11 Indian Trust Assets

This section presents the physical and regulatory setting related to Indian Trust Assets (ITAs) in the vicinity of the proposed Project. The impact analysis considers whether the proposed Project would have potential impacts to ITAs.

### 3.11.1 Environmental Setting

The study area for the analysis is Sacramento County. An examination of records held by the Bureau of Indian Affairs and Reclamation was conducted by the Regional ITA Coordinator with a search radius of 15 miles from the proposed Project area. This search determined that the nearest ITA is the Wilton Rancheria approximately 10 miles northeast of the project area. No reservations or rancherias are located within the boundaries of the proposed Project area (Stevenson 2015) because the nearest ITA is 10 miles away and is thus outside the Project area. There are thus no ITAs in the study area.

### 3.11.2 Regulatory Framework

This section describes laws and regulations that may apply to the proposed project.

#### *Federal Policies and Regulations*

ITAs are legal interests in property held in trust by the United States (U.S.) for federally-recognized Indian tribes or individuals. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITAs can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land of which the U.S. is the trustee. By definition, ITAs cannot be sold, leased, or otherwise encumbered without approval of the U.S. The characterization and application of the U.S. trust relationship has been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions. In some cases, ITAs may be located off trust land.

It is the general policy of Reclamation to perform its activities and programs in such a way as to protect ITAs and avoid adverse effects whenever possible (Reclamation 2000). Reclamation shares with all other agencies of the Executive Branch the responsibility to protect and maintain Indian Trust assets reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

### 3.11.3 Impact Analysis

Potential impacts on Indian Trust Assets are analyzed based on the potential for the proposed Project to affect such assets.

#### *Thresholds of Significance*

CEQA does not require the evaluation of ITAs. NEPA requires the evaluation of project effects on ITAs. An impact to Indian Trust Assets would be considered significant if the proposed Project would:

- Adversely affect (modify or alter) an Indian Trust Asset.

**Criterion Requiring No Further Evaluation**

The criterion listed above that is not applicable to actions associated with the proposed Project is identified below along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Affect Indian Trust Assets* – The proposed Project does not have a potential to affect Indian Trust Assets. The nearest Indian Trust Asset is the Wilton Rancheria, approximately 10 miles northeast of the project area.

The action alternatives are not anticipated to have impacts on ITAs as a result of the proposed Project (Stevenson 2015).

**3.11.4 References**

Stevenson, Richard. Native American Affairs Program Manager, Bureau of Reclamation. 2015. Department of the Interior. Email communication regarding the South County Ag Water Recycling Program Activity. July 31.

U.S. Department of the Interior Bureau of Reclamation (Reclamation). 2000. *Principles for the Discharge of the Secretary's Trust Responsibility Order No. 3215*. April 28. Available at: <http://www.usbr.gov/native/naao/policies/3215.html>. Accessed August 27, 2015.

## 3.12 Noise

This section describes the existing noise environment in the Project area, provides the relevant regulatory framework, and evaluates potential impacts related to noise from implementation of the proposed Project.

### 3.12.1 Environmental Setting

#### *Project Area*

For the purposes of this section, the Project area is the area surrounding the construction work areas required for the transmission pipeline installation and the area near the pump station at the SRWTP.

#### *Noise Fundamentals*

##### **Sound Properties and the Human Ear**

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy resulting from a disturbance or vibration transmitted in the form of a wave.

A sound wave is introduced into a medium (air) by a vibrating object. The particles of the medium through which the sound moves vibrate back-and-forth at a given frequency or pitch. The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. If a particle of air undergoes 300 longitudinal vibrations in one second, then the frequency of the wave would be 300 vibrations per second. Commonly, frequency is measured in hertz (Hz) which is defined as one cycle per second. The audible sound spectrum consists of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

Due to the ability of the human ear to detect a wide range of sound pressure fluctuations, sound pressure levels are expressed in logarithmic units called decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Sound pressure (in dB) is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (Caltrans 1998). Since the human ear is not equally sensitive to all sound frequencies of the audible sound spectrum (20 to 20,000 Hz), a frequency-dependent rating scale called the A-weighted dB (dBA) scale was devised to relate noise to human sensitivity. The A-weighted scale is used by most authorities to regulate environmental noise. Some representative noise sources and their corresponding dBA levels are shown in **Table 3.12-1**. All of the noise levels reported herein are A-weighted unless otherwise stated.

Table 3.12-1: Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 mph	— 80 —	Food blender at 3 feet Garbage disposal at 3 feet
Noisy urban area, daytime Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet Normal speech at 3 feet
Commercial area Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library Bedroom at night, concert
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 1998

### Characteristics of Noise

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is imperceptible, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10 dBA increase is subjectively perceived as approximately twice as loud (Caltrans 1988).

As sound propagates from the source to the receptor, attenuation (i.e., noise reduction in relation to distance) depends on factors such as the inverse square law, surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse square law describes the attenuation due to the pattern in which sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of approximately 50 percent (6 dBA) per doubling of distance. From a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern, with an attenuation rate of 3 dBA per doubling of distance. Surface characteristics between the source and receptor can result in additional sound absorption and/or reflection. Atmospheric conditions, including wind speed, temperature, and humidity, may also affect noise levels. Lastly, the presence of a barrier, either natural or manmade (e.g., a hill, tree, or building), between the source and the receptor may attenuate noise levels.

### Noise Descriptors

The selection of a proper noise descriptor for a specific source is dependent upon the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below.

- $L_{max}$  (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time, sometimes referred to as the peak (noise) level.
- $L_{min}$  (Minimum Noise Level): The minimum instantaneous noise level during a specific period of time.
- $L_x$  (Statistical Descriptor): The noise level exceeded X percent of a specific period of time.
- $L_{eq}$  (Equivalent Noise Level): Used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The  $L_{eq}$  is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- $L_{dn}$  (Day-Night Noise Level): The 24-hour  $L_{eq}$  with a 10-dBA “penalty” for the noise-sensitive hours between 10:00 p.m. and 6:00 a.m. The  $L_{dn}$  accounts for the fact that noise during this period of time is a potential source of sleep disturbance.
- CNEL (Community Noise Equivalent Level): The CNEL is similar to the  $L_{dn}$  described above, but with an additional 5 dBA “penalty” for the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the CNEL is typically about 0.5 dBA higher than the  $L_{dn}$ .
- SEL (Single-Event [Impulsive] Noise Level): The SEL describes a receiver’s cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value (approximately 40 dB).

### Negative Effects of Noise

Exposure to noise can result in physical damage to the auditory system, which can result in gradual or traumatic hearing loss. In addition, noise can interfere with or interrupt sleep, relaxation, recreation, and communication. Noise can also contribute to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to these negative effects depends on the noise frequency, band width, level, and exposure time (Caltrans 1998). More commonly, noise is characterized as a health problem in terms of inhibiting general well-being and contributing to undue stress and annoyance, rather than in terms of actual physiological damages such as hearing impairment (Sacramento County 2011).

### Vibration

Groundborne vibration consists of rapidly fluctuating motions or waves, also measured in decibels. Construction activities and street traffic are some of the most common external sources of vibration that can be perceptible inside nearby residences. As groundborne vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate by a few ten-thousandths to a few thousandths of an inch. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hz. Most environmental vibrations consist of a composite, or “spectrum” of many frequencies. The normal frequency range of most groundborne vibrations that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz. Vibration information for this analysis has been described in terms of the peak particle velocity (PPV), measured in inches per second, or vibration level measured with respect to Root Mean Square (RMS) vibration velocity in decibels



(VdB), with a reference quantity of 1 micro inch per second. Subsurface geologic conditions and distances from the source to the receptor result in different vibration levels characterized by different frequencies and intensities. Vibration amplitudes decrease as the distance from the source increases. High frequency vibrations attenuate faster than low frequencies, resulting in low frequencies dominating the spectrum at large distances from the source.

Groundborne vibration generally is limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities, such as pile driving. Road vehicles rarely create enough groundborne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps. Human response to vibration is difficult to quantify. Typically, as duration and frequency increase, the potential for adverse human response increases. While people have varying sensitivities to vibrations at different frequencies, in general they are more sensitive to low-frequency vibrations.

### **Noise Setting**

#### **Existing Sources of Noise**

Noise in the Project area is primarily from local vehicular and truck traffic. Other less prevalent noise sources in the Project area are associated with local agricultural activities, landscape activities, and regional roadway traffic. Additionally, railroad noise affects many residential areas in the City of Elk Grove (City of Elk Grove 2015). A railroad goes through the City of Elk Grove and traverses the recycled water service area of the proposed Project, somewhat parallel to Franklin Boulevard.

Ambient noise levels in the Project area are shown in **Table 3.12-2**, and are based on available data from the Regional San EchoWater Project and General Plan background report prepared for the City of Elk Grove. Noise measurements conducted as part of the EchoWater project (which encompasses the proposed pump station area of the project) showed the ambient noise levels at the SWRTP at 59 dBA  $L_{eq}/L_{dn}$  at the center of the SWRTP site, and 51 dBA at the eastern border of the site (Ascent 2014).

Roadway traffic noise levels using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (preferred method of FHWA, Caltrans, and most county and city governments) showed the noise levels 100 feet from centerline of Franklin Boulevard for the City of Elk Grove General Plan Background Report. The proposed transmission pipeline would be located along Franklin Boulevard between Dwight Road and Core Road. Based on the modeled traffic noise data, noise levels along Franklin Road between Calvine Road and Hood Franklin Road would range between 54.4 to 65.2 dBA  $L_{eq}/L_{dn}$  (City of Elk Grove 2003). The area south of Hood Franklin Road is agricultural and rural in nature. Although the proposed transmission pipeline would extend south along Bruceville Road (east of, and parallel to Franklin Boulevard), the noise modeling conducted for Franklin Boulevard south of Hood Franklin Road is representative of the noise environment in this area.

Overall, much of the Project area is agricultural land, which may have rural residential areas. As noted in the Sacramento County General Plan, because rural residential areas may experience

very low noise levels, residents may express concern about the loss of “peace and quiet” resulting from the introduction of a sound not previously audible.

Table 3.12-2: Existing Noise Levels

Location or Roadway	Roadway Segment	Existing CNEL at 100 feet from Roadway Centerline	L <sub>dn</sub> at Source (dBA)
SWRTP (on east border of site) <sup>1</sup>	N/A	N/A	51
SWRTP (center of site) <sup>1</sup>	N/A	N/A	59
Franklin Boulevard <sup>2</sup>	Calvine Road to Laguna Boulevard	65.2	N/A
Franklin Boulevard <sup>2</sup>	Laguna Boulevard to Elk Grove Boulevard	62.3	N/A
Franklin Boulevard <sup>2</sup>	Elk Grove Boulevard to Hood Franklin Road	54.4	N/A
Franklin Boulevard <sup>2</sup>	Hood Franklin Road to South of Hood Franklin	50.6	N/A

Sources:

1. Ascent 2014
2. City of Elk Grove 2003

### Sensitive Receptors

Noise-sensitive land uses generally include those in which exposure to noise would result in adverse effects, as well as where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise sensitive land uses are those that include care facilities, schools, churches, transient lodging, hospitals, health care facilities, libraries, museums, cultural facilities, and passive recreational sites. Construction and operation of the proposed Project would occur within 50 feet of multiple sensitive receptors. Sensitive receptors in the vicinity of the proposed transmission pipeline alignment include residences along Franklin Boulevard, generally within the City of Elk Grove. Potential sensitive receptors are distributed throughout the Project area. As described in *Chapter 3.2, Land Use and Agriculture*, there are no hospitals or schools located in the immediate vicinity of the Project area.

### 3.12.2 Regulatory Framework

#### ***Federal Policies and Regulations***

The federal Noise Control Act of 1972 (Public Law 92-574) directed EPA to promote an environment that reduces noise pollution to protect health and welfare.

The Federal Transit Administration (FTA) has identified vibration criteria/guidelines/recommendations for ground-borne vibration based on the building types that neighbor roadway/transit corridors. Based on the FTA’s document *Transit Noise and Vibration Impacts Assessments* (FTA 2006), construction-period vibration levels of 0.2 in/sec peak particle velocity (PPV) should be considered as the damage threshold criterion for “non-engineered timber and masonry buildings” and 0.12 in/sec PPV for “buildings extremely susceptible to vibration damage”. These vibration threshold criteria are stated in PPV, which is most applicable to construction-related vibration sources (i.e., machinery and equipment).

### ***State Policies and Regulations***

The State of California has adopted noise compatibility guidelines for general land use planning. The level of acceptability of the noise environment is dependent upon the activity associated with the particular land use. As described by the State of California in their land use compatibility guidelines for a community noise environment, an exterior noise environment up to 60 dBA CNEL and 65 dBA CNEL is normally acceptable for single-family and multi-family residential, respectively, without special noise insulation requirements. A noise environment up to 70 dBA CNEL is considered “conditionally acceptable” for single-family and multi-family residential uses, while 75 dBA CNEL is identified as a “clearly unacceptable” noise level for all residential uses (State of California, 1998).

The State has synthesized vibration criteria and standards that have been developed over the years by researchers, organizations, and governmental agencies to provide guidelines for threshold criteria for vibration damage. Based on Caltrans’ *Transportation and Construction Vibration Guidance Manual* (September 2013), the vibration damage potential threshold criterion for “fragile buildings” is 0.2 in/sec for transient sources and 0.1 in/sec PPV for continuous sources<sup>1</sup>. The vibration damage potential threshold criterion for older residential structures is 0.5 in/sec PPV for transient sources and 0.3 in/sec PPV for continuous sources.

### ***Local Policies and Regulations***

Local regulation of noise involves implementation of General Plan policies and Noise Ordinance standards included in municipal codes. Local General Plans provide a basis for comprehensive local policies to control and abate environmental noise and protect citizens from excessive noise exposure, and Noise Ordinances set forth the specific standards and procedures for addressing particular noise sources and activities.

Noise regulations and standards that apply to the land uses within the unincorporated portions of Sacramento County and within the Elk Grove city limits are provided below.

### **Sacramento County General Plan**

#### *Noise Element*

The Sacramento County General Plan Noise Element (Sacramento County 2011) includes the following goals, objectives, and policies relevant to the proposed Project:

- **GOAL 1:** To protect the existing and future citizens of Sacramento County from the harmful effects of exposure to excessive noise. More specifically, to protect existing noise-sensitive land uses from new uses that would generate noise levels which are incompatible with those uses, and to discourage new noise-sensitive land uses from being developed near sources of high noise levels.

---

<sup>1</sup> Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

- Policy NO-8: Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.
- Policy NO-12: All noise analyses prepared to determine compliance with the noise level standards contained within the Noise Element shall be prepared in accordance with Table 3 (of the Noise Element).
- Policy NO-13: Where noise mitigation measures are required to satisfy the noise level standards of the Noise Element, emphasis shall be placed on the use of setbacks and site design to the extent feasible, prior to consideration of the use of noise barriers.

In addition, the Noise Element includes Table 2: Non-Transportation Noise Standards, which summarizes the maximum noise levels for a variety of land uses (e.g. residential, hospitals, office buildings). However, there is no land use that correlates to the SRWTP, which is classified as public/quasi-public land use and zoned as AG-80, permanent agricultural extensive land use zone (Sacramento County 2015). Because the SRWTP, which is the location for the proposed pump station, includes existing wastewater treatment facilities it is considered an industrial use. The maximum daytime, outdoor area noise standard is 80 dB for Industry. The table notes that outdoor activity areas in industrial zones are not typically used at night and therefore does not have a nighttime maximum noise standard (Sacramento County 2011).

### **City of Elk Grove General Plan**

#### *Guiding and Focused Goals*

The following guiding and focused goals from the City of Elk Grove General Plan are relevant to the proposed Project (City of Elk Grove 2015):

- Guiding Goal 1: A High Quality of Life for All Residents
  - Focused Goal 1-1: A safe community, free from manmade and natural hazards.

#### *Noise Element*

The following goals and policies from the Noise Element of the City of Elk Grove General Plan (City of Elk Grove 2015) are relevant to noise and the proposed Project:

- Policy NO-3: Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table NO-A as measured immediately within the property line of lands designated for noise-sensitive uses.
  - NO-3-Action 1: Limit construction activity to the hours of 7 a.m. and 7 p.m. whenever such activity is adjacent to residential uses.
  - NO-3-Action 3: The City shall require that stationary construction equipment and construction staging areas be set back from existing noise-sensitive land uses.

Table 3.12-3: Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Noise Sources<sup>1</sup>

Noise Source	Hourly L <sub>eq</sub> , from 7 a.m. to 10 p.m. (dB)	Hourly L <sub>eq</sub> from 10 p.m. to 7 a.m. (dB)
Typical Stationary Noise Sources <sup>2</sup>	55	45
Stationary Noise Sources which are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music <sup>3</sup>	50	40

Source: Adapted from Table NO-A from the Noise Element of the Elk Grove General Plan (City of Elk Grove 2015).

- Types of uses which may typically produce noise sources addressed in the table include, but are not limited to: industrial facilities including pump stations, trucking operations, public works projects, sand and gravel operations, and athletic fields.
- Typical noise sources in this category would include HVAC systems, cooling towers, fans, blowers, etc.
- This category includes noises which are tonal in nature, impulsive or repetitive, or which consist primarily of speech or music including pile drivers, punch presses, steam valves, and transformer stations.

### Sacramento County Noise Ordinance

The Sacramento County Noise Ordinance (Title 6 Chapter 6.68 Noise Control) established exterior noise standards for operation shown in **Table 3.12-3** (Sacramento County 2014). The only above ground project facility included in the proposed Project that would generate noise, the proposed pump station, would be located at the SRWTP which is zoned as AG-80 (Sacramento County 2015). As shown in footnote 2 below the table, AG-80 is not within the zoning areas specified and therefore these exterior noise level standards are not applicable to the proposed Project.

Table 3.12-4: Exterior Noise Level Standards<sup>1</sup>

Time Period	Exterior Noise Standard
7 a.m. to 10 p.m. <sup>2</sup>	55 dBA
10 p.m. to 7 a.m.	50 dBA

Source: Sacramento County Code, Section 6.68.070 (Sacramento County 2014).

- Applies to Noise Area 1, County Zoning Districts RE-1, RD-1, RE-2, RD-2, RE-3, RD-3, RD-4, R-1-A-, RD-5, R-2, RD-10, R-2A, RD-20, R-3, R-D-30, RD-40, RM-1, RM-2, A-1-B, AR-1, A-2, AR-2, A-5, AR-5.
- Noise sources associated with construction are exempt from these standards if the activities do not take place during nighttime hours (between 8 p.m. and 6 a.m. on weekdays, Fridays and Saturdays after 8 p.m. through and including 7 a.m. the next day, or on Sunday nights after 8 p.m.).

However, it is important to note that noise sources associated with construction are exempt from these exterior noise standards if the activities do not take place during nighttime hours (between 8 p.m. and 6 a.m. on weekdays, Fridays and Saturdays after 8 p.m. through and including 7 a.m. the next day, or on Sunday nights after 8 p.m.). In other words, these noise standards only apply to construction during nighttime hours. Construction can be allowed during nighttime hours when an unforeseen or unavoidable condition occurs necessitating such work (Sacramento County 2014).

### **City of Elk Grove Municipal Code**

Chapter 6.32, Noise Control of the City of Elk Grove municipal code also established exterior noise standards. The standards apply to agricultural and residential zoning districts in the City. Between the hours of 7 a.m. and 10 p.m., there is an exterior noise standard of 55 dBA and from 10 p.m. to 7 a.m., the noise standard is 45 dBA. The City uses the same exemptions as Sacramento County, including noise sources associated with construction if the activities do not take place during nighttime or weekend hours (i.e. these standards only apply to construction during nighttime hours). Construction noise from operating tools or equipment on private property between the hours of 7 p.m. and 7 a.m., so that the sound creates a noise disturbance across a residential property line, is prohibited (City of Elk Grove 2014).

### **3.12.3 Impact Analysis**

#### ***Methodology for Analysis***

#### **Noise**

This section evaluates whether construction and operation of the proposed Project and alternatives would result in significant impacts related to noise. This analysis assumes typical construction equipment noise levels to estimate corresponding noise levels at sensitive receptor locations and determines project significance based on local noise regulations and the CEQA Guidelines.

The introduction of virtually any change in local activities can result in an increase in noise levels. Audibility of a new noise source and/or increases in noise levels within recognized acceptable limits are not considered to be significant impacts (Sacramento County 2011).

Construction of the project components would include the use of a variety of heavy equipment and other machinery. Project-generated construction source noise levels were determined based on methodologies, reference emission levels, and usage factors from FTA's Transit Noise and Vibration Impact Assessment (FTA 2006). Reference levels are noise and vibration emissions for specific equipment or activity types that are well documented and the usage thereof common practice in the field of acoustics. For purposes of the construction noise analysis, it is assumed that the pump station and transmission pipeline construction activities would include the operation of an excavator, front end loader, and movable crane at the same time. Repaving roadways would include the operation of a roller and paver at the same time.

Using these assumptions, the noise levels at specific distances from the combined use of construction equipment can be obtained using the equations provided in the FTA guidance (FTA 2006). The estimated noise levels are compared to the noise emission limits established by Sacramento County and the City of Elk Grove. While the calculations apply to construction equipment, truck traffic to and from the construction sites could also create additional noise for residences and commercial establishments located along haul routes.

#### **Vibration**

Construction activity associated with the operation of heavy equipment may generate localized groundborne vibration and noise. However, vibration from ground-disturbing construction

activity is typically below the threshold of perception when the activity is more than 50 feet from the receiver. Based on methods and equations described by FTA (FTA 2006), the vibration levels in terms of PPV at specific distances can be obtained. Caltrans's recommended threshold of 0.2 in/sec PPV for structural damage is used in the analysis for vibration impacts.

### ***Thresholds of Significance***

Consistent with the Sacramento County Initial Study and Appendix G of the CEQA Guidelines an impact on noise would be considered significant if the Project would:

- Result in exposure of persons to, or generation of, noise levels in excess of standards established by the local general plan, noise ordinance or applicable standards of other agencies;
- Result in a substantial temporary increase in ambient noise levels in the project vicinity;
- Expose people to generation of excessive groundborne vibration or groundborne noise levels; or
- Expose people residing or working in the project area to aircraft noise levels in excess of applicable standards.

### ***Criterion Requiring No Further Evaluation***

The criterion listed above that is not applicable to actions associated with the proposed Project is identified below along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Expose people residing or working in the project area to aircraft noise in excess of applicable standards.* A portion of the transmission pipeline in the recycled water service area would be near the Franklin Field Airport, however, the proposed Project does not include inhabited structures or facilities within any airports and therefore the proposed Project would not expose people (residents or workers) to excess noise near a public use airport. Further, the proposed Project is consistent with applicable General Plans, which are themselves consistent with the Franklin Field CLUP that addresses noise. Thus, no impact would occur and no further evaluation is warranted.

### ***Impacts and Mitigation Measures***

#### **Impact NOI-1 Result in Exposure of Persons to, or Generation of, Noise Levels in Excess of Standards Established by the Local General Plan, Noise Ordinance or Applicable Standards of Other Agencies and Result in a Substantial Temporary Increase in Ambient Noise Levels in the Project Vicinity (Construction)**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Construction activities would result in temporary noise increases at sensitive receptors located primarily along the transmission pipeline alignment. Construction noise levels would vary at the receptors depending on the type of construction activity, construction phase, equipment type, duration, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. Typical construction equipment

generates noise levels ranging from approximately 74 dBA to 88 dBA at a distance of 50 feet from the source, with higher levels of about 86 dBA to 98 dBA for certain types of earthmoving and impact equipment (e.g., jack hammers, pavement breakers, rock drills). The rate of attenuation or reduction is about 6 dBA for every doubling of distance from a point source. Typical noise levels for construction equipment are shown in **Table 3.12-5**.

Table 3.12-5: Typical Noise Levels for Construction Equipment

Equipment	Typical Noise Levels at 50 feet from Source (dBA)
Front end loaders	80
Backhoes, excavators	80-85
Tractors, dozers	84-85
Graders, scrapers	85-89
Concrete pumps, mixers	82-85
Cranes (movable)	83
Cranes (derrick)	88
Truck	88
Jack Hammer	88
Pile driver (sonic)	96
Shovel	82
Pumps	76
Generators	81
Compressors	81
Pneumatic tools	85
Pavers	89
Compactors	82
Drill rigs	84
Roller	74
Pile driver (impact)	101
Saw	76

Source: FHWA 2006; FTA 2006.

For purposes of the analysis, it is assumed that the transmission pipeline excavation and installation construction activities would include the operation of an excavator, front end loader, and movable crane at the same time. Repaving roadways would require the operation of a roller and paver at the same time. The combined noise level of the equipment during excavation and installation could be up to 87.9 dBA  $L_{eq}$  and up to 89.1 dBA  $L_{eq}$ , during the repaving of the roadway at 50 feet from the source. Because daytime construction noise is exempt from exterior noise standards; these noise levels do not violate standards, as long as construction does not occur at night. The closest sensitive receptors to the proposed project facilities would vary in distance along the proposed transmission pipeline alignment. Sensitive receptors include residences within 50 feet of the transmission pipeline alignment as it traverses the City of Elk Grove generally between Dwight Road and Hood Franklin Boulevard, and homes within 25 feet in some areas in South County where scattered residences are located.

The noise levels at the sensitive receptors could reach up to 95.1 dBA  $L_{eq}$  at 25 feet and up to 89.1 dBA  $L_{eq}$  on one day. The County of Sacramento and City of Elk Grove noise ordinances both exempt construction noise from established exterior noise standards between 6 a.m. and 8 p.m. on weekdays. Construction of the proposed Project would generally be conducted between 7 a.m. and 7 p.m., and thus consistent with the noise standards. The noise levels at the sensitive receptors (e.g., residences) during daytime hours near the construction activity could result in



annoyance and thus noise generated by construction could be a potentially significant impact. As described in *Section 2.4.1, Construction Timing*, nighttime and weekend construction may take place if needed. If construction activities were to occur before 6 a.m. or after 8 p.m., construction noise would exceed the nighttime standard of 50 dBA for Sacramento County and the 45 dBA standard for the City of Elk Grove.

Construction generated noises would be temporary and intermittent with construction taking place primarily during daytime hours. In addition, the construction would progress at a rate of approximately 150 linear feet per day along various portions of the pipeline alignment as previous portions are completed. Noise levels would decrease noticeably as the construction progresses and would generally be back to ambient roadway noise levels after one day. Therefore, construction generated noise would be short-term and temporary as the pipeline installation takes place.

Construction noise would thus not violate local noise standards, but the substantial temporary increase in noise during construction could cause annoyance to residences along the construction corridor. To address short-term noise annoyance and potential nighttime construction noise levels that sensitive receptors and residents may experience, **Mitigation Measure NOI-1** would be implemented. While it is not possible to quantify noise reduction associated with all of the mitigation measure components, this mitigation measure would reduce noise levels. For example, the use of mufflers on construction equipment typically can reduce noise levels by 5 to 10 dBA (USEPA 1971) and additional reductions would occur with the use of sound barriers or other buffers around stationary noise sources. With implementation of **Mitigation Measure NOI-1**, noise levels after mitigation would be considered less than significant.

**Program Elements.** The program elements would be located in an area that is primarily agricultural in use with scattered rural residences in some areas. Similar to the project elements, construction of the program elements would generate noise. However, the noise would be intermittent and short-term as construction of the program elements is expected to occur in phases between 2020 and 2041. There would be construction-related noise generated from the construction of the pipeline to Stone Lakes NWR, the construction of the potential recharge area, and the drilling and installation of the diluent wells, if needed. Implementation of **Mitigation Measure NOI-1** would reduce the exposure of persons to, or generation of, noise levels in excess of standards established by Sacramento County General Plan and Noise Ordinance; impacts would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Because there would be fewer miles of pipelines compared to Alternative 1 (Medium Service Area Alternative), this alternative is expected to result in a shorter construction duration. Similar to Alternative 1 (Medium Service Area Alternative), construction activities would result in temporary noise increases. Thus, impacts would be less than significant with implementation of **Mitigation Measure NOI-1**.

*Under Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no project facilities would be constructed. As such no noise-related impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative)

**Mitigation Measure**

**Mitigation Measure NOI-1: Noise Reduction Measures (All Action Alternatives)**

To reduce the impact of noise from construction activities the following measures shall be implemented to the extent feasible:

- Heavy equipment and impact equipment use shall be restricted to daytime hours (7 a.m. to 7 p.m.).
- Construction staging areas shall be located as far as possible from existing residences.
- The project contractor shall be required to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible, to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.
- Construction equipment noise shall be minimized during project construction by muffling and shielding intakes and exhaust on construction equipment per the manufacturers' specifications and by shrouding or shielding impact tools. All equipment shall have sound-control devices no less effective than those provided by the manufacturer.
- All stationary noise generating construction equipment shall be placed as far away as possible from sensitive receptors in an orientation minimizing noise impacts (e.g. behind barriers or storage piles).

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact NOI-2 Result in Exposure of Persons to, or Generation of, Noise Levels in Excess of Standards Established by the Local General Plan, Noise Ordinance or Applicable Standards of Other Agencies (Operation)**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project Elements.** Operation of the proposed pump station would result in the generation of noise from pump machinery. The pump station would have multiple pumps with a combined 7,000 horsepower, and would be operated continually. Based on reference noise data from a similar project with a combined 7,000-horsepower pump station, future stationary operational noise levels would be predicted to range between 89 dBA and 91 dBA at 15 feet (City of Santa Rosa 2003). The closest sensitive receptors to the SRWTP consist of residential areas located

along Franklin Boulevard generally between Hood Franklin Road and Dwight Road/Big Horn Boulevard, approximately 5,000 feet away from the proposed pump station site. Based on typical attenuation rates due to distance (without factoring in sound absorption or attenuation from objects between the source and sensitive receptors), noise levels at the nearest sensitive receptor would attenuate to approximately 41 dBA. The noise level would not exceed the City of Elk Grove's daytime or nighttime noise standards for stationary noise sources of 55 dBA Leq between 7 a.m. and 10 p.m. and 45 dBA Leq between 10 p.m. and 7 a.m. Once operational, the transmission pipeline and appurtenances would be located below ground and would not require facilities that generate noise during operations. Therefore, operational noise levels would not exceed applicable noise standards and impacts would be less than significant.

**Program Elements.** Although diluent wells would be operated continuously, the pumps within the wells would not generate operational noise. Submersible pumps would be used and because the pumps would be submersed in water there would not be perceptible noise above ground. Operation of the pipeline and potential recharge area would not require facilities that generate noise during operations and would not result in the generation of noise above the ambient levels without the project. Thus, there would be no impact.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative). Similar to Alternative 1 (Medium Service Area Alternative), the transmission pipeline and appurtenances, and pumps would be located below ground and would not result in operational noise levels that exceed applicable noise standards. Thus, impacts would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no project facilities would be constructed. As such no noise-related impacts would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact NOI-3 Expose People to Generation of Excessive Groundborne Vibration or Groundborne Noise Levels**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.**

Vibrational impacts from construction would mainly be associated with the use of bulldozers, loaded trucks, and jackhammers. **Table 3.12-6** below lists a variety of construction activities and vibration levels generated at 25 feet. As described previously, the closest residences would be

within 25 feet of the transmission pipeline. The vibration levels in this table indicate that operation of heavy construction equipment would not generate vibration levels that could cause threshold (cosmetic) damage to fragile buildings. Vibrations from the construction equipment would not exceed the PPV threshold of 0.2 inches per second, and therefore would have a less than significant impact. Once operational, the transmission pipeline, appurtenances, potential recharge area, and diluent wells would be located below ground and would not require facilities that generate vibration during operations. Therefore, there would be no operational vibration impacts.

Table 3.12-6: Vibration Levels for Construction Equipment

Equipment	Peak Particle Velocity (PPV) at 25 Feet
Large Bulldozer	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Source: FTA 2006

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Similar to Alternative 1 (Medium Service Alternative), operation of this alternative would not require facilities that generation vibration. Thus, impacts would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no project facilities would be constructed. As such no noise-related impacts would occur.

**Significance Determination Before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

***Cumulative Impact Analysis***

The geographic scope of potential cumulative noise impacts related to noise and vibration encompasses the proposed Project component sites and immediate vicinity. Construction noise from the proposed Project could overlap with construction activities associated with the EchoWater and rehabilitation of digesters 6 and 7 projects. However, because of the temporary nature of the construction activities and because noise attenuates with distance, and with **Mitigation Measure NOI-1**, the proposed Project would not have a cumulatively considerable impact. Noise impacts from operation of the facilities would be negligible and not cumulatively considerable, given that it would include operation of underground transmission pipelines, submersible pumps, and operational noise levels of the pump station would not exceed applicable noise standards.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measure**

See **Mitigation Measure NOI-1**.

**Significance Determination after Mitigation**

Less than significant.

**3.12.4 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

California Department of Transportation (Caltrans). 1998. *Technical Noise Supplement – A Technical Supplement to the Traffic Noise Analysis Protocol*. October 1998.

\_\_\_\_\_. 2013. *Transportation and Construction Vibration Guidance Manual*. September 2013.

California, State of, Office of Planning and Research. 1998. *State of California General Plan Guidelines*. November. Available at: <http://ceres.ca.gov/planning/genplan/gpg.pdf>

Elk Grove, City of. 2003. *Elk Grove General Plan Background Report*.

\_\_\_\_\_. 2014. *Elk Grove Municipal Code through Ordinance 35-2014*. December 10, 2014.

\_\_\_\_\_. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Federal Highway Administration (FHWA). 2006. *Construction Noise Handbook*. FHWA-HEP-06-015. August. Available at: [http://www.fhwa.dot.gov/environment/noise/construction\\_noise/handbook/](http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/). Accessed April 6, 2015.

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. May.

City of Santa Rosa. 2003. *Incremental Recycled Water Program Draft EIR*, City of Santa Rosa. May 16. Prepared by Parsons.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2014. *Sacramento County Code*. Current through Ordinance 1576 and the December 2014 code supplement. Available at: <http://qcode.us/codes/sacramentocounty/>. Accessed January 27, 2015:

\_\_\_\_\_. 2015. *Sacramento County Online Map*. Used to determine zoning. Available at: [http://generalmap.gis.saccounty.net/JSViewer/county\\_portal.html#](http://generalmap.gis.saccounty.net/JSViewer/county_portal.html#). Accessed April 8, 2015.

U.S. Environmental Protection Agency (USEPA). 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. December.

*This page intentionally left blank*

### 3.13 Public Services and Utilities

This section describes the existing public services and utilities in the proposed Project area and presents a summary description of the regulatory setting. This section also evaluates the potential for the proposed Project to exceed the existing capacity of public services (police protection, fire protection, schools) and utilities (water, wastewater, storm drainage).

#### 3.13.1 Environmental Setting

##### **Police Services**

Within the project area the Elk Grove Police Department and the Sacramento County Sheriff's Department provide law enforcement services, while the California Highway Patrol (CHP) provides traffic enforcement services. The Elk Grove Police Department provides law enforcement and policing services to the City of Elk Grove, serving a population of approximately 161,000 with the support of 131 sworn officers and 77 civilian employees. The Sacramento County Sheriff's Department provides specialized law enforcement to the County and local police protection to unincorporated areas. CHP provides traffic enforcement services within the highway system.

##### **Fire Protection**

The Cosumnes Community Services District (CSD) Fire Department provides fire, rescue, and emergency medical services to an area covering over 157 square miles (including the City of Elk Grove), serving a total population of approximately 160,000. The Fire Department is divided into Operations and Administration and Support Services. Over 150 personnel work in the Operations Division supporting fire suppression, training, and emergency medical services.

Fire protection throughout the rest of Sacramento County is provided by the cities of Folsom, Galt, Isleton, and Sacramento, and seven other independent fire districts. All of the fire districts provide emergency medical rescue and fire protection services.

##### **Schools**

Schools within one mile and a quarter-mile of the proposed facilities are described in *Section 3.2, Land Use and Agriculture*.

##### **Other Public Facilities and Services**

Parks are located throughout the Project area and described in *Section 3.3, Recreation*.

Other public services provided within the Project area include public libraries. Sacramento Public Library is the fourth largest library system in California, serving a population of over 1.3 million. There are 28 locations throughout Sacramento County, a total of 280 staff members, and 870 public computers and laptops available to library visitors (Sacramento Public Library 2015). The branches closest to the Project area are the Elk Grove Library located at 8900 Elk Grove Boulevard and Franklin Community Library located at 10055 Franklin High Road, which



are located approximately 3 and 1 miles from the recycled water service area, respectively, in the City of Elk Grove.

The Rio Cosumnes Correctional Center (RCCC) is located in the recycled water service area at the address of 12500 Bruceville Road in Elk Grove. It is the custody facility for inmates sentenced to County Jail from Sacramento County Courts. It houses inmates in route to other jurisdictions, federal prisoners (under contract with the U.S. Bureau of Prisons), and reciprocal prisoners from other counties. The RCCC is staffed by over 180 Sheriff's Department employees (Sacramento County 2015).

### ***Water Supply***

The Project area is mainly outside the areas currently served by municipal water suppliers, but encompasses a small portion of the SCWA's Zone 41. SCWA Zone 41 provides wholesale water supply to Elk Gove Water Service under an agreement between SCWA and Florin Resources Conservation District/Elk Grove Water Service (2002).

The primary water supply in the majority of the Project area (in South County) is groundwater pumped from private wells. Additionally, some growers in South County divert surface water from creeks, canals, and the Sacramento River for irrigation use.

### ***Wastewater***

Regional San provides wastewater conveyance and treatment services to residential, industrial, and commercial customers throughout the Project area, including unincorporated Sacramento County and Elk Grove. Wastewater is collected from homes and businesses via sewer collection pipes operated by four local sewer agencies. The pipes connect to 169 miles of interceptor pipelines which convey the wastewater to the SRWTP, which treats approximately 141 MG of wastewater (ADWF) daily.

### ***Solid Waste***

Sacramento County has 13 active permitted solid waste facilities, including two solid waste landfills, nine processing/transfer facilities, and two compositing facilities for green waste (CalRecycle 2015). The County owns Kiefer Landfill located at Kiefer Boulevard and Grantline Road (Sacramento County 2011). Kiefer Landfill occupies 1,084 acres and has a maximum permitted capacity of over 117 million cubic yards, with a remaining capacity of 113 million cubic yards (as of September 2005) (CalRecycle 2015). It is expected to have sufficient capacity to serve the region until 2064 (Ascent 2014).

Elk Grove has an exclusive franchise agreement with Republic Services to collect all solid waste, residential recyclables, yard clippings, used motor oil, and curbside e-waste for its residents. All residents receive weekly trash collection, green waste collection, recycling collection, free e-waste pick-up, annual neighborhood cleanup, free compost and composting workshops, bulky item pick-up, and extra garbage pick-up.

Within South County solid waste (or trash) removal is provided by Sacramento County Waste Management and Recycling (SCWMR). SCWMR provides residents of unincorporated areas of Sacramento County weekly garbage collection, bi-weekly collection of recyclables, bi-weekly

collection of green waste, monthly street sweeping, and an annual bulky waste pick-up. Commercial waste and recycling services are not provided.

### ***Storm Drainage***

The County's storm drainage system, including publicly-owned storm drain inlets and a network of underground piping and manholes, open channels, and roadside ditches, conveys stormwater runoff from developed areas to local waterways to prevent flooding. The City of Elk Grove also operates and maintains its own storm drainage system which consists of approximately 400 miles of underground pipes and 60 miles of natural and constructed channels.

### **3.13.2 Regulatory Framework**

This section describes laws and regulations at the federal, state, and local levels that may apply to the proposed Project.

#### ***Federal Policies and Regulations***

##### **Uniform Crime Reporting Program (UCR)**

The Federal Bureau of Investigation currently collects information on over 14,000 law enforcement agencies across the nation through the UCR. The UCR defines law enforcement officers as individuals who ordinarily carry a firearm and a badge, have full arrest powers, and are paid from governmental funds set aside specifically for sworn law enforcement representatives. While the UCR records number of law enforcement officers per 1,000 inhabitants, there are neither national requirements nor recommendations for staffing level ratios currently.

##### **Federal Safe Drinking Water Act (SDWA)**

The SDWA, administered by the U.S. Environmental Protection Agency (USEPA), ensures the quality of drinking water. The USEPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Act authorizes the USEPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water and cause harm to the public.

#### ***State Policies and Regulations***

##### **California Penal Code**

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under State law, all sworn municipal and county officers are State Peace Officers.

##### **California Fire Code**

The California Fire Code, Article 80, includes specific requirements for the safe storage and handling of hazardous materials. These requirements reduce the potential for a release of hazardous materials and for mixing of incompatible chemicals, and specify the following design

features to reduce the potential for a release of hazardous materials that could affect public health or the environment.

The California Fire Code, Article 79, includes specific requirements for the safe storage and handling of flammable and combustible liquids. Specific requirements address fire protection; prevention and assessment of unauthorized discharges; labeling and signage; protection from sources of ignition; specifications for piping, valving, and fittings; maintenance of above ground tanks; requirements for storage vessels, vaults, and overfill protection; and requirements for dispensing, using, mixing, and handling of flammable and combustible liquids.

### **California Drinking Water Program (DWP)**

The DWP regulates public water systems, oversees water recycling projects, permits water treatment devices, certifies drinking water treatment and distribution operators, and supports and promotes water system security.

### **California Department of Public Health**

Recycled water regulations are administered by both San Francisco Bay RWQCB and the California Department of Public Health (CDPH). The regulations governing recycled water are found in a combination of sources, including the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations (CCR). Issues related to the treatment and distribution of recycled water are generally under the permitting authority of RWQCB, while issues related to use and quality of recycled water are the responsibility of CDPH.

Title 22 of the CCR, Division 4, Environmental Health, Chapters 1 through 3 outline California's health laws related to recycled water. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and assurance of reliability in the production of recycled water. The SWRCB has jurisdiction over the distribution of recycled wastewater and the enforcement of Title 22 regulations.

Chapter 3, Article 3 of Title 22 indicates that disinfected tertiary recycled water can be used for surface irrigation of food crops (including edible root crops, where the recycled water comes into contact with the edible portion of the crop), parks and playgrounds, school yards, residential landscaping, and unrestricted-access golf courses. Orchards and vineyards where the recycled water does not come into contact with the edible portion of the crop must be treated at least to undisinfected secondary level for surface irrigation (CCR Section 60304).

### **California Integrated Waste Management Act**

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) established an integrated waste management framework that specifies the following order of importance: source reduction, recycling, composting, and land disposal of solid waste. Each county is required to prepare and submit an Integrated Waste Management Plan for expected solid waste generation within the county to the California Integrated Waste Management Board (CIWMB). The Act also required each city to prepare a Source Reduction and Recycling Element for achieving a solid waste diversion goal of 25 percent by January 1, 1995, and 50 percent by January 1, 2000.

### **CalRecycle (formerly California Integrated Waste Management Board)**

CalRecycle governs solid waste regulations on the state level, delegating local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies (LEA). Regulations authored by CalRecycle (Title 14) were integrated with related regulations adopted by the SWRCB pertaining to landfills (Title 23, Chapter 15) to form CCR Title 27.

### ***Local Policies and Regulations***

#### **Sacramento County General Plan**

##### *Public Facilities Element*

The Public Facilities Element of the Sacramento General Plan (Sacramento County 2011) contains the following goals and objectives relevant to the proposed Project:

- **GOAL:** Water facilities developed in an environmentally sound, economically efficient, and financially equitable manner.
- **GOAL:** Safe, efficient, and environmentally sound operation of solid waste facilities in Sacramento County.
  - Objective: Safe and environmentally sensitive transportation of solid waste.

#### **City of Elk Grove General Plan**

##### *Public Facilities and Finance Element*

The City of Elk Grove has identified the following policies in the Public Facilities and Finance Element of its General Plan that are applicable to the proposed Project (City of Elk Grove 2015):

- Policy PF-4: The City shall require new utility infrastructure for electrical, natural gas and other infrastructure services avoid sensitive resources, be located so as to not be visually obtrusive, and, if possible, be located within roadway rights-of-ways or existing utility easements.
- Policy PF-5: The City supports the use of reclaimed water for irrigation wherever feasible.

#### **Sacramento County Integrated Waste Management Plan**

The California Integrated Waste Management Act of 1989 directed counties and/or regional agencies and cities to prepare countywide integrated waste management plans. Sacramento County adopted its Integrated Waste Management Plan in March 1996, which consisted of the following elements: siting element, summary plan, source reduction and recycling elements, household hazardous waste elements, and non-disposal facility elements. These elements provide the main source for solid waste facility planning in the County. The County Department of Waste Management and Recycling prepares and administers the Siting Element and Summary Plan, while individual jurisdictions or regional agencies prepare the other elements (Sacramento County 2011).

### 3.13.3 Impact Analysis

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed Project alternatives would result in significant impacts related to public services and utilities. The analysis is based on a review of local plans to determine if the proposed Project could potentially affect the performance of existing public services or require new public services.

#### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist, an impact would be significant if the proposed Project would:

- Have an inadequate water supply for full buildout of the project;
- Have adequate wastewater treatment and disposal facilities for full buildout of the project;
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Result in substantial adverse physical impacts associated with the construction of new water or wastewater treatment and disposal facilities or expansion of existing facilities;
- Result in substantial adverse physical impacts associated with the provision of stormwater drainage facilities; or
- Result in substantial adverse physical impacts associated with the provision of electric or natural gas service, emergency services, public school services, or park and recreation services.

#### ***Criteria Requiring No Further Evaluation***

The criteria listed above that are not applicable to the proposed Project are summarized below, along with a supporting rationale as to why further consideration is unnecessary and a no-impact determination is appropriate.

- *Have an inadequate water supply for full buildout of the project* – the proposed Project itself entails construction of new facilities to augment water supply with recycled water. The environmental effects of the proposed facilities are evaluated throughout this document. The proposed Project would not require or result in the construction of new water supply facilities beyond those being analyzed within this environmental document.
- *Have adequate wastewater treatment and disposal facilities for full buildout of the project* – The proposed Project would provide recycled water from the SRWTP as a source of non-potable water for beneficial use. As a water supply project that uses recycled water, neither the proposed Project nor other alternatives would generate any additional demand for wastewater treatment or disposal. Thus, the discussion of adequacy of wastewater treatment is not applicable and no impact would occur and no further evaluation is warranted.
- *Result in substantial adverse physical impacts associated with the provision of electric or natural gas service, emergency services, public school services, or park and recreation services* – As discussed in *Section 3.17, Population and Housing*, the proposed Project

would not directly or indirectly induce growth. As such, it would not require new or expanded electric or natural gas service, emergency service, schools or park and recreation, or other public services and/or facilities. In addition, given the nature of the proposed Project (underground recycled water pipelines and a pump station), operation of the action alternatives would not affect the ability of local services and utilities to maintain acceptable service ratios, response times or other performance objectives for facilities. The proposed Project is not expected to increase the need for new staff from public service entities. Therefore, no impact would occur and this topic is not discussed further in this document.

### ***Impacts and Mitigation Measures***

#### **Impact PUB-1 Impacts Associated with the Construction of New Water or Wastewater Treatment and Disposal Facilities or Expansion of Existing Facilities.**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The action alternatives entail construction of new facilities (pipelines and pump station) to augment water supply with recycled water. The environmental effects of the proposed facilities are evaluated throughout this EIR. The existing source of water supply in the project area is primarily groundwater pumped from private wells. The proposed Project would provide tertiary recycled water for agricultural irrigation in South County, which would offset groundwater pumping and reduce dependence on the Central Sacramento Groundwater Basin. By providing recycled water for agricultural irrigation, demands on groundwater supplies and groundwater pumping would be reduced.

As described in *Chapter 2, Alternatives and Proposed Project*, the proposed Project would deliver Title 22 disinfected tertiary treated recycled water to irrigated lands in South County. As discussed in Impact HYD-1 in *Section 3.10, Hydrology and Water Quality*, a common concern with the use of recycled water is the presence of constituents of emerging concern (CECs) which could be a potentially significant impact to water supply quality. Impacts would be considered significant if new or expanded treatment facilities would be required as a result of the proposed Project (e.g., the proposed Project's application of recycled water to results in degradation of groundwater quality such that new treatment facilities are required). The proposed Project would comply with the SWRCB CEC monitoring requirements for surface application of recycled water for groundwater recharge of a groundwater basin designated for municipal use. In addition, **Mitigation Measure HYD-1e** would require an anti-degradation analysis which would determine if groundwater recharge with recycled water would degrade any high quality water, and utilize best practicable treatment or control of the recycled water discharge without degrading groundwater quality. Implementation of this mitigation measure would ensure that the recycled water would not result in adverse effects such that the current water supply and groundwater would not result in a need for new water treatment facilities and impacts would be less than significant. Refer to *Section 3.10, Hydrology and Water Quality* for a detailed discussion of recycled and groundwater quality.

The action alternatives thus would not require or result in the construction of other new water or wastewater treatment facilities beyond those being analyzed within this environmental document as discussed above. Impact associated with the need for other new water or wastewater facilities beyond those analyzed in this EIR would not occur, and impacts would be less than significant with mitigation.

*Alternative 4 (No Project Alternative)*

Under Alternative 4 (No Project Alternative), if groundwater is depleted due to continuing, sustained drought, then additional supply may be necessary. The actions of the individual growers may include constructing new water supply facilities (i.e., deeper wells) in the absence of recycled water or trucking in water to meet individual needs. However, it is too speculative to determine the type of actions that individual owners would take. The impacts from the installation of new wells would likely be less than significant given the small scale of groundwater wells. Because the groundwater basin is monitored, and future groundwater withdrawals would need to comply with the Sustainable Groundwater Management Act, it is expected that groundwater effects would be managed such that impacts would be less than significant. Impacts would be minimal and no further discussion is warranted.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. Less than significant for Alternative 4 (No Project Alternative).

**Mitigation Measures**

See **Mitigation Measure HYD-1e.** .

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact PUB-2 Impacts Associated with the Provision of Stormwater Drainage Facilities.**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The action alternatives would generate a minimal amount of stormwater runoff as virtually all proposed elements would be either buried underground or would be constructed on presently impervious land. The proposed pump station at the SRWTP would be similar for all of the action alternatives and it would integrate with existing SRWTP facilities. Any runoff generated by the pump station would be captured by the existing storm drain system, which conveys all stormwater at the SRWTP to the treatment plant prior to discharge. Therefore, these alternatives would not generate a need for new stormwater drainage facilities or the expansion of existing facilities and the impact would be less than significant.

*Alternative 4 (No Project Alternative)*

The No Project Alternative would not result in any new physical changes to the environment. No impact would occur.

**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measures**

No mitigation measures are required.

**Impact PUB-3 Served by a Landfill without Sufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** During construction of these alternatives, there would be minimal solid waste generated that would require disposal at a landfill. Spoil (soil and rock) excavated during construction would either be reused on site for backfill or disposed of properly. Spoil not suitable for reuse would be temporarily stored at staging areas until characterized, and then hauled away to the proper disposal site (e.g., landfill). Additional solid waste would be generated by construction crews within the Project area, which would need to be hauled off site to be disposed.

Solid waste generated during construction, including spoil that cannot be reused, is assumed to be delivered to the Kiefer Landfill. This landfill is currently sized to satisfy all county landfill disposal needs through 2064 (Ascent 2014). As such, impacts to landfill resources would be less than significant. In addition, Regional San would comply with all federal, state, and local statutes and regulations related to solid waste.

Operation of buried pipelines and the proposed pump station at the SWRTP would not generate solid waste and therefore would not generate any additional solid waste that would require disposal at a landfill. Therefore, impacts to solid waste would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of this alternative (for both project and program elements) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Because this alternative has a smaller recycled water service area, there may be less spoil requiring disposal. Also, due to the shorter construction duration, there may be less trash and/or solid waste generated by crews during construction. Similar to Alternative 1 (Medium Service Area Alternative), Regional San would comply with all federal, state and local statutes and regulations related to solid waste, which would result in less than significant impacts.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no impacts on solid waste in the Project area would occur.



**Significance Determination before Mitigation**

Less than significant for all action alternatives. No impact for Alternative 4 (No Project Alternative)

**Mitigation Measures**

No mitigation measures are required.

***Cumulative Impacts***

The geographic scope of potential cumulative impacts related to public services and utilities include the proposed Project area, Sacramento County, City of Elk Grove, and service areas of the agencies listed in *Section 3.13.1* above. Cumulative projects could result in increases in the generation of solid waste and increase demand for public services. Because the proposed Project is not expected to generate substantial amounts of solid waste and there is sufficient capacity at the landfill through 2064, the proposed Project would not contribute to cumulatively considerable solid waste impacts.

**Significance Determination before Mitigation**

Less than significant.

**Mitigation Measures**

No mitigation measures are required.

**3.13.4 References**

Ascent Environmental. 2014. *Final Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. September 12, 2014.

California Department of Resources Recycling and Recovery (CalRecycle). 2015. Solid Waste Information System (SWIS) Facility/Site Listing. Available at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=Sacramento&OPSTATUS=Active&REGSTATUS=Permitted>. Accessed September 17, 2015.

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2015. *Rio Cosumnes Correctional Center*. Available at: <http://www.sacsheriff.com/Pages/Organization/RCCC/RCCC.aspx>. Accessed April 1, 2015.

Sacramento Public Library. 2015. *Sacramento Public Library – About Us*. Available at: <http://www.saclibrary.org/About-aUs/>. Accessed April 1, 2015.

## 3.14 Traffic and Transportation

This section describes existing conditions and potential impacts on traffic and transportation as a result of construction, operation, and maintenance of the proposed Project. The analysis is based on a review of traffic facilities in the project vicinity and local transportation plans.

### 3.14.1 Environmental Setting

The Project would be located within south Sacramento County, including portions of the City of Elk Grove, unincorporated Sacramento County, and a portion of the Stone Lakes National Wildlife Refuge (NWR) managed by the United States Fish and Wildlife Service (USFWS). The Project area is shown in **Figure 2-1**.

The Project area includes the Sacramento Regional Wastewater Treatment Plant (SRWTP) site, the transmission pipeline alignment (approximately 14 miles in length) conveying recycled water from the SRWTP to the recycled water service area, and the recycled water service area itself. Land uses within and adjacent to the proposed Project area include both urban and rural uses. Urban uses are mainly located along the Franklin Boulevard corridor within the City of Elk Grove, while the unincorporated area of the County is dominated by large agricultural plots with scattered rural residential development.

The SRWTP is located at 8521 Laguna Station Road in Elk Grove on an approximately 3,200-acre site that is owned and operated by Regional San, as shown in **Figure 2-1**. The site is bordered by the future Cosumnes River Boulevard on the north, Laguna Boulevard on the south, Interstate 5 (I-5) on the west and Laguna Station Road and Franklin Boulevard on the east.

The pipeline alignment would extend approximately 14 miles from the new pump station at the SRWTP, south to Twin Cities Road (at the southern end of the recycled water service area). The preferred alignment would be located along the following roads: Big Horn Boulevard, Franklin Boulevard, Core Road, Eschinger Road, Bruceville Road, and Lambert Road, as shown in **Figure 2-2**.

The recycled water service area is generally bordered to the north by Bilby Road and Kammerer Road, to the south by Twin Cities Road, to the west by I-5 and to the east by Highway 99 and the Cosumnes River.

#### ***Existing Regional and Local Transportation Facilities***

This section describes the existing regional and local road network, airports, bicycle and pedestrian facilities, public transit, and rail service in the Project area.

#### **Roadways**

The surrounding regional and local road networks are shown in **Figure 2-2**. Regional access to the site is provided from I-5 and Highway 99. The primary local roads in the Project area include Big Horn Boulevard, Laguna Boulevard, Elk Grove Boulevard, Whitelock Parkway, Core Road, Eschinger Road, Lambert Road, Twin Cities Road, Franklin Boulevard, Bruceville Road, and

Hood Franklin Road. An in-depth description of all of the roadways serving the Project area is not provided for the program level components, but these routes for the project-level can be seen on **Figure 2-2**. The primary regional and local roadways serving the Project are described below.

**I-5** is the main north-south interstate highway on the West Coast, linking Mexico to the south with Canada to the north. I-5 serves some of the largest cities on the West Coast, including San Diego, Los Angeles, Sacramento, Portland, and Seattle. I-5 is west of the City of Elk Grove and generally west of the proposed Project. Within the study area, I-5 is a separated, access controlled, four- to six-lane freeway. Within Elk Grove, there are three full access interchanges at Hood Franklin Road, Elk Grove Boulevard, and Laguna Boulevard. The SRWTP is located approximately 0.5 miles east of I-5. The nearest interchange to the SRWTP is at I-5 and Laguna Boulevard.

**Highway 99** is a major north-south freeway in the Project area. Highway 99 originates south of Bakersfield and terminates at State Route (SR) 36 near the City of Red Bluff to the north. Highway 99 provides a connection between all of the major cities in the Central Valley, from Sacramento and Stockton in the north to the cities of Modesto, Merced, Fresno, and Bakersfield in the south. Highway 99 is located east of the Project. Within the Project area, access to Highway 99 is provided through interchanges at Twin Cities Road, Grant Line Road, Elk Grove Boulevard, Laguna Boulevard/Bond Road, and Sheldon Road. Highway 99 varies from four to six lanes.

The City of Elk Grove, in coordination with the State of California Department of Transportation (Caltrans), is currently planning a new interchange at Whitelock Parkway and Highway 99. This project is currently in the planning phase and preliminary studies will be completed to analyze several interchange design alternatives. According to the City, construction is more than five years away, as complete construction funding has not yet been secured (City of Elk Grove 2015a).

**Big Horn Boulevard** is a four-lane road that extends diagonally from Franklin Boulevard in the northwest to Whitelock Parkway in the southeast. Big Horn Boulevard has curbs, gutters, sidewalks, and a Class II bike lane.

**Laguna Boulevard** is a major east-west arterial between I-5 on the west and Highway 99 on the east. East of Highway 99, Laguna Boulevard becomes Bond Road on the east side of Highway 99. Laguna Boulevard is six lanes from I-5 to Big Horn Boulevard and eight lanes from Big Horn Boulevard to Highway 99. Laguna Boulevard has curbs, gutters, sidewalks, and a Class II bike lane. The proposed transmission pipeline would cross under Laguna Boulevard at Franklin Boulevard.

**Elk Grove Boulevard** is an east-west road between I-5 to the west and Grant Line Road to the east. Elk Grove Boulevard is six lanes between I-5 and East Stockton Boulevard, four lanes to Elk Grove Florin Road, and two lanes to Grant Line Road. Elk Grove Boulevard has curbs, gutters, sidewalks, and a combination of a Class I bike path and a Class II bike lane. The proposed transmission pipeline would cross under Elk Grove Boulevard at Franklin Boulevard.

**Whitelock Parkway** is an east–west road extending from West Stockton Boulevard, which parallels Highway 99 to Franklin Boulevard. The parkway is improved with four travel lanes between Franklin Boulevard and Big Horn Boulevard. East of Big Horn Boulevard, Whitelock Parkway is two lanes. It is planned as a four-lane arterial with a partial access interchange at Highway 99 that will serve travel to/from the west only. Whitelock Parkway has curbs, gutters, sidewalks, and a Class I bike path along the north side of the road.

**Core Road** is a two-lane east-west rural road, between Franklin Boulevard and Ed Rau Road. A portion of the proposed pipeline would be located along Core Road.

**Eschinger Road** is a two-lane rural road, generally running east-west. Eschinger Road is located between Ed Rau Road and Highway 99. A portion of the proposed pipeline would be located along Eschinger Road.

**Lambert Road** is a two-lane rural road, generally running east-west. Lambert Road is located between River Road and Carroll Road. A portion of the proposed pipeline would be located along Lambert Road.

**Twin Cities Road** is a two-lane rural road, generally running east-west. Twin Cities Road is located between River Road and Michigan Bar Road. Twin Cities Road becomes SR-104, east of Highway 99.

**Franklin Boulevard** is a north-south roadway providing direct connection to downtown Sacramento. Franklin Boulevard is located between Mokelumne City to the south and downtown Sacramento to the north. The road width varies, but is generally four lanes within the Project area. Within the Project area, Franklin Boulevard has curbs, gutters, sidewalks, and a Class II bike lane. Much of the proposed transmission pipeline would be located along Franklin Boulevard.

**Bruceville Road** is a north-south road that extends from Valley Hi Drive in unincorporated Sacramento County to Twin Cities Road. Bruceville varies between two to six lanes. Bruceville Road generally has curbs, gutters, sidewalks, and a Class II bike lane. A portion of the proposed pipeline would be located along Bruceville Road.

**Hood Franklin Road** is a two-lane east-west rural road, between River Road and Franklin Boulevard.

#### *Existing Roadway Operations*

Annual Average Daily Traffic (AADT) volumes for 2014 were obtained from the Caltrans Traffic Data Branch (Caltrans 2014) for I-5 and Highway 99. Average Daily Traffic (ADT) counts were obtained from the City of Elk Grove Public Works Department for the study roadways in the City (City of Elk Grove 2015b). The City counts were collected in August 2014. Based on the existing traffic data, the volume to capacity (V/C) ratio was calculated for the roadway segments to determine existing roadway operations. The V/C ratio is an indicator of

traffic conditions, speeds, and driver maneuverability and the resulting V/C ratio is expressed using Level of Service (LOS), where LOS A represents free-flow activity and LOS F represents over capacity conditions (congestion). **Table 3.14-1** is a summary of the LOS grades and corresponding V/C ratios for multi-lane highway and local roadway segments.

Table 3.14-1: Level of Service Criteria for Multi-lane Highway and Local Roadway Segments

LOS <sup>1</sup>	V/C <sup>2</sup> Ratio	Traffic Flow Characteristics
A	0.000 – 0.600	Free flow; insignificant delays
B	0.601 – 0.700	Stable operations; minimal delays
C	0.701 – 0.800	Stable operation, acceptable delays
D	0.801 – 0.900	Approaching unstable flow; queues develop rapidly but no excessive delays
E	0.901 – 1.000	Unstable operation; significant delays
F	> 1.000	Over-capacity; forced flow

Source: Highway Capacity Manual, Transportation Research Board, 2010.

Notes:

1. LOS = Level of Service
2. V/C is volume/capacity ratio, which is an indicator of traffic conditions, speeds, and driver maneuverability.

**Table 3.14-2** and **Table 3.14-3** summarize the daily traffic volumes, V/C ratios, and LOS for existing roadway conditions during the AM and PM peak hours in the Project area. Traffic data from a 2013 transportation study conducted for the City of Elk Grove’s Housing Element update are presented in **Table 3.14-2**. Data for Highway 99 south of Grant Line Road was obtained from Caltrans and presented in **Table 3.14-3**. Caltrans considers LOS C or better on State highway (I-5 and Highway 99) segments to be acceptable for planning purposes. The City of Elk Grove requires that all roadways and intersections in Elk Grove operate at a minimum of LOS D and the County of Sacramento’s LOS standard is LOS D on rural roadways and LOS E on urban roadways. Based on the standards in the County of Sacramento and the City of Elk Grove, LOS D was used as the threshold for acceptable operations.

Several segments of Highway 99 within the Project area are operating at LOS E or LOS F south of the City of Elk Grove (indicated in bold in **Table 3.14-3**). One segment of Bruceville Road, between Elk Grove Boulevard and Bilby Road is operating at LOS F. The Caltrans, County and City LOS standards are discussed in greater detail in Section 3.14.2.

Table 3.14-2: Existing Roadway Operations

Roadways	Direction	From	To	Number of Lanes	Hourly Capacity <sup>1</sup>	AM			PM		
						AM Volume	AM V/C	AM LOS	PM Volume	PM V/C	PM LOS
I-5	NB	Twin Cities Road	Hood Franklin Road	2	4,400	1,610	0.37	A	1,940	0.44	A
	SB	Twin Cities Road	Hood Franklin Road	2	4,400	1,490	0.34	A	1,910	0.43	A
	NB	Hood Franklin Road	Elk Grove Boulevard	2	4,400	2,140	0.49	A	1,950	0.44	A
	SB	Hood Franklin Road	Elk Grove Boulevard	2	4,400	1,530	0.35	A	2,160	0.49	A
	NB	Elk Grove Road	Laguna Boulevard	2	4,400	2,719	0.62	B	2,475	0.56	A
	SB	Elk Grove Road	Laguna Boulevard	2	4,400	1,940	0.44	A	2,739	0.62	B
	NB	Laguna Boulevard	Pocket Road	3	6,600	3,749	0.57	A	3,413	0.52	A
	SB	Laguna Boulevard	Pocket Road	3	6,600	3,675	0.56	A	3,777	0.57	A
Highway 99	NB	Eschinger	Grant Line Road	2	4,400	2,500	0.57	A	2,470	0.56	A
	SB	Eschinger	Grant Line Road	2	4,400	2,160	0.49	A	2,700	0.61	B
	NB	Grant Line Road	Elk Grove Boulevard	2	4,400	2,110	0.48	A	2,160	0.49	A
	SB	Grant Line Road	Elk Grove Boulevard	2	4,400	1,890	0.43	A	2,290	0.52	A
	NB	Elk Grove Road	Laguna Boulevard	2 + HOV	6,600	3,220	0.49	A	3,140	0.48	A
	SB	Elk Grove Road	Laguna Boulevard	2 + HOV	6,600	2,890	0.44	A	3,640	0.55	A
	NB	Laguna Boulevard	Sheldon Road	2 + HOV	6,600	4,064	0.62	B	4,033	0.61	B
	SB	Laguna Boulevard	Sheldon Road	2 + HOV	6,600	3,602	0.55	B	4,479	0.68	B
	NB	Sheldon Road	Calvine Road	2 + HOV	6,600	4,394	0.67	B	4,360	0.66	B
	SB	Sheldon Road	Calvine Road	2 + HOV	6,600	3,895	0.59	B	4,843	0.74	C
Big Horn Boulevard	EB	Franklin Boulevard	Laguna Boulevard	2	1,980	601	0.30	A	540	0.27	A
	WB	Franklin Boulevard	Laguna Boulevard	2	1,980	673	0.34	A	602	0.30	A

Roadways	Direction	From	To	Number of Lanes	Hourly Capacity <sup>1</sup>	AM			PM		
						AM Volume	AM V/C	AM LOS	PM Volume	PM V/C	PM LOS
	NB	Laguna Boulevard	Elk Grove Boulevard	2	1,980	591	0.30	A	424	0.21	A
	SB	Laguna Boulevard	Elk Grove Boulevard	2	1,980	504	0.25	A	577	0.29	A
	NB	Elk Grove Boulevard	Kammerer Road	2	1,980	704	0.36	A	358	0.18	A
	SB	Elk Grove Boulevard	Kammerer Road	2	1,980	546	0.28	A	466	0.24	A
Laguna Boulevard	EB	I-5	Franklin Boulevard	3	2,970	1,178	0.40	A	2,271	0.76	C
	WB	I-5	Franklin Boulevard	3	2,970	1,456	0.49	A	1,341	0.45	A
	EB	Franklin Boulevard	Bruceville Road	3	2,970	902	0.30	A	1,775	0.60	A
	WB	Franklin Boulevard	Bruceville Road	3	2,970	957	0.32	A	1,154	0.39	A
	EB	Bruceville Road	Big Horn Boulevard	3	2,970	1,078	0.36	A	1,947	0.66	B
	WB	Bruceville Road	Big Horn Boulevard	3	2,970	1,353	0.46	A	1,475	0.50	A
	EB	Big Horn Boulevard	East Stockton Boulevard	4	3,960	1,376	0.35	A	2,677	0.68	B
	WB	Big Horn Boulevard	East Stockton Boulevard	3	2,970	2,049	0.69	B	2,103	0.71	C
Elk Grove Boulevard	EB	I-5	Franklin Boulevard	3	2,970	1,761	0.59	A	2,044	0.69	B
	WB	I-5	Franklin Boulevard	3	2,970	1,938	0.65	B	1,338	0.45	A
	EB	Franklin Boulevard	Bruceville Road	2	1,980	1,644	0.83	D	1,405	0.71	C
	WB	Franklin Boulevard	Bruceville Road	3	2,970	909	0.31	A	1,421	0.48	A
	EB	Bruceville Road	Big Horn Boulevard	3	2,970	1,670	0.56	A	1,357	0.46	A
	WB	Bruceville Road	Big Horn Boulevard	3	2,970	1,041	0.35	A	1,756	0.59	A
	EB	Big Horn Boulevard	East Stockton Boulevard	3	2,970	1,813	0.61	B	1,590	0.54	A
	WB	Big Horn Boulevard	East Stockton Boulevard	3	2,970	1,308	0.44	A	1,989	0.67	B
Grant Line Road	EB	Highway 99	East Stockton Boulevard	3	2,970	731	0.25	A	790	0.27	A

EIR

Draft

Roadways	Direction	From	To	Number of Lanes	Hourly Capacity <sup>1</sup>	AM			PM		
						AM Volume	AM V/C	AM LOS	PM Volume	PM V/C	PM LOS
	WB	Highway 99	East Stockton Boulevard	3	2,970	721	0.24	A	831	0.28	A
Krammerer Road	EB	Big Horn Boulevard	Promenade Parkway	1	990	360	0.36	A	201	0.2	A
	WB	Big Horn Boulevard	Promenade Parkway	1	990	200	0.20	A	380	0.38	A
Bruceville Road	NB	Jacinto Road	Sheldon Road	2	1,980	884	0.45	A	729	0.37	A
	SB	Jacinto Road	Sheldon Road	2	1,980	424	0.21	A	876	0.44	A
	NB	Sheldon Road	Laguna Boulevard	2	1,980	1,612	0.81	D	1,211	0.61	B
	SB	Sheldon Road	Laguna Boulevard	2	1,980	851	0.43	A	1,750	0.88	D
	NB	Laguna Boulevard	Elk Grove Boulevard	2	1,980	909	0.31	A	863	0.32	A
	SB	Laguna Boulevard	Elk Grove Boulevard	2	1,980	608	0.20	A	1,203	0.41	B
	NB	Elk Grove Boulevard	Bilby Road	1	990	883	0.89	D	649	0.66	B
	SB	Elk Grove Boulevard	Bilby Road	1	990	668	0.67	B	<b>1,292</b>	<b>1.31</b>	<b>F</b>

Notes:

NB = Northbound

SB = Southbound

- Roadway capacity information obtained from the Fehr & Peers Transportation Impact Analysis prepared for the City of Elk Grove Housing Element Update EIR, 2013.



Table 3.14-3: Existing Roadway Operations for Highway 99 south of the City of Elk Grove

Roadways	From	To	Lanes	Capacity <sup>1</sup>	AADT <sup>2</sup>	V/C	LOS
Highway 99	<b>Twin Cities Road</b>	<b>Mingo Road</b>	4	80,000	91,000	1.13	F
	<b>Mingo Road</b>	<b>Arno Road</b>	4	80,000	77,000	0.96	E
	Arno Road	Dillard Road	4	80,000	70,000	0.88	D
	Dillard Road	Eschinger Road	4	80,000	71,000	0.89	D
	<b>Eschinger Road</b>	<b>Grant Line Road</b>	4	80,000	72,000	0.90	E
	<b>Grant Line Road</b>	<b>Elk Grove Boulevard</b>	4	80,000	73,000	0.91	E
	<b>Elk Grove Road</b>	<b>Laguna Boulevard</b>	6	120,000	119,000	0.99	E
	<b>Laguna Boulevard</b>	<b>Sheldon Road</b>	6	120,000	152,000	1.27	F
	<b>Sheldon Road</b>	<b>Calvine Road</b>	6	120,000	171,000	1.43	F

## Notes:

1. Roadway capacity information obtained from the City of Elk Grove General Plan Background Report, 2003a.
2. AADT information obtained from the Caltrans Traffic Census Program Traffic Volumes: Annual Average Daily Traffic (AADT), 2014.

### **Airports**

Of the five airports operated by the County of Sacramento, only one is within the Project area – the Franklin Field Airport – located a mile northeast of the intersection of Twin Cities Road and Franklin Boulevard. It is a small public use airport in Sacramento County that has approximately 36,000 flights each year, most of which are flight training activities. It does not have an air traffic control tower or staff as it serves the general aviation community exclusively (Sacramento County Airport System 2015).

The airport has two perpendicular runways. There are no fueling, service, or repair facilities on site. The sole use of the airport is by general aviation aircraft for training and touch-and-go activity, as well as crop dusters during the planting and spraying season. The airport is surrounded by agricultural use and, on the east side, the Rio Cosumnes Correctional Center.

### **Bicycle and Pedestrian Facilities**

Sidewalks are provided along the majority of City of Elk Grove streets and the City also has an extensive bicycle network. The majority of the bike facilities in the City limits are Class II bike lanes (on-street striped lanes for one-way bicycle travel). Class II bike lanes are provided along many of the Project area study roadways, including Big Horn Boulevard, Laguna Boulevard, Elk Grove Boulevard, Whitelock Parkway, Franklin Boulevard, and Bruceville Road. Portions of Elk Grove Boulevard and Whitelock Parkway also have Class I bike paths (a separated path for the exclusive use of bikes and pedestrians).

Beyond the City limits, within the unincorporated areas of the County, most of the local roadways serving the Project area are rural two-lane roads with limited shoulders and no bicycle/pedestrian facilities.

### **Transit and Rail Services**

#### *Public Transit*

Transit service is provided by e-Tran (City of Elk Grove), Regional Transit (Sacramento Regional Transit District), and South County Transit (City of Galt).

The City of Elk Grove's transit system is e-Tran, which includes e-Tran neighborhood shuttle service (ez-tran), limited local transit service, and commuter routes to downtown Sacramento and Rancho Cordova. Local transit service is provided on weekdays and weekends. E-Tran provides commuter routes that operate mid-week, including two reverse commuter routes.

Regional Transit provides commuter service between Sacramento and the City of Elk Grove and South County Transit (SCT) operates the Highway 99 Express route, a commuter service connecting Galt with the Lodi Transit Center, Elk Grove, and South Sacramento.

#### *Rail*

There are two sets of Union Pacific Railroad (UPRR) tracks within the Project area, both aligned north-south. One line roughly parallels Franklin Boulevard. The proposed transmission pipeline

would cross this track at Core Road (in the south) and again at Franklin Boulevard to the north. A second UPRR line, located east of the Project area, passes through the central portion of the City of Elk Grove and crosses under Highway 99 near Eschinger Road.

There is currently no rail passenger service in the Project area. The nearest passenger rail station is Amtrak, located in downtown Sacramento. Amtrak California is a partnership between Amtrak and Caltrans and provides intercity rail and bus services within California. Amtrak provides passenger rail service along its San Joaquin Route, which runs north to south linking Sacramento and Bakersfield with stops in Lodi and Stockton; connection to San Francisco is available in Stockton.

### **3.14.2 Regulatory Framework**

The applicable federal, state, and local laws, regulations, and policies related to traffic and transportation for the proposed Project are described as follows.

#### ***Federal Policies and Regulations***

There are no federal transportation policies and regulations that would apply to the proposed Project.

#### ***State Policies and Regulations***

##### **California Department of Transportation (Caltrans)**

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all State-owned roadways. Caltrans owns the rights-of-way (ROW) for freeways, highways, and SRs, including any on- and off-ramps that provide access to the Project area. Specifically, in the project vicinity, Caltrans operates and maintains I-5 and Highway 99.

Based on the Caltrans (2002) *Guide for the Preparation of Traffic Impact Studies*, “Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.” In addition, a proposed project may be deemed to have a significant transportation/ circulation effect if it will result in a safety hazard to pedestrians or motorists.

Caltrans is also the administrating agency for regulations related to traffic safety, including the licensing of drivers, weight and load limitations, transportation of hazardous and combustible materials, and the safe operation of vehicles. Transportation permits are required for any load that exceeds Caltrans weight, length, or width standards for public roadways. Federal highway standards for interstate highways are implemented in California by Caltrans.

Finally, any project-related work within state ROW requires a ministerial encroachment permit from Caltrans.

### ***Local Policies and Regulations***

The project is located in unincorporated Sacramento County and the City of Elk Grove. The local policies and regulations relevant to the Project are described below.

### **Sacramento County General Plan**

#### *Circulation Element*

The Circulation Element provides the framework for Sacramento County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities. It also provides for coordination with the cities and unincorporated communities within the county, with the Metropolitan Transportation Plan adopted by the Sacramento Area Council of Governments, and with State and Federal agencies that fund and manage transportation facilities within the county. Specifically, the Circulation Element describes the County's Transportation Plan and functional roadway classification system and establishes goals, policies and implementation programs organized into nine sub-sections: Mobility; Roadways; Transit; Bicycle and Pedestrian Facilities; Transportation System Management; Rail Transportation; Air Transportation; Smart Growth Streets; and Scenic Highways. The goal and policy relevant to the proposed Project include:

- GOAL: Provide a balanced and integrated roadway system that maximizes the mobility of people and goods in a safe and efficient manner.
  - CI-9: Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.

### **City of Elk Grove General Plan**

#### *Circulation Element*

The City of Elk Grove Circulation Element provides policies, goals, and actions related to a wide variety of transportation modes. The policies relevant to the proposed Project, include the following (City of Elk Grove 2015b):

- CI-13: The City shall require that all roadways and intersections in Elk Grove operate at a minimum Level of Service D at all times. The City acknowledges that the Capital SouthEast Connector has identified higher LOS standards for certain segments. The City will strive to achieve these standards to the extent feasible and will work with the JPA as necessary.
- CI-17: The City shall regulate truck travel as appropriate for the transport of goods, consistent with circulation, air quality, congestion management, and land use goals.

### 3.14.3 Impact Analysis

#### 3.14.4 Methodology for Analysis

This section assesses the traffic and transportation effects associated with the construction of the proposed Project. As identified in the *Chapter 2, Alternatives and Proposed Project*, the pump station and transmission pipeline are being evaluated at a project-specific level and the remaining project components, including the distribution mains, service connection laterals, turnouts, potential recharge area, diluent wells, and the Stones Lake NWR are being evaluated at the program-level. However, from a transportation perspective, the potential traffic impacts would be similar whether they are at the project level or the program level. The primary difference is that the construction schedule and the potential construction-related trips have been identified for the project-level activities, but are not yet known for the program-level components. However, like the project-level activities, the program-level activities, particularly the construction of approximately 25 miles of distribution mains, which would occur in the public ROW, would result in construction-related traffic and potential road closures. For this reason, the potential traffic impacts of the project and program elements are discussed together.

Construction and operational trip generation assumptions used in the analysis are described below.

#### Construction Trip Generation

The estimated project trip generation (truck trips + workforce trips) during project-level construction, by alternative, is presented in **Table 3.14-4**.

Table 3.14-4: Project-Level Construction Trip Generation by Alternative

	Average Truck Trips per Day <sup>2</sup>	Average Worker Trips per Day	Approximate Duration	Total One-Way Trips Per Day <sup>3</sup>	Total Truck Trips Through Life of Construction
<b>Alternatives 1 and 2<sup>1</sup></b>					
Open Trench Pipeline, Trenchless Pipeline, Pump Station	20	50	485 Days	140	9,620
Open Trench Pipeline, Trenchless Pipeline, Pump Station	8	50	485 Days	116	3,750

Notes:

1. The construction related trips for Alternative 2 (No Reclamation Funding Alternative) would be the same as Alternative 1 (Medium Service Area Alternative).
2. It is assumed that project-level construction would be a total of 485 days. Truck trips would be spread equally throughout the construction phase.
3. One roundtrip equals two one-way trips (one incoming + one outgoing trip).

Assuming an average of 150 feet of pipeline would be constructed per day (485 days of construction) for Alternative 1 (Medium Service Area Alternative) a maximum of 154,200 CY of material would be generated from pipeline construction during the first phase. Assuming a hauling truck capacity of 16 CY per truckload, and that none of the excavated spoil would be used for backfill, up to 9,580 truck trips (round trips) total would be generated for the pipeline

construction and another 40 truck trips for the pump station excavation (600 CY). For Alternative 3 (Small Service Area Alternative), assuming the same installation rate for the pipeline and truck capacity, a maximum of 60,300 CY of material would be generated, resulting in approximately 3,750 truck trips (round trips), and another 40 truck trips for the pump station excavation (600 CY). In addition to equipment and material delivery, an average of 50 worker trips (round trip) would be generated per day for all action alternatives assuming each individual drives separately and half of the workers travel for lunch.

The overall spoil generated during the project-level construction (associated with pump station and pipeline construction) of the proposed Project would be 154,200 CY, equivalent to about 9,620 truck trips.

Construction of the recharge pond, which could occur concurrently with a portion of the future pipeline construction or as a standalone component, would not generate any truck trips. The precise timing of the recharge pond construction has not been determined, and could occur concurrently with future phases of pipeline construction or as a standalone component.

### **Project Operations and Maintenance**

Operation and maintenance of the proposed Project would primarily involve regular inspections of the pipelines and pump station. The pipeline would be inspected as needed in any given year, and the pump station would be inspected monthly. Existing Regional San operations and maintenance staff would conduct maintenance activities consisting of approximately 1 to 2 additional trips per week for the proposed pipeline. No additional vehicular trips would be needed for inspection of the pump station at the SRWTP because it is located on the treatment plant site, where existing staff currently maintain facilities.

### **Thresholds of Significance**

Consistent with Sacramento County Initial Study, and Appendix G of the CEQA Guidelines, transportation and traffic impacts would be considered significant if the proposed Project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways:
  - **Caltrans** - Cause a Caltrans facility operating at LOS E or better to operate at LOS F or result in an increase in traffic to a Caltrans facility that is currently operating at LOS F.
  - **City of Elk Grove** - Increase the volume-to-capacity ratio by 0.05 or more for a City of Elk Grove roadway segment operating at an unacceptable LOS (i.e., LOS E or F).

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

For LOS requirements, the City of Elk Grove (LOS D), County of Sacramento (LOS D [rural areas] and E [urban areas]), and Caltrans (LOS D) requirements have been applied.

### ***Criterion Requiring No Further Evaluation***

The criterion listed above that is not applicable to actions associated with the action alternatives of the proposed Project is identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate:

- *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks* - The proposed Project is a recycled water project where proposed facilities are located on or below ground. None of the above-ground structures would encroach upon Franklin Field or its airspace, and the proposed Project would not change the air traffic patterns of the nearby airport. Thus, no impact would occur and no further discussion is warranted.

### ***Impacts and Mitigation Measures***

**Impact TR-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Construction of the project-level components of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) is anticipated to take approximately two years to complete and would result in a temporary increase in local traffic as a result of construction-related workforce traffic, equipment, and material deliveries. Construction would also occur within and/or across a number of roadways, which could temporarily disrupt existing transportation and circulation in the vicinity. Construction of the program-level components could occur somewhere between 2020 through 2041.

Traffic-generating construction activities related to the proposed Project would consist of the daily arrival and departure of construction workers to the work site; trucks hauling equipment and materials to the work site; and the hauling of excavated spoil from, and import of new fill to, the work site. Potential increases in vehicle trip generation as a result of Project construction would vary based on the construction activity, equipment needs, and other factors. The

distribution of project trips on the regional and local road network would also depend on the location of project staging areas. However, the majority of the project's construction-related trips (vehicle and truck trips) would occur on the roadways identified in **Table 3.14-2** and **Table 3.14-3**.

For the purposes of this analysis it is assumed that construction of Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative) would result in up to 140 daily one-way trips. These alternatives would require up to 50 construction workers per day (resulting in 100 one-way trips) and up to 20 roundtrip truck trips per day (or 40 one-way trips).

Most construction activities would occur within the public ROW and no long-term road closures are expected. Short-term full or partial road closures would be implemented to allow for certain construction activities and could result in potential traffic impacts. With implementation of **Mitigation Measure TR-1**, impacts could be reduced to less-than-significant levels. **Mitigation Measure TR-1** would address the need for temporary traffic control and other traffic safety measures to maintain proper traffic flow during temporary construction activities.

Public transit operates in the vicinity of the Project area; and in particular, the transit routes and bus stops on Franklin Boulevard could be affected. Bicycle lanes are also located along Franklin Boulevard and could be affected by construction of the pipeline. Implementation of the TMP would minimize impacts on public transit and non-motorized travel by maintaining access to transit, bicycle, and pedestrian facilities along the project construction area or by providing an alternative route during full road closures. The TMP would include procedures for notifying and coordinating with all affected agencies, including transit operators, in advance of construction activities.

Applicable county, state, and federal regulation, ordinances, and restrictions would be identified and complied with prior to and during construction. The construction contractor would obtain all necessary road permits prior to construction and would comply with all the applicable conditions of approval. With implementation of **Mitigation Measure TR-1**, conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, would be minimized to less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Similar to Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), Alternative 3 (Small Service Area Alternative) would result in a temporary increase in local traffic as a result of construction-related workforce traffic, and equipment and material deliveries. Construction would also require full or partial road closures. The difference is that the area of impact would be smaller because the extent of improvements would be less and the number of construction-related trips would be fewer. For the purposes of this analysis, it is assumed that construction of Alternative 3 (Small Service Area Alternative) would generate up to 116 daily one-way trips. This alternative would also require a TMP to address the need for temporary traffic control and other traffic safety



measures to maintain proper traffic flow during temporary construction activities. With the implementation of **Mitigation Measure TR-1**, the potential traffic impacts of Alternative 3 (Small Service Area Alternative) would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no traffic impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

**Mitigation Measures TR-1: Traffic Management Plan (All Action Alternatives)**

Implementation of the Project shall include a TMP that would minimize impacts on traffic as a result of construction activities. The TMP shall be prepared in accordance with the *California Manual of Uniform Traffic Control Devices* (California MUTCD) and all applicable requirements of Caltrans, the County of Sacramento Department of Public Works and the City of Elk Grove Department of Public Works. The TMP shall be approved by the affected jurisdictions prior to construction and complied with at all times during construction of the project. The TMP shall be prepared by a qualified transportation engineer and would include but not be limited to the following measures:

- Define location and timing of any temporary lane or roadway closures.
- Obtain permits and identify oversized and overweight load haul routes. Transport of oversized loads on state, county, and city roads will require oversize/overload permits from Caltrans, Sacramento County and the City of Elk Grove. Transporters will follow state and county regulations for transportation of oversized and overweight loads. Such regulations typically include provisions for time of day, pilot cars, law enforcement escorts, speed limits, flaggers, and warning lights, which will be detailed in the respective oversized-load permits.
- Prepare Temporary Traffic Control (TTC) Plans for each site location. The construction contractor will submit any applicable pedestrian or traffic detour plans, to the satisfaction of the City/County Engineer, for any lane or sidewalk closures. The detour plan shall comply with Part 6, Temporary Traffic Control, of the California MUTCD, and standard construction practices. The TTC Plans will identify the need for flaggers for directing traffic, temporary signage, lighting, and traffic control devices, if required.
- Identify and provide for circumstances requiring the use of temporary traffic control measures, such as flag persons, warning signs, lights, barricades, and cones to provide safe work areas in the vicinity of the project site or along the haul routes, including for narrow roadway segments, and to warn, control, protect, and expedite vehicular, bicycle, and pedestrian traffic and access by emergency responders.
- Schedule deliveries of heavy equipment and construction materials during periods of minimum traffic flow. The timing of deliveries shall be coordinated with Sacramento County and the City of Elk Grove.

- Determine the need to schedule construction workforce arrival and departure times outside peak traffic periods.
- Determine the need for construction scheduling outside of legal holidays and special events.
- Identify vehicle safety procedures for entering and exiting site access roads and staging areas.
- Notify and coordinate potential road closures with emergency responders prior to construction.
- Ensure access for emergency vehicles to and around the Project area.
- Identify procedures for construction area evacuation in the case of an emergency declared by county or other local authorities
- Maintain access to adjacent properties. The construction contractor will notify residential and commercial occupants of property adjacent to the construction site of the hours of construction activity which may impact the area. This notification will be provided one week in advance of the start of the extended construction activity.
- Notify and coordinate potential road closures with transit operators prior to construction.
- Maintain access to transit, bicycle, and pedestrian facilities along the project route(s).
- Notify and coordinate potential road closures with mail service and waste haulers prior to construction.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact TR-2 Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** As described for Impact TR-1, construction of the proposed Project would result in a temporary increase in local traffic due to construction-related workforce traffic and material deliveries, as well as construction activities occurring within the public ROW.

The majority of the roadway segments in the Project area within the City of Elk Grove are operating at an acceptable LOS. One segment of Bruceville Road, between Elk Grove Boulevard and Bilby Road, is operating at LOS F during the PM peak period. Several segments of Highway 99 south of the City of Elk Grove (unincorporated Sacramento County) are operating at LOS E or LOS F during peak hours. The proposed Project would generate an average of 20 truck trips per day and 50 worker trips per day. As the transmission pipeline construction progresses, construction truck traffic routes would also shift. Once construction of the transmission pipeline progresses to the south of Bilby Road, the segments operating at LOS E and F described above may be impacted during peak hours and may not have additional capacity to handle the small increase in traffic from construction activity. Although it is likely that the truck trips would be

distributed through the day, if all 50 (one-way) worker trips were to occur during the PM peak hour, the proposed Project would increase the V/C ratio on Bruceville Road, between Elk Grove Boulevard and Bilby Road by 0.051, which exceeds the 0.05 V/C ratio significance threshold.

Construction truck traffic and workers may use Highway 99 between Twin Cities Road and Calvin Road during peak hours to access the sites for material delivery and commute trips to the project site. The length of time in which construction traffic would affect traffic operations on these roadways would vary given that the proposed transmission pipeline would be constructed at an average of 150 feet per day. Most of the segments on Highway 99 south of the City of Elk Grove are operating at LOS E and F. The proposed Project would result in a temporary increase in traffic to a Caltrans facility that is currently operating at LOS F. Impacts at the roadway segments above would be potentially significant because the LOS standards would be exceeded. Implementation of **Mitigation Measure TR-1**, which would require the preparation and implementation of a traffic management plan (TMP), would reduce impacts to a less-than-significant level by shifting worker and truck traffic to off-peak hours.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Construction of Alternative 3 (Small Service Area Alternative) would result in similar transportation-related impacts as described for Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative), but to a lesser degree. With the implementation of **Mitigation Measure TR-1**, the potential traffic impacts of Alternative 3 (Small Service Area Alternative) would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no traffic impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

See **Mitigation Measure TR-1**.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact TR-3 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Project construction would not permanently alter any public roadways or intersections, nor would it introduce a design feature or incompatible uses to the project area. Upon completion of pipeline installation, affected roadways would be repaved per

the requirements of the affected jurisdiction. All railroad crossings would be coordinated with the UPRR and the project may need to obtain an access agreement for these crossings.

Implementation of the proposed Project has the potential to substantially increase hazards due to the anticipated road and lane closures and due to the construction activity within and along the public ROW. Construction of the proposed Project within the public ROW would require temporary, intermittent closure of lanes and the potential for full road closures along some roadways. These temporary closures would occur intermittently throughout the duration of construction. In some cases, traffic would need to be re-routed. However, implementation of **Mitigation Measure TR-1** would minimize impacts to a less-than-significant level. No other design features are proposed that would substantially increase hazards.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the intensity of the effects would be less for construction-related effects. Similar to Alternative 1 (Medium Service Area Alternative), Alternative 3 (Small Service Area Alternative) has the potential to substantially increase hazards due to anticipated road or lane closures and due to work within and along the public ROW during construction. However, with implementation of **Mitigation Measure TR-1**, the potential traffic impacts of Alternative 3 (Small Service Area Alternative) would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no traffic impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

See **Mitigation Measure TR-1**.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact TR-4 Result in inadequate emergency access.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Construction of the proposed Project has the potential to result in inadequate emergency access due to anticipated road and lane closures. However, the TMP prepared as part of **Mitigation Measure TR-1** would be implemented to minimize impacts on emergency access, including notifying emergency responders prior to construction and ensuring access for emergency vehicles to and around construction areas. All applicable local, state, and

federal traffic control measures would be implemented to ensure the safety of the local traffic and construction traffic. With implementation of **Mitigation Measure TR-1**, impacts on emergency access would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** Similar to Alternative 1 (Medium Service Area Alternative), Alternative 3 (Small Service Area Alternative) has the potential to result in inadequate emergency access due to anticipated road and lane closures during construction. With implementation of **Mitigation Measure TR-1**, the potential impacts to emergency access would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no traffic impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

See **Mitigation Measure TR-1**.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

**Impact TR-5 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** Construction of the proposed Project has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities due to the anticipated lane/road closures. Sidewalks and bicycle facilities are located throughout the Project area. Public transit also operates in the vicinity of the Project area and during the construction of the pipeline, the existing transit routes and bus stops on Franklin Boulevard could be temporarily affected. Implementation of **Mitigation Measure TR-1** would minimize impacts on public transit and non-motorized travel. The construction contractor would obtain all necessary road permits prior to construction and would comply with all the applicable conditions of approval. The TMP would establish methods for minimizing construction effects on transit service, by maintaining access to such facilities along the project construction area or during potential full road closures, providing an alternative route if one is needed. The TMP would include procedures for notifying affected agencies in advance of construction activities, including transit operators. With implementation of **Mitigation Measure TR-1**, impacts on policies, plans, or programs supporting alternative transportation would be less than significant.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts of both project and program components for Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative). Similar to Alternative 1 (Medium Service Area Alternative), Alternative 3 (Small Service Area Alternative) has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities due to the anticipated lane/road closures. However, with implementation of **Mitigation Measure TR-1**, the potential traffic impacts of Alternative 3 (Small Service Area Alternative) would be less than significant.

*Alternative 4 (No Project Alternative)*

Under the No Project Alternative, no facilities would be constructed. Therefore, no traffic impacts would occur.

**Significance Determination before Mitigation**

Potentially significant for all action alternatives. No impact for Alternative 4 (No Project Alternative).

**Mitigation Measure**

See **Mitigation Measure TR-1**.

**Significance Determination after Mitigation**

Less than significant for all action alternatives.

***Cumulative Impact Analysis***

The geographic scope of cumulative impacts related to transportation and traffic includes the project area and surrounding roadways. The proposed Project, as well as other projects listed in **Table 3.0-1**, would result in significant cumulative impacts if they collectively adversely affect the same roadways or other transportation infrastructure. Projects listed in **Table 3.0-1** that are relevant to the proposed Project and could occur within the same timeframe are the EchoWater, rehabilitation of digesters 6 and 7 at SRWTP, SPA Recycled Water Project, Capital Reserve Project, Sheldon Park Estates, Dignity Health Elk Grove Medical Campus, and Capital Southeast Connector projects. These cumulative projects combined with construction activities required to implement the proposed Project, could result in lane closures, roadway closures, and construction-related traffic along the same roadways. The proposed Project's contribution would be considerable, and this would be a potentially significant impact. **Mitigation Measure TR-1** would involve preparation of a construction management plan for traffic, which would include consideration of other projects in the development of measures to reduce the traffic impacts of the proposed project. With implementation of this mitigation measure, the contribution of the project to this cumulative impact would be reduced to a level where it would no longer be considerable.

**Significance Determination before Mitigation**

Potentially significant.

EIR

Draft

**Mitigation Measures**

See **Mitigation Measure TR-1**.

**Significance Determination after Mitigation**

Less than significant.

**3.14.5 References**

California Department of Transportation (Caltrans). 2002. Guide for the Preparation of Traffic Impact Studies. December. Available at:  
[http://www.dot.ca.gov/hq/tpp/offices/ocp/igr\\_ceqa\\_files/tisguide.pdf](http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf).

\_\_\_\_\_. 2014. 2014 All Traffic Volumes on CSHS. Traffic Data Branch. **Error! Hyperlink reference not valid.** Available at: <http://dot.ca.gov/trafficops/census/2014all/>.

Elk Grove Development Services, City of. 2003a. City of Elk Grove General Plan Background Report, Chapter 10, Circulation.

\_\_\_\_\_. 2003b. Elk Grove General Plan Volume 1: Draft Environmental Impact Report. August.

\_\_\_\_\_. 2014. Bicycle, Pedestrian, and Trails Master Plan. July.

\_\_\_\_\_. 2015a. Whitelock Interchange Project. Available at:  
[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/public\\_works/capital\\_improvements/whitelock\\_interchange](http://www.elkgrovecity.org/city_hall/departments_divisions/public_works/capital_improvements/whitelock_interchange)

\_\_\_\_\_. 2015b. General Plan Circulation Element. Reflects Amendments through March 2015.

Fehr and Peers. 2013. Revised Draft Transportation Impact Analysis Housing Element Update. December. Prepared for the City of Elk Grove.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

Sacramento County Airport System. 2015. *Franklin Field Airport – About*. Available at:  
<http://www.sacramento.aero/f72/about/>.

Transportation Research Board. 2010. Highway Capacity Manual.

## 3.15 Environmental Justice

This section presents the physical and regulatory setting for environmental justice for the proposed Project and evaluates the potential impacts associated with its implementation.

Environmental justice is defined as: “The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies.” (USEPA 2012).

### 3.15.1 Environmental Setting

According to CEQA and USEPA guidelines, a study area is characterized as minority area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (USEPA 1998). Under the same guidelines, a low-income population exists if the project study area is composed of 50 percent or more people living below the poverty threshold, as defined by the U.S. Census Bureau, or if the percentage of people living below the poverty threshold in the study area is substantially greater than the poverty percentage of the general population or other appropriate unit of geographic analysis.

According to the U.S. Census Bureau, the median household income (MHI) for Sacramento County was \$55,615 in 2014 (U.S. Census Bureau 2014a). Communities with MHIs less than 80 percent of the California MHI are considered disadvantaged communities (DACs), according to the California Department of Water Resources (DWR) Integrated Regional Water Management Program. Detailed demographic information was analyzed using data from the U.S. Census Bureau’s American Community Survey (ACS), which provides estimates of demographics based on annual surveys. Data from ACS is available on a Census tract level, and this finer scale is more accurate for project analyses. The most recent set of ACS MHI data available at the Census tract level for Sacramento County is the 2010-2014 data, which correlates the data to 2014 Census tracts. The 2010-2014 ACS MHI for California is \$61,489. A DAC would therefore be a community with an MHI of \$49,191 or less. Mapping using the ACS data shows DACs north of the Project area, but none within the Project area (see **Figure 3.15-1**).



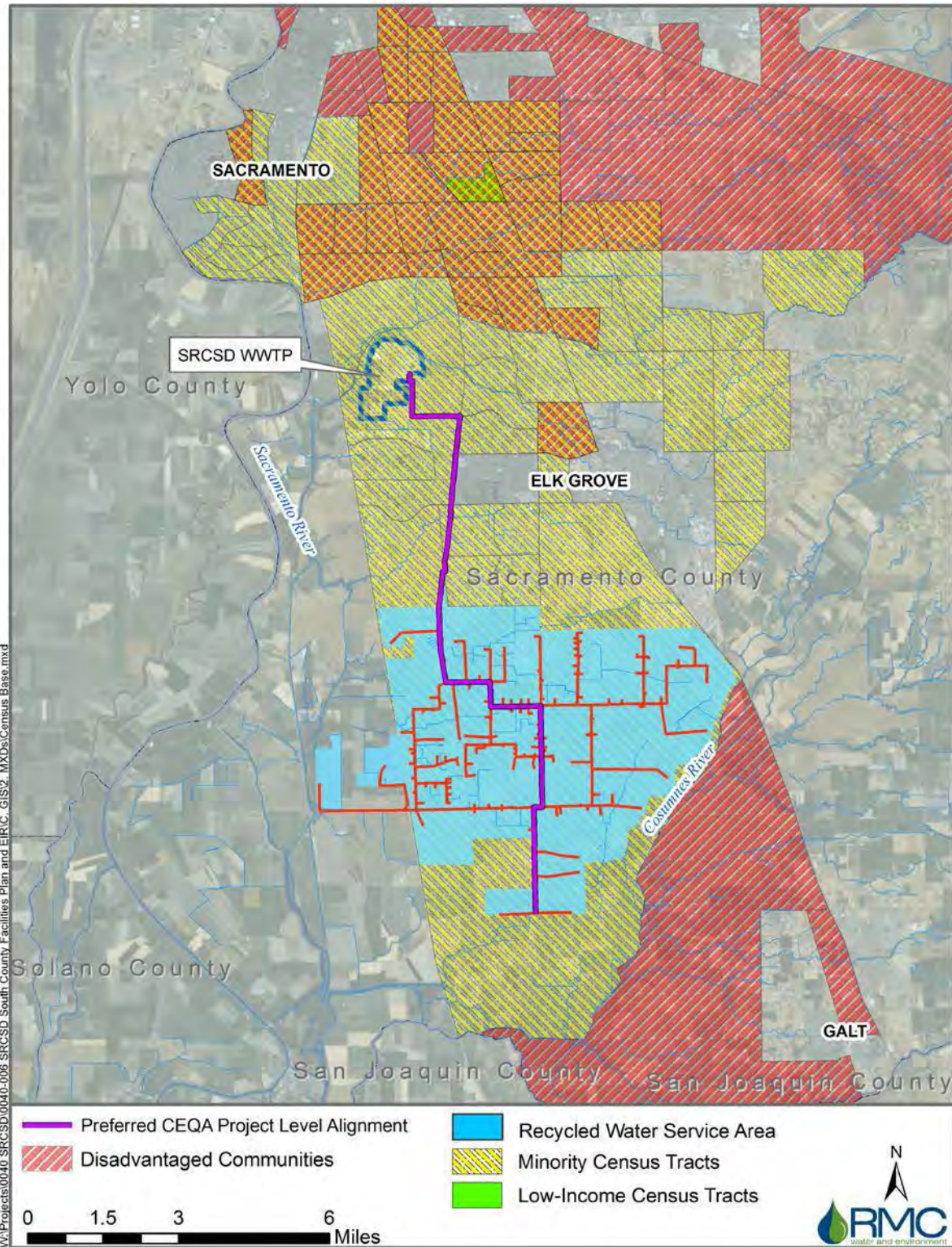


Figure 3.15-1: Minority Populations, Low-Income Populations and DACs in the Project Area

**Figure 3.15-1** also shows the Census tracts that are considered low-income areas in which over half of the population is below the poverty level and census tracts with over half their populations as non-white (i.e. minorities). Low-income areas and minority areas were identified using the ACS Demographic and Housing Estimates from 2010 to 2014. An estimated 13.7 percent of families in the County have an income below poverty level (U.S. Census Bureau 2014b). As shown on **Figure 3.15-1**, a relatively short segment of the preferred project pipeline alignment crosses a portion of a Low Income Census tract. Project facilities also will be within areas where over half the populations are non-white. In Sacramento County, 60 percent of the population identify as white, while the remaining 40 percent are non-white or mixed race. The figure shows that the pipeline alignment will traverse some areas with minorities greater than 50 percent of the population (U.S. Census Bureau 2014b).

### **3.15.2 Regulatory Framework**

#### ***Federal Policies and Regulations***

The 1994 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, prohibits discrimination against or exclusion of individuals and populations during the conduct of federal activities. It requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs and activities on minority and low-income populations. The requirements of EO 12898 apply to all Federal actions that are located on Federal lands, sponsored by a Federal agency, or funded with Federal monies, and that may affect minority or low-income populations.

Guidance under the National Environmental Policy Act (CEQ 1997) and Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis (EPA 1998) serve as guides for incorporating environmental justice goals into preparation of environmental impact statements under NEPA. These documents provide specific guidelines for determining whether any environmental justice issues are associated with a proposed Federal action.

#### ***State Policies and Regulations***

There are no state regulations related to environmental justice that are relevant to the proposed Project.

#### ***Local Policies and Regulations***

There are no local regulations related to environmental justice that are relevant to the proposed Project.

### 3.15.3 Impact Analysis

#### **Methodology for Analysis**

Section 15131(a) of the CEQA Guidelines states that “Economic and social effects of a project shall not be treated as significant effects on the environment” and therefore, this section does not apply CEQA significance thresholds and no determinations of significance are made.

The Council of Environmental Quality NEPA regulations (40 CFR 1508.8[b]) list economic and social factors among the effects that should be analyzed in preparing an EIS. Specifically economic and social effects should be discussed when they are interrelated with natural or physical effects (40 CFR 1508.14). Disproportionate effects from project implementation on minority or low-income populations, either directly, indirectly, or cumulatively must be considered. To determine if the proposed Project alternatives could disproportionately affect a high-minority or low-income population, it must also be determined how it would affect other segments of the population. For example, if there are more high-income populations affected by a project than low-income populations, then the potential for disproportionate impacts to the low-income population, and thus the potential for environmental justice impacts, is low. If the proportion of low-income and high-minority populations impacted by a project is greater than either the middle or high-income populations or the middle- or low-minority populations, then there is more potential for an environmental justice impact. In this case, additional information would be considered to determine if there would be an adverse effect on the low-income, high-minority populations. NEPA does not require a determination of significance for social impacts and therefore, none have been made. No significance thresholds are provided and no mitigations are proposed.

#### **Impacts**

#### **Impacts to Minority or Low-Income Populations that are Disproportionately High and Adverse, Either Directly, Indirectly, or Cumulatively**

*Alternative 1 (Medium Service Area Alternative) and Alternative 2 (No Reclamation Funding Alternative)*

**Project and Program Elements.** These action alternatives would include constructing a pump station at the SRWTP and transmission pipelines in the City of Elk Grove and South County. The placement of all proposed facilities is strategic and intentionally located to maximize recycled water and benefits to existing agricultural and environmental users. Normal operation of the proposed facilities would not generate significant air quality, traffic, noise, or aesthetic impacts once in place because they would be either buried underground (pipelines) or located on previously disturbed, industrial sites (pump station at the SRWTP). The incremental long-term impact on adjacent land uses would be the low-level risk of an accidental pipe breakage with minor flooding and traffic disruption and routine maintenance activities. Because operation of the alternatives would not result in significant impacts, there is no reason to expect that any populations would be affected disproportionately by operation. Because these alternatives would provide a sustainable long-term supply for agricultural irrigation and environmental uses at Stone Lakes NWR, these alternatives would contribute permanent benefits to the community.

Construction and operation of the pump station and transmission pipeline alignments would occur in areas where minorities comprise over 50 percent of the population, and in a relatively small area of low-income census tracts, as shown in **Figure 3.15-1**. Because the project's effect on areas identified as DACs would be very small in relation to the overall project area of effect, and all adverse impacts can be reduced to a less than significant level, the project would not disproportionately affect DACs. Although the project effects would be felt in areas with greater than 50 percent minority populations, outside of the small area considered to be a DAC, the minority populations are not considered disadvantaged when paired with economic characteristics and impacts to minority populations would be similar to other affected areas where minority populations do not exceed 50 percent of the population. Thus the proposed Project would not disproportionately affect minority or DAC populations and no environmental justice impacts would occur.

*Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction and operational impacts for both the project and program components of Alternative 3 (Small Service Area Alternative) would be similar to those identified for Alternative 1 (Medium Service Area Alternative), except that the area and intensity of the effects would be less for construction-related effects. While the construction and operation of the proposed pipelines and pump station would affect minority populations, similar to the reasons described above for Alternatives 1 and 2, the effects would not be disproportionate.

*Alternative 4 (No Project Alternative)*

Under this alternative, no facilities would be constructed. Therefore, no impacts related to environmental justice would occur.

### 3.15.4 References

Council on Environmental Quality. 1997. Environmental Justice: Guidance Under the National Environmental Policy Act. Available at:  
[http://www.epa.gov/environmentaljustice/resources/policy/ej\\_guidance\\_nepa\\_ceq1297.pdf](http://www.epa.gov/environmentaljustice/resources/policy/ej_guidance_nepa_ceq1297.pdf).

Elk Grove, City of. 2009. *The City of Elk Grove General Plan*. Reflects Amendments through July 22, 2009.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2013. *Sacramento County Housing Element of 2013-2012*. October 2013.

U.S. Census Bureau. 2014a. *2010-2014 American Community Survey 5-Year Estimates, Income in the Past 12 Months (in 2014 Inflation-Adjusted Dollars)*. Available at:

<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>.  
Accessed May 24, 2016.

\_\_\_\_\_. 2014b. *2010-2014 American Community Survey 5-Year Estimates*. Available at:  
<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>.  
Accessed May 23, 2016.

U.S. Environmental Protection Agency (USEPA). 1998. Final Guidance for Incorporating  
Environmental Justice Concerns in EPA's NEPA Compliance Analyses. April.

\_\_\_\_\_. 2012. Environmental Justice: Basic Information – Background. May 24. Available at:  
<http://www.epa.gov/environmentaljustice/basics/ejbackground.html>. Accessed March 11,  
2015.

### 3.16 Socioeconomics

While CEQA does not require that socioeconomics be evaluated, this section has been included to facilitate future NEPA documentation. This section includes a description of the socioeconomic conditions in the Project Area and evaluates the potential effects on the economy from that could result from implementation of the proposed Project.

#### 3.16.1 Environmental Setting

##### *Employment*

The American Community Survey (ACS) produces population, demographic, and housing estimates, and the U.S. Census Bureau develops the official population estimates for the nation, states, counties, cities, and towns, and housing estimates for state and counties. In 2014, according to the ACS, 646,033 people in Sacramento County were in the civilian labor force. The median household income (MHI) was \$55,615. An estimated 18.1 percent of families in the County have an income below the poverty level (U.S. Census Bureau 2014). The estimated number of people employed in various industries in Sacramento County is summarized in **Table 3.16-1**.

Table 3.16-1: Sacramento County Population and Employment by Industry Sector

<b>Category</b>	<b>Population</b>
Total Population, 16 years and over	1,161,644
Population in Labor Force	719,585
Civilian Labor Force	717,602
Employed	646,033
Unemployed	71,569
Armed Forces	1,983
Population Not in Labor Force	442,059
<b>Industry</b>	
Agriculture, forestry, fishing and hunting, and mining	5,733
Construction	41,336
Manufacturing	36,227
Wholesale trade	17,686
Retail trade	73,059
Transportation and warehousing, and utilities	30,947
Information	12,775
Finance and insurance, and real estate and rental and leasing	46,253
Professional, scientific, and management, and administrative and waste management services	74,520
Educational services, and health care and social assistance	143,612
Arts, entertainment, and recreation, and accommodation and food services	63,789
Public administration	65,868
Other services	34,228

Source: U.S. Census Bureau 2014

While agriculture accounts for less than 1 percent of the jobs in the County (based on **Table 3.16-1**), with a \$300 million annual production value, agricultural production in Sacramento County is a significant contributor to the local economy. In addition to the production value, it

provides hundreds of jobs tied to production and thousands more, indirectly, for production, processing, transportation, and marketing. Because of the jobs tied directly and indirectly to agricultural production, a four to one ratio is estimated for crop growth in the region, meaning a \$300 million production value is actually a \$1.2 billion impact on the local economy. Agriculture also provides benefits to quality of life, contributes to open space and helps to manage habitat and wildlife. There are areas within the County that suffer from blight, empty buildings and vacant parcels, economic stagnation, chronic unemployment, and land use and job/housing imbalances (Sacramento County 2011).

The labor market in the County is dominated by public agency employment, services, and retail/wholesale trades. The California Employment Development Department (EDD) determined that state and local governmental agencies, health care, education establishments, utilities, and insurance firms are the major employers in the Sacramento area.

Employment trends in Sacramento County from 2000 to 2010 include the following (Sacramento County 2011):

- The Sacramento County economy will continue to diversify.
- Significant job growth will continue among companies that serve markets beyond the County.
- New jobs will include higher paying professional jobs and lower paying service and retail jobs. The majority of new jobs will be in the sectors that pay salaries below the Sacramento County median income.
- Most employment growth will be centered within the incorporated areas of the County. There will be the potential for job growth in the unincorporated communities through conversion and/or reuse of older commercial and industrial sites.

**Table 3.16-2** shows unemployment rates in Sacramento County, since 2004. The rate was once as low as 4.8 percent. Beginning in 2007 and consistent with the nationwide economic downturn, the unemployment rates in the County began increasing. Then, beginning in 2011, the rates began decreasing and the County had an unemployment rate of 6.0 percent in 2015.

Table 3.16-2: Unemployment Rates in Sacramento County

<b>Year</b>	<b>Unemployment Rate</b>
2015	6.0 percent
2014	7.3 percent
2013	8.9 percent
2012	10.5 percent
2011	12.1 percent
2010	12.7 percent
2009	11.3 percent
2008	7.2 percent
2007	5.4 percent
2006	4.8 percent
2005	5.0 percent
2004	5.6 percent

Source: State of California EDD 2016

### ***Jobs/Housing Balance***

The ratio of jobs per housing unit helps to describe the relationship between employment and housing, where a ratio of less than one means that an area provides more housing than jobs and a ratio greater than the number of workers per household indicates there is not enough housing in relation to employment in an area. In 2000, the ratio of jobs per housing unit countywide was 1.19 and increased to 1.22 in 2005. The countywide number of workers per household in 2001 was 1.4, indicating jobs and housing in Sacramento County are generally in balance (Sacramento County 2011). However, in 2008, unincorporated Sacramento County had a jobs per housing ratio of 0.89, less than 1, indicating there is more housing than jobs. It is projected that the ratio will remain at this level through 2020 and then increase to 0.97 by 2035 (Sacramento County 2013).

### **3.16.2 Regulatory Framework**

This section describes laws and regulations that may apply to the proposed Project. The applicable federal, state, and local laws, regulations, and policies related to socioeconomics for the proposed Project are described as follows.

#### ***Federal Policies and Regulations***

There are no federal regulations or policies relevant to socioeconomics and the proposed Project.

#### ***State Policies and Regulations***

There are no state regulations or policies relevant to socioeconomics and the proposed Project.

#### ***Local Policies and Regulations***

##### **Sacramento County General Plan**

The Sacramento County General Plan (Sacramento County 2011) states that taking actions to ensure a healthy local economy is of vital importance to the County. To highlight the importance of improving the economy, an Economic Development Element was included in the most recent General Plan update.

##### ***Economic Development Element***

The following goal and objectives from the Economic Development Element are relevant to the proposed project Project:

- **GOAL:** Provide for continuing sound and healthy agriculture economy in the county, and encourage a productive and profitable agricultural industry through the conservation of agricultural resources and protection of agricultural lands. Promote the agri-tourism economy while encouraging public education and participation in the agriculture industry.
  - Objective: Improved economic vitality for the local agricultural industry and the individual farmer and rancher.
    - Policy ED-14: Support and promote a healthy and competitive agricultural industry whose products are recognized in local, national and international markets.



- Policy ED-15: Support ongoing efforts by the agriculture community to develop high value products and new markets for goods that can support higher paying and more steady employment opportunities in the unincorporated area.
- Policy ED-19: Support and encourage the maintenance and growth of commercial agricultural businesses in Sacramento County.

### *Agricultural Element*

The Agricultural Element of the General Plan includes the following relevant goal and objective:

- **GOAL:** Enhanced viability of Sacramento County's agricultural economy.
  - Objective: Protect, conserve, and enhance agribusiness operations in Sacramento County for economic sustainability and viability.

### *Land Use Element*

Lastly, the Land Use Element contains the following applicable goal and objective:

- **GOAL:** A viable rural and recreational economy in all non-metropolitan areas outside of the Urban Service Boundary.
  - Objective: important farmlands protected to ensure the continuation of agricultural production and to preserve open space.

### **City of Elk Grove General Plan**

There are no goals or policies included in the City of Elk Grove General Plan that are relevant to the proposed Project as it relates to socioeconomics.

### **3.16.3 Impact Analysis**

#### ***Methodology for Analysis***

Section 15131(a) of the CEQA Guidelines states that "Economic and social effects of a project shall not be treated as significant effects on the environment" and therefore, this section does not apply CEQA significance thresholds and no determinations of significance are made.

#### ***Impacts***

#### **Economic Benefits and Impacts to the Project**

*Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative)*

**Project and Program Elements.** The construction of the action alternatives would generate temporary construction jobs, the demand for which is expected to be met within the regional workforce. Spending associated with construction could benefit the local and regional economy. The action alternatives would provide recycled water for agricultural irrigation, to Stone Lakes NWR, and to a potential recharge area in South County, replacing existing groundwater and surface water sources. Because these alternatives would replace existing water sources, there would be minimal economic benefits or impacts. However, during potential future extended

drought years when the existing groundwater or surface water supplies may be limited, the recycled water would provide a reliable, drought-proof water supply. This would help to ensure adequate irrigation of crops and reduce or eliminate the need to fallow crops, thus resulting in economic benefits to the agricultural community.

*Alternative 4 (No Project Alternative)*

This alternative would not result in any potential economic benefits and the agricultural community in South County would be subject to the uncertainties of water supply during potential future, extended drought years. Growers would continue to use groundwater as the sole source of supply for irrigation. Because additional water supply is expected to be needed to meet municipal and industrial irrigation demands, it is expected that new surface and groundwater supplies would be developed over time, thus increasing drawdown of the groundwater basin. During times of drought, groundwater or surface water resources could become limited, resulting in the need to reduce water use. This would result in the potential fallowing of lands, deficit irrigation practices and/or irrigation with poorer quality groundwater, which would decrease crop output and revenue.

**Cumulative Impacts**

The geographic scope of potential cumulative impacts related to socioeconomics encompasses Sacramento County. Construction associated with all of the cumulative projects would contribute to the local and regional employment and economy. As shown in **Table 3.16-1**, approximately 43,000 people are employed in the construction industry in Sacramento County. The demand for construction jobs as a result of the cumulative projects is expected to be met within the regional workforce. In addition to employment, construction-related spending (i.e., purchase of construction materials, worker spending) of the cumulative projects could also represent an economic benefit to the local and regional economy. The proposed Project in combination with the cumulative projects would be cumulatively beneficial.

**3.16.4 References**

California, State of, Employment Development Department (EDD). 2016. *Historical Unemployment Rate and Labor Force Data Tables Sacramento County (March 2015 Benchmark)*. Available at: <http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html>. Accessed May 24, 2016.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2013. *Sacramento County Housing Element of 2013-2012*. October 2013.

U.S. Census Bureau. 2014. *2014 American Community Survey, Selected economic characteristics data from 2013 American Community Survey 1-year estimates*. Available at: [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_13\\_1YR\\_DP03&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_DP03&prodType=table). Accessed May 24, 2016.

*This page intentionally left blank*

## 3.17 Population and Housing

This section presents the physical and regulatory setting for population and housing in the area surrounding the proposed Project. The section also evaluates the potential population- and housing-related impacts associated with its implementation.

### 3.17.1 Environmental Setting

#### *Population*

The ACS has produced 5-year (from 2009 to 2013) population estimates for Sacramento County. According to this data, the total population in the County in 2013 was 1,435,207 (U.S. Census Bureau 2013). Population in 2010 was estimated to be 1,418,788 (Sacramento County 2011). The estimated increase in population from 2010 to 2013 represents a 1.16 percent increase. Between 2000 and 2010, there was an estimated population increase of 16 percent (Sacramento County 2011).

The population trends in unincorporated Sacramento County differ from those countywide. Between 2000 and 2010, population of the unincorporated area of the County decreased by 16 percent due to areas being incorporated into the Cities of Elk Grove and Rancho Cordova. Sacramento Area Council of Governments (SACOG) estimates the population in the unincorporated area will increase by 4.6 percent from 2010 to 2020 and 20 percent from 2020 to 2035 (see **Table 3.17-1**) (Sacramento County 2013).

Unincorporated Sacramento County's population has a higher percentage of Non-Hispanic White residents than the City of Sacramento or the State of California (65 percent, 45 percent, and 58 percent, respectively). Latino/Hispanic people are the second largest ethnic population group in the unincorporated area (Sacramento County 2013).

Among the incorporated cities in the County, Elk Gove had the largest population growth from 2000 to 2010. A portion of Elk Grove's growth was due to the annexations. Its growth rate from 2000 to 2010 was estimated to be 62 percent. From 2010 to 2020, the City's population is projected to increase by 14.8 percent and from 2020 to 2035, by 18.2 percent. Historic and projected populations for Unincorporated Sacramento County and Elk Grove are summarized in **Table 3.17-1**.

Table 3.17-1: Unincorporated Sacramento County and City of Elk Grove Populations

Jurisdiction	2000	2010	2020	2035
City of Elk Grove	94,293	153,015	175,680	207,740
Unincorporated Sacramento County	659,226	554,554	579,850	696,590

Source: Sacramento County 2013

### **Housing**

Household growth trends tend to mirror the population trends in Sacramento County. The entire County saw an increase in households by 13.3 percent between 2000 and 2010. Unincorporated Sacramento County's households were reduced by approximately 9,500 from 2000 to 2010 due to the annexations into Elk Grove and Rancho Cordova, an approximate 4.5 percent reduction. Elk Grove experienced the most growth with a 60.6 percent increase in households from 2000 to 2010 (Sacramento County 2013).

The average household size in the unincorporated area of the County increased from 2.63 people per household to 2.72 from 1990 to 2012. Overall, the average household size for unincorporated Sacramento County is larger than the City of Sacramento, but smaller than the State of California average. Due to aging population, the average household size in the unincorporated area of the County is expected to decline (Sacramento County 2013).

Approximately 58 percent of the housing units in the unincorporated County were owner-occupied according to the 2010 Census, higher than the City of Sacramento and State of California rates. The unincorporated area is dominated by suburban developments and single-family homes. At the time of the 2010 Census, approximately 38 percent of the houses were more than 40 years old and in need of maintenance and other updates (Sacramento County 2013).

### **3.17.2 Regulatory Framework**

This section describes the laws and regulations that may apply to the proposed Project and population and housing. The applicable federal, state, and local laws, regulations, and policies related to population and housing for the proposed Project are described as follows.

#### ***Federal Policies and Regulations***

There are no federal policies or regulations associated with population and housing that are relevant to the proposed Project.

#### ***State Policies and Regulations***

There are no State policies or regulations associated with population and housing that are relevant to the proposed Project.

#### ***Local Policies and Regulations***

##### **General Plans**

The Sacramento County General Plan (Sacramento County 2011) and the City of Elk Grove General Plan (City of Elk Grove 2015) include Housing Elements that address population planning. In 2013, Sacramento County adopted an updated Housing Element for its General

Plan (Sacramento County 2013). The Housing Element covers population, economics, and housing for the unincorporated area of the County, where the primary portion of the proposed Project would be located. It also includes a Housing Needs Assessment as required by California Government Code Section 65583(a)(2), documenting the household characteristics of the County.

The proposed Project does not include the construction of or modifications to existing housing or new housing, nor would it affect existing housing or proposed development. Therefore, housing and population-related goals and objectives included in the General Plans are not relevant to the proposed Project.

### 3.17.3 Impact Analysis

#### ***Methodology for Analysis***

This section evaluates whether construction and operation of the proposed facilities would result in significant impacts related to population and housing. Specifically, the analysis is based on consideration of whether the proposed Project would displace housing. As identified in the *Chapter 2, Alternatives and Proposed Project*, the pump station and transmission pipeline are being evaluated at a project-specific level and the remaining project components, including the distribution mains, service connection laterals, turnouts, potential recharge area, diluent wells, and the Stones Lake NWR are being evaluated at the program-level. However, from a population and housing perspective, the potential impacts would be similar whether they are at the project level or the program level. The primary difference is that the construction schedule and the potential construction-related trips have been identified for the project-level activities, but are not yet known for the program-level components. Like the project-level activities, the program-level activities would consist of similar impacts. For this reason, the population and housing impacts of the project and program elements are discussed together.

#### ***Thresholds of Significance***

Consistent with the thresholds of significance identified in Sacramento County's Initial Study Checklist, an impact would be considered significant if the project would:

- Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.

#### ***Criterion Requiring No Further Evaluation***

The criterion listed above that is not applicable to actions associated with the proposed Project include the following and the supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate are summarized:

- *Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere:* The action alternatives of the proposed Project include construction of buried pipelines primarily within existing roadways, a pump station at the SRWTP, and a potential recharge pond located within agricultural lands. These areas are not inhabited by people. As such, the proposed Project would not displace any existing housing units and would not necessitate the construction of replacement housing. The No

Project Alternative would not result in construction of any facilities. No impacts would occur and no further discussion is warranted.

### ***Cumulative Impact Analysis***

The proposed Project would have no impact on population and housing, and therefore would have no potential to contribute to any cumulative impacts related to population and housing. No impact would occur.

### **3.17.4 References**

Elk Grove, City of. 2015. *The City of Elk Grove General Plan*. Reflects Amendments through March 2015.

Sacramento County. 2011. *Sacramento County General Plan of 2005-2030*. Amended November 9, 2011.

\_\_\_\_\_. 2013. *Sacramento County Housing Element of 2013-2012*. October 2013.

U.S. Census Bureau. 2013. *ACS Demographic and Housing Estimates. 2009-2013 American Community Survey 5-Year Estimates*. Available at:  
<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>.  
Accessed February 12, 2015.

## Chapter 4 Other CEQA Considerations

This chapter provides an overview of the impacts of the proposed Project based on the analyses presented in Chapter 3 of this Draft EIR. The topics covered in this chapter include significant and unavoidable impacts, irreversible and irretrievable commitments of resources, and growth inducement.

### 4.0 Significant and Unavoidable Impacts

As described in *Chapter 3, Environmental Setting, Impact Analysis*, there would be no significant and unavoidable impacts from the Regional San South Sacramento County Agriculture and Habitat Lands Recycled Water Program. As such, while Regional San would be required to adopt Findings as part of its approval of the EIR, it would not prepare a Statement of Overriding Considerations for unavoidable, adverse impacts. There would be a number of potential impacts resulting from the proposed Project; however, the standard project requirements and mitigation measures described in *Chapter 3, Environmental Setting, Impact Analysis* would reduce any potentially significant impacts to less-than-significant levels.

### 4.1 Irreversible Commitments of Resources

The State CEQA Guidelines (Section 15126(c)) require that an EIR include a discussion of the significant irreversible environmental changes that would be caused by a project should it be implemented.

Irreversible commitment of resources occurs as a result of the use or destruction of a specific resource (e.g., minerals extraction, destruction of cultural resources) which cannot be replaced or, at a minimum, restored over a long period of time. Irretrievable commitment of resources refers to actions resulting in the loss of production or use of natural resources. It represents the effects that the use of nonrenewable resources could have on future generations (e.g., land conversion to new uses; construction of levees preventing the natural flooding of flood plains).

The action alternatives would result in the irreversible and irretrievable commitment of the following resources during construction, operation, and maintenance:

- Construction materials such as asphalt, concrete, steel, sand, and rocks (project and program level);
- Energy resources such as electricity, fuel, oil, natural gas for equipment (project and program level);
- Nonrenewable materials such as gravel, petroleum products, steel (project and program level); and



- Labor (project and program level).

Activities under all action alternatives would commit material resources to the construction of new facilities. However, the material and energy resources consumption for construction would not result in long-term depletion of nonrenewable resources. No other irreversible permanent changes such as those that might result from construction of a large-scale mining project, a hydroelectric dam, or other industrial project would result from development of the action alternatives. Construction of the pump station would occur within the footprint of the existing SRWTP and transmission pipelines would be underground, and would not result in irreversible or irretrievable commitment of the project area as a land resource.

Operation of any of the action alternatives would result in further commitment of energy resources, however the use of recycled water in place of groundwater or imported, potable water supplies, both of which would require energy for pumping, would offset the energy requirements to deliver the same amount of water from other sources.

## 4.2 Growth Inducing Impacts

CEQA requires the Lead Agency to evaluate whether a proposed project would directly or indirectly induce growth of population, economic development, or housing construction. Specifically, CEQA Guidelines Section 15126.2(d) states the need to evaluate the potential for a project to “foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas).” Directly induced growth is associated with residential or commercial development projects that would result in a population increase or in an increase in the number of employees. Indirectly induced growth is associated with reducing or removing barriers to growth, or creating a condition that encourages additional population or economic activity. Ultimately, both types of growth induction result in population increase, which “may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects” (CEQA Guidelines Section 15126.2[d]). Other potential environmental impacts related to growth include increased traffic, air emissions, and noise; degradation of water quality; loss of sensitive biological and cultural resources; increased demand on public services and infrastructure; and changes in land use and conversion of agricultural or open space to accommodate development.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment.

Projects are considered to have growth-inducing implications when economic, housing, or population growth would be stimulated, either directly or indirectly. Local land use plans (e.g., general plans and specific plans) provide for development patterns and growth policies that allow for the planned and orderly expansion of urban development (i.e., residential, commercial and industrial uses) supported by adequate urban public services, such as water supply, roadway

infrastructure, sewer service, and solid waste service. A project that would induce growth (i.e., conflict with local land use plans) could indirectly cause adverse environmental impacts not previously envisioned. Thus, to assess whether a project has the potential to induce growth and result in adverse secondary effects beyond what is anticipated by local jurisdictions, it is important to assess the degree to which the growth associated with a project would or would not be consistent with applicable land use plans.

Implementation of any of the action alternatives would provide recycled water for non-potable uses (e.g., irrigation of landscapes), thus conserving existing water supplies for potable uses (e.g., to meet future, approved growth).

As described in *Chapter 2, Alternatives and Proposed Project*, the proposed Project would provide recycled water to existing customers for agricultural irrigation, wetlands at the Stone Lakes NWR, and potentially to a recharge pond, which would offset the use of groundwater.

Construction of the action alternatives would not directly induce population growth, as no new residential or commercial development projects would be served by the proposed Project and the project would not require new permanent employees who would generate a demand for new housing. Growers in this region rely on groundwater to meet their irrigation needs. The action alternatives would offset a portion of existing groundwater use; during peak periods, farmers would rely on existing wells to pump groundwater to meet demand. Recycled water would be used beneficially for irrigation purposes for existing growers and habitat purposes in lieu of being discharged into the Sacramento River and being exported out of the region. In addition, recycled water would be used to recharge the groundwater, elevating groundwater levels and base flows in the Cosumnes River, which would benefit habitat and associated aquatic, plant and wildlife species. In evaluating whether the Project would remove an obstacle to population growth, the Zone 41 Urban Water Management Plan (UWMP) was reviewed (Sacramento County Water Agency 2010). The UWMP discusses the "South County Ag" project, which is the proposed Project, as part of the overall water supply for the region. The proposed Project would thus be expected to meet existing demands and is not expected to remove an obstacle to growth.

As such, potential indirect growth-inducing effects facilitated by the proposed Project would be less than significant and no mitigation is required.

### 4.3 Environmentally Superior Alternative

CEQA requires that an EIR identify an environmentally superior alternative (Guidelines Section 15126.2).

Alternative 4 (No Project Alternative) would not result in any of the physical impacts identified for the proposed Project in *Chapter 3, Environmental Setting, Impact Analysis*, most of which are short-term construction impacts. However, Alternative 4 (No Project Alternative) could have long-term adverse effects on Cosumnes River base flows. Over the long term and with continued drought, which could lead to restrictions in groundwater pumping, the lack of a reliable water supply could also result in conversion of agricultural land to non-agricultural use, which would

be an adverse impact. Without the proposed Project, Regional San would continue to discharge the large majority of its Title 22 treated recycled water to the Sacramento River. Thus, while the No Project Alternative avoids construction impacts, given the long term potential effects on the groundwater basin, Cosumnes River base flows and agriculture, it is not considered to be clearly environmentally superior to the proposed Project. Additionally, Alternative 4 (No Project Alternative) would not meet any of the Project objectives.

In CEQA, the evaluation of alternatives focuses on identifying alternatives that could minimize environmental impacts. CEQA requires evaluation of alternatives that “feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project” (CEQA Guidelines, Section 15126.6(a)). In developing alternatives, Regional San evaluated three options: Alternative 1 (Medium Service Area Alternative), Alternative 2 (No Reclamation Funding Alternative), and Alternative 3 (Small Service Area Alternative). In evaluating impacts of the three action alternatives, it was determined that most operational impacts were negligible, and the primary operational impact of concern is associated with the reduction in discharge to the Sacramento River. The majority of impacts are associated with construction, and all construction impacts were determined to be less than significant with implementation of mitigation. Alternative 1 (Medium Service Area Alternative) and 2 (No Reclamation Funding Alternative) would have the same physical impacts associated with both construction and operation. The only difference between Alternatives 1 and 2 is that under the latter, Reclamation would not provide any funding.

Comparison of alternatives shows that Alternative 3 (Small Service Area Alternative) would have impacts similar to Alternatives 1 and 2, but the intensity of the construction-related effects would be somewhat less for Alternative 3. Because there would be fewer miles of pipelines compared to Alternative 1 (Medium Service Area Alternative), Alternative 3 is expected to result in a shorter construction duration, and thus slightly reduced short-term construction impacts. However, construction impacts associated with all action alternatives can be mitigated to a less-than-significant level.

Operational impacts of all of the action alternatives are also similar, but Alternative 3 would provide less recycled water, and would thus maintain a higher level of discharge to the Sacramento River than would Alternatives 1 and 2. However, with less use of recycled water, benefits to the groundwater basin would be less with Alternative 3. Because Regional San is committed to implementation of **Mitigation Measure HYD-4**, project operation would be coordinated with relevant resource agencies, so as to make appropriate operational changes in recycled water use and timing of discharge reductions. This would decrease potential impacts of reduced discharge to less than significant. Thus because of its benefits to groundwater and surface water both locally and regionally, Alternative 1 (Medium Service Area Alternative) is thus considered environmentally superior under CEQA.

## 4.4 References

Sacramento County Water Agency. 2011. *2010 Zone 41 Urban Water Management Plan*, prepared by Brown and Caldwell

*This page intentionally left blank*

## Chapter 5 Consultation, Coordination, and Compliance

This chapter summarizes public and agency involvement activities undertaken for the proposed Project by Regional San.

### 5.0 Scoping

The CEQA Notice of Preparation (NOP) was sent to the public on January 30, 2014 and included an invitation to the public to attend a scoping meeting on February 18, 2015. The NOP was distributed to a total of 158 recipients, including agencies, organizations, and property owners. The NOP was also made available online on the South County Ag Program website. The release of the NOP, along with postings of these notices on the South County Ag Program website, began the public review period, which ended on March 23. The public scoping meeting for the EIR was held at on February 18, 2015 at the Sacramento County Farm Bureau (8970 Elk Grove Boulevard, Elk Grove). The Scoping Report is included in **Appendix B**.

### 5.1 EIR Distribution

Upon completion of this Draft EIR, Regional San filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin a 45-day public review period, as required by CEQA (Public Resources Code, Section 21161). Concurrent with issuance of the NOC, this Draft EIR was distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR is available for review at the following locations:

Regional San  
10060 Goethe Road  
Sacramento, CA 95827

Franklin Community Library  
10055 Franklin High Road  
Elk Grove, CA 95757

The Draft EIR is also available on the following websites where it may be viewed or downloaded:

<http://www.regionalsan.com/south-county-ag-program>

<https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLER2014-00102>

**Appendix A** presents the distribution list, which identifies the entities receiving a NOA of the Draft EIR. Agencies, organizations, and interested parties, including those not previously contacted, or who did not respond to the NOP, currently have the opportunity to comment on the Draft EIR during the public review period.

## 5.2 Future Public Involvement

In accordance with CEQA public review requirements, the Draft EIR has been circulated for public and agency review and comment for a 45-day review period, starting July 8, 2016. During the public review period, a meeting will be held on July 25, 2016, at Sacramento County Farm Bureau, 8970 Elk Grove Boulevard, Elk Grove, CA to receive comments on the Draft EIR. Comments made at that meeting, along with any written comments received by Regional San, will be addressed in the Final EIR, which will be prepared and circulated in accordance with CEQA requirements. Regional San will hold a public hearing to consider certification of the EIR. If the proposed Project or another alternative is approved, Regional San will make CEQA findings and issue a Notice of Determination.

## 5.3 Compliance with Federal Statutes and Regulations

This section describes the status of compliance with relevant federal laws, executive orders, and policies, and the consultation that has occurred to date or will occur in the near future. The topics are based in part, on the SWRCB's Clean Water State Revolving Fund Program Federal Cross-cutting Environmental Regulations Evaluation Form for Environmental Review and Federal Coordination. The information in this section is intended to allow for applicable entities to conduct environmental review of the EIR to determine compliance with environmental regulations associated with the National Environmental Policy Act. A detailed analysis of the proposed Project as it relates to environmental justice issues is included in *Section 3.15, Environmental Justice*.

### 5.3.1 Federal Endangered Species Act

Section 7 of the Federal Endangered Species Act (FESA) (16 U.S.C. § 1531 et seq.) requires federal agencies, in consultation with and with the assistance of the Secretary of the Interior and or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Under section 7, if a project could result in incidental take of a listed threatened or endangered species, federal agencies must consult with the United States Fish and Wildlife Service (USFWS) and the NOAA's National Marine Fisheries Service (NMFS) to obtain a Biological Opinion (BO). Because this project is expected to be covered by the SSHCP, if the HCP is completed before the start of construction of facilities coverage under the HCP may be used for FESA compliance.

*Section 3.5, Biological Resources*, describes the sensitive species that have the potential to occur in the area, and potential effects to federal endangered and threatened species. Impacts to species

will be avoided through the implementation of Mitigation Measures, or through measures established in the BO. This EIR will support section 7 consultation with USFWS and NMFS, if needed. Federal actions, including funding, that would affect a species federally listed cannot be initiated without first completing the appropriate consultation(s) with USFWS or NMFS and receiving formal notice that the action would not jeopardize the continued existence of the listed species or adversely modify designated critical habitat.

### **5.3.2 National Historic Preservation Act, Section 106**

The purpose of the National Historic Preservation Act (NHPA) (16 U.S. Code § 470) is to protect, preserve, rehabilitate, or restore significant historical, archeological, and cultural resources. Section 106 of the act requires Federal agencies to take into account effects on historic properties. Once an undertaking has been established, the Section 106 review involves a step-by-step procedure described in detail in the implementing regulations (36 CFR Part 800). As described in *Section 3.6, Cultural Resources*, a Cultural Resources Inventory Report was prepared for the proposed Project. This analysis includes a Section 106 evaluation for the proposed Project. Completion of the cultural resources report and concurrence by SHPO would ensure compliance with the NHPA.

### **5.3.3 Clean Air Act**

The U.S. Congress adopted general conformity requirements as part of the Clean Air Act (CAA) Amendments in 1990 and the USEPA implemented those requirements in 1993 (Sec. 176 of the CAA (42 U.S.C. § 7506) and 40 CFR Part 93, Subpart B). General conformity requires that all federal actions “conform” with the State Implementation Plan (SIP) as approved or promulgated by USEPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain the national ambient air quality standards. Before a federal action is taken, it must be evaluated for conformity with the SIP. All “reasonably foreseeable” emissions predicted to result from the action are taken into consideration. These include direct and indirect emissions, and must be identified as to location and quantity. If it is found that the action would create emissions above *de minimis* threshold levels specified in USEPA regulations (40 CFR § 93.153(b)), or if the activity is considered “regionally significant” because its emissions exceed 10 percent of an area’s total emissions, the action cannot proceed unless mitigation measures are specified that would bring the proposed Project into conformance. As described in *Section 3.4, Air Quality and Greenhouse Gas Emissions*, the study area lies within the Sacramento Valley Air Basin. The results of the air quality modeling showed that pollutant emissions would not exceed Federal General Conformity significance thresholds. Thus, the project is in compliance with this Act.

### **5.3.4 Coastal Zone Management Act**

The Coastal Zone Management Act (CZMA) (16 U.S.C. § 1451 *et seq.*), passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration’s (NOAA) Office of Ocean and Coastal Resource Management, is designed to balance completing land and water issues in coastal zones. It also aims to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” Within California, the CZMA is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the California Coastal Commission. No portion of the proposed Project is



within the coastal zone, as the study area is located approximately 80 miles east of the coast. Therefore the CZMA does not apply to the proposed Project.

### **5.3.5 Farmland Protection Policy Act**

The Farmland Protection Policy Act (FPPA) (7 U.S.C. § 4201 *et seq.*) requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The FPPA is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland. As described in *Section 3.2, Land Use and Agriculture*, no long term conversion of farmland to non-agricultural use would occur. There could be temporary impacts to soil resources during construction where activities would occur within agricultural land, but such effects would be mitigated to less-than-significant levels with implementation of **Mitigation Measure AG-1**. Thus, the project would be in compliance with this Act.

### **5.3.6 Executive Order 11988 – Floodplain Management**

Executive Order (EO) 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains. Portions of the pipeline, the pump station at the SRWTP, Stone Lakes NWR, and the potential recharge area would be located within a 100-year flood hazard zone - generally in areas near the Sacramento and Cosumnes Rivers. Above-ground facilities would be limited to air valves along the new pipelines, the new pump station at the SRWTP, and the diluent wells at the potential recharge area. However, these facilities would not increase flood hazards or interfere with floodplain management. Regional San has considered Executive Order 11988 in their development of this EIR and have complied with this order.

### **5.3.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Executive Order 13168**

The Migratory Bird Treaty Act (16 U.S.C. §§ 703-712) and the Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668c) prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 requires that any project with federal involvement address impacts of federal actions on migratory birds. As described in *Section 3.5, Biological Resources*, the proposed Project could have potential to impact Swainson's hawk and White-tailed Kite. However, with **Mitigation Measure BIO-1c**, impacts would be reduced to less than significant. *Section 3.5* also evaluated the impacts on golden eagle and bald eagle and determined that the potential for their occurrence in the Project area is unlikely and potential impacts on these species would be less than significant. Thus, the lead agency would be in compliance with this EO.

### **5.3.8 Executive Order 13112: Invasive Species**

EO 13112 directs all federal agencies to prevent and control introductions of invasive non-native species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. As directed by this EO, a national invasive species management plan guides federal actions to prevent, control, and minimize invasive species and their impacts (NISC 2008). To support implementation of this plan, the U.S. Army Corps of

Engineers (USACE) has recently released a memorandum describing the U.S. Army Corps of Engineers Invasive Species Policy (USACE 2009). This policy includes addressing invasive species effects in impact analysis for civil works projects. Invasive species that warrant removal have been identified in the study area. In areas where revegetation is required, use of native species will be required so as to insure that invasive non-native plant species are not introduced to the area. Discharge of recycled water would not entail any risk of introducing invasive aquatic species to the Sacramento River. The project would thus be in compliance with this EO.

### **5.3.9 Executive Order 11990 – Protection of Wetlands**

The purpose of EO 11990 is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands”. Under EO 11990, federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available. The EO directs federal agencies to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in implementing civil works. As described in *Section 3.5, Biological Resources*, a wetland delineation study was completed for the proposed Project area. The delineation will be submitted to USACE for verification. Mitigation measures have been identified to reduce potentially significant impacts to less than significant levels. These include avoidance of federally protected wetlands to the extent possible through alignment adjustments, and compensatory mitigation for losses of aquatic resources. Thus, the lead agency would be in compliance with EO 11990.

### **5.3.10 Wild and Scenic Rivers Act**

The Wild and Scenic Rivers Act (6 U.S.C. § 1271 *et seq.*) was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value. There are no designated Wild and Scenic Rivers within the study area, nor will any designated rivers be adversely affected by the proposed Project. As such, the Wild and Scenic Rivers Act does not apply to the proposed Project.

### **5.3.11 Safe Drinking Water Act – Source Water Protection**

Section 1424(e) of the Safe Drinking Water Act (42 U.S.C. § 300f *et seq.*) established the USEPA’s Sole Source Aquifer Program. This program protects communities that have no alternative source of water from groundwater contamination from federally-funded projects. Within USEPA’s Region 9, which includes California, there are nine sole source aquifers. None of these sole source aquifers are located within the proposed project study area (USEPA 2014), therefore the Sole Source Aquifer Program does not apply to the proposed Project, and the lead agency is in compliance with Section 1424(e) of the Safe Drinking Water Act.

### **5.3.12 Executive Order on Trails for American in the 21<sup>st</sup> Century**

The EO on Trails for America requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. The proposed Project would not result in any impacts on trails. Thus, no adverse effects on trails would occur and the lead agency is in compliance with this EO.

### **5.3.13 Executive Order 13007 – Indian Sacred Sites**

Sacred sites are defined in EO 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." The proposed Project would not be located on or impact any Federal lands and therefore would not affect any Indian sacred sites.

### **5.3.14 Executive Order 12898 – Environmental Justice**

EO 12898 requires all Federal agencies to conduct programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color or national origin. EO 12898 requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations. *Section 3.15, Environmental Justice* in this Draft EIR has identified and described the proposed Project's potential to result in disproportionately high and adverse human health or environmental effects on minority and low-income populations, as required by this order.

## **5.4 References**

United States Environmental Protection Agency (EPA). 2014. Pacific Southwest, Region 9. 2014. Ground Water – Sole Source Aquifer. Last updated September 25, 2013. Available at: <http://epa.gov/Region9/water/groundwater/ssa.html>

## Chapter 6 EIR Preparers

### 6.0 Regional San (CEQA Lead Agency)

Reviewers:

Jose R. Ramirez, P.E.	Senior Civil Engineer
Bryan Young	Natural Resource Supervisor
Terrie Mitchell	Manager, Legislative & Regulatory Affairs
Yadira Lewis	Assistant Engineer
Kelly Taber	Attorney (Somach Simmons & Dunn)

### 6.1 EIR Preparation Team

Name	Qualifications	Project Role
<b>RMC Water and Environment</b>		
Robin Cort	B.S. Biology, Ph.D. Ecology; over 30 years of experience in water resources planning, environmental documentation and permitting	Manager of EIR/EIS preparation
Dave Richardson	M.S. Civil and Environmental Engineering; Over 34 years of experience in environmental and water resources engineering	Project Manager and Technical Reviewer
Carrie Del Boccio	M.S. Environmental Engineering, B.S., Civil Engineering, Education Abroad; Over 10 years of experience in water planning and treatment design, pipeline design	Project Engineer
Sue Chau	B.A. Environmental Science; over 15 years of experience in water resources including water/wastewater treatment, storage, conveyance, and water supply, CEQA and NEPA compliance and water planning	Technical Reviewer
Susan Yogi	B.A. Urban Studies and Planning; over 14 years of experience in CEQA and NEPA compliance	Review and QA/QC: all sections
Ryan Doyle	B.S. Civil and Environmental Engineering; Over 1 year experience water resources planning and design to groundwater modeling and remediation	GIS
Lindsey Wilcox	B.S. Environmental Resources and Forest Engineering; Over 9 years of experience in water resources planning and permitting	Aesthetics, Energy, Geology, Hazards, Hydrology, Land Use, Noise, Public Services and Utilities, Population and Housing, Environmental Justice, Socioeconomics; Document Formatting
Simon Kobayashi	M.S. Environmental Engineering, B.S. Civil Engineering; Over 1 year experience in air quality engineering and water engineering	Air Quality, Greenhouse Gas Emissions

**EIR**

**Draft**

<b>Name</b>	<b>Qualifications</b>	<b>Project Role</b>
<b>CH2M Hill</b>		
Loren Bloomberg	M.E. Civil Engineering; Over 20 years of experience in traffic engineering and traffic simulation	Transportation/Traffic
Gloriella Cardenas	M.A. Anthropology; Over 12 years of experience conducting archaeological investigations	Cultural Resources
Matt Franck	B.S. Environmental Policy Analysis and Planning; Over 25 years of experience in environmental impact assessment	Technical Reviewer
Clint Helton	M.A. Anthropology; Over 18 years of experience preparing cultural resources studies to meet National Historic Preservation Act, as well as NEPA and CEQA; Requirements with specific expertise in linear utility and transportation projects	Cultural Resources
Robert Leaf	M.S. Civil Engineering; Over 20 years of experience developing a wide range of computer model applications for use in complex hydrologic and operational water resources studies	Water Resources, Biological Resources
Victor Leighton	Over 14 years of experience conducting wetland delineations, rare plant surveys, and fish and wildlife studies	Biological Resources
Kimberly Richardson	B.A. Geography and GIS Systems; Over 8 years of experience in GIS analysis, including database organization and mapping techniques	GIS Support
Jeff Tupen	B.S. Environmental and Systematic Biology; Over 26 years of experience in natural resources management and terrestrial and aquatic species impact assessment	Biological Resources
Lisa Valdez	M.S. City and Regional Planning; Over 18 years of experience managing and preparing transportation and environmental analyses in accordance with NEPA and CEQA	Transportation/Traffic

## Appendix A – Distribution List

*This page intentionally left blank*

<b>FIRST</b>	<b>LAND OWNER</b>	<b>LAND OWNER ADDRESS</b>	<b>LAND OWNER ADDRESS</b>
Joe, Manuel, Tony and Sebastian Frank	Alves	10510 Bruceville Rd	ELK GROVE, CA 95758
	Loretz	10632 Franklin Blvd	ELK GROVE, CA 95757
	Griffith Family Trust	10646 Rau Rd	ELK GROVE, CA 95757
(Patricia, Alan, Howard, Michael)	Wackman Revocable Trust/Etal	10686 W Stockton Blvd	ELK GROVE, CA 95757
Ruben, Leslie, and Norberto	Valim	10710 Rau Rd	ELK GROVE, CA 95757
Betty A.	Wilkinson	10731 Rau Rd	ELK GROVE, CA 95757
Thomas J.	Darrington	10731 Rau Rd	ELK GROVE, CA 95757
(Joe & Mary)	Mendes Family Trust	10764 Rau Rd	ELK GROVE, CA 95757
Diane & Manuel	Carmo	10775 Franklin Blvd	ELK GROVE, CA 95757
Walter William & Ricky Dean	Were	10821 Rau Rd	ELK GROVE, CA 95757
	Machado Living Trust	10837 Franklin Blvd	ELK GROVE, CA 95757
(Gerald & Eleanor A.)	Narwold Revocable Trust	10854 Rau Rd	ELK GROVE, CA 95757
	Wilkinson Family Trust	10861 Bruceville Rd	ELK GROVE, CA 95757
Patricia, Eric, and Frank	Loretz	10884 Franklin Blvd	ELK GROVE, CA 95757
	Gabriella S Lewis Revocable Living Trust	10900 W Stockton Bl	ELK GROVE, CA 95758
	Long Beach Construction Co	10945 South St 301	CERRITOS CA 90701
Donna E.	Clark	110 46Th St	SACRAMENTO, CA 95819
Martin L.	Feletto	110 46Th St	SACRAMENTO, CA 95819
Barbara Evelyn	Morse	11040 Bruceville Rd	ELK GROVE, CA 95757
Kevin, Tim and Kristi	Morse	11051 Bruceville Rd	ELK GROVE, CA 95757
Linda & Anthony	Van Steyn	11146 Ed Rau Rd	ELK GROVE, CA 95757
Ilene & Wallace	Giesser Bypass Trust	11281 Bruceville Rd	ELK GROVE, CA 95757
	Mccormack Thomas/Etal	113 Main St	RIO VISTA CA 94571
(Teri and Larry)	Lawrence 2004 Revocable Trust	11318 Franklin Bl	ELK GROVE, CA 95758
	Larrybell/Son Dairy	11322 Franklin Bl	ELK GROVE, CA 95758
(Dolores, Gabina and Balbina)	Lawrence 1989 Living Trust	11322 Franklin Rd	ELK GROVE, CA 95757
(Edward and Luis)	Pimentel Trust	11375 Bruceville Rd	ELK GROVE, CA 95757
(Helena and Jose)	Oliveira	11396 Carroll Rd	ELK GROVE, CA 95757
	Da Silva Family Trust	11426 Bruceville Rd	ELK GROVE, CA 95757
	Tollenaar 1999 Trust	11450 Carroll Rd	ELK GROVE, CA 95757
George	Simunich 1990 Trust	11479 Fogg Rd	ELK GROVE, CA 95757
George	Popescu	11480 Fogg Rd	ELK GROVE, CA 95757
(Robert and Dorothy)	Yuhre Revocable Living Trust	11480 Franklin Blvd	ELK GROVE, CA 95757
Greggory Loren	Leonard	11520 Bruceville Rd	ELK GROVE, CA 95757
Arthur & Rachel	Fingerle	11525 Bruceville Rd	ELK GROVE, CA 95757
Elisabeth and Thomas	Spencer	11555 Hein Rd	ELK GROVE, CA 95757
Irma Jean	Backer Revocable Trust	11631 Bruceville Rd	ELK GROVE, CA 95757
	Duarte Family Trust	11711 Bruceville Rd	ELK GROVE, CA 95757
	Machado Living Trust	11735 Carroll Rd	ELK GROVE, CA 95757
Daniel and Darla Kneppel	Da Silva	11770 Franklin Blvd	ELK GROVE, CA 95757
	Ragsdale Family Trust	11800 Franklin Bl	ELK GROVE, CA 95758
(Ronald & Emily)	Davis Revocable Trust	11836 Franklin Blvd	ELK GROVE, CA 95757
	Schmidt 2002 Family Trust	11948 Franklin Blvd	ELK GROVE, CA 95757
Joe and Leslie	Simoes	12055 Bruceville Rd	ELK GROVE, CA 95759
	Simoes Farms	12055 Bruceville Rd	ELK GROVE, CA 95757
Elias and Rosa	Silveira	12200 Bruceville Rd	ELK GROVE, CA 95757
(Annika & Thomas)	Anderson Living Trust	12269 Bruceville Rd	ELK GROVE, CA 95757
James E.	Hardesty	12606 Hardesty Ln	GALT, CA 95632
(Ben & Gladys)	Howard Family Revocable Trust	12675 Bruceville Rd	ELK GROVE, CA 95757
Frank and Grace	Machado	12698 Bruceville Rd	ELK GROVE, CA 95758
Case and Christine	Van Steyn	13039 Pellandini Rd	GALT, CA 95632
Kathy J.	Wilder	1340 33Rd St	SACRAMENTO, CA 95816
Jesse	Roserman	13501 Frankline Blvd	GALT, CA 95632
	Lingenfelter Family Trust	14 Yuba River Cr	SACRAMENTO, CA 95831
	Western Pacific Railroad Co	1400 Douglas St 1640	OMAHA , NE 68179
L. C.	Luh	1575 Pasqualito Dr	SAN MARINO CA 91108
Bart and Beatrix Treiterer	McDermott	1624 Hood-Franklin Rd	ELK GROVE, CA 95757
	Delta Breeze Partners Llc	1776 2Nd St	NAPA CA 94559
Frank G.	Stathos	1792 Tribute Rd 450	SACRAMENTO, CA 95815
Pablo Garza, Maurice Hall and Leo Wintermitz		2015 J Street Suite 103	SACRAMENTO, CA 95811
	Elk GROVE, Farms Llc	2150 Professional Dr 150	ROSEVILLE CA 95661
	United States Of America	2233 Watt Av 375	SACRAMENTO, CA 95825
	Premiere Partners Iii Limited Partnership	2407 S Neil St	CHAMPAIGN IL 61820
George	Popescu	2648 Watt Av 103	SACRAMENTO, CA 95821
Delmar & Juanita	Cockrill	2648 Watt Av 103	SACRAMENTO, CA 95821
Philip	Carter	2729 Prospect Park Dr Suite 220	Rancho Cordova, CA 95670
Beverly and Darrell	Schmidt	2909 Korn Rd	ELK GROVE, CA 95757
John G.	Belcher	3069 Alamo Dr	VACAVILLE, CA 95687
Jim	Well	3074 Gold Canal Drive	Rancho Cordova, CA 95670
Carleen, John and Celia	Greber	3206 Hood-Franklin Rd	ELK GROVE, CA 95624
Chac Sang & Lieng Tran & Phat Dong Tham		3221 E Pintail Way	ELK GROVE, CA 95757
	Albertini Family Trust/Etal	3800 Point Pleasant Rd	ELK GROVE, CA 95757
David and Dorothy	Tucker	3877 E Woodward Av	MANTECA CA 95337
(Harry J.)	Kneppel Family Trust	4001 Lambert Rd	ELK GROVE, CA 95757
Liz	Bellas	4040 Bradshaw Rd	SACRAMENTO, CA 95827
George	Popescu	4125 Levendi Ln	SACRAMENTO, CA 95821



	Avis Family Trust	4400 Point Pleasant Rd	ELK GROVE, CA 95757
	De Wit Farms Llc	44718 S El Macero Dr	EL MACERO, CA 95618
Arlene	Hein 1994 Revocable Trust	4610 Pt Pleasant Rd	ELK GROVE, CA 95758
John & Regina	Bozich	495 Bret Harte Rd	SACRAMENTO, CA 95864
Ge and Pai Her	Xiong	5200 Pt Pleasant Rd	ELK GROVE, CA 95758
Jesse L.	Beeson	5411 Lambert Rd	ELK GROVE, CA 95758
Mike	Eaton	555 Capitol Mall Suite 675	SACRAMENTO, CA 95814
David and Julia	Martin	5601 Lambert Rd	ELK GROVE, CA 95757
	Martin Revocable Living Trust	5609 Lambert Rd	ELK GROVE, CA 95757
Joe & Joanne	Herren	5751 Pt Pleasant Rd	ELK GROVE, CA 95758
Lamoin V.	Schulz	5800 Pt Pleasant Rd	ELK GROVE, CA 95758
Dale W.	Sassman	5800 Pt Pleasant Rd	ELK GROVE, CA 95758
	Weaver Family Trust	5801 Lambert Rd	ELK GROVE, CA 95757
Jose & Manuela	Corria	5955 Pt Pleasant Rd	ELK GROVE, CA 95758
Evelyn J.	Gentner	5970 Pt Pleasant Rd	ELK GROVE, CA 95758
Joseph M.	Rau	6000 Eschinger Rd	ELK GROVE, CA 95757
Cindy L.	Rau	6000 Eschinger Rd	ELK GROVE, CA 95757
	White Family Living Trust	6001 Lambert Rd	ELK GROVE, CA 95757
Marina & Ilya Oselsky	Oselskaya	6101 Lambert Rd	ELK GROVE, CA 95757
	Jacobs Family Trust	6200 Lambert Rd	ELK GROVE, CA 95757
Harbans Ujagar, Joginder and Kuljit Bhutta		6201 Ventura St	SACRAMENTO, CA 95822
Mary and John	Mello Family Trust	6225 Eschinger Rd	ELK GROVE, CA 95757
Frank and Grace	Machado	6241 E Catlett Rd	LINCOLN CA 95648
Soo H and Ben Au Yeung	Tse	6311 Point Pleasant Rd	ELK GROVE, CA 95757
	Unzueta Revocable Living Trust	6323 Point Pleasant Rd	ELK GROVE, CA 95758
Edward & Ethel	Keema Family Trust	6401 Eschinger Rd	ELK GROVE, CA 95757
Jennie and Richard	Hardesty	6594 Pt Pleasant Rd	ELK GROVE, CA 95758
Charles & Susan Elizabeth	Baker	6596 Point Pleasant Rd	ELK GROVE, CA 95757
	Mathew 2001 Family Trust	6633 Palm Dr	CARMICHAEL, CA 95608
John R.	Didion	6811 Pt Pleasant Rd	ELK GROVE, CA 95758
(Thomas and Lila)	Backer Trust	7024 Point Pleasant Rd	ELK GROVE, CA 95757
	Smith Living Trust	7037 Columbine Dr	CARLSBAD, CA 92009
	Lila Backer Trust	7200 Point Pleasant Rd	ELK GROVE, CA 95758
	Piccolo Family Trust	7227 Pt Pleasant Rd	ELK GROVE, CA 95758
	Simoes Family Trust	7290 Lambert Rd	ELK GROVE, CA 95757
Catherine Nancy & Michael Gerard	Hospenthal	7624 Lambert Sta Rd	ELK GROVE, CA 95758
Binh and Thuy	Nguyen	7701 Elsie Ave	SACRAMENTO, CA 95828
	Kneppel Family Trust A & B	7816 Camp Rd	ELK GROVE, CA 95757
Karen	Buhr	801 K St. Suite 1415	SACRAMENTO, CA 95814
Judy & John	Semas Family Trust	8123 Camp Rd	ELK GROVE, CA 95757
	Simoes Bros	815 Corvey Cir	GALT, CA 95632
Laura & Michael	Johnson	8180 Twin Cities Rd	GALT, CA 95632
Theresa J.	Van Santen Trust	8225 Camp Rd	ELK GROVE, CA 95757
Hedy	Rau Family Trust	8250 Kammerer Rd	ELK GROVE, CA 95757
Randy & Cheryle	Johnson	8310 Lambert Rd	ELK GROVE, CA 95757
Audrey Pauline & Alfred Victor Johnson		8310 Lambert Rd	ELK GROVE, CA 95757
(Betty & Paul)	Hardesty Revocable Trust	8320 Camp Rd	ELK GROVE, CA 95757
Chris and James	Anderson	8327 Twin Cities Rd	GALT, CA 95632
Lisa T. & William K.	Chan	8372 Trimmer Wy	SACRAMENTO, CA 95828
Patrick, Taro Echiburu and Gerald Pd	Blacklock	8401 Laguna Palms Way	ELK GROVE, CA 95758
Elizabeth & James E.	Grundman	8430 Eschinger Rd	ELK GROVE, CA 95757
(C. Eric & Roberta A.)	Johnson Revocable Living Trust	8452 Lambert Rd	ELK GROVE, CA 95757
	Dumas Ventures	9307 Woodward Lake Ct	OAKDALE, CA 95361
Christian and Angela	Andersen	9500 Snowy Springs Cir	ELK GROVE, CA 95758
	Millers 2000 Family Trust	9501 Mccoy Av	SACRAMENTO, CA 95829
	Wagemann Living Trust	9656 Gage St	ELK GROVE, CA 95624
	Morse Family Trust	9681 Melrose Av	ELK GROVE, CA 95624
Victor and Patricia	Guzman	9766 Waterman Rd L3	ELK GROVE, CA 95624
	Reynen/Bardis (Sweet) LP	9848 Business Park Dr	SACRAMENTO, CA 95827
	Reynen/Bardis Communities Inc	9848 Business Park Dr H	SACRAMENTO, CA 95827
Satpal and Vidya	Shergill	P O Bx 250	ELK GROVE, CA 95759
	Acres Of Orchids Llc/Etal	P O Bx 70	INDEPENDENCE, OR 97351
	State Of California	P O Bx 911	MARYSVILLE, CA 95901
	Katz Family Trust	P O Bx 912	PORT ANGELES, WA 98362
	M/T Bright Revocable Trust	Po Box 154	LINCOLN, CA 95648
John Colin Campbell and Jean Campbell-Roman		Po Box 194490	SAN FRANCISCO, CA 94119
	Jeffery J Raulien Revocable Trust	Po Box 2131	ELK GROVE, CA 95759
William and Carol	Allen	Po Box 2134	ELK GROVE, CA 95759
Anne, Michael and Debora	Goehring	Po Box 2323	ELK GROVE, CA 95759
Debora D.	Goehring	Po Box 2323	ELK GROVE, CA 95759
	Unique Family Housing Llc	Po Box 2758	ELK GROVE, CA 95759
Susanne and David Scheuner	Rappillus	Po Box 581328	ELK GROVE, CA 95758

Stone Lakes NWR	Bart	McDermott	<a href="mailto:bart_mcdermott@fws.gov">bart_mcdermott@fws.gov</a>	Refuge Manager
SFCWA	Byron	Buck	<a href="mailto:BBuck@sfcwa.org">BBuck@sfcwa.org</a>	Executive Director
Sacramento, City of	Bill Busath		<a href="mailto:bbusath@cityofsacramento.org">bbusath@cityofsacramento.org</a>	
West Sacramento, City of	Bill Kristoff		<a href="mailto:billk@cityofwestsacramento.org">billk@cityofwestsacramento.org</a>	
CA Urban Water Agencies	Cindy	Paulson	<a href="mailto:cwuaexec@sbcglobal.net">cwuaexec@sbcglobal.net</a>	Executive Director
Placer County Water Agency	David Breninger		<a href="mailto:dbreninger@pcwa.net">dbreninger@pcwa.net</a>	
Woodland-Davis Clean Water Agency	Dennis Diemer		<a href="mailto:Ddiemer@WDCWA.com">Ddiemer@WDCWA.com</a>	
Del Paso Manor Water District	Debra Sedwick		<a href="mailto:debrasedwick@sbcglobal.net">debrasedwick@sbcglobal.net</a>	
Rancho Murieta Community Services District	Darlene Gillum		<a href="mailto:dgillum@rmcsd.com">dgillum@rmcsd.com</a>	
CA Fish and Wildlife	Charlton	Bonham	<a href="mailto:Director@wildlife.ca.gov">Director@wildlife.ca.gov</a>	Director
Lincoln, City of	Dane Schilling		<a href="mailto:dschilling@ci.lincoln.ca.us">dschilling@ci.lincoln.ca.us</a>	
Sac Suburban Water District	Robert	Roscoe	<a href="mailto:feedback@sswd.org">feedback@sswd.org</a>	General Manager
Dept. Water Resources	Mark	Cowin	<a href="mailto:Janiene.friend@water.ca.gov">Janiene.friend@water.ca.gov</a>	Director
El Dorado Irrigation District	Jim Abercrombie		<a href="mailto:jmabercrombie@eid.org">jmabercrombie@eid.org</a>	
Westlands Water District	Jason	Peltier	<a href="mailto:jpeltier@westlandswater.org">jpeltier@westlandswater.org</a>	Chief Deputy General Manager
Regional Water Authority	John	Woodling	<a href="mailto:jwoodling@rwah2o.org">jwoodling@rwah2o.org</a>	Executive Director
Sacramento Regional Parks	Jeff	Leatherman	<a href="mailto:leathermani@saccounty.net">leathermani@saccounty.net</a>	Director
Rio Linda / Elverta Community Water District	Mary Henrici		<a href="mailto:mhenrici@rlcwd.com">mhenrici@rlcwd.com</a>	
Elk Grove Water District	Mark Madison		<a href="mailto:mmadison@egwd.org">mmadison@egwd.org</a>	
Folsom, City of	Marcus Yasutake		<a href="mailto:myasutake@folsom.ca.us">myasutake@folsom.ca.us</a>	
Delta Stewardship Council	Randy	Fiorini	<a href="mailto:pat.rogers@deltacouncil.ca.gov">pat.rogers@deltacouncil.ca.gov</a>	Chair
CVRWQCB	Pamela	Creedon	<a href="mailto:pcreedon@waterboards.ca.gov">pcreedon@waterboards.ca.gov</a>	Executive Officer
Sacramento County Water Agency	Michael Peterson		<a href="mailto:petersonmi@SacCounty.net">petersonmi@SacCounty.net</a>	
Golden State Water Company	Paul Schubert		<a href="mailto:pschubert@gswater.com">pschubert@gswater.com</a>	
Citrus Heights Water District	Bob Churchill		<a href="mailto:rchurch@chwd.org">rchurch@chwd.org</a>	
Metropolitan Water District	Roger	Patterson	<a href="mailto:rpatterson@mwah2o.com">rpatterson@mwah2o.com</a>	Assistant General Manager
Roseville, City of	Rich Plecker		<a href="mailto:rplecker@roseville.ca.us">rplecker@roseville.ca.us</a>	
Sacramento Suburban Water District	Rob Roscoe		<a href="mailto:rroscoe@sswd.org">rroscoe@sswd.org</a>	
San Juan Water District	Shauna Lorance		<a href="mailto:SLorance@sjwd.org">SLorance@sjwd.org</a>	
California American Water	Stephen "Audie" Foster		<a href="mailto:Stephen.Foster@amwater.com">Stephen.Foster@amwater.com</a>	
Carmichael Water District	Steve Nugent		<a href="mailto:steve@carmichaelwd.org">steve@carmichaelwd.org</a>	
Orange Vale Water Company	Sharon Wilcox		<a href="mailto:swilcox@orangevalewater.com">swilcox@orangevalewater.com</a>	
State Water Contractors	Terry	Erlwine	<a href="mailto:terlwine@swc.org">terlwine@swc.org</a>	General Manager
Fair Oaks Water District	Tom Gray		<a href="mailto:tgray@fowd.com">tgray@fowd.com</a>	
State Water Board	Thomas	Howard	<a href="mailto:thomas.howard@waterboards.ca.gov">thomas.howard@waterboards.ca.gov</a>	Executive Director
Regional San	Bryan	Young	<a href="mailto:youngb@sacsewer.com">youngb@sacsewer.com</a>	Natural Resource Supervisor

*This page intentionally left blank*

## Appendix B – Scoping Report

*This page intentionally left blank*

# Memorandum



---

## South Sacramento County Agriculture & Habitat Lands Recycled Water Program

**Subject:** DRAFT Scoping Report  
**Prepared For:** Regional San Staff  
**Prepared by:** Christy Nelson/Sue Chau  
**Reviewed by:** Dave Richardson/Robin Cort  
**Date:** December 14, 2015

---

This Scoping Report has been prepared to summarize the scoping process completed for the South Sacramento County Agriculture & Habitat Lands Recycled Water Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS). It provides an overview of the scoping process completed for both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) and summarizes the comments received during scoping.

### 1 CEQA Scoping Process

The Sacramento Regional County Sanitation District (Regional San), the CEQA Lead Agency, circulated a Notice of Preparation (NOP) on February 19, 2015. The NOP began a 30-day public review period, which ended March 23, 2015. The NOP was mailed to the State Clearinghouse, responsible and trustee agencies, organizations and the public who are interested in the project, including landowners who will be affected by the project. Attachment A to this report includes the NOP

Regional San held a publicly advertised scoping meeting on February 18, 2015 at the location below:

Sacramento County Farm Bureau  
8970 Elk Grove Boulevard, Elk Grove, CA 95624

The information meeting was held in an open house format, and comment cards were provided for those attending the meeting to facilitate submittal of written comments. Because of the format of the meeting there were no verbal comments.

During the scoping period, Regional San received eight comment letters.

### 2 NEPA Scoping Process

In accordance with 40 CFR 1508.22, a Notice of Intent (NOI) was published by Reclamation in the Federal Register on October 30, 2015. During the NOI public review period, which ended on November 30, 2015 Reclamation received one written comment letter.

### 3 Comment Summary

A total of eight comment submittals were received. Comment submittals are included in Attachment B. Table 1 provides a summary of the comments received during the public scoping process, and identifies the commenter, affiliation, date and comment format, summary of comments, and disposition of each comment.

Table 1: NOP/NOI Scoping Summary

Committer, Affiliation	Format/Date	Comments	Response
<p>California Department of Fish and Wildlife</p>	<p>Letter, March 9, 2015</p>	<ul style="list-style-type: none"> <li>The Project description in the EIR should include the whole action and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as access roads and staging areas</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the whole of the proposed action and disclose potential impacts of constructing and operating the project.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIR should include a range of alternatives that consider different water discharge levels in the Sacramento River and water delivers.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will evaluate a range of reasonable alternatives, including the Small Service Area Alternative (Alternative 3) that would reduce the amount of deliveries to customers and thereby result in comparatively more treated wastewater discharge remaining in Sacramento River compared to the proposed Project. The EIR/EIS will also evaluate a No Project Alternative in which recycled water would not be provided to the South County customers or the Stone Lakes Refuge and treated wastewater would continue to discharged into the Sacramento River.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIR shall include a complete assessment of the existing biological conditions (environmental baseline) within the Project area. It is recommended that Regional San consult the California Natural Diversity Database and previous studies performed in the area, and conduct species-specific surveys.</li> </ul>	<ul style="list-style-type: none"> <li>The Biological Resources section of the EIR/EIS will include incorporate the results of a database search and previous studies as environmental setting, and evaluate the impacts of implementing the proposed Project on biological resources. Surveys will be conducted for the project-level components only. As less detail is available for the Program-level components, surveys will not be conducted for program-level components. The EIR/EIS will also analyze the short-term, long-term and cumulative impacts of the proposed Project implementation on biological resources, and identify thresholds of significance and mitigation measures to reduce potential effects</li> </ul>
		<ul style="list-style-type: none"> <li>The EIR shall conduct a complete impacts analysis, considering short-term, long-term, permanent, and cumulative impacts. In addition, the EIR shall define the threshold of significance and identify appropriate mitigation measures.</li> </ul>	

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li data-bbox="594 266 1226 402">• CDFW is concerned that the proposed reduction of discharge may result in direct, indirect, and cumulative adverse impacts to resources within Sacramento River.</li> <li data-bbox="594 402 1226 539">• CDFW recommends a complete assessment of the instream flow-related needs of the Sacramento River (aquatic, riparian and terrestrial habitats)</li> <li data-bbox="594 539 1226 1084">• CDFW recommends the EIR cover the following: project’s impact on fish and wildlife and their habitat; an assessment of the impacts of the reduced discharge on channel forming flows; and identification of flows necessary to maintain the health and perpetuation of aquatic resources and a hydrologic study to determine if the production of the Sacramento watershed is sufficient to reduce discharge at current and projected rates of flow without having direct and/or cumulative significant adverse effects; and proposal for the protection of fisheries in the Sacramento River that includes required minimum instream flows in the Sacramento River measured at or above the point of discharge for reduced discharges to occur.</li> <li data-bbox="594 1084 1226 1354">• The EIR should include an impact analysis to anadromous fisheries populations caused by the discharge of water to the Stone Lakes NWR. CDFW recommends that during dry years water discharge flows from Stone Lakes into Snodgrass slough are maintained as natural as possible.</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1226 266 1902 1084">• The Hydrology/Water Quality and Biological Resources sections of the EIR/EIS will evaluate the Project’s effects of reduced wastewater discharge into the Sacramento River using the best-available tools (CalSim II modeling). Based on modeling results, we will assess associated effects on channel forming flows and biological resources (including fisheries) and identify mitigation measures that are proportionate to the project’s effect. No additional hydrologic study of the Sacramento Watershed production is contemplated above and beyond the hydrologic analysis afforded by CalSim II, which is a state-of-the-art model for analyzing flows and related hydrology of the Sacramento River and Sacramento-San Joaquin Bay Delta.</li> <li data-bbox="1226 1084 1902 1354">• The Biological Resources section of the EIR/EIS will evaluate the effects of delivering recycled water on biological resources within Stone Lakes Refuge. Regional San anticipates that the NWR will continue to operated during dry years as it is currently, without regard to whether recycled water complements current surface water from Snodgrass Slough.</li> </ul>



South Sacramento County Agriculture & Habitat Lands Recycled Water Project

Scoping Report

Committer, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>• CDFW recommends that Regional San provides some flexibility or maintains the ability to release water into the Sacramento River during drought periods.</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed Project is intended to provide a sustainable water supply to its customers and is not intended to vary the water delivered and discharged into Sacramento River during different hydrologic periods. The EIR/EIS will include a discussion of alternatives that vary the recycled water delivered to customers and wastewater that is discharged into Sacramento River on a consistent annual basis (such as the Small Project and No Project vs. the Medium-Plus Project).</li> </ul>
		<ul style="list-style-type: none"> <li>• Treated water that is supplied to Cosumnes River may alter the natural hydrograph enough to alter natural river temperatures, which could affect native residential fisheries or rearing salmonids in the lower portion of the river. CDFW recommends a study to evaluate the Project's impacts on river temperature..</li> </ul>	<ul style="list-style-type: none"> <li>• While the proposed Project would increase base flow in the Cosumnes through the reduction in groundwater pumping, it would not directly discharge recycled water into the Cosumnes River. Thus, this project is not expected to alter natural river temperatures. Such a study will not be conducted. The EIR/EIS will consider the effects of temperature changes from reduction in flows in the Sacramento River and the effect on aquatic resources.</li> </ul>
		<ul style="list-style-type: none"> <li>• CDFW would need to issue an Incidental Take Permit (ITP) if the project would result in take of any species listed by the State as threatened or endangered and encourages early coordination regarding appropriate mitigation measures with CDFW and USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will identify the potential need for an ITP from CDFW.</li> </ul>
		<ul style="list-style-type: none"> <li>• The EIR shall identify all the areas under CDFW's jurisdiction, identify potential impacts to these resources, and provide mitigation measures as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• The Biological Resources section of the EIR/EIS will identify biological resources within the project area and analyze the project's impacts on those resources.</li> </ul>

**South Sacramento County Agriculture & Habitat Lands Recycled Water Project**

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>• If the Project will conflict with the proposed South Sacramento Habitat Conservation Plan (SSHCP), the EIR should provide a complete analysis of how the Project will be consistent with all policies, procedures, and goals of the SSHCP</li> <li>• The EIR shall disclose all potential impacts on birds protected by the Migratory Bird Treaty Act and identify appropriate avoidance or minimization/mitigation measures to avoid take.</li> </ul>	<p>The proposed Project is listed in the SHHCP already. The EIR/EIS will identify the timing of how this project will be covered by the SHHCP following our meeting with the County.</p> <ul style="list-style-type: none"> <li>• The Biological Resources section of the EIR/EIS will address the proposed Project’s impacts on protected birds.</li> </ul>
Central Valley Regional Water Quality Control Board	Letter, March 13, 2015	<ul style="list-style-type: none"> <li>• Projects that disturb one or more acres of soil are subject to Construction Storm Water General Permit</li> <li>• New development must reduce pollutants and runoff flows using Best Management Practices in accordance with MS4 Permits</li> <li>• Storm water discharges from industrial sites must comply with the Industrial Storm Water General Permit</li> <li>• If the project will involve discharge of fill material in navigable waters or wetlands, a Section 404 Permit would be needed</li> <li>• If a 404 Permit is required then a Water Quality Certification would be needed from the Regional Board</li> </ul>	<ul style="list-style-type: none"> <li>• The Hydrology and Water Quality section EIR/EIS will recognize the need of the proposed Project to apply for coverage under the Construction Storm Water General Permit.</li> <li>• The proposed pump station at the SRWTP is the only above-ground structure contemplated for development by the Project. Any runoff generated by the pump station would be captured by the existing storm drain system, which conveys all stormwater at the SRWTP to the treatment facilities prior to discharge.</li> <li>• Regional San captures all storm water at the SRWTP in their existing storm drain system, which conveys all stormwater at the SRWTP to the treatment facilities prior to discharge.</li> <li>• The EIR/EIS will recognize the need for the Project to acquire a Section 404 Permit.</li> <li>• The EIR/EIS will recognize the need for a Water Quality Certification from the Regional Board if a Section 404 Permit is needed.</li> </ul>

**South Sacramento County Agriculture & Habitat Lands Recycled Water Project**

Scoping Report

<b>Committer, Affiliation</b>	<b>Format/Date</b>	<b>Comments</b>	<b>Response</b>
		<ul style="list-style-type: none"> <li>• If there is fill in a non-jurisdictional water of the state the project would require Waste Discharge Requirements (WDR)</li> </ul>	<ul style="list-style-type: none"> <li>• See above.</li> </ul>
		<ul style="list-style-type: none"> <li>• If the property will be used for commercial irrigated agriculture, regulatory cover under the Irrigated Lands Regulatory Program would be needed</li> </ul>	<ul style="list-style-type: none"> <li>• The project would provide water to existing landowners and would not change the type of irrigated agriculture. As such, it will not need to obtain regulatory coverage under the Irrigated Lands Regulatory Program over and above coverage already provided currently.</li> </ul>
		<ul style="list-style-type: none"> <li>• Discharge of water from construction dewatering would need to be covered under the Low or Limited Threat General NPDES Permit</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will recognize the need for coverage under the General Order for Dewatering and Other Low Threat Discharges to Surface Water.</li> </ul>
City of Elk Grove	Letter, March 20, 2015	<ul style="list-style-type: none"> <li>• Recommend the Project should be modified to provide an opportunity to connect to existing purple pipe infrastructure south of Elk Grove Boulevard (at Whitelock Parkway and Franklin Boulevard).</li> </ul>	<ul style="list-style-type: none"> <li>• Regional San has modified the project to include a connection to serve the Laguna Phase II area at Whitelock Parkway and Franklin Boulevard.</li> </ul>
California State Transportation Agency (Caltrans)	Letter, March 23, 2015	<ul style="list-style-type: none"> <li>• Work or traffic control that encroaches onto the State Right of Way (ROW) requires an encroachment permit that is issued by Caltrans</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will recognize the need for an encroachment permit if work would occur within State ROW.</li> </ul>
		<ul style="list-style-type: none"> <li>• Transmission mains or distribution mains must not be located within State ROW at I-5. Distribution mains, if placed under I-5, must be directionally drilled, and must be encased within a larger conduit. Pits must be located outside State ROW at I-5</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will show the location of the proposed pipelines. A distribution pipeline to the Stone Lakes National Wildlife Refuge has been identified. The EIR/EIS will acknowledge that crossing under I-5 would require trenchless construction techniques and that all pits must be located outside the State ROW.</li> </ul>
		<ul style="list-style-type: none"> <li>• Spoils must not be placed within State ROW and may not impede or cause the redirection of drainage flows from the highway</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will acknowledge that spoil must not be located such that it would impede or cause redirection of drainage flows from the highway.</li> </ul>

**South Sacramento County Agriculture & Habitat Lands Recycled Water Project**

Scoping Report

Committer, Affiliation	Format/Date	Comments	Response
Sacramento County Environmental Management Department (EMD)	Letter March 23, 2015	<ul style="list-style-type: none"> <li>If the Project involves structures within 1,000 feet of the closed landfill that accepted grit and screenings from SRCSD, then the structures must meet the construction standards of 27 CCR 21190 (g). Provide EMD with the distance of the WRF from the closed landfill and describe how the requirements of 27 CCR 21190 will be met.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will address the proposed Project’s impact to the closed landfill.</li> </ul>
		<ul style="list-style-type: none"> <li>How will the Project address safety of the public health and environment including plan review, permitting and inspection procedures for the potential Project customers? How will future land use changes be addressed?</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will address public health and safety from project implementation. The analysis would not include details on plan review, permitting and inspections, but would require compliance with applicable Water Reclamation Requirements, which would ensure protection of public health consistent with recycled water use. Future land use changes will not need to be addressed because it is expected the water would be used for existing urban and agricultural irrigation, and would not induce conversion of land use.</li> </ul>
		<ul style="list-style-type: none"> <li>How will hazardous material storage and/or hazardous waste generation be addressed?</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will address hazards and hazardous materials associated with project implementation.</li> </ul>
		<ul style="list-style-type: none"> <li>Include the following language in the draft EIR: “If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Since construction of the main pipeline is anticipated to last 13 months the construction exemption outlined in Sacramento County Code 6.96.095 may not apply.”</li> </ul>	<ul style="list-style-type: none"> <li>The Hazards and Hazardous Materials section of the EIR/EIS will recognize the requirements under Sacramento County Code 6.96.095. The proposed Project is not anticipated to store or generate reportable quantities of hazardous waste.</li> </ul>

South Sacramento County Agriculture & Habitat Lands Recycled Water Project

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>For permanent structures add the following: “If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any appurtenant facilities along the pipeline, a separate hazardous materials and/or hazardous waste permit may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations.”</li> </ul>	<ul style="list-style-type: none"> <li>As the proposed Project would not require the storage, use, or handling of hazardous materials for permanent facilities, the suggested text will not be incorporated into the EIR/EIS.</li> </ul>
		<ul style="list-style-type: none"> <li>The construction of new wells is permitted through EMD’s Well Program.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will recognize the need for a Well Permit from Sacramento County.</li> </ul>
Sacramento County Water Agency	Letter March 23, 2015	<ul style="list-style-type: none"> <li>The Project Background statement and EIR should correct the following statement: The Project “overlies a portion of the Central Basin”</li> </ul>	<ul style="list-style-type: none"> <li>The text will be clarified in the EIR/EIS.</li> </ul>
		<ul style="list-style-type: none"> <li>The NOP indicates that recycled water will be available during all hydrologic years. If there are any other additional operational constraints or variations the EIR should reflect this.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the operations of the project. Recycled water will be available during all hydrologic years as it is a sustainable, alternative supply. No other operational constraints are proposed aside from the provision of up to 2/3 maximum month demand. The recharge pond will have its own operations, in terms of the timing of recharge vs. use for crop production.</li> </ul>
		<ul style="list-style-type: none"> <li>Update the EIR to describe in more detail what “regional water needs” means.</li> </ul>	<ul style="list-style-type: none"> <li>The project is focused on water supply reliability (i.e. improving groundwater conditions), rather than meeting an identified water need.</li> </ul>
		<ul style="list-style-type: none"> <li>Update EIR to indicate what other sources of diluent water are available proximate to the proposed location of the recharge area and identify the volume of water necessary to meet state requirements for dilution.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the volume of water needed to meet state requirements for dilution for the proposed recharge pond. The EIR/EIS is not anticipated to evaluate other sources of diluent water, however, the Facilities Planning effort may identify alternative sources, building on the 2014 Feasibility Study prepared for this project</li> </ul>

**South Sacramento County Agriculture & Habitat Lands Recycled Water Project**

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>The EIR should identify recycled water delivery to the Phase 2 portion of SCWA’s recycled water pilot project as a component of the Project.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will address this project element.</li> </ul>
The Nature Conservancy	Letter March 23, 2015	<ul style="list-style-type: none"> <li>Explore and potentially mitigate the Project from driving conversion of wildlife friendly crops to permanent crops (vineyards, walnuts).</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will evaluate the impacts of the proposed Project on agriculture. Groundwater has historically been reliable; recycled water is a reliable and sustainable supply that is expected to be available even during droughts. While it is the individual landowner who decides the types of crops to grow, we do not expect that the proposed Project would change the crop types or patterns.</li> </ul>
		<ul style="list-style-type: none"> <li>Requests consideration of alternative designs of the recharge basin area that may provide water management and habitat benefits. Regional San should consider the following in the analysis:                             <ul style="list-style-type: none"> <li>ownership and maintenance of the recharge basin and</li> <li>effects and feasibility of blending with diluent water.</li> <li>Effects of removal of agricultural habitat on lands that are placed in the recharge basin.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the current proposal for the potential recharge pond, which will consist in part use as recharge pond and in part for agricultural production. Details of the potential recharge basin will needed to be developed by Regional San (with input from TNC) over the course of this project. Follow up environmental review will be necessary in the future when such details have been determined.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIR should include potential benefits of the Project for a full range of habitats from closed-canopy forest to completely open grasslands. Explore a Project component in which irrigated lands closest to the Cosumnes River have highest priority and/or greatest incentives for receipt of Project water.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the potential benefit of the project to biological resources, and will differentiate the potential benefits to individual habitat where such detail is available. The area where recycled water will be provided will be shown in the EIR/EIS and includes a portion of land along the west bank of the Cosumnes River. Irrigation and recharge of recycled water for these lands will be prioritized because of the environmental benefits associated with such use.</li> </ul>

South Sacramento County Agriculture & Habitat Lands Recycled Water Project

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>Request a robust groundwater monitoring component to track groundwater levels and habitat health in the basin to inform adaptive management of the Project to maintain ecological benefits.</li> </ul>	<ul style="list-style-type: none"> <li>The project would include groundwater monitoring and some mechanism for evaluating habitat benefits on an ongoing basis would be developed.</li> </ul>
		<ul style="list-style-type: none"> <li>Request incorporation of the best available science when determining what levels of groundwater recharge are most beneficial for a riparian forest response. This information could be used for assessment of project benefits and adaptive management of the Project, particularly in potential future groundwater banking scenarios.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the potential benefit of recharge to biological resources. The potential recharge basin will be evaluated at a program-level of detail in the EIR/EIS; further work, using the best available science, would be needed to develop this component for implementation.</li> </ul>
		<ul style="list-style-type: none"> <li>The Project analysis should assess Project benefits for species that depend on in-stream flows. Any potential subsequent withdrawals of added water through a groundwater banking program should be designed, fully studied, and adaptively managed to maintain Project benefits.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the potential benefit to biological resources. A precise groundwater banking program is outside the scope of this EIR/EIS, however groundwater recharge associated with this project is anticipated to create the opportunity for groundwater banking.</li> </ul>
		<ul style="list-style-type: none"> <li>Request Regional San to consider expanding the Project footprint in the area between Highway 99 and Wilton Road, and the Cosumnes River on the south and Grant Line Road on the north.</li> </ul>	<ul style="list-style-type: none"> <li>Regional San has received a specific proposal from TNC for this concept and is currently evaluating it. Because this concept is still in development and the area is not included in the HCP it is not expected to be included in the EIR/EIS.</li> </ul>
		<ul style="list-style-type: none"> <li>The Project should include pre-wetting the Cosumnes channel to benefit anadromous fish (e.g., by swapping recycled water entering the Sacramento River for flows that could be introduced into Cosumnes through the Freeport Project).</li> </ul>	<ul style="list-style-type: none"> <li>While one of the project objectives is to enhance the riparian corridor along the Cosumnes River, pre-wetting the Cosumnes channel is outside the scope of this EIR/EIS. Regional San will continue discussions of this concept with TNC and other potential partners.</li> </ul>

South Sacramento County Agriculture & Habitat Lands Recycled Water Project

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>• Make sure that ecological benefits of the Project are not put at risk through the development of a water bank or withdrawal component</li> </ul>	<ul style="list-style-type: none"> <li>• As discussed above, a precise groundwater banking program is outside the scope of this EIR/EIS but the ongoing development of a Groundwater Accounting Framework by the SCGA will be acknowledged.</li> </ul>
		<ul style="list-style-type: none"> <li>• Project should include explicit target groundwater levels and an appropriate monitoring and response plan to ensure that the Project is managed to sustain the ecological benefits of the Project.</li> </ul>	<ul style="list-style-type: none"> <li>• As the project does not include a development of details regarding a groundwater banking program, inclusion of target groundwater levels is outside the scope of this EIR/EIS, but will be evaluated to the extent specific banking elements are available to Regional San.</li> </ul>
		<ul style="list-style-type: none"> <li>• The EIR should consider potential impacts from constituents that are not removed during treatment</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will address the impacts of recycled water on fish and wildlife.</li> </ul>
		<ul style="list-style-type: none"> <li>• The Project should support mitigation requirements that are part of the SSHCP and BDCP, as well as conform with the SACOG 2035 Metropolitan Plan/Sustainable Communities Strategy, the Consumnes River Preserve Management Plan, and LAFCO policies.</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will consider the proposed Project's consistency with relevant plans and policies.</li> </ul>
United States Environmental Protection Agency	Letter, November 30, 2015	<ul style="list-style-type: none"> <li>• The EIS for the proposed project should clearly identify the underlying purpose and need that is the basis for proposing the range of alternatives and describe Reclamation's role in the project</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will identify the purpose and need for the proposed Project.</li> </ul>
		<ul style="list-style-type: none"> <li>• The EIS should concisely identify why the project is being proposed, why it is being proposed now, and should focus on the specific desired outcomes of the project.</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will identify the project objectives, purpose and need, and describe the background as to why it is being proposed.</li> </ul>
		<ul style="list-style-type: none"> <li>• The EIS should include a comprehensive description of the regulatory context of the project, describing any permits that will be required</li> </ul>	<ul style="list-style-type: none"> <li>• The EIR/EIS will include a description of the regulatory context and identify anticipated permits.</li> </ul>



South Sacramento County Agriculture & Habitat Lands Recycled Water Project

Scoping Report

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>The Regulatory Framework of the EIS should include a discussion of the General Waste Discharge Requirements for Recycled Water Use and if the action alternatives are covered by the General Order.</li> </ul>	<ul style="list-style-type: none"> <li>The Hydrology and Water Quality section of the EIR/EIS will include a discussion of the General Order for Recycled Water Use. Regional San would comply with the General Order in providing recycled water for agricultural and environmental uses.</li> </ul>
		<ul style="list-style-type: none"> <li>All reasonable alternatives that fulfill the project's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of Reclamation. The EIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not.</li> </ul>	<ul style="list-style-type: none"> <li>As required by CEQA and NEPA, the analysis of alternatives has focused on alternatives that would reduce potentially significant impacts of the project. The EIR/EIS will evaluate the proposed Project/Action, and a reduced scale alternative that would reduce the primary impact of the project, which is associated with effects of reduced discharge to the Sacramento River.</li> </ul>
		<ul style="list-style-type: none"> <li>For alternatives that are not evaluated in detail, the EIS should provide a clear discussion of the reasons for their elimination.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the alternatives development process and reasons for those that were considered but rejected.</li> </ul>
		<ul style="list-style-type: none"> <li>The environmental impacts of the proposal and alternatives should be presented in comparative form, as to sharply define the issues and provide a clear basis for choice among options by the decision makers and the public.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will include evaluation of all alternatives, including a comparison table that will be included in the Executive Summary.</li> </ul>
		<ul style="list-style-type: none"> <li>The No Action Alternative should clearly describe the current wastewater discharge regime at the Regional San Sacramento Regional Water Treatment Plant. This description should indicate if there are existing compliance concerns regarding any aspects of current permits and waste discharge requirements, such as volumetric or pollutant limits.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe the current wastewater discharge operations at the Sacramento Regional Water Treatment Plant. The Hydrology and Water Quality section of the EIR/EIS includes a discussion of the existing permit requirements, which have required Regional San to construct the EchoWater Project to reduce nitrogen and ammonia levels and to provide tertiary filtration treatment for pathogen removal.</li> </ul>

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>The range of alternatives should explore aquifer recharging as an alternate use for the recycled wastewater.</li> </ul>	<ul style="list-style-type: none"> <li>Both the Medium Service Area and Small Service Area Alternatives include the maximum of amount of recharge that was determined to be feasible, given the amount of land that is available for recharge, and the requirement for 50 percent dilution when recycled water is used for recharge.</li> </ul>
		<ul style="list-style-type: none"> <li>Each action alternative should identify how and where the recycled water would be used and how each of those uses would impact groundwater.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS will describe how and where the recycled water would be used under each action alternative.</li> </ul>
		<ul style="list-style-type: none"> <li>Each action alternative should describe the proposed percentage distribution of project water for irrigation, groundwater recharge, and wildlife refuges and the mechanism by which this distribution might change over time.</li> </ul>	<ul style="list-style-type: none"> <li>Allocation of water to irrigation, recharge, and refuges is described in Chapter 2, Project Description. However, because the refuge and recharge elements are considered at the program level, it is not yet feasible to consider mechanisms for future changes in distribution.</li> </ul>
		<ul style="list-style-type: none"> <li>Each action alternative should include a robust discussion of impacts to water quality, including the impacts from reduced discharge volume to the current discharge locations and waters (such as impacts to flow of the Sacramento River), the impacts to water quality in the Bay Delta and current modeling efforts in that region.</li> </ul>	<ul style="list-style-type: none"> <li>The Hydrology and Water Quality section of the EIR/EIS will discuss impacts to water quality. The proposed Project will not impact the Delta Regional Monitoring Program (RMP) because the publicly owned treatment works participating in the Delta RMP use a formula for determining their contribution based on permitted flow and level of treatment.</li> </ul>
		<ul style="list-style-type: none"> <li>The analysis should include a description of the Waters of the U.S. within the wildlife refuges that may receive project water and how any discharges to Waters of the U.S. will impact water quality in these locations.</li> </ul>	<ul style="list-style-type: none"> <li>The Biological Resources section of the EIR/EIS identifies the fact that the Stone Lakes National Wildlife Refuge contains a variety of wetlands, including an extensive vernal pool complex. Impact HYD-1 evaluates water quality impacts associated with providing recycled water to refuges. The proposed Project would include mitigation to ensure that recycled water is of suitable quality before water is provided to the Refuge.</li> </ul>

Committer, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>We recommend using the Council on Environmental Quality’s December 2014 revised draft guidance for Federal agencies’ consideration of GHG emissions and climate change impacts to help outline the framework for its analysis of these issues.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will recognize CEQ’s revised draft guidance and consider it in the impact analysis.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIS should include an estimate of GHG emissions associated with the project, analyze reasonable alternatives and/or practice mitigation measures to reduce project-related GHG emissions, and qualitatively describe relevant climate change impacts.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will include an estimate of GHG emissions associated with the project and identify mitigation measures, if applicable.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIS should make clear whether commitments have made made to ensure implementation of design or other measures to reduce GHG emissions or to adapt to climate change impacts.</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS notes the measures that are included in the project to reduce operational energy requirements and resultant GHG emissions. GHG emissions were not determined to be significant, and the project would reduce GHG emissions associated with existing groundwater pumping for irrigation.</li> </ul>
		<ul style="list-style-type: none"> <li>The Affected Environment of the EIS should include a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program assessments, to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will include a summary of climate change and foreseeable climate change impacts relevant to the proposed Project/Action. The project would provide a new water supply that would benefit the project area in reducing the effect of potential reductions in water supply associated with climate change.</li> </ul>
		<ul style="list-style-type: none"> <li>The Affected Environment section should draw on the Reclamation’s extensive research into the expected effects of climate change to create a well-informed document for the public and decision makers.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will recognize Reclamation’s research into the expected effects of climate change.</li> </ul>

Commenter, Affiliation	Format/Date	Comments	Response
		<ul style="list-style-type: none"> <li>In the Environmental Consequences Section, the EIS should consider practicable changes to the proposal to make it more resilient to anticipated climate change.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will consider practicable changes to the proposal if a potentially significant impact is identified.</li> </ul>
		<ul style="list-style-type: none"> <li>The Environmental Consequences section should estimate the GHG emissions associated with the proposal and its alternatives, using tools such as NEPA.gov. For actions which are likely to have less than 25,000 metric tons of CO<sub>2</sub>-e emissions/year, provide a qualitative estimate unless quantification is easily accomplished</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will estimate the GHG emissions associated with the action alternatives.</li> </ul>
		<ul style="list-style-type: none"> <li>The Environmental Consequences section should use estimated GHG emissions as a proxy for climate change impacts when comparing the proposal and alternatives. Consideration should be given whether and to what extent the impacts may be exacerbated by expected climate change in the action area.</li> </ul>	<ul style="list-style-type: none"> <li>The Greenhouse Gas Emissions section of the EIR/EIS will consider impacts of the proposed Project/Action and the extent of impacts as a result of climate change. The project is not located in an area prone located far enough away from the California coast and San Francisco Bay and at a high enough elevation above sea level such that projected sea level rise would not affect the project location.</li> </ul>
		<ul style="list-style-type: none"> <li>The EIS should describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures</li> </ul>	<ul style="list-style-type: none"> <li>The EIR/EIS notes the measures that are included in the project to reduce operational energy requirements and resultant GHG emissions. The pump station would be designed to operate as efficiently as possible. Water would be distributed at the lowest possible pressure to minimize friction losses, which would reduce the energy need for pumping. The pump station would use high efficiency pumps employing variable frequency drives, which reduce energy demand. Because energy use for the project offsets existing energy demand associated with pumping of groundwater for irrigation, the project is not expected to substantially increase GHG emissions.</li> </ul>

### 3.1 Issues Identified in Comments

Most of the comment submittals identified overall regulatory and environmental analysis requirements for the project. Issues identified during the scoping period are summarized below. Responses to each issue are identified in Table 1.

#### 3.1.1 Alternatives / Revisions to the Project

- CDFW suggests including a range of alternatives that consider different water discharge levels in the Sacramento River.
- CDFW recommends that Regional San provides some flexibility or maintains the ability to release water into the Sacramento River during drought periods.
- TNC requests consideration of alternative designs of the recharge basin area that may provide water management and habitat benefits.
- TNC recommends exploration of a Project component in which irrigated lands closest to the Cosumnes River have highest priority and/or greatest incentives for receipt of Project water.
- TNC requests Regional San to consider expanding the Project footprint in the area between Highway 99 and Wilton Road, and the Cosumnes River on the south and Grant Line Road on the north.
- The City of Elk Grove recommends the Project should be modified to provide an opportunity to connect to existing purple pipe infrastructure south of Elk Grove Boulevard (at Whitelock Parkway and Franklin Boulevard), and SCWA offered a similar comment about connecting the South County pipeline to the Laguna Phase 2 portion of SCWA's recycled water pilot project (Phase 1 is already in place and operating with a dedicated recycled water supply pipeline).
- The EPA requests that the range of alternatives consider aquifer recharge as an alternate use for the recycled wastewater.

#### 3.1.2 Effects on Sacramento River Resources

- CDFW expressed concern about the reduction of discharge on Sacramento River resources (direct, indirect, and cumulative).
- CDFW recommends a complete assessment of in-stream flow-related needs and expressed concern about: project impacts on fish and wildlife and their habitat; reduced discharge on channel forming flows; and whether there's enough flows to maintain the health and perpetuation of aquatic resources. CDFW also requested a proposal for the protection of fisheries in the Sacramento River that includes required minimum instream flows in the Sacramento River at or above the point of discharge for reduced discharged to occur.

#### 3.1.3 Water Quality Impacts

- TNC suggested that the EIR should consider potential impacts from constituents that are not removed during treatment.
- The EPA requested that the water quality analysis include discussion of impacts from reduced discharge volume to the current discharge locations and waters, and impacts to the Bay Delta water quality.

### 3.1.4 Project Description

- CDFW specifies the need to confirm if the Project will conflict with the proposed South Sacramento Habitat Conservation Plan (SSHCP).
- CalTrans specified the limitations of working under and around I-5.
- As mentioned above, Elk Grove recommends a specific connection point to existing purple pipe network, and SCWA specifies the EIR should identify recycled water delivery to the Phase 2 portion of SCWA's recycled water pilot project as a component of the Project.

### 3.2 Comments Outside the Scope of the EIR/EIS

Detailed suggestions from TNC such as development of a robust groundwater monitoring component and to track groundwater levels and habitat health, pre-wetting the Cosumnes channel to benefit anadromous fish, and the extensive benefits analysis for recycled water, are outside the scope of the EIR/EIS. Benefits to the Central Sacramento Groundwater Basin, to the Cosumnes River, its riparian corridor, and its biological resources will be discussed.

*This page intentionally left blank*

## **Attachment A – Notice of Preparation**



*This page intentionally left blank*



Sacramento Regional County Sanitation District

#### Main Office

10060 Goethe Road  
Sacramento, CA 95827-3553  
Tel: 916.876.6000  
Fax: 916.876.6160

#### Treatment Plant

8521 Laguna Station Road  
Elk Grove, CA 95758-9550  
Tel: 916.875.9000  
Fax: 916.875.9068

#### Board of Directors

##### Representing:

County of Sacramento  
County of Yolo  
City of Citrus Heights  
City of Elk Grove  
City of Folsom  
City of Rancho Cordova  
City of Sacramento  
City of West Sacramento

#### Prabhakar Somavarapu

*District Engineer*

#### Ruben Robles

*Director of Operations*

#### Christoph Dobson

*Director of Policy & Planning*

#### Karen Stoyanowski

*Director of Internal Services*

#### Joseph Maestretti

*Chief Financial Officer*

#### Claudia Goss

*Public Affairs Manager*

**TO:** Responsible and Trustee Agencies, Organizations, and Interested Parties

**FROM:** Sacramento Regional County Sanitation District (Regional San)  
Administrative Offices  
10060 Goethe Road  
Sacramento, CA 95827

**DATE:** February 19, 2015

**SUBJECT:** Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for Regional San's South Sacramento County Agriculture & Habitat Lands Recycled Water Program (Project)

**AGENCIES:** Regional San will be the lead agency under the California Environmental Quality Act (CEQA) and will prepare a project EIR for the project identified below. Regional San requests the views of public agencies as to the scope and content of the environmental information that is germane to the agency's statutory responsibilities in connection with the proposed Project, in accordance with California Code of Regulations, Title 14, Section 15082(b), if the agency will need to use the EIR prepared by Regional San when considering any permit or other approval for the Project.

**ORGANIZATIONS AND INTERESTED PARTIES:** Regional San requests comments and concerns from organizations and interested parties regarding the environmental issues associated with construction and operation of the proposed Project.

**PROJECT TITLE:** South Sacramento County Agriculture & Habitat Lands Recycled Water Project

**PROJECT LOCATION:** The Project is located within Sacramento County, and includes lands located south of the City of Elk Grove in unincorporated Sacramento County, and portions of the Stone Lakes National Wildlife Refuge (NWR).

**PROJECT DESCRIPTION:** The Project would deliver up to 50,000 acre-feet<sup>1</sup> per year (AFY) of Title 22 disinfected tertiary treated recycled water to approximately 16,000 acres of irrigated lands in southern Sacramento County (South County), as shown in **Figure 1** (all figures are located at the end of the NOP). Recycled water would be generated at the Sacramento Regional Wastewater Treatment Plant (SRWTP) and conveyed to customers using a new pump station at the SRWTP and through a new network of recycled water pipelines (transmission, distribution, and laterals) located on public road rights-of-way, private roads, and agricultural land. The proposed Project would also include a potential recharge area to increase recycled water usage and benefit the local groundwater basin through increasing groundwater table levels. With the potential recharge area, the delivery of recycled water could increase by approximately 5,000 AFY<sup>2</sup>. In addition, the Project includes provision of recycled water to support wetland habitat at the Stone Lakes NWR to protect the sensitive resources at the refuge during drought conditions.

<sup>1</sup> An acre-foot equals 325,851 gallons.

<sup>2</sup> The net increase in delivery of recycled water is calculated by the increase in recharge contributed by recycled water in the potential recharge area (6,600 AFY) minus the irrigated land that would be removed from irrigation due to the construction of the potential recharge area (1,500 AFY). Thus the net is approximately 5,000 AFY.

The Project is described in further detail in Attachment A.

Because of potential Federal grant funding opportunities, an Environmental Impact Study (EIS) will be prepared in parallel with the EIR to comply with National Environmental Policy Act (NEPA) requirements. (The proposed Project may also require other federal agency approvals or actions that are subject to NEPA.) The joint EIR/EIS would evaluate the proposed Project components at both a project and program level of detail, including potential effects of recycled water on habitat in the Cosumnes River Preserve and Stone Lakes National Wildlife Refuge.

**POTENTIAL ENVIRONMENTAL EFFECTS:** The following areas of potentially significant environmental impact will be analyzed in the Draft EIR: Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology/Soils & Seismicity, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology & Water Quality, Land Use & Planning, Mineral Resources, Noise, Population & Housing, Public Services, Recreation, Transportation & Traffic, and Utilities & Service Systems. Potential cumulative impacts and potential for growth inducement will be addressed. Alternatives, including the No Project Alternative, will be evaluated.

**PUBLIC REVIEW PERIOD:** This NOP is available for public review and comment pursuant to California Code of Regulations, Title 14, Section 15082(b) for 30 days. The comment period for the NOP begins February 19, 2015 and ends on March 23, 2015. **Written comments on the NOP must be provided to Regional San no later than 5 p.m. on March 23, 2015.**

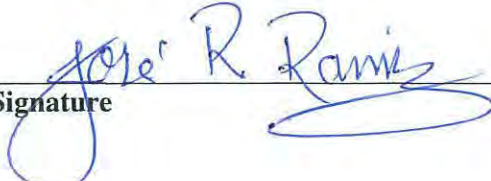
**RESPONSES AND COMMENTS:** Please send your responses and comments to:

Jose Ramirez, Project Manager  
Sacramento County Regional Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827  
(916) 879-6059  
or via email at: [ramirezj@sacsewer.com](mailto:ramirezj@sacsewer.com)

Your response should include the name of a contact person in your Agency. Agencies with questions about the Project should contact Jose Ramirez at the above contact.

**SCOPING MEETING:** Regional San held an informational meeting on February 18, 2015 at the Sacramento County Farm Bureau in Elk Grove, 8970 Elk Grove Boulevard.

The NOP and future CEQA document(s) will be available for review on the internet at the following web address: <http://srcsd.com/index.php> and <http://www.per.saccounty.net/EnvironmentalDocuments/Pages/default.aspx>.

  
Signature

2/19/2015  
Date

# **ATTACHMENT A**

## **Draft EIR/EIS Schedule**

Regional San is seeking input on the scope and content of environmental information relevant to the proposed Project, including input on environmental issues and alternatives to be addressed in the EIR. The Draft EIR is scheduled for circulation in Fall 2015.

## **PROJECT BACKGROUND**

Regional San provides regional wastewater conveyance, treatment, and disposal services to the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, Sacramento, West Sacramento, and the communities of Courtland, Walnut Grove and unincorporated Sacramento County. In 2007, Regional San completed the Water Recycling Opportunities Study. This study took a countywide look at a variety of potential recycled water projects and identified the South Sacramento County Agriculture and Habitat Lands Recycled Water Project for further study. The South County Recycled Water Feasibility Study, published in May 2014 and revised in January 2015, examined costs and benefits as well as the process for implementing the Project.

The Project area overlies the central Sacramento groundwater basin (Central Basin), which currently supplies water for several agencies within the Sacramento region. Groundwater levels in the Central Basin have declined mainly as a result of pumping to meet agricultural and municipal water demands in the basin. Proactive water supply management over the past two decades has resulted in more stable conditions in the groundwater basin. The Water Forum, consisting of a diverse group of participants who united to find solutions to water supply concerns, developed a Water Forum Agreement to guide water management activities in Sacramento to the present day.

## **EXISTING FACILITIES**

SRWTP is located in Elk Grove and presently treats and discharges secondary effluent into the Sacramento River. Some of the secondary effluent is diverted to a 5-mgd Water Recycling Facility (WRF) to produce tertiary treated recycled water for the Sacramento County Water Agency (SCWA) Laguna West Recycled Water Project.

In December 2010, the Central Valley Regional Water Quality Control Board (RWQCB) adopted new Waste Discharge Requirements (WDR's) for Regional San's discharge to the Sacramento River (Order No. R5-2010-114). The new WDR's require upgrades to the treatment process that will result in Title 22 disinfected, tertiary treated, recycled water for all of the plant's effluent. Alternative treatment technologies to meet the WDR's were evaluated and performance of the selected technology was verified with a pilot project. The treatment upgrades will be sized for the plant's permitted capacity of 181 mgd (average dry weather flow) and will be operational by May 2023. The project constructing the new treatment processes is known as the EchoWater Project.

## **PROJECT OBJECTIVES**

With the management of the groundwater basin in mind, the objectives of the proposed Project are as follows:

- Provide a reliable source of non-potable water in the County
- Maximize use of recycled water
- Reduce groundwater pumping in the Central Basin by supplying recycled water to agricultural customers as an alternative to pumped groundwater
- Minimize the cost of transmission and distribution systems while meeting service demands
- Improve environmental resources in the area by:
  - Enhancing the riparian corridor along the Cosumnes River by raising groundwater levels

- Reducing streamflow losses in the Consumnes River with increased groundwater levels to improve spawning conditions
- Providing drought-resistant water supplies to agricultural users to encourage long-term agricultural uses in the south county and Cosumnes River area.
- Providing a reliable water supply to managed wetlands
- Assist in long term fulfillment of the Water Forum Agreement for conjunctive use of surface water and groundwater supplies in the County
- Support the Sacramento Central Groundwater Authority and environmental organizations in developing a Groundwater Accounting Program that will balance the increase in groundwater supply with regional water needs and environmental benefits.

## PROJECT DESCRIPTION

The proposed Project elements and their level of environmental evaluation in the joint EIR/EIS are as follows:

- New pump station at the SRWTP (project-level)
- Transmission pipeline from the pump station to Twin Cities Road (project-level)
- Distribution mains from the transmission pipeline and lateral service connections to potential customers (agriculture and Stone Lakes NWR) (program-level)
- Potential recharge area and diluent wells (program-level)

### Pump Station

An above-ground distribution pump station would be constructed at the SRWTP to pressurize the new recycled water system. The proposed distribution pump station would be located between Central Street and South Landfill Way, as shown in **Figure 2**. The pump station would require a total installed horsepower (hp) of approximately 7,000, including standby pumps. The footprint would be approximately 10,000 square feet with a height of 25 feet.

### Pipelines

#### *Transmission Pipeline*

The 30-inch to 60-inch-diameter transmission pipeline, to be evaluated at a project level of detail, would extend from the new pump station at the SRWTP to Twin Cities Road. The transmission pipeline consists of three segments under evaluation: A) SRWTP south through Elk Grove; B) Southern route; and C) Eastern route. The options currently under consideration for the transmission pipeline are shown in **Figure 2**. Regional San is currently conducting additional analysis to determine the alignment that would be analyzed as part of the proposed Project in the EIR/EIS so all alignment options are shown at this time in the NOP. The selected alignment would be a combination of the individual segments. The alignments would range from approximately 65,000 feet to 71,000 feet (12 to 13.5 miles).

#### *Distribution Mains and Service Connection Laterals*

Distribution mains and service connection laterals will be evaluated at a program level of detail. **Figure 1** shows the conceptual layout of the distribution mains, which are based on the location of potential customers. These pipelines would range from 12 inches to 30 inches in diameter. Service lateral connections are not shown since their alignments will be based on customer's point of connection and this information has not been collected yet. Lateral pipelines would range from 6 to 12 inches in diameter depending on individual customer demand. The pipelines would be located both on public road rights-of way, private dirt roads, and agricultural lands. The pipelines would be designed upon confirmation of customers to be served and points of connection to the customers.

## **Potential Recharge Area and Diluent Well**

The proposed Project considers at a program-level of detail the potential to apply recycled water to a recharge area to increase overall recycled water use and to provide secondary benefits to the groundwater basin (through recharge of the basin). The potential area considered for the recharge area is shown in **Figure 1**. The site would be up to 560 acres and the area under consideration (and shown in Figure 1) is over 1,100 acres. Direct recharge of recycled water requires that the recycled water be blended with non-recycled diluent water, in accordance with State regulation. Diluent water could be provided from groundwater sources. As such, up to three diluent wells located 2,000 to 6,000 feet from the potential recharge area and associated pipelines would be needed to extract and convey the water to the potential recharge area for blending purposes.

## **Construction**

Construction of the proposed Project would be phased, with construction of the pump station, the transmission pipeline, and some adjacent distribution pipelines and service connection laterals first. One or more phases would be needed to implement the remaining portions of the recycled water infrastructure and the potential recharge area.

Construction of the pump station would involve grading, excavation and shoring, and erection of the facility.

Construction of the transmission and lateral pipelines would generally consist of open-cut construction, except at sensitive crossings (e.g., stream/river/sensitive biological resources, railroad crossings, canal/ditch, busy intersections, areas with dense utilities). At these locations, a variety of trenchless construction techniques could be employed, including tunneling, microtunnel, pipe jacking (sometimes known as jack-and-bore construction), and horizontal directional drilling (HDD).

The open-cut trench width would be up to seven feet and depth would be up to ten feet. Pipeline construction would typically require a closure of one lane of traffic and use of the adjacent road shoulder. Some construction may require up to 80 feet of construction width. It is expected that open trench construction within paved roadways would proceed at the rate of up to approximately 300 feet per day. Excavated trench materials would be sidecast within approved work areas and reused as appropriate for backfill. Excess material would be hauled off for disposal. After pipeline construction and installation is complete, pavement would be restored to preconstruction conditions.

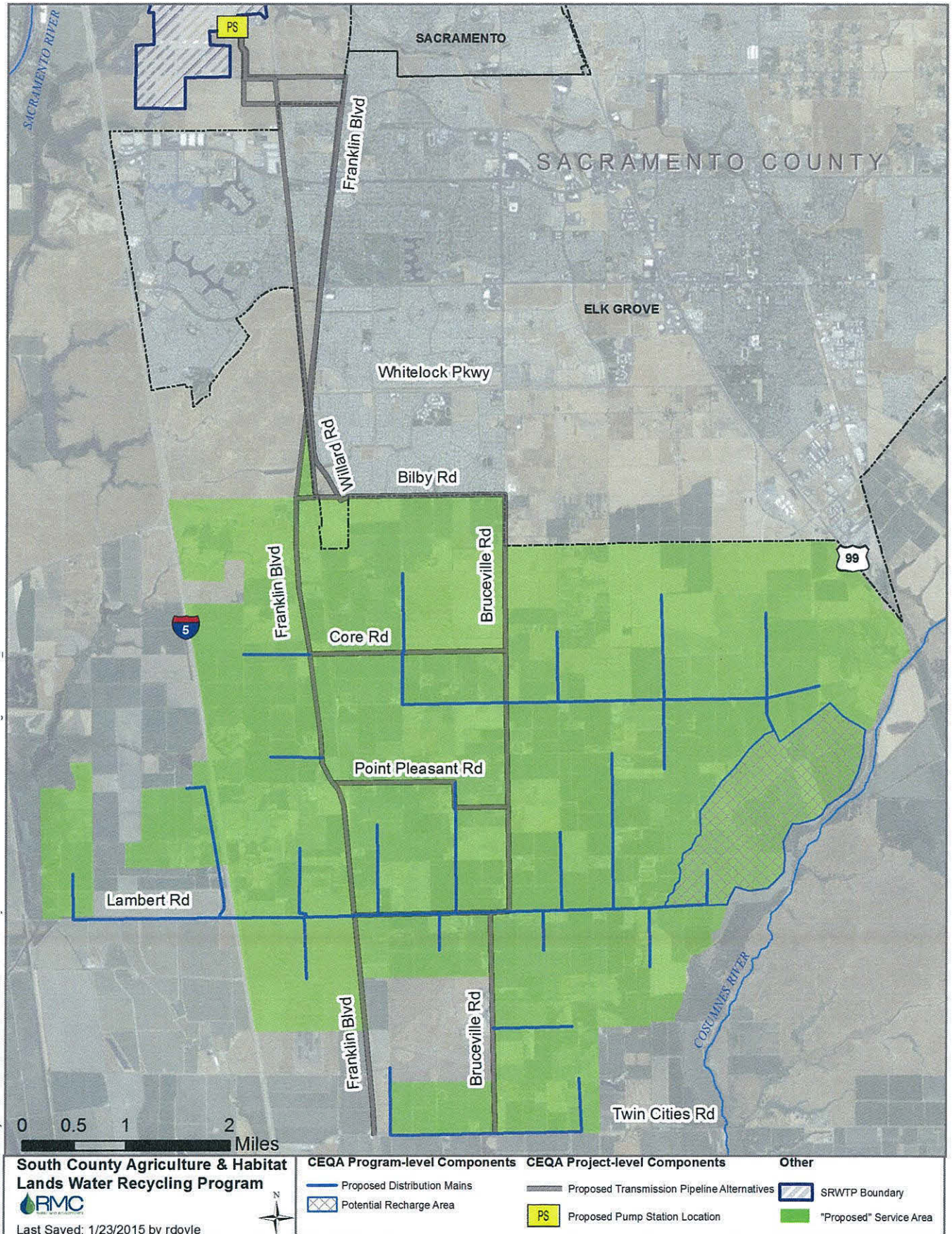
Trenchless construction methods minimize the area of surface disruption required for pipeline installation. The use of trenchless construction would require entry and exit pits.

Staging areas would be set up at the SRWTP and along the pipeline alignments. Construction would be limited to those hours consistent with the noise ordinance of the affected jurisdictions.

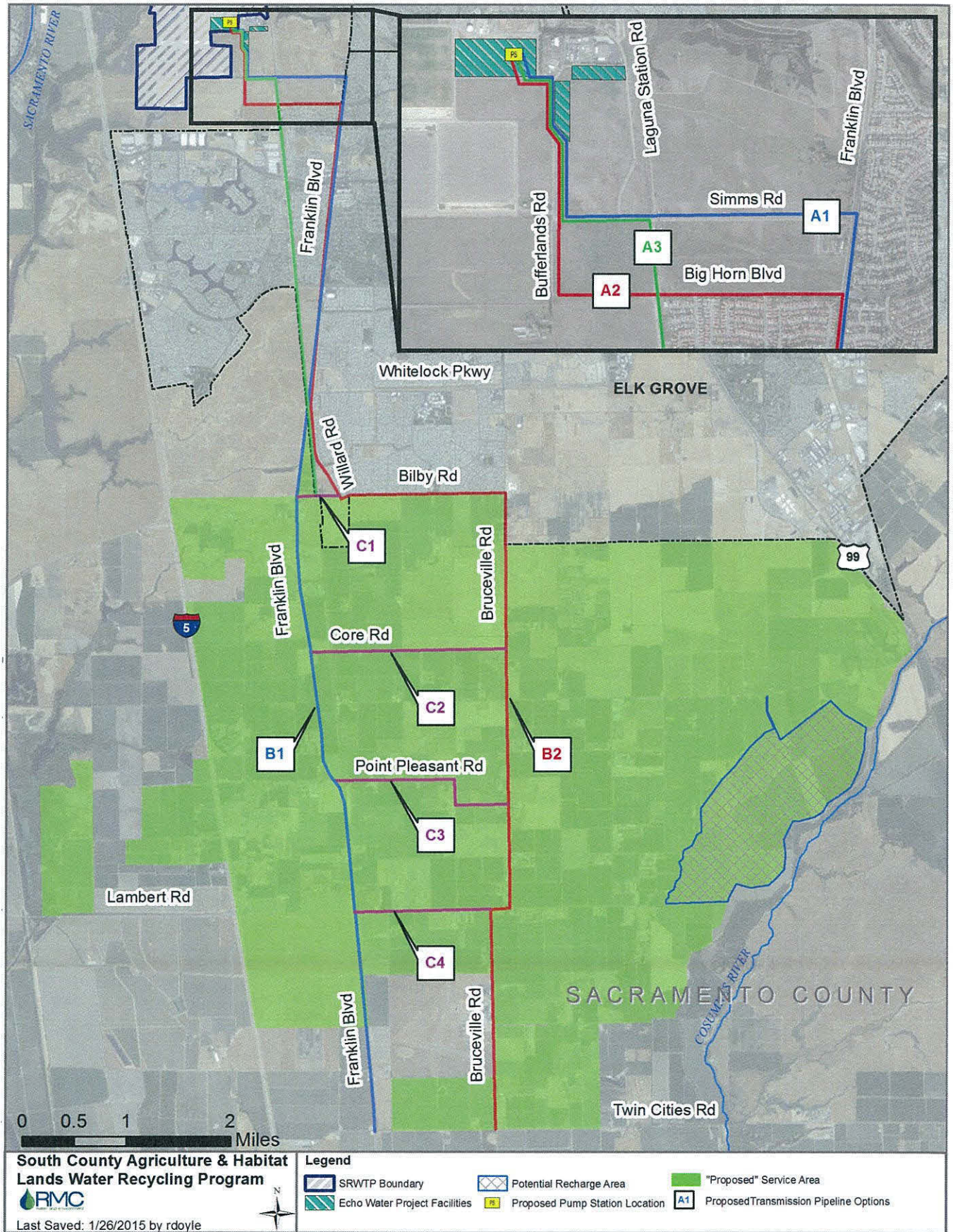
## **Project Operation**

The average annual recycled water delivered to potential customers is approximately 50,000 AFY. Recycled water would be delivered to approximately 16,000 acres of irrigated lands and managed wetlands at Stone Lake NWR. The actual monthly demand would vary seasonally with the maximum demand occurring during the irrigation season, from May through September. The Project is designed to deliver up to two-thirds of the maximum month demand during the irrigation season. The remaining demand would be met by groundwater pumping, the existing source of water supply. As treated wastewater would be beneficially reused, there would be a commensurate reduction in the discharge of treated wastewater into the Sacramento River.

**Figure 1: Overview of the Proposed Project**



**Figure 2: Proposed Pump Station Location and Transmission Pipeline Alternative Routes**





## **Attachment B – Comment Letters Received During Scoping**

*This page intentionally left blank*



State of California - Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
North Central Region  
1701 Nimbus Road, Suite A  
Rancho Cordova, CA 95670-4599  
916-358-2900  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*EDMUND G. BROWN JR., Governor*  
*CHARLTON H. BONHAM, Director*



March 9, 2015

Jose Ramirez  
Sacramento Regional Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827-3553

Subject: Notice of Preparation of a Draft Environmental Impact Report for the South Sacramento County Agriculture and Habitat Lands Recycled Water Program Project, SCH # 2015022067.

Dear Mr. Ramirez:

The California Department of Fish and Wildlife (Department) has reviewed the Notice of Preparation (NOP) from Sacramento Regional County Sanitation District (District) regarding the Draft Environmental Impact Report (DEIR) for the South Sacramento County Agriculture and Habitat Lands Recycled Water Program (Project).

As a trustee for California's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code, § 1802). The Department may also act as a Responsible Agency (Cal. Code Regs., § 21069) for a project where it has discretionary approval power under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and the Lake and Streambed Alteration Program (Fish & G. Code, § 1600 et seq.). The Department also administers the Native Plant Protection Act, Natural Community Conservation Program, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

The Department offers the following comments and recommendations for this Project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA).

## **PROJECT DESCRIPTION AND ALTERNATIVE ANALYSIS**

The Project would deliver up to 50,000 acre-feet per year (AFY) of disinfected tertiary treated recycled water to approximately 16,000 acres of irrigated lands in southern Sacramento County. Recycled water would be generated at the Sacramento Regional Wastewater Treatment Plant (SRWTP) and conveyed to customers using a new pump station at the SRWTP and through a new network of recycled water pipelines located on public road rights-of-way, private roads, and agricultural land. The proposed Project would also include a potential groundwater recharge. In addition, the Project includes the delivery of recycled water to Stone Lakes National Wildlife Refuge (NWR).

*Conserving California's Wildlife Since 1870*

The Project description in the DEIR should include the whole action as defined in the California Code of Regulations, title 14, section 15000 et seq. (CEQA Guidelines) section 15378 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as access roads and staging areas.

The Department recommends that the DEIR includes a range of alternatives that consider different water discharge levels in the Sacramento River.

As required by section 15126.6 of the CEQA Guidelines, the DEIR shall include appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under the Department jurisdiction. The Department recommends that alternatives that include different level of water deliveries to the Sacramento River are included in the DEIR.

## **ENVIRONMENTAL SETTING**

The DEIR shall include a complete assessment of the existing biological conditions within the Project area including but not limited to the type, quantity and locations of the habitats, flora and fauna. Adequate mapping and information regarding the survey efforts shall be included within the DEIR. All surveys as well as the environmental analysis shall be completed by qualified Project personnel with sufficient experience in the work performed for the Project.

To identify a correct environmental baseline, the DEIR shall include a complete and current assessment of the habitats, flora, and fauna within the Project area. This analysis should include endangered, threatened, candidate, and locally unique species. CEQA guidelines section 15125, subdivision (c) requires lead agencies to provide special emphasis to sensitive habitats and any biological resources that are rare or unique to the area. This includes but is not limited to vernal pools, streambeds, riparian habitats, and open grasslands that are known to be present within the Project boundaries or its vicinity.

The Department recommends that the California Natural Diversity Database (CNDDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. Recent surveys for the different species that have the potential to be present within the project limits and its vicinity shall be included within the DEIR. Additional information regarding survey protocols can be obtained by contacting the Department.

Species-specific surveys shall be conducted in order to ascertain the presence of species with the potential to be present within the Project vicinity. The Department recommends that the lead agency use survey protocols previously approved by the Department. The Department recommends that assessments for rare plants and rare natural communities follow the Department's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The guidance document is available here:

[http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols\\_for\\_surveying\\_and\\_evaluating\\_impacts.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf).

## **IMPACT ANALYSIS AND MITIGATION MEASURES**

The DEIR shall clearly identify and describe all short-term, long-term, permanent, or temporary impacts to biological resources under the Department jurisdiction, including all direct and foreseeable indirect impacts caused by the proposed Project. The impacts identified in the DEIR shall encompass all the phases of the Project, including planning, acquisition, development, operation, and maintenance. This includes maintenance activities within the Department jurisdictional areas and any other activity that could potentially impact biological resources.

The DEIR shall define the threshold of significance for each impact and describe the criteria used to determine each threshold (CEQA Guidelines, § 15064, subd. (f).) The DEIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed and it must permit the significant effects of the Project to be considered in the full environmental context.

The Department is concerned that the proposed reduction of discharge may result in direct, indirect and cumulative adverse impacts to environmental and Public Trust resources within the Sacramento River. The Sacramento River may be impacted by reducing instream flows and water availability required to maintain aquatic, riparian and terrestrial habitats, in addition to habitat for sensitive species with the system.

The Department recommends that a complete assessment (including but not limited to type, quantity, and locations) of the instream flow-related needs; aquatic, riparian, and terrestrial habitats. The Department recommends the use of survey and monitoring protocols and guidelines available at:

[http://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html). The Department also recommends that the District's environmental documentation provide scientifically supported discussion and adequate avoidance, minimization, and/or mitigation measures to address the following concerns:

- The Project's impact upon fish and wildlife and their habitat. We recommend that the environmental documentation identify natural habitats and provide a discussion of how the proposed Project will affect their function and value;
- An assessment of the impacts of the reduced discharge on channel forming flows;
- Identification of flows necessary to maintain the health and perpetuation of aquatic resources and a hydrologic study to determine if the production of the Sacramento River watershed is sufficient to reduce discharge at current and projected rates of flow without having direct and/or cumulative significant adverse impacts; and

- A specific proposal for the protection of fisheries in the Sacramento River that includes required minimum instream flows in the Sacramento River measured at or above the point of discharge for reduced discharges to occur.

DEIR shall discuss Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The DEIR shall include a list of present, past, and probable future projects producing related impacts to resources under the Department jurisdiction or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of other water discharges reductions within the Sacramento River watershed and their potential cumulative effects.

The DEIR shall incorporate mitigation performance standards that would ensure that significant impacts are reduced as expected. Mitigation measures proposed in the DEIR shall be made a condition of approval of the Project. Please note that obtaining a permit from the Department by itself with no other mitigation proposal may constitute mitigation deferral.

#### Anadromous Fish

The Sacramento River provides essential migratory, spawning and rearing habitats to anadromous and resident fish species. The DEIR should include an impact analysis to anadromous fisheries populations cause by the discharge of water to the Stone Lakes NWR. The Stone Lakes basin is tributary to Snodgrass Slough, both with poor quality holding and rearing salmonid habitat. Snodgrass Slough is connected to the lower Mokelumne River; an anadromous corridor. Providing out of basin origin water to Stone Lakes may influence the natural hydrograph and create attractant flows in Snodgrass and Stone Lakes during adult salmon migration; critical in that Mokelumne River salmon have poor return success. The Department recommends that during dry years water discharge flows from Stone Lakes into Snodgrass slough are maintained as natural as possible.

While providing treated water to the Stone Lakes NWR and ground water to the Cosumnes basin during drought years may be a worthy exercise, adding this water to the Sacramento River during drought conditions may be equally or more beneficial. During drought conditions, increasing Sacramento River flows with treated water may provide better attractant flows for salmon entering the Sacramento River from the Sacramento-San Joaquin Delta. The Department recommends that the District, provides some flexibility or maintains the ability to release water into the Sacramento River during drought periods.

Treated water that is supplied to the Cosumnes River may alter the natural hydrograph enough to alter natural river temperatures. Altered river temperatures may be detrimental to native residential fisheries or alter habitat for rearing salmonids in the lower portion of the river. A study to evaluate the Project's impacts on river temperature should be conducted.

### Threatened, Endangered, Candidate Species

The project area as shown in the NOP includes habitat for several State and federally listed species. If during the environmental analysis for the Project, it is determined that the Project may have the potential to result in "take", as defined in the Fish and Game Code, section 86, of a State-listed species, the DEIR shall disclose an Incidental Take Permit (ITP) or a consistency determination (Fish & G. Code, §§ 2080.1 & 2081) may be required prior to starting construction activities. The DEIR shall include all avoidance and minimization to reduce the impacts to a less than significant level. If impacts to listed species are expected to occur even with the implementation of these measures, mitigation measures shall be proposed to fully mitigate the impacts to State-listed species (Cal. Code Regs., tit. 14, § 783.2, subd.(a)(8)).

The Department encourages early coordination to determine appropriate measures to offset Project impacts and facilitate future permitting processes and to coordinate with the U.S. Fish and Wildlife Service to coordinate specific measures if federally-listed species are present within the Project limits.

### Jurisdictional Delineation and Wetlands

The DEIR shall identify all the areas under the Department's jurisdiction per section 1602 of the Fish and Game Code. These areas include all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State and any habitats supported by these features such as wetlands and riparian habitats. If these jurisdictional features are found within the Project the DEIR should identify any potential impacts to these resources. The DEIR shall include a delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed Project including an estimate of impact to each habitat type. Please note that the Department definition of wetlands as well as extent of the jurisdictional areas differ from other agencies such the U.S. Army Corps of Engineers or the Regional Water Quality Control Board. The DEIR shall identify the different jurisdictional areas present within the Project limits under each agency.

If it is determined that the Project would impact areas under the Department jurisdiction the DEIR shall propose mitigation measures to avoid, minimize, and mitigate impacts to these resources.

### Natural Communities Conservation Planning

The proposed Project is located within the limits of the proposed South Sacramento Habitat Conservation Plan (SSHCP) the DEIR should provide a detailed explanation if the Project will conflict with the SSHCP. The DEIR shall include a complete analysis of how the proposed Project will be consistent with all applicable policies, procedures, and goals of the SSHCP.

### Migratory Birds and Birds of Prey

Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C., §§ 703-712), The Department

implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Potential habitat for nesting birds and birds of prey is present within the Project area. The proposed Project shall disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its close vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take shall be included in the DEIR. Measures to avoid the impacts should include species specific construction windows, biological monitoring, installation of noise attenuation barriers, etc.

Please note that when acting as a responsible agency, CEQA guidelines section 15096, subdivision (f) requires the Department to consider the CEQA environmental document prepared by the lead agency prior to reaching a decision on the Project. Addressing the Department's comments and disclosing potential Project impacts on CESA-listed species in any river, lake, or stream, and provide adequate avoidance, minimization, mitigation, monitoring and reporting measures; will assist the Department with the consideration of the DEIR and reduce potential delays when issuing an ITP and/or an LSA Agreement.

Thank you for the opportunity to comment on the NOP for the Project. If you have any questions regarding these comments please contact please contact Juan Lopez Torres at (916) 358-2951 or [Juan.Torres@wildlife.ca.gov](mailto:Juan.Torres@wildlife.ca.gov).

Sincerely



Tina Bartlett  
Region Manager

EC: Jeff Drongesen  
Isabel Baer  
Juan Lopez Torres  
Lauren Mulloy  
Chris McKibben  
Department of Fish and Wildlife





## Central Valley Regional Water Quality Control Board

13 March 2015

Jose Ramirez  
Sacramento Regional Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827

CERTIFIED MAIL  
7014 2120 0001 3978 0650

### **COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, SOUTH SACRAMENTO COUNTY AGRICULTURE & HABITAT LANDS RECYCLED WATER PROGRAM PROJECT, SCH# 2015022067, SACRAMENTO COUNTY**

Pursuant to the State Clearinghouse's 19 February 2015 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Environment Impact Report* for the South Sacramento County Agriculture & Habitat Lands Recycled Water Program Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

#### **Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml).

### **Phase I and II Municipal Separate Storm Sewer System (MS4) Permits<sup>1</sup>**

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/municipal\\_permits/](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/).

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/phase\\_ii\\_municipal.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml)

### **Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/industrial\\_general\\_permits/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml).

### **Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

---

<sup>1</sup> Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

### **Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

### **Waste Discharge Requirements**

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/help/business\\_help/permit2.shtml](http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml).

### **Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: [http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/app\\_approval/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml); or contact water board staff at (916) 464-4611 or via email at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory

Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).

**Low or Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0074.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf)

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0073.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf)

If you have questions regarding these comments, please contact me at (916) 464-4684 or [tcleak@waterboards.ca.gov](mailto:tcleak@waterboards.ca.gov).



Trevor Cleak  
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Phone: 916.478.2265  
Fax: 916.691.3175

Web: [www.elkgrovecity.org](http://www.elkgrovecity.org)

Development Services – Planning  
8401 Laguna Palms Way  
Elk Grove, California 95758



March 20, 2015

Sacramento Regional County Sanitation District (Regional San)  
Jose Ramirez, Project Manager  
10060 Goethe Road  
Sacramento, CA 95827

**RE: Notice of Preparation of an Environmental Impact Report for the South Sacramento County Agriculture & Habitat Lands Recycled Water Program (Project)**

Dear Mr. Ramirez,

On behalf of the City of Elk Grove (City), thank you for providing us an opportunity to review and comment on the Notice of Preparation (NOP) for this Project. The City understands that this project will provide up to 50,000 acre-feet per year of Title 22 tertiary-treated recycled water for agricultural purposes in the South County, as well as a potential groundwater recharge area of approximately 5,000 acre-feet per year. The Project would also provide recycled water to support habitat at the Stone Lakes NWR to protect sensitive resources.

The City applauds Regional San's efforts on this Project. When completed, these improvements will provide another source of water for agricultural operations in the South County and can lessen reliance on groundwater sources, thereby creating benefits for the rest of the region. Further, the benefits to the Stone Lakes NWR are not to be understated.

That said, the City remains concerned about the limited nature of the Project. For more than the past decade, development projects south of Elk Grove Boulevard have been required to provide "purple pipe" infrastructure for roadside, park, and trail landscaping. This added expense has been incurred in the hope that Title 22 tertiary-treated recycled water would someday be available to the area. The proposed Project includes construction of trunk infrastructure from the Regional Plant on Franklin Boulevard south, roughly along the alignment of the Union Pacific Railroad line. This runs directly past the planned point of connection at Whitelock Parkway and Franklin Boulevard. Given this, the City believes the Project should be modified to provide opportunity for this connection should either (1) additional water become available in later phases or (2) acceptance of the Title 22 water by agricultural users runs substantially below capacity. This may require upsizing the trunk line from the Regional Plant to Whitelock Parkway. The City is happy to meet with you to discuss this in further detail and work to identify solutions. The provision of Title 22 water to urban users is just as critical as agricultural users.

Should you have any questions, please feel free to contact me or Richard Shepard, the City's Public Works Director, at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read "Darren Wilson", is written over a light blue horizontal line.

Darren Wilson, PE  
Planning Director  
City of Elk Grove

**DEPARTMENT OF TRANSPORTATION**

DISTRICT 3 – SACRAMENTO AREA OFFICE  
2379 GATEWAY OAKS DRIVE, STE 150 – MS 19  
SACRAMENTO, CA 95833  
PHONE (916) 274-0635  
FAX (916) 263-1796  
TTY 711



*Serious drought.  
Help save water!*

March 23, 2015

032015-SAC-0031  
03-SAC-5 / 4.653  
SCH# 2015022067

Mr. Jose Ramirez  
Sacramento Regional Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827-3553

**South Sacramento County Agriculture & Habitat Lands Recycled Water Program – Notice of Preparation for a Draft Environmental Impact Report (NOP)**

Dear Mr. Ramirez:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. The Sacramento Regional Sanitation District is proposing to provide tertiary-treated recycled water to 16,000 acres of irrigated lands in south Sacramento County via a new transmission pipeline and new pump station at the Sacramento Regional Wastewater Treatment Plant (SRWTP). Distribution mains from the transmission pipeline and lateral service connections to potential customers, and potential recharge area and diluent wells are the program-level components of the proposed project. The project is located south of the City of Elk Grove between the Interstate 5 (I-5) / Hood-Franklin Rd. interchange (IC) and the I-5 / Twin Cities Rd. IC, and in portions of Stone Lakes National Wildlife Refuge. The following comments are based on the NOP.

***Encroachment Permit***

Please be advised that any work or traffic control that would encroach onto the State Right of Way (ROW) requires an encroachment permit that is issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State ROW must be submitted to the address below.

Sergio Aceves  
Caltrans, District 3 Office of Permits  
703 B Street  
Marysville, CA 95901

Mr. Jose Ramirez, Sacramento Regional Sanitation District  
March 23, 2015  
Page 2

Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. See the website link below for more information.  
<http://www.dot.ca.gov/hq/traffops/developserv/permits/>.

### ***Hydraulics***

The transmission mains or distribution mains must not be located within State ROW at I-5.

Proposed distribution mains if placed under I-5 shall be placed by directional drilling under I-5; and no open cut across I-5 will be permitted.

Directional drilling pits must be excavated outside State ROW at I-5. Spoils must not be placed within State ROW.

Spoils from the proposed project must not be placed at any locations that may impede or cause the redirection of drainage flows from the highway.

Any pipes placed under I-5 must be encased within a larger conduit.

Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Arthur Murray, Intergovernmental Review Coordinator at (916) 274-0616 or by email at: [arthur.murray@dot.ca.gov](mailto:arthur.murray@dot.ca.gov).

Sincerely,



ERIC FREDERICKS, Chief  
Office of Transportation Planning – South

c: Scott Morgan, State Clearinghouse

**Environmental Management  
Department**

Val F. Siebal, Director



**County of Sacramento**

**Divisions**

Environmental Compliance  
Environmental Health

March 23, 2015

Sent via Electronic Mail and Regular Mail

Jose Ramirez, Project Manager  
Regional San  
10060 Goethe Road  
Sacramento, CA 95827  
Email: ramirezj@sacsewer.com

**Subject: Comment Letter – Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for Regional San’s South Sacramento County Agriculture & Habitat Lands Recycled Water Program (Project)**

Dear Mr. Ramirez:

Sacramento County Environmental Management Department (EMD) has reviewed the above referenced NOP. The Project would deliver up to 50,000 acre-feet per year of Title 22 disinfected tertiary treated recycled water to approximately 16,000 acres of irrigated lands in southern Sacramento County. Recycled water would be generated at the Sacramento Regional Wastewater Treatment Plant (SRWTP) and conveyed to customers using a new pump station at the SRWTP and through a new network of recycled water pipelines located on public road rights-of-way, private roads, and agricultural land. The proposed Project would also include a potential recharge area to increase recycled water usage and benefit the local groundwater basin through increasing groundwater tables. Additionally, the Project includes provision of recycled water use to support wetland habitat at the Stone Lakes National Wildlife Refuge.

Additionally, EMD requests that we be added to the recycled water stakeholder list for future project review and comment.

Please contact me for any additional information and clarification.

Sincerely,

A handwritten signature in black ink, appearing to read "CHUNLEY".

Chris Hunley, REHS  
Environmental Compliance Division

Attachment



## COMMENTS

## **Pump Station**

The NOP states that one new above-ground distribution pump station would be constructed at the SRWTP to pressurize the new recycled water system. The proposed distribution pump station would be located between Central Street and South Landfill Way which is north of an existing closed landfill that accepted grit and screenings from SRCSD. Per Title 27 of the California Code of Regulations (27 CCR), Section 21190 (c), the Local Enforcement Agency (LEA) shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.

If the project involves structures within 1,000 feet of the landfill, then the structures must meet the construction standards of 27 CCR 21190 (g), or an exemption must be applied for and approved by the LEA and CalRecycle.

Please provide additional information on the distance of the WRF from the closed landfill and describe how the requirements of 27 CCR 21190 will be met.

## **Recycled Water Pipelines**

Please discuss on how the Project will address safety of the public health and environment including plan review, permitting and inspection procedures for the potential Project customers. Also, please discuss how the Project will address future land use changes within the Project boundaries.

## **Hazards and Hazardous Materials**

Please address how Regional San will address hazardous materials storage and/or hazardous waste generation. As the project is going to be a year-long (and possibly longer) construction site, please include the following language in the draft EIR.

“If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any laydown area along the pipeline, separate hazardous materials and/or hazardous waste permits may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations. Since construction of the main pipeline is anticipated to last 13 months the construction exemption outlined in Sacramento County Code 6.96.095 may not apply.”

For permanent structures, please add the following language.

“If hazardous materials are stored in reportable quantity and/or hazardous waste is generated at any appurtenant facilities along the pipeline, a separate hazardous materials and/or hazardous waste permit may be required for each location. Permits are business and owner specific and may not be transferred to other owners or locations.”

## **Potential Recharge Area and Diluent Well**

The NOP describes the potential to apply recycled water to a recharge area of approximately 560 acres. Direct recharge of recycled water requires that the recycled water be blended with non-recycled diluent water. Up to three diluent wells located 2,000 to 6,000 feet from the potential recharge area and associated pipelines would be needed to extract and convey the water to the potential recharge area for blending purposes.

Please note that the construction of new wells is permitted through EMD's Well Program.

# **Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for Regional San's South Sacramento County Agriculture & Habitat Lands Recycled Water Program**

Comments prepared by the Sacramento County Water Agency (water supply)  
March 23, 2015

1. The Project Background states that the project "overlies the central Sacramento groundwater basin (Central Basin)." This should more accurately state that the project overlies a portion of the Central Basin and should be appropriately represented as such in the EIR.
2. The Project Objectives state that one of the objectives is to reducing groundwater pumping in the Central Basin by supplying recycled water to agricultural customers. This is further defined in the Project Operation section by stating that, "The Project is designed to deliver up to two-thirds of the maximum month demand during the irrigation season..." and "The remaining demand would be met by groundwater pumping, the existing source of water supply."
  - a. The NOP seems to indicate that recycled water will be available for irrigation purposes during all hydrologic years. If there are any other additional operational constraints or variations the EIR should reflect this.
  - b. The Project Objectives mentions both "regional water needs" and "environmental benefits" but only describes the environmental benefits. The EIR should describe in more detail their understanding of what meeting "regional water needs" means.
3. The Potential Recharge Area and Diluent Well section states that, "Diluent water could be provided from groundwater sources." The EIR should indicate what other sources of diluent water are available proximate to the proposed location of the recharge area and identify the volume of water necessary to meet state requirements for dilution.
4. Previous conversations with Regional San have indicated that the proposed transmission line would provide recycled water to the Phase 2 portion of SCWA's recycled water pilot project. No mention of this can be found in the NOP. The EIR should identify this as a component of the proposed project.

March 23, 2015

Jose Ramirez, Project Manager  
Sacramento County Regional Sanitation District  
10060 Goethe Road  
Sacramento, CA 95827

**Re: Notice of Preparation of a Draft Environmental Impact Report for Regional San's  
South County Agriculture and Habitat Lands Water Recycling Program**

Dear Mr. Ramirez:

Thank you for the opportunity to provide recommendations regarding the scope of Sacramento Regional County Sanitation District's (Regional San) Draft Environmental Impact Report (DEIR) for the South County Agriculture and Habitat Lands Water Recycling Program (Project). Groundwater modeling done on behalf of The Nature Conservancy (Conservancy) and as part of the Project's Feasibility Study shows potential for the Project to have significant ecological benefit for the habitats and species dependent on the adjacent Cosumnes River Preserve (Preserve) if implemented appropriately.

The Preserve is managed as a partnership among eleven federal, state, local and non-profit partners, including the Conservancy. We have been active for over 30 years in preserving this area due to its exceptional ecological values, which include both natural areas such as riparian forests, wetlands and grasslands and working lands in grazing or wildlife friendly agriculture. Agriculture, both in the Preserve and in the Project area, provides important habitat for a variety of native and listed species including greater sandhill cranes, Swainson's hawks and giant garter snakes.

The Conservancy has long recognized the importance of groundwater in protecting the conservation values of the Preserve. Beginning with the 1993 Water Forum Agreement and continuing to the 2007 MOU to develop Groundwater Management Plans and governance structures for the Central and South Sacramento Groundwater Basins, and most recently in 2011 with the Sacramento Water Recycling Coalition, we have supported regional planning that balances water supply and environmental needs. A representative of conservation interests, including the Conservancy, currently serves as a board member on the Sacramento Central Groundwater Authority (SCGA), and we have hosted multiple stakeholder meetings and performed advanced modeling to help understand and integrate better long-term groundwater management.

The cities, small communities, and irrigated agriculture in the vicinity of the Project largely rely on local groundwater for their water supplies. Their withdrawals have resulted in large areas where groundwater levels have been considerably lowered as compared with pre-development levels. Such areas, referred to as regional cones of depression, have developed both north and south of the Cosumnes River (Mount et al. 2001, Fleckenstein et al. 2004). As a result, the river

loses flow to the groundwater along most of its lower reaches and the river goes dry every summer and fall when the leakage to groundwater exceeds the river flow coming from the mountains. This is damaging to salmon, as flows are often insufficient in the fall to allow for successful escapement and spawning in the gravel reaches upstream of Rancho Murrieta on the Cosumnes. In addition, the riparian forests of the Cosumnes River Preserve developed in conditions of perennially high groundwater levels, and the lowered groundwater levels leave the riparian forests dependent on intermittent high flows of the Cosumnes or uncertain local water supplies, threatening their long-term viability.

Multiple studies have assessed the impacts of lowered groundwater levels, and methods of mitigating these impacts. Based on the 2001 study by Mount et al., the Conservancy initiated the Cosumnes River Flow Augmentation to pre-wet the channel. We undertook this effort in the early fall of 2005 to determine whether the pre-wetting of the channel would allow for earlier connection of instream flows between the Delta and upstream spawning gravels. In 2011, the Conservancy completed a study that showed the groundwater, ecological and integrated water management benefits of bringing additional surface water into the basin as an in-lieu irrigation water supply.

While we are still conducting additional modeling, based on initial results there is potential for significant ecological benefits from Project implementation by providing alternative water supplies, thereby reversing declining groundwater levels and improving conditions for riparian forest, wetlands, in-stream flows and agriculture. There are also areas where the Project and the assessment of its benefits could be improved. We look forward to continuing to work with Regional San to identify the best project design and environmental assessment.

### **1. Agricultural Resources**

Over 80% of the Preserve is in agriculture, and the surrounding agricultural properties provide an important wildlife friendly farming buffer that also benefits species. This Project has the potential to improve the long-term sustainability of farmland in the area, particularly in drought and potential climate change scenarios. Higher priced and more reliable water supplied by the Project also has the potential to push cropping patterns towards more profitable but less wildlife friendly permanent crops, such as vineyards or walnuts. The potential for the project to drive conversion of wildlife friendly crops to permanent crops should be explored and potentially mitigated through protection mechanisms including the application of conservation easements designed to protect wildlife-friendly farming practices. There may be synergistic opportunities to partner with other mitigation programs in this effort, such as the South Sacramento Habitat Conservation Plan (SSHCP) and Bay Delta Conservation Plan (BDCP). The Conservancy and other local and regional conservation entities have a long experience with voluntary mechanisms, such as conservation easements, to shape compatible practices on agricultural lands, and we look forward to exploring options in this vein with Regional San.

The engineered recharge basin as proposed in the Feasibility Study would remove a significant amount of wildlife friendly agriculture from the vicinity of the Preserve. The Conservancy has proposed exploration of alternate uses for this area that would maintain wildlife friendly agriculture, expand use of treated wastewater beyond just in-lieu irrigation and incorporate improved riparian restoration opportunities resulting from raised groundwater levels. Such

options may include, for instance, deliberate over-irrigation of working agricultural lands at times, creating shallow ponds to maximize waterfowl and crane use. The Conservancy requests Regional San's consideration of alternative designs for this area that may provide water management and habitat benefits.

## **2. Biological Resources**

The DEIR should incorporate the potential benefits of the Project for a full range of habitats from closed-canopy forest to completely open grasslands. The Conservancy has suggested using the per-acre price of riparian mitigation credits as one method of assigning monetary value to this benefit. Determining the acres that have been ecologically enhanced depends on several factors, including the spatial distribution of Project water application, with application close to the Cosumnes potentially providing more benefit. Therefore, we request that Regional San explore a Project component in which irrigated lands closest to the Cosumnes River have highest priority and/or greatest incentives for receipt of Project water.

The Cosumnes is a groundwater dependent ecosystem, and as such, another potential benefit of the Project is the additional habitat health resulting from raising groundwater levels. However, much knowledge remains to be gained regarding the type and amount of ecological benefit achieved by raising groundwater to various depths. To maximize project benefits, we request a robust groundwater monitoring component to track groundwater levels and habitat health in the basin to inform adaptive management of the Project to maintain ecological benefits. Three additional factors influencing the net benefit to riparian habitats are included in the Hydrology section below. They are the amount of future "take" (potential periodic withdrawals of groundwater that is "stored" by the Project in the groundwater basin), the location of take wells, and the design of a potential recharge basin.

We encourage Regional San to incorporate the best available science when determining what levels of groundwater recharge are most beneficial for a riparian forest response. While this science continues, any results should be incorporated into the DEIR assessment of project benefits and used for long-term adaptive management of the Project, particularly in potential future groundwater banking scenarios. Such an assessment should help ensure that specific benefits from the Project are realized for the environment and that overall sustainable water resource management is achieved, as called for in California's new Sustainable Groundwater Management Act.

The Project analysis should also assess Project benefits for species that depend on in-stream flows. For anadromous fisheries, the assessment should take into account the seasonality of increased flows and degree of benefit, given that only full reconnection of the river between the Delta and upstream spawning gravels in the fall results in successful escapement. Improvements over a portion of the dry reach is an incremental improvement, and should be calculated as such. There are other potential benefits, as well, for wetlands and other species dependent on groundwater and connected surface water. Any potential subsequent withdrawals of added water through a groundwater banking program should be designed, fully studied, and adaptively managed to maintain Project benefits (see below).

### Northeast expansion

The Conservancy has been engaged in modeling a potential expansion of the project footprint in the area between Highway 99 and Wilton Road, and the Cosumnes River on the south and Grant Line Road on the north. The Conservancy has asked our consultant to model any increased groundwater benefits this area would have, as well as provide an initial rough estimate of the additional costs. We request that Regional San consider the results of this analysis and consider expanding the project into this area if results are favorable.

#### Pre-wetting the Cosumnes channel

The Conservancy encourages Regional San to explore incorporation of project elements that would pre-wet the channel as part of the Project. Prior studies have hypothesized and demonstrated that fall pre-wetting could provide significant anadromous fish benefits. Regional San could, for example, swap tertiary water entering the Sacramento River for flows that could be introduced into Cosumnes through the Freeport Regional Water Project (Freeport Project) diversion, Folsom South canal, or other upstream diverters. We encourage inclusion of this as a project component, as it would add significantly to the project's potential benefits for anadromous fish. The Conservancy's pre-wetting study estimated that appropriately timed and metered early fall flows totaling approximately 5,000 AF would accomplish the targeted goals.

### **3. Hydrology & Water Quality**

#### Groundwater Banking opportunities

Given that the cost of water supplied by the Project is estimated to be higher than pumping similar quantities of groundwater and that SCGA is developing a Groundwater Accounting Program (GAP) concurrently with the Project, we expect that this Project will ultimately contribute to a groundwater banking program which has a "take" component, that is, some portion of the water "stored" in the groundwater basin as a result of this project, perhaps in combination with other projects, might be withdrawn under certain conditions, such as for drought water supply. We encourage exploration of such banking programs, as such projects are important tools for local or regional water supply reliability. However, we would like to make sure that any ecological benefits that are attributed to the Project aren't put at risk through development of a water bank or withdrawal component. Possible methods for protecting improved groundwater conditions for riparian ecosystems are placement of withdrawal wells at a distance from the Cosumnes River, and delivery of as much Project water as possible close to the Cosumnes.

Further, to preserve the ecological benefits of the Project, the Project should include explicit target groundwater levels in the vicinity of benefiting habitats, and an appropriate monitoring and response plan to ensure that the Project is managed to sustain the ecological benefits of the Project. Given the current level of uncertainty with respect to what groundwater levels are necessary to support the target habitats, an appropriate adaptive management approach should be designed and implemented to guide refinement of groundwater management strategies going forward. Accordingly, the GAP should be designed to leave groundwater not only to maintain overall groundwater balance but also to restore groundwater in parts of the basin to levels that support the overlying habitats.

There is already a rigorous groundwater monitoring program at the Preserve run by the Conservancy and UC Davis that could serve as a starting point for an appropriate monitoring and adaptive management program.

#### Water Quality

Given the potential use of Project water in managed wetlands and other areas with high wildlife use including migratory birds, fish, and amphibians, the DEIR should consider the potential impacts from constituents that are not removed during treatment, including endocrine disruptors.

#### Recharge basin design and assessment

The South County Ag Recycled Water Feasibility Study (Regional San, 2014) included construction of a dedicated, engineered recharge basin near the Cosumnes River. The analysis presented showed minimal groundwater recharge benefits from operation of this recharge basin using surface water as diluent. The net benefits did not appear to be environmentally significant. Given that diluent would actually be drawn from the groundwater itself, recharge may actually be less than modeled. In addition, no other area within Sacramento County offers similar potential for large scale advance mitigation opportunities to protect compatible agriculture, groundwater recharge and riparian restoration. Therefore the Conservancy recommends exploration of an alternative design for this property that could make maximum use of its potential, as described here and above in the Agricultural Resources section.

Overall, there are a wide range of impacts from the Recharge Basin Project that should be considered in the analysis including:

- Ownership and maintenance of the recharge basin and associated groundwater wells.
- Effects and feasibility of blending with diluent water. Rainfall and groundwater production are considered the most feasible diluent water sources.
- Impacts associated with the removal of agricultural habitat on lands that are placed in the recharge basin.

It is possible that some alternative designs, such as described above in the agricultural resources section, may have preferable blending requirements while also providing additional habitat benefits, such as winter habitat for migratory birds, and maintaining productive agricultural lands.

#### **4. Land Use & Planning**

There are multiple regional plans that should be considered as part of Project design and assessment. The Integrated Regional Water Management (IRWM) program is defined by the California Department of Water Resources as a collaborative effort to manage all aspects of water resources in a region. IRWM is widely touted as the most promising means for meeting California's current and future water supply challenges. The Conservancy is working to ensure that ecosystem needs, such as adequate instream flow, appropriate water temperatures, and groundwater levels sufficient to support riparian habitats, are considered proactively and integrated with the ability to provide water for multiple beneficial uses. The American River IRWM covers the project area, and demonstrates how the water needs of ecosystems can be integrated with those of human communities and agriculture. Conjunctive use with groundwater



recharge from treated wastewater could be a major tool in the integrated water management repertoire, improving groundwater conditions and meeting other habitat needs while simultaneously improving the water supply conditions for cities and agriculture.

As described, and especially with enhancements suggested here, the Project could also support mitigation requirements that are part of the SSHCP and BDCP if implemented. Protection of wildlife-friendly agriculture in the areas south of the urbanized areas and outside Spheres Of Influence is also consistent with the County of Sacramento General Plan. A consistent water supply through in-lieu irrigation and improved conjunctive use opportunities supports continuation of farming in the area, and therefore the Project also conforms with and supports the SACOG 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy. The DEIR should also consider the Project's conformance with the Cosumnes River Preserve Management Plan and LAFCO policies.

Again, given our current level of understanding, the Conservancy sees this project as potentially offering considerable value for local and regional water supply sustainability, for habitat improvement, and for responsible land use planning more generally. If shaped in the correct way, projects like this one may be key parts of a balanced water future for California. Accordingly, we request that Regional San carefully consider the ideas we have presented here, as well as positive enhancements proposed by others, as you conduct the DEIR.

Thank you again for the opportunity to comment on the Scope of the DEIR. The Conservancy looks forward to working with Regional San to inform and strengthen the DEIR.

Sincerely,

A handwritten signature in cursive script that reads "Jesse Roseman".

Jesse Roseman  
Project Director, Cosumnes River and Delta

## References

2001. Mount, et al. Linked Surface Water- groundwater Model for the Cosumnes River Watershed: Hydrologic Evaluation of Management Options to Restore Fall Flows.
2004. Fleckenstein, J., M. Anderson, G. Fogg, and J. Mount. Managing Surface Water-Groundwater to Restore Fall Flows in the Cosumnes River. Journal of Water Resources Planning and Management. 130:4.
2006. Robertson-Bryan, Inc., Fisheries Foundation of California. Cosumnes Flow Augmentation Project: 2005 Pilot Project. AFRP.
2011. The Nature Conservancy. The Promise of Reservoir Re-Operation: Implications for Integrated Water Management.
2014. Regional San. South County Ag Recycled Water Feasibility Study.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

November 30, 2015

David Murillo  
Regional Director, Mid Pacific Region  
U.S. Bureau of Reclamation  
Attn: Douglas Kleinsmith  
2800 Cottage Way  
Sacramento, California 95825-1898

Subject: Notice of Intent to Prepare an Environmental Impact Report / Environmental Impact Statement for the Sacramento Regional County Sanitation District South County Ag Water Recycling Program, Sacramento County, CA

Dear Mr. Murillo:

The U.S. Environmental Protection Agency has reviewed the Federal Register Notice published October 30, 2015 requesting comments on the U.S. Bureau of Reclamation's decision to prepare a Draft Environmental Impact Report / Environmental Impact Statement for the Sacramento Regional County Sanitation District South County Ag Water Recycling Program. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

Reclamation, along with the Sacramento Regional County Sanitation District, is beginning the preparation of a DEIS / EIR to evaluate alternatives that would provide recycled water from the Regional San Sacramento Regional Water Treatment Plant to irrigated lands in southern Sacramento County for agricultural and urban landscape uses and to the Stone Lakes National Wildlife Refuge.

EPA recognizes encourages the use of recycled wastewater to address water supply concerns and to reduce pressure on groundwater use. To assist in the scoping process for the project, EPA has identified several issues for consideration in the development of the DEIS.

**Purpose and Need**

The DEIS for the proposed project should clearly identify the underlying purpose and need that is the basis for proposing the range of alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

The purpose and need should be a clear, objective statement of the rationale for the proposed project, as it provides the framework for identifying project alternatives. It should discuss the current and projected demand for recycled water and whether or not limitations of the current discharge regime are part of the need for action. The DEIS should concisely identify why the project is being proposed, why it is being proposed now, and should focus on the specific desired outcomes of the project (e.g. reduce usage of

groundwater, maximize beneficial use of recycled water) rather than prescribing a predetermined resolution. The purpose and need should also clearly describe Reclamation's role in the project.

### **Regulatory Framework**

The DEIS for the proposed project should include a comprehensive description of the regulatory context of the project. This section should include a description of any permits that the project will require (e.g. National Pollutant Discharge Elimination System (NPDES) permits for discharges to Waters of the United States).

On June 3, 2014, the State Water Resources Control Board adopted a statewide General Order titled *General Waste Discharge Requirements for Recycled Water Use*.<sup>1</sup> Page 6 of the General Order states that it applies to "recycled water projects where recycled water for non-potable use is used or transported." In the regulatory framework of the DEIS, include a discussion of the General Waste Discharge Requirements for Recycled Water Use and discuss whether the action alternatives are covered by the General Order.

### **Range of Alternatives**

All reasonable alternatives that fulfill the project's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of Reclamation (40 CFR Section 1502.14(c)). The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail.

A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g. acres of wetlands impacted; change in water quality).

The No Action Alternative should clearly describe the current wastewater discharge regime at the Regional San Sacramento Regional Water Treatment Plant. It should specify the regulatory vehicle that governs the discharge regime and include details of all permits and transfers related to the current discharge. The description of the No Action Alternative should also indicate if there are existing compliance concerns regarding any aspects of current permits and waste discharge requirements, such as volumetric or pollutant limits. The action alternatives should include descriptions of the anticipated NPDES permit restrictions and the percentage of effluent to be diverted, including both millions of gallons per day and acre feet calculations.

The Notice of Intent indicated that the project could provide water for groundwater recharge. The range of alternatives should explore aquifer recharging as an alternate use for the recycled wastewater. Such an analysis should include the environmental impacts of spreading basins and their uses in flood management. All action alternatives should identify how and where the recycled water would be used and how each of those uses would impact groundwater.

---

<sup>1</sup> [www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2014/wqo2014\\_0090\\_dwq\\_revised.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0090_dwq_revised.pdf)

Each action alternative should describe the proposed percentage distribution of project water for irrigation, groundwater recharge, and wildlife refuges and the mechanism by which this distribution might change over time.

### **Water Quality**

Each of the Action Alternatives should include a robust discussion of impacts to water quality. This should include identifying the applicable water quality standards and beneficial uses of receiving waters that receive discharges from the proposed project.

The analysis should include a description of the impacts from reduced discharge volume to the current discharge locations and waters, including but not limited to any impacts to flow of the Sacramento River. The discussion should also include impacts to water quality in the Bay Delta and current modeling efforts in that region. Explore whether or not contributions to the Delta Regional Monitoring Program will be impacted by the proposed diversions and if the proposed project would have a consequential effect on the Delta RMP.

Further, the analysis should include a description of the Waters of the U.S. within the wildlife refuges that may receive project water and how any discharges to Waters of the U.S. will impact water quality in these locations.

### **Climate Change**

We believe the Council on Environmental Quality's December 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts in NEPA outlines a reasonable approach, and we recommend that Reclamation use that draft guidance to help outline the framework for its analysis of these issues. Accordingly, we recommend the DEIS include an estimate of the GHG emissions associated with the project, analyze reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions, and qualitatively describe relevant climate change impacts. More specifics on those elements are provided below. In addition, we recommend that the NEPA analysis incorporate measures to increase resilience to foreseeable climate change and GHG reduction measures. The draft and final EIS should make clear whether commitments have been made to ensure implementation of design or other measures to reduce GHG emissions or to adapt to climate change impacts.

More specifically, we suggest the following approach:

#### **"Affected Environment" Section**

Include in the "Affected Environment" section of the DEIS a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program<sup>2</sup> assessments, to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts. Substantially higher temperatures and rising sea levels are two of the direct impacts experienced in the west that can be attributed, at least partially, to climate change. We also encourage Reclamation to draw on its extensive research into the expected effects of climate change on the arid west to create a well-informed document for the public and the decision makers.<sup>3</sup> Among other things, this will assist in identifying resilience-related changes to the proposal that should be considered.

---

<sup>2</sup> [www.globalchange.gov/](http://www.globalchange.gov/)

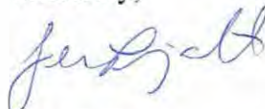
<sup>3</sup> <http://www.usbr.gov/climate/docs/ClimateChangeLiteratureSynthesis3.pdf>

### “Environmental Consequences” Section

- The DEIS alternatives analysis should, as appropriate, consider practicable changes to the proposal to make it more resilient to anticipated climate change.
- Estimate the GHG emissions associated with the proposal and its alternatives. Example tools for estimating and quantifying GHG emissions can be found on CEQ’s NEPA.gov website.<sup>4</sup> For actions which are likely to have less than 25,000 metric tons of CO<sub>2</sub>-e emissions/year, provide a qualitative estimate unless quantification is easily accomplished.
- The estimated GHG emissions can serve as a reasonable proxy for climate change impacts when comparing the proposal and alternatives. In disclosing the potential impacts of the proposal and reasonable alternatives, consideration should be given to whether and to what extent the impacts may be exacerbated by expected climate change in the action area, as discussed in the “affected environment” section.
- Describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures.

We appreciate the opportunity to provide comments on the preparation of the DEIS. Please send one hard copy and one CD of the DEIS to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 947-4167 or [prijatel.jean@epa.gov](mailto:prijatel.jean@epa.gov).

Sincerely,



Jean Prijatel  
Environmental Review Section  
Enforcement Division

---

<sup>4</sup> [https://ceq.doe.gov/current\\_developments/GHG\\_accounting\\_methods\\_7Jan2015.html](https://ceq.doe.gov/current_developments/GHG_accounting_methods_7Jan2015.html)

*This page intentionally left blank*







Prepared by:

2175 N. California Blvd., Suite 315

Walnut Creek, CA 94596

925.627.4100 T

[rmcwater.com](http://rmcwater.com)



# Harvest Water

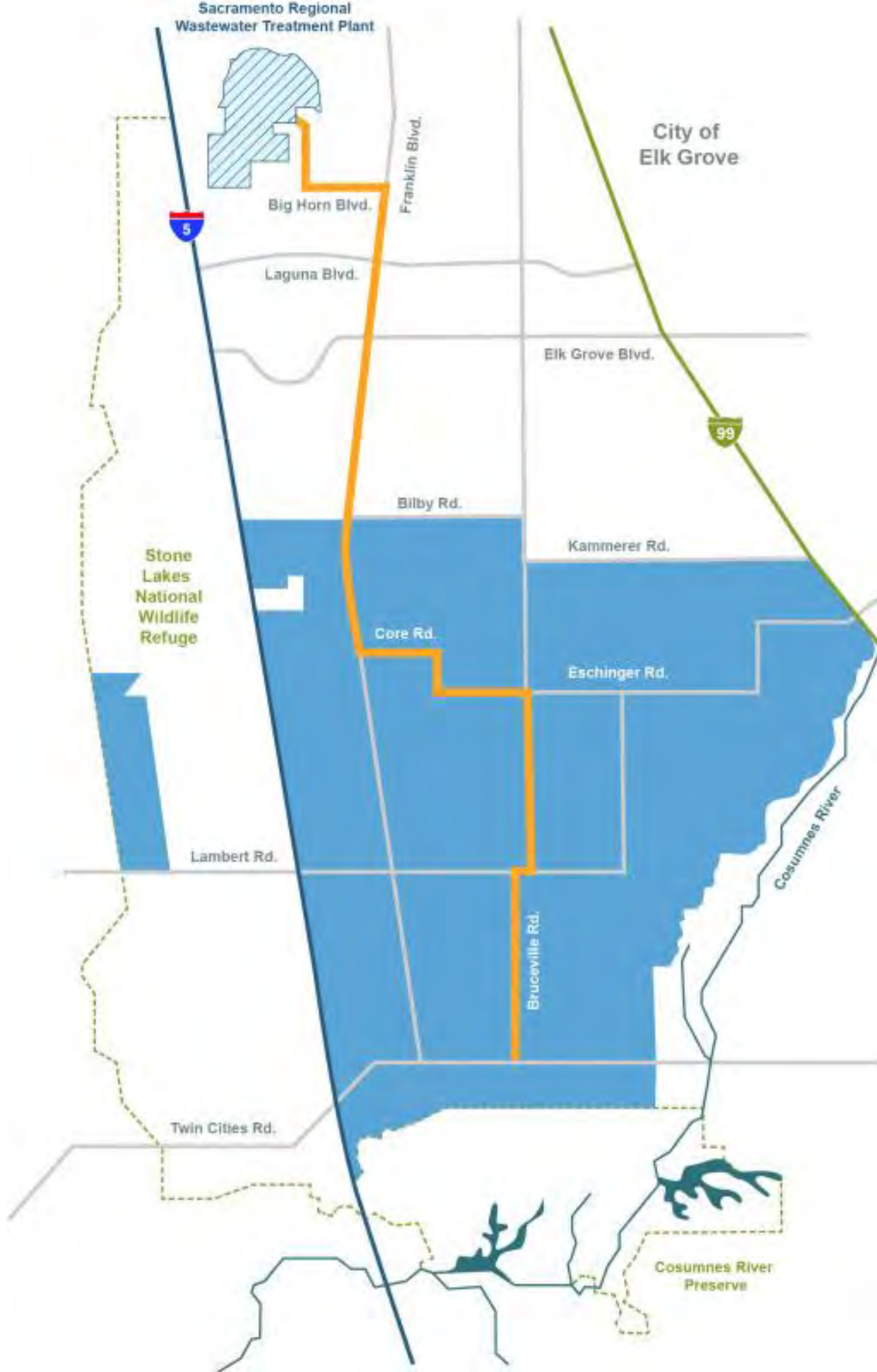
## Recycled Water for Crop Irrigation, Groundwater Restoration, Habitat Protection, and Regional Sustainability

Regional San, in collaboration with regional stakeholders, is developing Harvest Water (formerly called the South County Ag Program). Harvest Water will offer multiple benefits, including providing a safe and reliable supply of tertiary-treated water for agricultural uses, reducing groundwater pumping, supporting habitat protection efforts, and providing near-term benefits to the Sacramento-San Joaquin Delta.

Harvest Water is an exceptional opportunity to proactively restore and manage groundwater, while improving stream flows in the lower Cosumnes River, enhancing riparian habitats and wetlands, sustaining prime agricultural lands, and improving regional water supply reliability. Harvest Water is being developed by Regional San and has the potential to deliver up to 50,000 acre-feet per year (AFY) of drought-resistant [recycled water](#) to irrigate more than 16,000 acres of permanent agriculture and habitat conservation lands near the Cosumnes River and Stone Lakes Wildlife Refuge. Essentially, this recycled water would be used in-lieu of pumping groundwater. Additionally, Harvest Water proposes to implement wintertime irrigation and wildlife-friendly recharge basins in the project area where the soils are suitable, to provide further groundwater recharge.

The California Water Commission announced that Regional San will receive up to \$280.5 million in Proposition 1 grant funding through the Water Storage Investment Program (WSIP) to help make Harvest Water a reality for the Sacramento region. The WSIP funding was awarded based on the public benefits expected as a result of Harvest Water.

Next steps include continuing planning efforts with local farmers and beginning preliminary designs for transmission and distribution systems to convey recycled water from the Sacramento Regional [Wastewater](#) Treatment Plant near Elk Grove to agricultural lands in southern Sacramento county.



**Costs and Funding**

**Benefits**

**Stakeholders**

**Questions? Contact Us!**



**Letter 2**

October 13, 2020

Christopher Jordan  
City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, CA 95758

Ref: Gas and Electric Transmission and Distribution

Dear Christopher Jordan,

Thank you for submitting the Elk Grove Sports Complex & Grant Line Industrial Area Annexation plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

2-1

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: [https://www.pge.com/en\\_US/business/services/building-and-renovation/overview/overview.page](https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page).
2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.
3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

2-2

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851 filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team  
Land Management



## **Attachment 1 – Gas Facilities**

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: <https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf>

1. **Standby Inspection:** A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.
2. **Access:** At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.
3. **Wheel Loads:** To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. **Grading:** PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.
5. **Excavating:** Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch



wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [ $24/2 + 24 + 36/2 = 54$ ] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible ( $90^\circ \pm 15^\circ$ ). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line 'kicker blocks', storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E's ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4') in height at maturity may be planted within the easement area.





11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

## Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as **"RESTRICTED USE AREA – NO BUILDING."**
2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.
3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.
4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.
5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.
6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.
7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.



8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (<https://www.dir.ca.gov/Title8/sb5g2.html>), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 ([http://www.cpuc.ca.gov/gos/GO95/go\\_95\\_startup\\_page.html](http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html)) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.



October 26, 2020

Mr. Christopher Jordan  
City of Elk Grove - Office of Strategic Planning and Innovation  
8401 Laguna Palms Way  
Elk Grove, CA 95758

**Subject: City of Elk Grove Multi Sport Complex and Southeast Industrial Annexation Area Supplemental Environmental Impact Report**

Dear Mr. Jordan,

The Sacramento Regional County Sanitation District (Regional San) and the Sacramento Area Sewer District (SASD) have the following comments regarding the Supplemental Environmental Impact Report for the Multi Sport Complex and Southeast Industrial Annexation project.

Large areas of the Multi Sport Complex and Southeast Industrial Annexation area (Project) are located outside of the SASD and Regional San service areas. Regional San and SASD do not plan for areas located outside of the SASD or Regional San service areas. To receive sewer service, the Project area must annex into both SASD and Regional San service areas. The Project applicant should work closely with the Sacramento Local Agency Formation Commission (<https://saclafco.saccounty.net>) to begin the annexation process.

3-1

Upon annexation, SASD will provide local sewer service for the Project area. Regional San provides conveyance from local trunk sewers to the Sacramento Regional Wastewater Treatment Plant (SRWTP) through large-diameter pipelines called interceptors.

In February 2013, the Regional San Board of Directors adopted the Interceptor Sequencing Study (ISS). The ISS updated the Regional San Master Plan 2000. The ISS is located on the Regional San website at [www.regionalsan.com/ISS](http://www.regionalsan.com/ISS).

3-2

In January 2012, the SASD Board of Directors approved the most current SASD planning document, the 2010 System Capacity Plan Update (SCP). The SCP is located on the SASD website at [www.sacsewer.com/devres-standards.html](http://www.sacsewer.com/devres-standards.html).

3-3

Regional San and SASD are not land-use authorities. Regional San and SASD plans and designs its sewer systems using information from land use authorities. Regional San and SASD base the projects identified within its planning documents on growth projections provided by these land-use authorities.

**Main Office**

10060 Goethe Road  
Sacramento, CA 95827-3553  
Tel: 916.876.6000  
Fax: 916.876.6160

**Treatment Plant**

8521 Laguna Station Road  
Elk Grove, CA 95758-9550  
Tel: 916.875.9000  
Fax: 916.875.9068

**Board of Directors**

Representing:

County of Sacramento

County of Yolo

City of Citrus Heights

City of Elk Grove

City of Folsom

City of Rancho Cordova

City of Sacramento

City of West Sacramento

Prabhakar Somavarapu

*District Engineer*

Ruben Robles

*Director of Operations*

Christoph Dobson

*Director of Policy & Planning*

Matthew Doyle

*Director of Internal Services*

Joseph Maestretti

*Chief Financial Officer*

Nicole Coleman

*Public Affairs Manager*

[www.regionalsan.com](http://www.regionalsan.com)

Mr. Christopher Jordan

October 26, 2020

Page 2

Onsite and offsite environmental impacts associated with extending sewer services to this development should be contemplated within this Environmental Impact Report. 3-4

The project proponents propose connecting the Project wastewater conveyance facilities to existing SASD facilities located within Grant Line Road and within the Southern Pacific railroad corridor located along the western border of the Project site. The project proponent must complete a Sewer Master Plan that includes connection points and phasing information to assess the capacity of the existing sewer system to accommodate the additional flows generated by this project. 3-5

Customers receiving service from Regional San and SASD are responsible for rates and fees outlined within the latest Regional San and SASD ordinances. Fees for connecting to the sewer system recover the capital investment of sewer and treatment facilities that serves new customers. The SASD ordinance is located on the SASD website at [www.sacsewer.com/ordinances.html](http://www.sacsewer.com/ordinances.html) and the Regional San ordinance is located on the Regional San website at [www.regionalsan.com/ordinance](http://www.regionalsan.com/ordinance). 3-6

If you have any questions regarding this letter, please feel free to contact me at (916) 876-6104 or by email: [armstrongro@sacsewer.com](mailto:armstrongro@sacsewer.com).

Sincerely,

*Robb Armstrong*

Robb Armstrong

Regional San Development Services & Plan Check

cc: SASD Development Services

### 3.15 UTILITIES AND SERVICE SYSTEMS

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo), stating that LAFCo “maintains an interest” in the project’s impacts on water availability. The City reviewed and considered this information during preparation of this section.

A letter from the Sacramento Metropolitan Utility District (SMUD) expressing interest in impacts of the Project related to overhead and or underground transmission and distribution line easements; utility line routing; electrical load needs/requirements; energy efficiency; climate change; cumulative impacts related to the need for increased electrical delivery; the potential need to relocate and or remove any SMUD infrastructure.

Comments were also received by an individual requesting that the SEIR evaluate the effects of climate change on water availability. The California courts have stated that the required focus of an EIR is on the physical impacts of a project on the environment, not the impacts of the environment on a project. Therefore, the potential effects of climate change on water availability are not evaluated in this document. However, water supply planning efforts that are undertaken by a variety of agencies such as the City of Elk Grove, Sacramento County Water Agency, and the groundwater sustainability agencies that are currently jointly preparing the Groundwater Sustainability Plan for the South American Subbasin (see the Section 3.10, “Hydrology and Water Quality”) may consider climate change. The same individual also requested that the SEIR evaluate the financial cost to the community of improving water infrastructure and providing water to the proposed development. However, pursuant to the CEQA Guidelines Section 15131, “economic or social effects of a project shall not be treated as significant effects on the environment”, and therefore such impacts are not evaluated in this SEIR.

#### 3.15.1 ENVIRONMENTAL SETTING

As reported in the 2019 SOIA EIR, utilities and service systems would be provided to future development by the Sacramento County Water Agency (SCWA), the Sacramento Area Sewer District (SASD) (formerly known as County Sanitation District-1), and Sacramento Regional County Sanitation District (SRCSD).

3-7

Since the 2019 SOIA EIR was approved, additional detailed water supply and wastewater studies have been conducted relative to the infrastructure that would be required to serve the Project site. Additional information related to on-site and off-site infrastructure needs is summarized below.

#### WATER SUPPLY

Currently, there are no public water supply facilities within the Project site. The majority of the Project site is located within the “overlap service area” of the Omochumne-Hartnell Water District (OHWD) and the SCWA, with the exception of 17 acre and 48 acres that are located exclusively in the OHWD and SCWA service areas, respectively.

Domestic water supplies are currently provided by private groundwater wells and most agricultural water supplies are provided by OHWD’s irrigation wells. The water use for the Project site was estimated using average annual water demand factors and the acreage of crop types within the SOIA Area (Johnson and Cody 2015, Jensen pers. comm., 2018). As shown in Table 3.15-1, the total annual water usage for agricultural crops on the SOIA Area is approximately 1,981.5 acre-feet per year (afy).

Crop Type	Average Annual Water Use per Acre <sup>1</sup>		Estimated Acres within SOIA Area <sup>2</sup>	Total Annual Water Usage (afy)
	Acre-Feet	Gallons		
Oats	1.4	456,192	118	165.2
Pasture	4.1	1,335,990	443	1,816.3
<b>Total</b>	<b>3.8</b>	<b>1,792,182</b>	<b>561</b>	<b>1,981.5</b>

Notes: afy = acre-feet per year  
Average acre-feet applied per acre values used from Johnson and Cody 2015. For oats, the value for grains was used (i.e., barley, oats, and rye).  
Acreage of crop types was provided by the Sacramento County Agricultural Department.  
Source: Average Annual Water Use per Acre from Johnson and Cody 2015; Jensen, pers. comm., 2018

### **Water Supply Sources for SCWA Zone 40**

Future development of the Project site would require adequate treated water service. As noted in the 2019 SOIA EIR, areas inside Zone 40 are served conjunctively with groundwater (pumped from the South American Sub-basin of the Sacramento Valley Groundwater Basin, which is identified locally as the Central Basin), surface water, and recycled water. SCWA’s conjunctive use program is a coordinated approach to manage surface water and groundwater supplies to maximize the yield of available water resources. In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers, consistent with the entitlement contracts described below and shown in Table 3.15-2. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry water years, SCWA’s surface water could be reduced based on recommended dry-year cutback volumes outlined in the Water Forum Agreement—those volumes that purveyors have agreed not to divert from the American River during dry years. During dry years, SCWA would increase groundwater pumping so that it could continue to meet the water demand of its customers.

#### **Surface-Water Supplies**

SCWA surface-water supplies are obtained from the following sources (Brown and Caldwell 2020):

- ▶ Central Valley Project Water (Public Law 101-514 [“Fazio water”]) – SCWA executed a Central Valley Project (CVP) water-service contract pursuant to Public Law 101-514 (referred to as “Fazio water”) that provides a permanent water supply of 22,000 afy, with 15,000 afy allocated to SCWA and 7,000 afy allocated to the City of Folsom.
- ▶ SMUD 1 Assignment – 15,000 afy of SMUD’s CVP contract water has been assigned to the SCWA under the terms of an agreement with SMUD. The long-term availability of SMUD 1 water is 13,000 afy.
- ▶ SMUD Assignment 2 – 15,000 afy of SMUD’s CVP contract water has been assigned to the SCWA under the terms of an agreement with SMUD. The long-term availability of SMUD 2 water is 13,000 afy.
- ▶ Appropriative Water Supplies – the State Water Resources Control Board (SWRCB) appropriates water from the American River to SCWA under Permit 21209. The amount of appropriated water available for use could range up to 71,000 afy in wet years, primarily during winter months.

- ▶ City of Sacramento’s American River Place of Use Agreement – The City of Sacramento provides wholesale American River water to SCWA for use in a portion of the SCWA 2030 Study Area that lies within the City of Sacramento’s American River POU. The estimated long-term average volume of water that would be used by SCWA within this Place of Use Agreement would be approximately 9,300 afy.
- ▶ Other Water Supplies – Other water supplies are water transfers that would be obtained from various water users that hold surface water rights on the Sacramento River and the American River upstream of SCWA’s point of diversion. To obtain these supplies, SCWA would enter into purchase and transfer agreements with other entities that hold surface water rights. SCWA’s estimated long-term average use of these water supplies would be approximately 9,600 afy.

Table 3.15-2 summarizes SCWA’s surface water supplies for the normal water years, single-dry water years, and multiple dry-years assuming no constraint on supply capacity. The long-term average supply values presented in Table 3.15-2 assume that the supplies are all fully utilized with no infrastructure capacity constraints for all of the water year types (Brown and Caldwell 2020).

<b>Table 3.15-2 Summary of Zone 40 Surface Water Supplies</b>	
Water Supply Source	Contract Water Right Transfer Amount (afy)
Central Valley Water Project (Fazio water, SMUD 1, and SMUD 2)	45,000
Appropriative Water (SWRCB Permit 21209)	71,000
City of Sacramento Place of Use Agreement	9,300
Other Water Supplies <sup>2</sup>	9,600
<b>Total</b>	<b>134,900</b>
Notes: afy = acre-feet per year	
<sup>1</sup> Other water supplies are water transfers that would be obtained from various water users that hold surface water rights on the Sacramento River and the American River upstream of SCWA's point of diversion.	
Source: Brown and Caldwell 2020	

### Recycled Water

Recycled water is currently provided to SCWA by SRCSD. This water is used within the Zone 40 service area to offset demand by parks and for other nonpotable uses. Recycled water use would increase to a total of 3,300 afy when the recycled water system is completed in the East Franklin and Laguna Ridge areas. Recycled water supply is assumed to be available at 100 percent of full supply in wet, average, dry, and driest years. (Brown and Caldwell 2020). Extension of recycled water to the Project area is not planned.

### Groundwater Supplies

Approximately 75 percent of SCWA’s water supply comes from groundwater wells. SCWA pumps groundwater from the South American Sub-basin of the Sacramento Valley Groundwater Basin (identified locally as the Central Basin). This groundwater basin is not adjudicated. As a signatory to the Water Forum Agreement, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (273,000 acre-feet) (Brown and Caldwell 2020). See Section 3.10, “Hydrology and Water Quality,” for further discussion of groundwater conditions in the Central Basin.

SCWA has a remediated groundwater supply of 8,900 afy in accordance with the terms and conditions in the agreement entitled “Agreement between Sacramento County, SCWA, and Aerojet-General Corporation With



Respect To Transfer of GET Water” dated May 18, 2010. The timing and amount of remediated groundwater available is subject to change as a result of on-going negotiations with water purveyors affected by groundwater contamination and with Aerojet/Boeing, as their remediation plans may change as directed by various regulatory agencies (Brown and Caldwell 2020).

### **SCWA Zone 40 Water Supplies and Demands**

SCWA has amended its Water Supply Master Plan (WSMP) to address the sufficiency of water supplies to meet the demand of the proposed Project (Brown and Caldwell 2020). In addition, the amended WSMP updates substantial portions of the 2005 WSMP, including Zone 40 buildout land use acreages, unit water demand factors, recent historical demographics and water demands, projected water demands, growth rate projections, projected water supply availability, and groundwater supply descriptions, and presents new information, including existing water facilities descriptions; buildout population, connections, and dwelling units by service area; water demand factors expressed as demand per dwelling unit and per type of customer; projected maximum day and annual use of surface water and groundwater for dry and wet/average years; and an evaluation of storage and pump station capacity (Brown and Caldwell 2020).

Water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted, as necessary, to meet the demands as part of its conjunctive use water supply program. Table 3.15-3 identifies surface water and groundwater supply and demand within SCWA Zone 40 from 2020 to 2040 in normal, single dry, and multiple dry years excluding the proposed Project. As shown in Table 3.15-3, SCWA would have water supplies that exceed demands in all water years.

### **WATER SUPPLY INFRASTRUCTURE**

SCWA will deliver water supplies to the Project site through existing 24-inch and 16-inch transmission pipelines located in Grant Line Road. The 24-inch transmission main originates west of the Project site and extends easterly within Grant Line Road to the intersection of Waterman Road. From Waterman Road, the transmission main continues easterly as a 16-inch-diameter transmission main. There are two proposed points of connection to the existing transmission main in Grant Line Road: one at the intersection of Waterman Road, and one at the intersection of Mosher Road. Exhibit 2-4 in Chapter 2, “Project Description,” shows the proposed points of connection with existing off-site SCWA facilities.

The maximum day, peak hour, and fire flow demands for the proposed Project would be primarily supplied from the Elk Grove Groundwater Water Treatment Plant (GWTP) and to some extent from the East Park GWTP (Brown and Caldwell 2020). The Elk Grove GWTP and storage tanks are located west of Waterman Road and north of Grant Line Road and the East Park GWTP is located east of Waterman Road and north of Elk Grove Boulevard (Brown and Caldwell 2020). The WSMP amendment determined other planned SCWA water system improvements required to serve the Project site would consist of an additional 16-inch transmission pipeline along Grant Line Road that would provide additional water supply from the future the Bond Road GWTP (Brown and Caldwell 2020).

Water Year	Source	Projected Demands (afy)				
		2020	2025	2030	2035	2040
Normal Year	<b>Supply</b>					
	Surface water <sup>2</sup>	134,900	134,900	134,900	134,900	134,900
	Groundwater	40,000	40,000	40,000	40,000	40,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)		140,000	131,600	122,700	113,700	104,600
Single-Dry Year	<b>Supply</b>					
	Surface water <sup>2</sup>	25,600	22,700	24,200	26,400	28,800
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>106,200</b>	<b>103,300</b>	<b>104,800</b>	<b>107,000</b>	<b>109,400</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)		60,700	49,400	42,000	35,200	28,500
Multiple-Dry Year 1	<b>Supply</b>					
	Surface water <sup>2</sup>	134,900	134,900	134,900	134,900	134,900
	Groundwater	40,000	40,000	40,000	40,000	40,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,550
	<b>Total Supply</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)		140,000	131,600	122,700	113,700	104,600
Multiple-Dry Year 2	<b>Supply</b>					
	Surface water <sup>2</sup>	33,600	29,300	31,500	34,700	38,400
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>114,200</b>	<b>109,900</b>	<b>112,100</b>	<b>115,300</b>	<b>119,000</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)		68,700	56,000	49,300	43,500	38,100
Multiple-Dry Year 3	<b>Supply</b>					
	Surface water <sup>2</sup>	25,600	22,700	24,200	26,400	28,800
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>106,200</b>	<b>103,300</b>	<b>104,800</b>	<b>107,000</b>	<b>109,400</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)		60,700	49,400	42,000	35,200	28,500

21,600Notes: afy = acre-feet per year  
<sup>1</sup> Water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted as necessary to meet the demands as part of its conjunctive use water supply program.  
 Surface water supplies consist of Central Valley Project water (Fazio, SMUD 1, and SMUD 2), appropriative water, City of Sacramento Place of Use water, and other supplies.  
 Source: Brown and Caldwell 2020; Data compiled by AECOM 2020

## WASTEWATER COLLECTION, AND CONVEYANCE, TREATMENT FACILITIES

The Project site is not currently served by a municipal wastewater service provider. Rather, wastewater service is currently provided by on-site septic systems. Future development within the Project site will require municipal wastewater collection and treatment services through extension of SASD and SRCSD infrastructure.

### Sacramento Area Sewer District

SASD provides local wastewater collection and conveyance services and infrastructure throughout the Sacramento region. There are two existing points of connection to the existing SASD system immediately adjacent to the Project site (see Exhibit 2-5 in Chapter 2):

- ▶ A 12-inch pipeline is on the north side of Grant Line Road near the end of Waterman Court. The 12-inch pipeline extends west for approximately 550-feet before becoming a 15-inch pipeline. The 15-inch pipeline continues west in Grant Line Road for approximately 2,300 feet before tying into a 27-inch trunk line just east of State Route 99.
- ▶ An 18-inch pipeline is stubbed beneath the Union Pacific Railroad along the western border of the Project site approximately 2,000 feet south of Grant Line Road. The 18-inch pipeline travels below the railroad easement for approximately 110 feet where it then becomes a 21-inch pipeline near East Stockton Boulevard.

### Sacramento Regional County Sanitation District

SRCSD is responsible for collection by interceptors (sanitary sewers that are designed to carry flows in excess of 10 million gallons per day [mgd]) and for wastewater treatment in Sacramento County. This District owns, operates, and is responsible for the collection, trunk, and interceptor sewer systems throughout Sacramento County, as well as the Sacramento Regional Wastewater Treatment Plant (SRWTP) located west of Elk Grove.

3-8

SRCSD has completed an Interceptor Sequencing Study that will aid in planning and implementing regional conveyance projects and assisting contributing agencies in coordination of collection system facilities. The southeastern portion of the Project site is within the SRCSD service area and the on-site wastewater facilities to serve the Project site have been planned for in the SRCSD Interceptor Sequencing Study. The Interceptor Sequencing Study identifies the southeastern portion of the Project site as located within the SRCSD service area. The remainder of the Project site is outside of the SRCSD service area but within the SRCSD SOI.

### Sacramento Regional Wastewater Treatment Plant

Wastewater flows collected from SRCSD interceptors are ultimately transported into the SRWTP. The SRWTP is located west of Elk Grove and is owned and managed by SRCSD. Currently, the SRWTP has a National Pollutant Discharge Elimination System (NPDES) permit issued by the Central Valley Regional Water Quality Control Board (RWQCB) for discharge of up to 181 mgd average dry-weather flow of treated effluent into the Sacramento River. The SRWTP has the potential for expansion to 218 mgd. As of 2019, the SRWTP receives and treats an average of 115 mgd each day and the SRWTP discharge constituents are below permitted discharge limits specified in the NPDES permit (SRCSD 2019).

3-9

## Recycle Water

The SRCSD currently owns and operates a 5-mgd Water Reclamation Facility (WRF) that has been producing Title 22 tertiary recycled water since 2003. The WRF is located within the SRWTP property. The SRCSD uses a portion of the recycled water at the SRWTP and the remainder is wholesaled to SCWA. SCWA retails the recycled water, primarily for landscape use, to select customers in the City in the Laguna West area. SRCSD is planning for increased delivery of recycled water to other areas of the City, including the East Franklin, Laguna Ridge, and the Southeast Policy Area, as well as potential agricultural customers south of the City. However, SRCSD does not have any planned facilities that could provide recycled water to the Project site or vicinity. Additionally, the SRCSD is not a water purveyor and potential use of recycled water in the Project site must be coordinated between the key stakeholders (e.g., land use jurisdictions, water purveyors, users, and the recycled water producers).

## SOLID WASTE

The Integrated Waste Department manages the City of Elk Grove's residential solid waste franchise and plans, coordinates, promotes and implements citywide solid waste reduction, recycling, composting, and public education activities. In 2018, the City disposed of a total of 103,973 tons of solid waste (CalRecycle 2018).

Residential solid waste services in Elk Grove are provided by Republic Services (formally known as Allied Waste) under an exclusive franchise agreement. Commercial solid waste is collected by private franchised haulers and disposed of at various facilities, most of which have more than 70 percent capacity remaining, including Altamont Landfill & Resource Recovery, Recology Hay Road, Bakersfield Metropolitan Sanitary Landfill, Foothill Sanitary Landfill, Forward Landfill, Inc., Keller Canyon Landfill, L and D Landfill, North County Landfill, Potrero Hills Landfill, and Sacramento County Landfill (Kiefer) (City of Elk Grove 2020).

### 3.15.2 REGULATORY FRAMEWORK

#### California Green Building Standards Code

The standards included in the 2019 California Green Building Standards Code (CALGreen Code) (Title 24, Part 11 of the California Code of Regulations) became effective on January 1, 2020. The CALGreen Code was developed to enhance the design and construction of buildings, and the use of sustainable construction practices, through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality (California Building Standards Commission 2019). The most significant efficiency improvements to the residential standards in the 2019 CALGreen Code include improvements for attics, walls, water heating, and lighting and standards for residential plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) to reduce indoor demand for potable water.

Chapters 4 and 5 of the 2019 CALGreen Code requires residential and nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance, whichever is more stringent. Both chapters require all residential and nonresidential construction contractors to reduce construction waste and demolition debris by 65 percent. Code requirements include preparing a construction waste management plan that identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials will be sorted on-site or mixed; and identifying diversion facilities where the materials

collected will be taken. The code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both. In addition, the 2019 CALGreen Code requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

## **City of Elk Grove General Plan**

The City's General Plan (City of Elk Grove 2019) contains the following policies related to utilities and service systems that are applicable to the proposed Project.

### ***Services, Health, and Safety***

#### Urban Infrastructure

- ▶ **Policy INF-1-1:** Water supply and delivery systems shall be available in time to meet the demand created by new development.
  - **Standard INF-1-1a:** The following shall be required for all subdivisions to the extent permitted by State law:
    - Proposed water supply and delivery systems shall be available at the time of tentative map approval to the satisfaction of the City. The water agency providing service to the project may use several alternative methods of supply and/or delivery, provided that each is capable individually of delivering water to the project.
    - The agency providing water service to the subdivision shall demonstrate prior to the City's approval of the Final Map that sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects in the same service area, and other projects that have received commitments for water service.
    - Off-site and on-site water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the approval of the Final Map or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
    - Off-site and on-site water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.
- ▶ **Policy INF-2-1:** Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development.
  - **Standard INF-2-1a:** The following shall be required for all development projects, excluding subdivisions:
    - Sewer/wastewater treatment capacity shall be available at the time of project approval.

- All required sewer/wastewater infrastructure for the project shall be in place at the time of project approval, or shall be assured through the use of bonds or other sureties to the City’s satisfaction.
- **Standard INF-2-1b:** The following shall be required for all subdivisions to the extent permitted by State law:
  - Sewage/wastewater treatment capacity shall be available at the time of tentative map approval.
  - The agency providing sewer service to the subdivision shall demonstrate prior to the approval of the Final Map by the City that sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects using the same conveyance lines, and projects which have received sewage treatment capacity commitments.
  - Onsite and offsite sewage conveyance systems required to serve the subdivision shall be in place prior to the approval of the Final Map, or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
  - Sewage conveyance systems within the subdivision shall be in place and connected to the sewage disposal system prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

#### Community Infrastructure and Facilities

- ▶ **Policy CIF-1-1:** Facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste sent to landfill from Elk Grove.
- ▶ **Policy CIF-1-2:** Reduce municipal waste through recycling programs and employee education.
- ▶ **Policy CIF-1-3:** Encourage businesses to emphasize resource efficiency and environmental responsibility and to minimize pollution and waste in their daily operations.

#### Infrastructure Financing and Phasing

- ▶ **Policy IFP-1-3:** Require secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications, or other appropriate mechanisms in order to provide for the completion of required major public facilities at their full planned widths or capacities consistent with this General Plan and any applicable service master plan. For the purposes of this policy, “major” facilities shall include the following:
  - All wells, water transmission lines, treatment facilities, and storage tanks needed to serve the project.
  - All sewer trunk and interceptor lines and treatment plants or treatment plant capacity
- ▶ **Policy IFP-1-4:** Use financial capacity to secure financing for major facilities as identified in Policy IFP-1-3 if necessary, including, but not limited to:
  - Issuing bonds
  - Using City funds directly, with repayment from future development fees

- Fee programs
  - Developer financing
- ▶ **Policy IFP-1-6:** Fee programs and/or other finance mechanisms shall be reviewed regularly to ensure that sufficient funding will be available to construct all required facilities.
  - ▶ **Policy IFP-1-7:** New development shall fund its fair share portion of impacts to all public facilities and infrastructure as provided for in State law.
  - ▶ **Policy IFP-1-8:** Infrastructure improvements must be financed and/or constructed concurrent with or prior to completion of new development.
    - **Standard IFP-1-8a:** Establish concurrency measures to ensure infrastructure adequately serves future development:
      - Coordinate public facility and service capacity with the demands of new development.
      - Require that the provision of public facilities and service to new development does not cause a reduction in established service levels for existing residents.
      - Ensure that new infrastructure will meet the required level of service standards set by the City’s General Plan and Municipal Code.
  - ▶ **Policy IFP-1-10:** Except when prohibited by state law, the City will endeavor to ensure that sufficient capacity in all public services and facilities will be available on time to maintain desired service levels and avoid capacity shortages, traffic congestion, or other negative effects on safety and quality of life.

### 3.15.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to utilities and service systems if it would:

- ▶ require or result in the relocation or construction of new or expanded water, wastewater treatment facilities, or storm water drainage, electrical power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects;
- ▶ not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- ▶ result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
- ▶ generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals; or

- ▶ not comply with federal, State, or local management and reduction statutes and regulations related to solid waste.

## **IMPACT ANALYSIS**

### **Impact 3.15-1: Require or Result in the Relocation of or the Construction of New or Expanded Utilities and Service Systems Facilities, the Construction of Which Could Cause Significant Environmental Effects.**

The proposed Project would require the construction of new or expanded electrical, natural gas, water, and wastewater facilities. The following discussion identifies future on-site and off-site utilities and service systems required to serve the proposed Project and the potential for construction of new or expanded systems to cause significant environmental effects. Impacts related to stormwater management facilities are addressed in Section 3.10, “Hydrology and Water Quality.”

#### **Electrical and Natural Gas**

The City of Elk Grove is served by Sacramento Municipal Utility District’s (SMUD’s) aboveground and underground electric transmission and distribution lines. The Project site would include extension of electricity services by SMUD, and electricity could be served from the 69-kilovolt line on Grant Line Road. Additional facilities, such as substation/s, transformers, and distribution equipment could be required to serve future uses. SMUD’s power line would be connected to a utility transformer and metering/distribution equipment in the site’s service yard and the City would connect service feeders that would extend throughout the site. SMUD would require 12.5-foot overhead/underground public utility easements along all streets and a 25-foot easement along Grant Line Road for the existing 69kV line. There is an existing 12kV overhead line along Waterman Road and Grant Line Road; an existing and proposed 12kV line along Mosher Road; a proposed second 69kV circuit along Grant Line Road on an existing pole line; and proposed 12kV underground lines along Grant Line Road and Waterman Road. As required by the City’s General Plan Policy IFP-1-8, infrastructure required to serve new development shall be constructed concurrent with, or prior to such development.

Pacific Gas and Electric Company (PG&E) currently provides natural gas service within the City of Elk Grove; however, the natural gas lines do not currently serve the Project site according to the Gas Transmission Pipeline Systems Map (PG&E 2017). The existing grid network of gas lines would have to be extended to serve the increased demand for natural gas generated by development on the Project site.

Extension of off-site electrical and natural gas infrastructure are the responsibility of SMUD and PG&E, respectively. SMUD and PG&E would conduct project-level CEQA or National Environmental Policy Act (NEPA) analysis, if necessary, to analyze specific impacts and identify any required mitigation measures for construction and operation of new off-site facilities to serve the Project site.

On-site electrical transmission infrastructure and natural gas lines would be installed underground and would generally follow the alignment of the internal roadway network.

The 2019 SOIA EIR included the following Mitigation Measure, which remains applicable to the Project:



## Mitigation Measures

Mitigation Measure 3.15-1: Prepare Utility Service Plans that Demonstrate Adequate Electrical and Natural Gas Supplies and Infrastructure are Available before the Annexation of Territory within the SOIA (2019 SOIA EIR Mitigation Measure 3.16-2)

The City of Elk Grove shall require utility service plans that identify the projected electrical and natural gas demands and that appropriate infrastructure sizing and locations to serve future development will be provided within the annexation territory. The utility service plans shall demonstrate that SMUD will have adequate electrical supplies and infrastructure and PG&E will have adequate natural gas supplies and infrastructure available for the amount of future development proposed within the annexation territory. If SMUD or PG&E must construct or expand facilities, environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of mitigation measures. Such measures should include those necessary to avoid or reduce environmental impacts associated with, but not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.

## Water System Facilities

Future development within the Project site would receive domestic water service through construction of on-site water distribution system that connects to existing off-site SCWA infrastructure. An *Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Water Master Plan* (Water Master Plan) was prepared to identify on-site backbone water distribution system to meet the proposed Project's water demand and fire flow requirements (Wood Rogers 2020a). The on-site water distribution infrastructure layout has been designed to comply with SCWA requirements and would consist of a 16-inch transmission main that extends north from Waterman Road along western boundary of the City-owned parcel and 8-inch, 12-inch, and 14-inch transmission pipelines constructed within road rights-of-way. The on-site water distribution system would connect to SCWA's existing 16-inch and 24-inch transmission pipelines located in Grant Line Road at two proposed points of connection: one at the intersection of Waterman Road, and one at the intersection of Mosher Road (see Exhibit 2-4 in Chapter 2). Impact 3.15-2 identifies the proposed Project's water demand and addresses the availability of SCWA water supplies to serve the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years. See Appendix B for a detailed discussion of proposed water distribution systems improvements.

The City outlines specific requirements to ensure water systems are available to meet demands created by new development. These requirements include preparing an infrastructure plan that identifies backbone infrastructure necessary to serve proposed development (Policy LU-3-27 of the City General Plan) and demonstrating on-site and off-site water supply infrastructure provides sufficient capacity to serve proposed development (Policy INF-1-1 and Standard INF-1-1a of the City General Plan). New development is required to contribute its fair share portion for funding new infrastructure facilities (Policies IFP-1-3 and IFP-1-7 of the City General Plan). In addition, infrastructure improvements would be financed and/or constructed concurrent with or prior to the completion of new development (Policy IFP-1-8 and Standard IFP-1-8a of the City General Plan).

The Water Master Plan fulfills the requirements identified in Mitigation Measure 3.15-1a of the 2019 SOIA EIR that requires the City of Elk Grove to prepare a Plan for Services that that depicts the locations and appropriate

sizes of all on-site water system facilities to accommodate the amount of development identified for the annexation territory. The amended WSMP fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR that requires evaluation of SCWA's off-site water supply infrastructure to serve the Project site. Furthermore, compliance with City General Plan policies and standards identified above would also ensure implementation of Mitigation Measure 3.15-1 of the 2019 SOIA EIR.

The amended WSMP evaluated the capacity for SCWA's existing off-site water supply infrastructure to serve the Project site. The WSMP determined that the existing Grant Line Road transmission main and Elk Grove GWTP and East Park GWTP have capacity to meet the demands of the proposed Project (Brown and Caldwell 2020). Although not required to serve the Project site, an additional 16-inch transmission pipeline along Grant Line Road would provide additional water supply capacity to the Project site from the future the Bond Road GWTP (Brown and Caldwell 2020). The proposed Grant Line Road transmission main and Bond Road GWTP are proposed for construction as part of SCWA's Phase 3 capital improvement plan (Brown and Caldwell 2020). The WSMP estimates Phase 3 capital improvements would be implemented beyond 2036.

The 2019 SOIA EIR also included Mitigation Measure 3.15-1b, which provided for the City to coordinate with SCWA on the use of non-potable water supplies in the Project area to ensure there are no cross connection or contamination issues. No non-potable water supplies are planned in the Project; therefore, this mitigation measure has been fulfilled.

## **Wastewater Collection and Conveyance Facilities**

Future development within the Project site would receive municipal wastewater service through construction of on-site wastewater collection and conveyance facilities that connect to existing off-site SASD infrastructure with capacity to serve the Project site.

*An Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Level II Sewer Study (Level II Sewer Study)* was prepared in accordance with SASD's design standards and minimum sewer study requirements to identify on-site backbone wastewater collection and conveyance facilities to serve the Project site (Wood Rogers 2020). The on-site wastewater collection and conveyance system would consist of 8-inch, 12-inch, and 13-inch gravity sewers constructed within road rights-of-way that would convey wastewater flows to a 12-inch pipeline on the north side of Grant Line Road or to an 18-inch pipeline stubbed beneath the Union Pacific Railroad on the western border of the Project site (see Exhibit 2-5 in Chapter 2). SASD conducted an analysis and confirmed that the existing off-site conveyance system has adequate capacity to accommodate peak wet-weather flows generated by the project site at full build-out (Wood Rogers 2020b). Impact 3.15-3 addresses the adequacy of the SRWTP to treat the proposed Project's wastewater flows in addition to SRWTP's existing commitments. See Appendix C for a detailed discussion of proposed wastewater collection and conveyance improvements.

The City outlines specific requirements to ensure wastewater facilities are available to meet demands created by new development. These requirements include preparing an infrastructure plan that identifies backbone infrastructure necessary to serve proposed development (Policy LU-3-27 of the City General Plan) and demonstrating on-site and off-site wastewater infrastructure provides sufficient capacity to serve proposed development (Policy INF-2-1 and Standards INF-2-1a and INF-2-1b of the City General Plan). New development is required to contribute its fair share portion for funding new infrastructure facilities (Policies IFP-1-3 and IFP-1-7 of the City General Plan). In addition, infrastructure improvements would be financed and/or constructed

concurrent with or prior to the completion of new development (Policy IFP-1-8 and Standard IFP-1-8a of the City General Plan).

The Level II Sewer Study fulfills the requirements identified in Mitigation Measure 3.15-2 of the 2019 SOIA EIR, which required the City of Elk Grove to prepare a Plan for Services that depicts the locations and appropriate sizes of wastewater collection and conveyance facilities and demonstrates that SASD wastewater collection and conveyance facilities will have sufficient capacity to accommodate the amount of development identified for the annexation territory. Compliance with City General Plan policies and standards identified above would also ensure implementation of Mitigation Measure 3.15-2 of the 2019 SOIA EIR.

## Conclusion

Environmental impacts related to constructing the infrastructure to serve the future development are analyzed throughout the various environmental topic specific sections of this EIR. The placement of these utilities has been considered in the other sections of this EIR, such as Section 3.4 of this EIR, “Air Quality,” Section 3.5, “Biological Resources,” Section 3.6, “Cultural and Tribal Cultural Resources,” and other sections that specifically analyze the potential for future development. Where necessary, these sections include mitigation measures that would reduce or avoid the impacts of developing infrastructure on the physical environment. There is no additional significant impact related to construction of new or expanded utilities and service systems within the Project site beyond which is comprehensively analyzed throughout this EIR. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

Impacts resulting from off-site infrastructure improvements could include, but are not limited to, short-term impacts on air quality and greenhouse gas emissions associated with construction, potential impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources; short-term increases in erosion and stormwater runoff; and short-term increases in construction noise levels.

### Impact 3.15-2: Increased Demand for Water Supplies.

Water supply for the Project site would be provided by the SCWA’s Zone 40. The Water Supply Master Plan calculated water demands for the proposed Project. In determining the demand assumptions to use for the proposed Project, a number of factors have been considered, including the proposed rezoning and the range of land uses (e.g., warehousing and distribution, manufacturing, retail, office) that are assumed, as well as the potential for a sports complex use for the City-owned property (which could occur through the City’s conditional use permit process). Generally, parks and sports facilities are the most intensive water user of those permitted uses within the industrial land use designation. Therefore, in order to analyze the most conservative scenario, the Water Master Plan assumed the City-owned property would be developed as a sports complex.

SCWA’s Zone 40 water-demand factors were applied to the acreage for each future land use designation that generates water use within the Project site (Wood Rogers 2020a, Brown and Caldwell 2020). As shown on

Table 3.15-4, the estimated water demand assuming development of the sports complex, commercial, industrial, and mixed uses has been conservatively estimated as 1,383 afy.<sup>1,2</sup>

Land Use Category	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Mixed Use	2.15	118.9	256
Regional Commercial	2.02	57.9	117
Light Industrial	2.02	74.4	150
Heavy Industrial	2.02	143.2	289
Parks and Open Space	2.80	169.0	473
Right of Way	0.18	8.2	1.5
<b>Subtotal</b>	--	<b>571.5</b>	<b>1,287</b>
Water System Losses (7.5%)	--	--	97
<b>Total Demand</b>	--	--	<b>1,383</b>

Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year.  
 Source: Brown and Caldwell 2020, Wood Rogers 2020a, adapted by AECOM in 2020

The amended WSMP indicates that water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted, as necessary, to meet the demands as part of its conjunctive use water supply program. As shown in Table 3.15-3, SCWA would have water supplies that exceed demands within Zone 40 from 2020 to 2040 in all water years, excluding the proposed Project’s water supply demand.

As discussed above, SCWA has amended its WSMP to include service for the proposed Project (Brown and Caldwell 2020). The water supply demands for the proposed Project (1,383 afy) were added to water demand projections contained in the amended WSMP and shown in Table 3.15-3. As shown in Tables 8-12, 8-13, and 8-14 of the amended WSMP, water supply is projected to be sufficient to meet demands of the proposed Project and existing and planned development in Zone 40 in normal, single-dry, and multiple dry years (Appendix B).

The City outlines specific requirements to ensure water supplies are available to meet demands created by new development. These requirements include demonstrating water supplies are available to accommodate new development plus existing development, and other approved projects in the same service area, and other projects that have received commitments for water service (Policy INF-1-1 and Standard INF-1-1a of the City General Plan).

The amended WSMP fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR, which requires demonstration that SCWA water supplies are adequate to serve the amount of future development identified in the annexation territory in addition to existing and planned development under normal, single-dry, and multiple-dry years. Furthermore, compliance with City General Plan policies and standards identified above

<sup>1</sup> This water supply demand does not reflect 2019 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requirements to reduce indoor demand for potable water by 20 percent and to reduce landscape water usage by 50 percent or water conservation measures that may be implemented by future development.

<sup>2</sup> The water supply demand for development of the City-owned property with industrial land uses is estimated as 1,333 afy (Brown and Caldwell).

would also ensure implementation of Mitigation Measure 3.15-1 of the 2019 SOIA EIR. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant**.

**Impact 3.15-3: Increased Demand for Wastewater Treatment Facilities.**

Buildout of the proposed Project would result in new residential, commercial, and industrial development and parks and open space that would generate additional wastewater that increases demand for wastewater treatment at the SRWTP. The Level II Sewer Study assumes sewage conveyance for an estimated total of 3,429 Equivalent Single-Family Dwelling Units (ESDs), based on the SASD standard assumption of 6 ESDs per acre and 1,860 gallon per day (gpd) per acre. The Level II Sewer Study conservatively includes gross acreages and does not deduct for areas that would be in future public road rights-of-way (note, existing right-of-way for Grant Line Road has been deducted). As shown on Table 3.15-5, buildout of the proposed Project would generate an estimated 1.05 mgd of average dry-weather flow and, as calculated in the Level II Sewer Study, 2.74 mgd of peak wet-weather flow (Wood Rogers 2020b).

Land Use	Acreage	Flow Rate (gallon per day per acre)	Average Dry Weather Flow (mgd)
Mixed Use	118.9	1,860	0.12
Regional Commercial	20.0	1,860	0.22
Light Industrial	216.2	1,860	0.40
Heavy Industrial	143.2	1,860	0.27
Parks and Open Space	65.1	1,860	0.04
Right of Way	8.2	0	0
<b>Total</b>	<b>571.5</b>	<b>--</b>	<b>1.05</b>

Notes:  
mgd = million gallons per day  
Source: Wood Rogers 2020b

The SRWTP has a design capacity of 181 mgd with the potential to expand to 218 mgd. As of 2019, the SRWTP receives and treats an average of 115 mgd each day. When proposed Project -related wastewater flows (1.05 mgd) are combined with the current average dry-weather flows (115 mgd), implementation of the proposed Project would not result in an increase in wastewater flows that exceed the current disposal capacity of 181 mgd average dry-weather flow. The SRCSD anticipates conservation measures implemented throughout the service area would result in the existing 181 mgd average dry-weather flow capacity to be adequate for at least 40 more years (SRCSD 2014:6-2). Therefore, the SRWTP would have adequate capacity to treat wastewater flows generated by future development within the Project site in addition its existing commitments. As with the 2019 SOIA EIR, this impact is considered a **less than significant**.

**Impact 3.15-4: Increased Generation of Solid Waste and Compliance with Solid Waste Statutes and Regulations.**

Future development within the Project site could result in site clearing and the generation of various construction-period wastes, including scrap lumber, scrap finishing materials, various scrap metals, and other recyclable and nonrecyclable construction-related wastes. The 2019 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requires all construction contractors to reduce construction waste and demolition debris by

65 percent. Code requirements include preparing a construction waste management plan that identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials will be sorted on-site or mixed; and identifying diversion facilities where the materials collected will be taken. The Code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both (California Building Standards Commission 2019). In addition, the 2016 CALGreen Code requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

The City provides recycling programs, such as curbside recycling of paper, plastics, and bottles, to reduce the volume of solid waste transported to landfills. City General Plan Policy CIF-1-3 encourages business to minimize waste in their daily operations. In addition, the Space Allocation and Enclosure Design Guidelines for Trash and Recycling (City Municipal Code Title 30, Chapter 30.90) reduces wastes by requiring businesses and multi-family residential uses to provide integrated collection areas with recycling components.

Residential solid waste in the City of Elk Grove is collected and hauled by Republic Services. Waste generated by proposed nonresidential uses could be hauled by any of a number of permitted haulers as selected by the individual developer, and wastes would be hauled to a variety of permitted landfills. Solid waste is collected by private franchised haulers and disposed of at various facilities, most of which have more than 70 percent capacity remaining, including Altamont Landfill & Resource Recovery, Recology Hay Road, Bakersfield Metropolitan Sanitary Landfill, Foothill Sanitary Landfill, Forward Landfill, Inc., Keller Canyon Landfill, L and D Landfill, North County Landfill, Potrero Hills Landfill, and Sacramento County Landfill (Kiefer) (City of Elk Grove 2020). The area of the Project site identified for development of mixed uses could generate approximately 3.8 tpd of solid waste.<sup>2</sup> Future development of commercial and industrial uses could generate approximately 58.8 tpd of solid waste.<sup>3</sup> Combined, these landfills have a large volume of landfill capacity (150 million cubic yards) available to serve future development. The closure dates of the Kiefer Landfill and L and D Landfill are anticipated to be approximately January 1, 2064 and January 1, 2031, respectively.

Future development would comply with all federal, State, and local solid waste statutes and regulations, including Compliance with the CalGreen Code; the City's the Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance; Space Allocation and Enclosure Design Guidelines; Assembly Bill 1826 (mandatory commercial organics recycling); and other City recycling programs. The Kiefer Landfill, L and D Landfill, and Yolo County Central Landfill have sufficient landfill capacity available to accommodate solid-waste disposal needs for future development within the Project site. Therefore, as with the 2019 SOIA EIR, impacts related to sufficient landfill capacity and compliance with applicable statutes and regulations related to solid waste are considered **less than significant**.

---

<sup>2</sup> Based on CalRecycle's estimated 2018 annual per capita disposal rate of 3.3 pounds per resident per day, the estimated total population for the proposed project (2,304 persons) would generate approximately 7,600 pound per day of solid waste, which equates to 3.8 tpd (CalRecycle 2020).

<sup>3</sup> Based on CalRecycle's estimated 2018 annual per capita disposal rate of 15.1 pounds per employee per day and an estimated 7,788 employees for the proposed project, approximately 117,600 pound per day of solid waste would be generated per day, which equates to 58.8 tpd (CalRecycle 2020).

This page intentionally left blank.

**Gerken, Matthew**

---

**From:** Cultural Resource Department Inbox <crd@wiltonrancheria-nsn.gov>  
**Sent:** Tuesday, October 27, 2020 9:17 AM  
**To:** Gerken, Matthew  
**Cc:** Cultural Resource Department Inbox  
**Subject:** [EXTERNAL] RE: Notice of Availability, City of Elk Grove, Multi-Sport Complex and Southeast Industrial Annexation Area Draft Supplemental Environmental Impact Report  
**Attachments:** 1\_Mitigation\_Measures\_CEQA\_Avoidance.docx; 2\_Mitigation\_Measures\_CEQA NativeAmericanMonitors.docx; 3\_Mitigation\_Measures\_CEQA\_Discoveries.docx; 4\_Mitigation\_Measures\_CEQA\_Construction\_Worker\_Awareness\_Training 04-19-19.docx

Good morning,

Thank you for sending over the Notice of Availability for this project. Wilton Rancheria would like to include the attached mitigation measures into the EIR due to the sensitivity of the area.

Thank you



**Mariah Mayberry**

Wilton Rancheria

Tel: 916.683.6000 ext 2023 | Fax: 916.683.6015

9728 Kent Street | Elk Grove | CA | 95624

[mmayberry@wiltonrancheria-nsn.gov](mailto:mmayberry@wiltonrancheria-nsn.gov)

[wiltonrancheria-nsn.gov](http://wiltonrancheria-nsn.gov)

---

**From:** Gerken, Matthew <[Matthew.Gerken@aecom.com](mailto:Matthew.Gerken@aecom.com)>

**Sent:** Friday, October 9, 2020 10:49:22 AM

**To:** Gerken, Matthew <[Matthew.Gerken@aecom.com](mailto:Matthew.Gerken@aecom.com)>

**Subject:** Notice of Availability, City of Elk Grove, Multi-Sport Complex and Southeast Industrial Annexation Area Draft Supplemental Environmental Impact Report

Good morning,

The City of Elk Grove welcomes your review and comment on the Multi-Sport Complex and Southeast Industrial Annexation Area Draft Supplemental Environmental Impact Report.

Notice is hereby given that the City of Elk Grove, as lead agency, has prepared a Draft Supplemental Environmental Impact Report (Draft SEIR) for the below referenced Project. The Draft SEIR analyzes the potential environmental effects associated with the proposed Project in accordance with the California Environmental Quality Act (CEQA). In accordance with Section 15087 of the CEQA Guidelines, the City of Elk Grove has prepared this Notice of Availability (NOA) to



provide responsible agencies and other interested parties with notice of the availability of the Draft EIR and solicit comments and concerns regarding the environmental issues associated with the proposed Project.

LEAD AGENCY: City of Elk Grove

Attn: Christopher Jordan, AICP, Director Strategic Planning and Innovation  
8401 Laguna Palms Way  
Elk Grove, CA 95758  
Email: [cjordan@elkgrovecity.org](mailto:cjordan@elkgrovecity.org)  
Fax: (916) 478-2222

The Project site consists of approximately 571 acres located south of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99. The Project site extends eastward past the intersection of Grant Line Road and Mosher Road, and extends southward to the Sacramento County Urban Services Boundary. The Project site in its entirety was a part of a proposed Sphere of Influence amendment (SOIA), which was approved by LAFCo along with the EIR certification (2019 SOIA EIR, SCH #2015102067).

SIGNIFICANT ENVIRONMENTAL EFFECTS: The Draft SEIR has identified the following environmental issue areas as having potentially significant environmental impacts from implementation of the Project:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology, Soils, Minerals, and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards, Hazardous Materials, and Wildfire
- Hydrology and Water Quality
- Noise and Vibration
- Energy

There are no sites in the Project area that are listed on the Hazardous Waste and Substances Sites List as set forth in Government Code Section 65962.5.

PUBLIC REVIEW PERIOD: A public review period for the Draft SEIR will commence on October 9, 2020 and end on November 24, 2020, for interested individuals and public agencies to submit written comments on the document. Any written comments on the Draft SEIR may be submitted at the above address within the public review period. Copies of the Draft SEIR are available for review at:

- The City's offices at 8401 Laguna Palms Way
- On the City's web site at [www.elkgrovecity.org/sportscomplex](http://www.elkgrovecity.org/sportscomplex)

PUBLIC MEETING: The City of Elk Grove will receive public comments on the Draft SEIR at a public meeting on November 12, 2020, at 6:00 p.m., or soon thereafter. Consistent with Executive Order N-29-20 issued on March 17, 2020, and Executive Order N-35-20 issued on March 21, 2020, by the Governor of the State of California, this meeting will be held online only via Zoom. Register to join the meeting on the website at [www.elkgrovecity.org/sportscomplex](http://www.elkgrovecity.org/sportscomplex).

Respectfully,  
Matthew Gerken

**J. Matthew Gerken, AICP**  
Senior Urban + Environmental Planner

Senior Project Manager  
D +1 916.414.5892 M +1 916.205.4385  
[matthew.gerken@aecom.com](mailto:matthew.gerken@aecom.com)

**AECOM**

2020 L Street, Suite 400, Sacramento, CA 95811 USA  
T +1 916.414.5800 F +1 916.414.5850  
[www.aecom.com](http://www.aecom.com)

Learn more about our policy planning and design practice at <http://www.aecom.com/services/planning-consulting/>

Learn more about our environmental planning and permitting practice at <http://www.aecom.com/services/environmental-services/>

## Tribal Cultural Resource Avoidance Mitigation Measure

Avoidance and preservation in place is the preferred manner of mitigating impacts to tribal cultural resources and will be accomplished by several means, including:

- Planning construction to avoid tribal cultural resources, archaeological sites and/ or other resources; incorporating sites within parks, green-space or other open space; covering archaeological sites; deeding a site to a permanent conservation easement; or other preservation and protection methods agreeable to consulting parties and regulatory authorities with jurisdiction over the activity. Recommendations for avoidance of cultural resources will be reviewed by the CEQA lead agency representative, interested Native American Tribes and the appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project area to avoid cultural resources, modification of the design to eliminate or reduce impacts to cultural resources or modification or realignment to avoid highly significant features within a cultural resource. Native American Representatives from interested Native American Tribes will be allowed to review and comment on these analyses and shall have the opportunity to meet with the CEQA lead agency representative and its representatives who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate and feasible avoidance and design alternatives can be identified. 4-1  
4-2  
4-3
  
- If the resource can be avoided, the construction contractor(s), with paid Native American monitors from culturally affiliated Native American Tribes present, will install protective fencing outside the site boundary, including a buffer area, before construction restarts. The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area”. Native American representatives from interested Native American Tribes and the CEQA lead agency representative will also consult to develop measures for long term management of the resource and routine operation and maintenance within culturally sensitive areas that retain resource integrity, including tribal cultural integrity, and including archaeological material, Traditional Cultural Properties and cultural landscapes, in accordance with state and federal guidance including National Register Bulletin 30 (*Guidelines for Evaluating and Documenting Rural Historic Landscapes*), Bulletin 36 (*Guidelines for Evaluating and Registering Archaeological Properties*), and Bulletin 38 (*Guidelines for Evaluating and Documenting Traditional Cultural Properties*); National Park Service Preservation Brief 36 (*Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes*) and using the Advisory Council on Historic Preservation (ACHP) *Native American Traditional Cultural Landscapes Action Plan* for further guidance. Use of temporary and 4-4  
4-5

## Tribal Cultural Resource Avoidance Mitigation Measure

permanent forms of protective fencing will be determined in consultation with Native American representatives from interested Native American Tribes.

↑4-5  
(Cont.)

## Native American Monitoring Mitigation Measure

To minimize the potential for destruction of or damage to existing or previously undiscovered burials, archaeological and tribal cultural resources and to identify any such resources at the earliest possible time during project-related earthmoving activities, **THE PROJECT PROPONENT** and its construction contractor(s) will implement the following measures:

- Paid Native American monitors from culturally affiliated Native American Tribes will be invited to monitor the vegetation grubbing, stripping, grading or other ground-disturbing activities in the project area to determine the presence or absence of any cultural resources. Native American representatives from cultural affiliated Native American Tribes act as a representative of their Tribal government and shall be consulted before any cultural studies or ground-disturbing activities begin.
- Native American representatives and Native American monitors have the authority to identify sites or objects of significance to Native Americans and to request that work be stopped, diverted or slowed if such sites or objects are identified within the direct impact area. Only a Native American representative can recommend appropriate treatment of such sites or objects.
- If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a archaeologist who meets the Secretary of the Interior’s qualification standards can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the Caltrans, the SHPO, and other appropriate agencies. Appropriate treatment measures may include development of avoidance or protection methods, archaeological excavations to recover important information about the resource, research, or other actions determined during consultation.
- In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbing activities, the construction contractor or the County, or both, shall immediately halt potentially damaging excavation in the area of the burial and notify the County coroner and a qualified professional archaeologist to determine the nature of the remains. The coroner shall examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands, in accordance with Section 7050(b) of the Health and Safety Code. If the coroner determines that the remains are those of a Native American, he or she shall contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). After the coroner’s findings are presented, the County, the archaeologist, and the NAHC-designated Most Likely Descendant (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.

4-6

4-7

4-8

4-9

4-10

4-11

## Inadvertent Discoveries Mitigation Measures

---

Develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided or alternatives and cumulative impacts properly accessed.

4-12

If potential tribal cultural resources, archaeological resources, other cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists or other Project personnel during construction activities, work will cease in the immediate vicinity of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present. A qualified cultural resources specialist and Native American Representatives and Monitors from culturally affiliated Native American Tribes will assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations will be documented in the project record. For any recommendations made by interested Native American Tribes which are not implemented, a justification for why the recommendation was not followed will be provided in the project record.

4-13

If adverse impacts to tribal cultural resources, unique archeology, or other cultural resources occurs, then consultation with Wilton Rancheria regarding mitigation contained in the Public Resources Code sections 21084.3(a) and (b) and CEQA Guidelines section 15370 should occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environments.

4-14

## Tribal Cultural Resource – Awareness Training - Mitigation Measure

---

A consultant and construction worker tribal cultural resources awareness brochure and training program for all personnel involved in project implementation will be developed in coordination with interested Native American Tribes. The brochure will be distributed and the training will be conducted in coordination with qualified cultural resources specialists and Native American Representatives and Monitors from culturally affiliated Native American Tribes before any stages of project implementation and construction activities begin on the project site. The program will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program will also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native Americans and behaviors, consistent with Native American Tribal values.

4-15

November 9, 2020

Christopher Jordan  
City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, CA 95758

**Subject: Draft Supplemental Environmental Impact Report for Elk Grove Multi-Sport Complex and Southeast Industrial Annexation Area (APN's: 134-0190-009; -010; -032; -029; -030; -013; -003)**

Dear Mr. Jordan,

The Sacramento Area Sewer District (SASD) has reviewed the subject documents. Please see additional comments on the attached Draft Supplemental Environmental Impact Report (SEIR). SASD is not a land-use authority and does not approve Environmental Impact Reports. The subject document is consistent with the level 2 sewer study approved on September 22, 2020.

5-1

The Elk Grove Multi-Sport Complex and Southeast Industrial Annexation Area (Project) consists of approximately 571 acres south of Grant Line Road near its intersection with Waterman Road and east of the Union Pacific Railroad tracks and State Route 99. The Project site extends eastward past the intersection of Grant Line Road and Mosher Road, and extends southward to the Sacramento County Urban Services Boundary.

5-2

Large areas of the Project are outside of SASD's service area. The Project applicant should work closely with the Sacramento Local Agency Formation Commission to begin the annexation process. Upon annexation and acceptance of public sewer facilities, SASD will be responsible for collecting sewage generated from the Project. We expect that if the Project is subject to currently established policies, ordinances, fees, and to conditions of approval, then mitigation measures within the SEIR will adequately address the sewage aspects of the project. We anticipate a less than significant impact to sewage facilities due to mitigation.

5-3

If you have any questions regarding these comments, please call me at 916-876-6336.

Sincerely,

*Yadira Lewis*

Yadira Lewis  
SASD Development Services



Draft

# City of Elk Grove Multi-Sport Complex and Southeast Industrial Annexation Area Supplemental Environmental Impact Report



Prepared for:



City of Elk Grove

**AECOM**

October 2020

Draft

# City of Elk Grove Multi-Sport Complex and Southeast Industrial Annexation Area Supplemental Environmental Impact Report



Prepared for:

City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, California 95758

Contact:

Christopher Jordan  
Director of Strategic Planning and Innovation  
(916) 478-2222  
cjordan@elkgrovecity.org

Prepared by:

AECOM  
2020 L Street, Suite 400  
Sacramento, CA 95811

Contact:

Matthew Gerken, AICP  
Project Manager  
916/414-5800

**AECOM**

October 2020

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
ES.1 The EIR Process .....	ES-1
ES.2 Project Summary .....	ES-1
ES.2.1 Project Setting .....	ES-1
ES.2.2 Summary Project Description .....	ES-1
ES.3 Summary of Impacts and Mitigation Measures.....	ES-2
ES.4 Alternatives .....	ES-2
ES.5 Areas of Controversy Known to the Lead Agency .....	ES-3
<b>1 INTRODUCTION.....</b>	<b>1-1</b>
1.1 Project Background .....	1-1
1.2 Intended Uses and Purpose of the Supplemental EIR .....	1-1
1.3 Lead, Responsible, and Trustee Agencies .....	1-2
1.4 Public Involvement Process .....	1-4
1.4.1 Scoping Comment Period.....	1-4
1.4.2 Draft Supplemental EIR Comment Period.....	1-4
1.5 Issues to Be Resolved and Areas of Controversy.....	1-5
1.6 Organization of the Supplemental EIR.....	1-5
<b>2 PROJECT DESCRIPTION .....</b>	<b>2-1</b>
2.1 Project Location and Surrounding Land Uses.....	2-1
2.1.1 Project Location .....	2-1
2.1.2 Existing and Surrounding Land Uses .....	2-1
2.1.3 Adopted Sphere of Influence Amendment.....	2-1
2.2 Proposed Project Components.....	2-1
2.2.1 Planned Future Land Uses.....	2-4
2.2.2 General Plan Amendment, Rezoning, and Specific Plan .....	2-5
2.2.3 Annexation .....	2-9
2.2.4 Supporting Infrastructure .....	2-9
2.3 Project Schedule .....	2-20
2.4 Required Approvals.....	2-20
2.5 Project Objectives.....	2-21
<b>3 ENVIRONMENTAL IMPACT ANALYSIS.....</b>	<b>3.1-1</b>
3.1 Approach to the Analysis .....	3.1-1
3.1.1 Introduction .....	3.1-1
3.2 Aesthetics .....	3.2-1
3.2.1 Environmental Setting.....	3.2-1
3.2.2 Regulatory Framework.....	3.2-1
3.2.3 Environmental Impacts and Mitigation Measures.....	3.2-3
3.3 Agricultural Resources .....	3.3-1
3.3.1 Environmental Setting.....	3.3-1
3.3.2 Regulatory Framework.....	3.3-2
3.3.3 Environmental Impacts and Mitigation Measures.....	3.3-2

3.4	Air Quality.....	3.4-1
3.4.1	Environmental Setting.....	3.4-1
3.4.2	Regulatory Framework.....	3.4-5
3.4.3	Environmental Impacts and Mitigation Measures.....	3.4-9
3.5	Biological Resources.....	3.5-1
3.5.1	Environmental Setting.....	3.5-1
3.5.2	Regulatory Framework.....	3.5-29
3.5.3	Environmental Impacts and Mitigation Measures.....	3.5-30
3.6	Cultural and Tribal Cultural Resources.....	3.6-1
3.6.1	Environmental Setting.....	3.6-1
3.6.2	Regulatory Framework.....	3.6-4
3.6.3	Environmental Impacts and Mitigation Measures.....	3.6-4
3.7	Geology, Soils, Minerals, and Paleontological Resources.....	3.7-1
3.7.1	Environmental Setting.....	3.7-1
3.7.2	Regulatory Framework.....	3.7-1
3.7.3	Environmental Impacts and Mitigation Measures.....	3.7-3
3.8	Greenhouse Gas Emissions.....	3.8-1
3.8.1	Environmental Setting.....	3.8-1
3.8.2	Regulatory Framework.....	3.8-3
3.8.3	Environmental Impacts and Mitigation Measures.....	3.8-9
3.9	Hazards, Hazardous Materials, and Wildfire.....	3.9-1
3.9.1	Environmental Setting.....	3.9-1
3.9.2	Regulatory Framework.....	3.9-2
3.9.3	Environmental Impacts and Mitigation Measures.....	3.9-5
3.10	Hydrology and Water Quality.....	3.10-1
3.10.1	Environmental Setting.....	3.10-1
3.10.2	Regulatory Framework.....	3.10-6
3.10.3	Environmental Impacts and Mitigation Measures.....	3.10-9
3.11	Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities.....	3.11-1
3.11.1	Environmental Setting.....	3.11-1
3.11.2	Regulatory Framework.....	3.11-3
3.11.3	Environmental Impacts and Mitigation Measures.....	3.11-8
3.12	Noise and Vibration.....	3.12-1
3.12.1	Environmental Setting.....	3.12-1
3.12.2	Regulatory Framework.....	3.12-2
3.12.3	Environmental Impacts and Mitigation Measures.....	3.12-4
3.13	Public Services and Recreation.....	3.13-1
3.13.1	Environmental Setting.....	3.13-1
3.13.2	Regulatory Framework.....	3.13-3
3.13.3	Environmental Impacts and Mitigation Measures.....	3.13-5
3.14	Transportation.....	3.14-1
3.14.1	Environmental Setting.....	3.14-1
3.14.2	Regulatory Framework.....	3.14-1

3.14.3	Environmental Impacts and Mitigation Measures.....	3.14-7
3.15	Utilities and Service Systems .....	3.15-1
3.15.1	Environmental Setting.....	3.15-1
3.15.2	Regulatory Framework.....	3.15-7
3.15.3	Environmental Impacts and Mitigation measures .....	3.15-10
3.16	Energy .....	3.16-1
3.16.1	Environmental Setting.....	3.16-1
3.16.2	Regulatory Framework.....	3.16-2
3.16.3	Environmental Impacts and Mitigation Measures.....	3.16-10
<b>4</b>	<b>CUMULATIVE IMPACTS.....</b>	<b>4-1</b>
4.1	Approach .....	4-1
4.2	Cumulative Impact analysis .....	4-2
4.2.1	Aesthetics .....	4-2
4.2.2	Agricultural Resources .....	4-4
4.2.3	Air Quality.....	4-6
4.2.4	Biological Resources .....	4-7
4.2.5	Cultural and Tribal Cultural Resources.....	4-9
4.2.6	Geology, Soils, Minerals, and Paleontological Resources .....	4-10
4.2.7	Greenhouse Gas Emissions .....	4-11
4.2.8	Hazards, Hazardous Materials and Wildfire .....	4-11
4.2.9	Hydrology and Water Quality .....	4-12
4.2.10	Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities.....	4-12
4.2.11	Noise and Vibration.....	4-14
4.2.12	Public Services and Recreation .....	4-16
4.2.13	Transportation and Traffic.....	4-19
4.2.14	Utilities .....	4-19
4.2.15	Energy .....	4-21
<b>5</b>	<b>ALTERNATIVES.....</b>	<b>5-1</b>
5.1	Introduction .....	5-1
5.2	Selection of Alternatives .....	5-1
5.2.1	Criteria.....	5-1
5.2.1	Project Purpose and Objectives.....	5-2
5.3	Alternatives Considered in Detail in the SEIR.....	5-2
5.3.1	Alternative 1: No-Project Alternative .....	5-2
5.3.2	Alternative 2: Reduced Size Alternative .....	5-3
5.4	Alternatives Analysis .....	5-3
5.4.1	Aesthetics .....	5-3
5.4.2	Agricultural Resources .....	5-6
5.4.3	Air Quality.....	5-7
5.4.4	Biological Resources.....	5-7
5.4.5	Cultural and Tribal Cultural Resources.....	5-8
5.4.6	Geology, Soils, Minerals, and Paleontological Resources .....	5-9

5.4.7	Greenhouse Gas Emissions .....	5-9
5.4.8	Hazards, Hazardous Materials, and Wildfire .....	5-10
5.4.9	Hydrology and Water Quality .....	5-11
5.4.10	Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities.....	5-12
5.4.11	Noise and Vibration.....	5-13
5.4.12	Public Services and Recreation .....	5-13
5.4.13	Transportation and Traffic.....	5-14
5.4.14	Utilities and Service Systems .....	5-14
5.4.15	Energy .....	5-15
5.5	Environmentally Superior Alternative .....	5-15
<b>6</b>	<b>OTHER CEQA CONSIDERATIONS .....</b>	<b>6-1</b>
6.1	Significant and Unavoidable Adverse Impacts .....	6-1
6.2	Significant Irreversible Environmental Changes.....	6-2
6.3	Growth-Inducing Impacts.....	6-3
6.3.1	Growth-Inducing Impacts of the Project.....	6-4
<b>7</b>	<b>LIST OF PREPARERS.....</b>	<b>7-1</b>
<b>8</b>	<b>REFERENCES .....</b>	<b>8-1</b>

## APPENDICES

Appendix A	Notice of Preparation and Responses to Notice of Preparation
Appendix B	SCWA (2020) Water Supply Master Plan
Appendix C	Level II Sewer Study
Appendix D	Drainage Master Plan
Appendix E	Quantification of Criteria Air Pollutant and Greenhouse Gas Emissions, and Energy Use
Appendix F	Noise Modeling
Appendix G	Transportation Master Plan
Appendix H	Revisions to 2019 SOIA EIR Mitigation Measures

## LIST OF TABLES

Table ES-1	Summary of Project Impacts and Mitigation Measures .....	ES-4
Table 2-1	Parcels in the Project Area by Ownership.....	2-4
Table 2-2	2019 SOIA EIR Land Use and Revised SEIR Project Land Use.....	2-5
Table 2-3	Proposed General Plan Land Use Designations and Rezoning for Phase 1 .....	2-9
Table 3.4-1	Summary of Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Ozone Precursors.....	3.4-12
Table 3.4-2	Summary of Mitigated Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Ozone Precursors.....	3.4-16
Table 3.4-3	Summary of Long-Term Operational Emissions of Criteria Air Pollutants and Precursors ...	3.4-17
Table 3.4-4	Air Quality Management Plans Ozone Precursor Emissions Reduction Requirements.....	3.4-19

Table 3.4-5	Summary of Long-Term Mitigated Operational Emissions of Criteria Air Pollutants and Precursors with VMT Reductions Consistent with General Policy MOB-1-1 .....	3.4-19
Table 3.4-6	Odor Screening Distances for Consideration in Land Use Planning.....	3.4-32
Table 3.5-1	Special-Status Species in the Project Area.....	3.5-17
Table 3.8-1	City of Elk Grove GHG Emissions Inventory (2005 – 2013) .....	3.8-3
Table 3.8-2	City of Elk Grove Climate Action Plan Applicable GHG Reduction Measures .....	3.8-8
Table 3.8-3	Estimated GHG Emissions Associated with Development of the Project Site and Off-Site Improvement Areas .....	3.8-13
Table 3.8-4	Estimated GHG Emissions Associated with Development of the Project Site with VMT Reductions Consistent with General Policy MOB-1-1.....	3.8-17
Table 3.9-1	Acceptable Probability of Reasonably Foreseeable Risks to Individuals by Land Use .....	3.9-3
Table 3.9-2	Policy Threshold of Exposure Criteria for Agricultural, Residential, and Non-Residential Land Uses .....	3.9-4
Table 3.10-1	Central Basin Groundwater Extraction, 2005-2015 .....	3.10-6
Table 3.12-1	Typical Vibration Levels for Construction Equipment .....	3.12-7
Table 3.12-2	Predicted Traffic Noise Levels, Existing Plus Full Buildout of the Project Site.....	3.12-11
Table 3.13-1	Elk Grove Unified School District Enrollment, 2019-2020 .....	3.13-2
Table 3.15-1	Estimate of Crop Water Usage within the SOIA Area.....	3.15-2
Table 3.15-2	Summary of Zone 40 Surface Water Supplies .....	3.15-3
Table 3.15-3	Comparison of Water Supply and Demand in Zone 40 (2020–2040).....	3.15-5
Table 3.15-4	Projected Water Demands for within the Project Site.....	3.15-15
Table 3.15-5	Proposed Project Average Dry Weather Flow .....	3.15-16
Table 3.16-1	City of Elk Grove Climate Action Plan Applicable Energy Reduction Measures .....	3.16-9
Table 3.16-2	Construction Fuel Consumption, Maximum Annual Construction-Year.....	3.16-11
Table 3.16-3	Construction Fuel Consumption, Total and Average Annual .....	3.16-12
Table 3.16-4	Estimated Annual Electrical and Natural Gas Demand.....	3.16-14
Table 5-1	Comparison of Significant Environmental Effects of the Alternatives to the Proposed Project	5-16

## LIST OF EXHIBITS

Exhibit 2-1	Project Site and Vicinity.....	2-2
Exhibit 2-2	Parcels in the Project Area .....	2-3
Exhibit 2-3	Proposed Land Use Plan.....	2-6
Exhibit 2-4	Proposed General Plan Land Use Designations for the Phase 1 Annexation.....	2-7
Exhibit 2-5	Proposed Rezoning for the Phase 1 Project Area .....	2-8
Exhibit 2-6	Circulation Network .....	2-10
Exhibit 2-7	Water Service Providers .....	2-12
Exhibit 2-8	South American Subbasin .....	2-13
Exhibit 2-9	Proposed Water System.....	2-14
Exhibit 2-10	Proposed Wastewater System .....	2-16
Exhibit 2-11	Proposed On-Site Drainage Network .....	2-18
Exhibit 2-12	Proposed Off-Site Drainage Improvements .....	2-19
Exhibit 3.2-1	Urbanized Areas .....	3.2-6

Exhibit 3.5-1a	Habitat Types in the Off-site Improvement Areas (Map 1 of 4) .....	3.5-3
Exhibit 3.5-1b	Habitat Types in the Off-site Improvement Areas (Map 2 of 4) .....	3.5-5
Exhibit 3.5-1c	Habitat Types in the Off-site Improvement Areas (Map 3 of 4) .....	3.5-7
Exhibit 3.5-1d	Habitat Types in the Off-site Improvement Areas (Map 4 of 4) .....	3.5-9
Exhibit 3.5-2	CNDDDB Occurrence Data within 1 mile of the Project Site and Off-site Improvement Areas .....	3.5-16
Exhibit 3.7-1	Soil Types.....	3.7-2
Exhibit 3.8-1	California 2017 GHG Emissions Inventory by Sector .....	3.8-1
Exhibit 3.8-2	Trends in California GHG Emissions (Years 2000 to 2017).....	3.8-2
Exhibit 3.10-1	Flood Zones .....	3.10-4
Exhibit 3.11-1	Disadvantaged Unincorporated Communities.....	3.11-5
Exhibit 5-1	Alternative 1: No Project Alternative.....	5-4
Exhibit 5-2	Alternative 2: Reduced Size Alternative .....	5-5



# LIST OF ACRONYMS AND ABBREVIATIONS

°C	Celcius
2019 SOIA EIR	SEIR supplements the 2019 SOIA EIR
2020 MTP/SCS	<i>2020 Metropolitan Transportation Plan/Sustainable Communities Strategy</i>
AB	Assembly Bill
ADT	Average daily traffic
ADWF	average dry weather flow
af/ac/yr	acre-feet per acre per year
afy	acre-feet per year
Alternative GSP	Alternative Groundwater Sustainability Plan
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plans
ARB	California Air Resources Board
BACT	Best Available Control Technology
Basin Plan	Water Quality Control Plan for the Sacramento-San Joaquin River Basins
BMPs	best management practices
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Occupational Safety and Health Agency
CalEEMod	California Emissions Estimator Model
CalGEM	California Geologic Energy Management Division
CalGreen	California Green Building Standards Code
CALGreen Code	California Green Building Standards Code
CAP	Climate Action Plan
CASQA	California Stormwater Quality Association
CBC	California Building Standards Code
CCR	California Code of Regulations
CCSD	Cosumnes Community Service District
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CHP	California Highway Patrol

CHRIS	California Historical Resources Information System
City	City of Elk Grove
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	Carbon monoxide
Construction General Permit	General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities (Order 2009-009-DWQ as amended by Order 2012-0006-DWQ)
CPTED	Crime Prevention Through Environmental Design
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CVFPP	Central Valley Flood Protection Plan
CVP	Central Valley Project
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DDT	dichlorodiphenyltrichloroethane
Delta	Sacramento-San Joaquin Delta
DOF	California Department of Finance
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
ECL	Emission Control Labels
EDD	California Employment Development Department
EGUSD	Elk Grove Unified School District
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESA	federal Endangered Species Act
ESDs	Equivalent Single-Family Dwelling Units
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FHWA-RD-77-108	FHWA Highway Noise Prediction Model

FIRMs	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
GC	General Commercial/Commercial Office
GHG	greenhouse gas
gpd	gallon per day
GSAs	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
GVWR	gross vehicle weight rating
GWTP	Groundwater Water Treatment Plant
Handbook	Air Quality and Land Use Handbook: A Community Health Perspective
HI	Heavy Industrial
HVAC	heating, ventilation, and air conditioning
IEPR	Integrated Energy Policy Report
IPCC	Intergovernmental Panel on Climate Change
IWFM	Integrated Water Flow Model
kBtu	British thermal units
kV	kilovolt
LAFCo	Local Agency Formation Commission
lb/day	pounds per day
L <sub>dn</sub>	day-night average sound level
L <sub>eq</sub>	equivalent sound level
LI	Light Industrial
LID	low impact development
LOS	level of service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MM therms	million therms
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MS4 Permit	permit to discharge stormwater from municipal separate storm sewer systems
MTP	Metropolitan Transportation Plan
MU	Mixed Use
MW	megawatts

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic and Safety Administration
NO <sub>2</sub>	nitrogen dioxide
NOP	Notice of Preparation
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Natural Resources Conservation Service
NRHP	National Register of Historic Places
OEHHA	Office of Environmental Health Hazard Assessment
OHWD	Omochumne-Hartnell Water District
OSHA	federal Occupational Health and Safety Administration
P/OS	Parks and Open Space
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PGA	Peak horizontal ground acceleration
PM	Particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than 10 microns
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than 2.5 microns
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppv	peak particle velocity
proposed project	Multi-Sport Complex and Southeast Industrial Annexation Area Project
PWWF	peak wet weather flow
RC	Regional Commercial
ROG	reactive organic gases
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SAFE	Safer Affordable Fuel Efficient
SAFE Rule	Safer Affordable Fuel Efficient Vehicles Rule
SAHM	Sacramento Area Hydrology Model
SASD	Sacramento Area Sewer District
SB	Senate Bill
SCGA	Sacramento Central Groundwater Authority
SCS	Sustainable Communities Strategy

SCWA	Sacramento County Water Agency
SEIR	Supplemental Environmental Impact Report
SEPA	SouthEast Policy Area
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SO <sub>2</sub>	Sulfur dioxide
SOIA	Sphere of Influence amendment
SO <sub>x</sub>	oxides of sulfur
SR	State Route
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSHCP	South Sacramento Habitat Conservation Plan
SVAB	Sacramento Valley Air Basin
SWCV	Solid Waste Collection Vehicles
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDLs	Total Maximum Daily Loads
TRUs	transportation refrigeration units
UCMP	U.C. Berkeley Museum of Paleontology
UCSB	University of California, Santa Barbara
UDA	Urban Development Area
UPRR	Union Pacific Railroad
USB	Urban Services Boundary
USTs	underground storage tanks
VdB	vibration decibel
VELB	valley elderberry longhorn beetle
VMT	vehicle miles travelled
WDRs	Waste Discharge Requirements
WRF	Water Reclamation Facility
WSMP	Water Supply Master Plan
ZNE	zero net energy

This page intentionally left blank

# EXECUTIVE SUMMARY

## ES.1 THE EIR PROCESS

The City of Elk Grove (City) has prepared this Draft Supplemental Environmental Impact Report (SEIR) for the Multi-Sport Complex and Southeast Industrial Annexation Project (proposed project) per the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). This SEIR evaluates the environmental impacts of implementation of the proposed changes to the project, which was adopted in 2019. The purpose of an EIR is neither to recommend approval nor denial of a project. An EIR is an informational document used in the planning and decision-making process by the lead agency and responsible and trustee agencies.

The City has chosen to prepare a SEIR based on Section 15163(a) of the State CEQA Guidelines, because only minor additions or changes would be necessary to make the previous EIR adequate to the project in the changed situation. The SEIR will contain only the information necessary to make the previous EIR adequate for the project as revised (State CEQA Guidelines Section 15163[b]).

This Draft SEIR has been released for public review and to receive input from responsible and trustee agencies, and interested persons and organizations, as to the scope and content of the SEIR and the environmental information to be analyzed in connection with the proposed modifications to Multi-Sport Complex and Southeast Industrial Annexation Project. Written responses to significant environmental points raised in comments will be prepared and published in a Final SEIR. Together, the Draft SEIR, and the comments and responses received on the Draft SEIR, will constitute the Final SEIR.

## ES.2 PROJECT SUMMARY

### ES.2.1 PROJECT SETTING

The Project site consists of approximately 561 acres located south of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99. The Project site extends eastward past the intersection of Grant Line Road and Mosher Road, and extends southward to the Sacramento County Urban Services Boundary.

### ES.2.2 SUMMARY PROJECT DESCRIPTION

The City is proposing a change in the proposed General Plan land use designations and pre-zoning designations for the project site compared to the array of uses assumed in the EIR certified by the Sacramento Local Agency Formation Commission (LAFCo) in May of 2019 for the Project site. The project site in its entirety was a part of a proposed Sphere of Influence amendment (SOIA), which was approved by LAFCo along with the EIR certification (2019 SOIA EIR). The area that was included in the approved Sphere of Influence amendment will not change as a result of the revised land uses that are proposed in this SEIR.

Revisions in the assumed land uses for the Project site focus on the approximately 100-acre City-owned parcel in the center of the project site. This parcel was formerly proposed for Public Open Space/Recreation and now would be designated for Light Industrial uses. The Project site would have a reduction in the land area of Parks

and Open Space, an increase in both Light Industrial and Heavy Industrial uses, a reduction in the amount of mixed General Commercial and Commercial Office uses, and a new use, Regional Commercial, proposed for 20 acres of land.

The on-site infrastructure needs at the project site were evaluated in the 2019 SOIA EIR. However, since the 2019 SOIA EIR was approved, additional detailed studies have been conducted relative to the infrastructure that would be required to serve the Project site. In particular, this SEIR evaluates the potential environmental impacts of proposed additional off-site drainage improvements.

This SEIR considers impacts associated with annexation and buildout of the Project site. Development of the Project site is assumed to start as soon as 2021 and continue for approximately 20 years. The specific timing of construction and operation of any individual use within the Project site is unknown, and subject to market conditions and other factors outside the control of the City. Construction of future development projects would require demolition and disposal of existing structures, grading and excavation, construction of building foundations, trenching and installation of utilities, paving of parking lots and internal roadways, lighting, and construction of commercial and industrial buildings subject to review under the City’s zoning regulations and design guidelines. Project site development would require various permits and other types of approvals from agencies with a purview over air quality, biological resources, water quality, public services and utilities, and other topics.

### **ES.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Table ES-1 summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the proposed project. The table provides an overview. Details for each issue areas are included in the corresponding section of this SEIR.<sup>1</sup>

### **ES.4 ALTERNATIVES**

CEQA Guidelines Section 15126.6(e)(2) states that a discussion of the “No Project” alternative must consider “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans.” For purposes of this SEIR, Alternative 1, the No-Project Alternative, assumes continued agricultural use on 527 acres and intensive industrial development on 41 acres. Alternative 2 is the Reduced Size Alternative. Under this alternative, development would be limited to the 100-acre City property and the Kendrick and Cypress Avenue properties, approximately 385 acres total. Alternative 1 would have the greatest number of reduced impacts and therefore Alternative 1: No Project Alternative would be the Environmentally Superior Alternative. Other than the No-Project Alternative, Alternative 2: Reduced Size Alternative would provide the most benefit relative to reducing environmental effects compared to the proposed Project. See Chapter 5 of this SEIR for more detail.

---

<sup>1</sup> Please see Chapter 4 for cumulative impacts.



## **ES.5 AREAS OF CONTROVERSY KNOWN TO THE LEAD AGENCY**

CEQA Guidelines Section 15123 suggests that an EIR include a summary of “areas of controversy known to the Lead Agency” and “[i]ssues to be resolved.” Topics addressed in responses to the City’s NOP represent the most comprehensive list of issues of interest for the proposed Project and include:

- ▶ Cultural and Tribal Cultural Resources
- ▶ Drainage improvements and avoiding mosquito breeding potential
- ▶ Water supply, including groundwater
- ▶ Conversion of agricultural land to urban uses
- ▶ Special-status species and sensitive habitats

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<b>3.2 Aesthetics</b>			
<b>Impact 3.2-1: Substantial Degradation of Existing Visual Character.</b>	S	No feasible mitigation measures	SU
<b>Impact 3.2-2: Potential Loss of Trees of Local Importance.</b>	PS	<p><b>Mitigation Measure 3.2-2: Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance (2019 SOIA EIR Mitigation Measure 3.2-2).</b></p> <p>Mitigation for the removal of trees of local importance shall be provided according to the Elk Grove Municipal Code, Title 19, "Trees," Chapter 19.12, "Tree Preservation and Protection." Mitigation will provide 1 new inch diameter at breast height (dbh) of tree for each inch dbh lost (1:1 ratio) through on-site or off-site replacement, payment of an in-lieu fee, or on-site or off-site relocation.</p>	LTS
<b>Impact 3.2-3: Light and Glare Effects from New Lighting Sources.</b>	LTS	<p><b>Mitigation Measure 3.2-3a: Minimize Over-Lighting (2019 SOIA EIR Mitigation Measure 3.2-3a).</b></p> <p>The City of Elk Grove will implement the following specific measures to minimize over-lighting in the SOIA Area, including the multi-sport park complex, consistent with Elk Grove Zoning Code:</p> <ul style="list-style-type: none"> <li>• Exterior lighting shall be architecturally integrated with the building style, material and colors and be of a human scale.</li> <li>• Design pole heights and light shielding to minimize spillover and skyglow.</li> <li>• Schedule the use of outdoor lights and use an automated lighting control system to turn off unused lights.</li> <li>• The hours of operation for the lighting system for any game or event shall not exceed one (1) hour after the end of the event.</li> <li>• Schedule field use to emphasize using fields at the southern end of the site to increase the distance of night lighting from residential areas.</li> <li>• Prepare and implement an operational plan to meet or exceed field lighting standards for field sports events established by oversight organizations (e.g., California Interscholastic Federation).</li> </ul>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>Use methods to provide lower intensity light (“dimming”) for events that require less lighting and during post-event periods as teams leave the field and spectators move toward the parking lots.</li> <li>Implement a monitoring plan to ensure that light levels in adjacent residential areas do not exceed thresholds listed in the Elk Grove Design Guidelines.</li> </ul> <p><b>Mitigation Measure 3.2-3b: Minimize Glare (2019 SOIA EIR Mitigation Measure 3.2-3b).</b></p> <p>Consistent with Elk Grove Zoning Code, future development within the SOIA Area shall avoid the use of materials that could cause glare, such as reflective, mirrored, or black glass. Buildings that are allowed to use semi-reflective glass will be oriented to minimize the reflection of sunlight to sensitive receptors. Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit..</p>	
<b>3.3 Agricultural Resources</b>			
<p><b>Impact 3.3-1: Direct and Indirect Loss of Agricultural Land, Including Farmland of Statewide Importance.</b></p>	S	<p><b>Mitigation Measure 3.3-1: Preserve Agricultural Land (2019 SOIA EIR Mitigation Measure 3.3-1).</b></p> <p>Project applicants shall protect one (1) acre of existing farmland land of equal or higher quality for each acre of Farmland of Statewide Importance that would be developed as a result of the project. This protection may consist of the establishment of a farmland conservation easement, farmland deed restriction, or other appropriate farmland conservation mechanism to ensure the preservation of the land from conversion in perpetuity, but may also be utilized for compatible wildlife habitat conservation efforts (e.g., Swainson’s hawk foraging habitat mitigation) that substantially impairs or diminishes the agricultural productivity of the land. The farmland/wildlife habitat land to be preserved must have adequate water supply to support agricultural use. The City shall consider the benefits of preserving farmlands in proximity to other protected lands. The preservation of farmland may be done at one time, or in increments with the buildout of the Project site.</p>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>The total acres of land conserved will be based on the total on-site agriculture acreage converted to urban uses. Conserved agriculture areas may include areas within the Project site, lands secured for permanent habitat enhancement (e.g., giant garter snake habitat, Swainson’s hawk habitat), or additional land identified by the City. The City shall attempt to locate preserved farmland within 5 miles of the Project site; however, the preserved farmland shall at a minimum be located inside Sacramento County. Conservation easement content standards shall include, at a minimum: land encumbrance documentation; documentation that the easements are permanent, monitored, and appropriately endowed for administration, monitoring, and enforcement of the easements; prohibition of activity which substantially impairs or diminishes the agricultural productivity of the land; and protection of water rights.</p> <p>The following or equally effective minimum conservation easement content standards are required:</p> <ol style="list-style-type: none"> <li>a) All owners of the agricultural/wildlife habitat mitigation land shall execute the document encumbering the land.</li> <li>b) The document shall be recordable and contain an accurate legal description of the agricultural/wildlife habitat mitigation land.</li> <li>c) The document shall prohibit any activity that substantially impairs or diminishes the agricultural productivity of the land. If the conservation easement is also proposed for wildlife habitat mitigation purposes, the document shall also prohibit any activity that substantially impairs or diminishes the wildlife habitat suitability of the land.</li> <li>d) The document shall protect any existing water rights necessary to maintain agricultural uses on the land covered by the document and retain such water rights for ongoing use on the agricultural/wildlife habitat mitigation land.</li> <li>e) Interests in agricultural/habitat mitigation land shall be held in trust by an entity acceptable to the City and/or by the City in perpetuity. The entity shall not sell, lease, or convey any interest in agricultural/wildlife habitat mitigation land that it acquires without the City’s prior written approval.</li> </ol>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		f) An agricultural/wildlife habitat mitigation monitoring fee is required to cover the costs of administering, monitoring, and enforcing the document. g) The City shall be named a beneficiary under any document conveying the interest in the agricultural/wildlife habitat mitigation land to an entity acceptable to the City. h) If any qualifying entity owning an interest in agricultural/wildlife habitat mitigation land ceases to exist, the duty to hold, administer, monitor, and enforce the interest shall be transferred to another entity acceptable to the City or transferred to the City.  City approval is required for the selection of farmland proposed for preservation.	
<b>Impact 3.3-2: Potential Conflict with Existing On-site and Off-site Williamson Act Contracts.</b>	S	<b>Implement Mitigation Measure 3.3-1 (Preserve Agricultural Land).</b>	SU
<b>Impact 3.3-3: Conflict with Existing Off-site Agricultural Operations.</b>	PS	<b>Mitigation Measure 3.3-3: Prepare an Agricultural Land Use Compatibility Plan (2019 SOIA EIR Mitigation Measure 3.3-3)</b>  Prior to the approval of any development project for a site that is adjacent to ongoing agricultural cultivation, the project applicant shall prepare an agricultural land use compatibility plan. The plan shall include establishing a buffer zone; providing additional suitable barriers, such as on-site fencing or walls, between the edge of development and the adjacent agricultural operations; or other measures, as directed by the City of Elk Grove. The City of Elk Grove would verify that the agricultural land use compatibility plan, as prepared, will reduce conflicts between ongoing agricultural operations and adjacent urban uses before issuance of grading permits for future development within the SOIA Area, including the multi-sports complex.	LTS
<b>Impact 3.3-4: Conflict with Existing Zoning.</b>	S	No feasible mitigation measures	SU
<b>3.4 Air Quality</b>			
<b>Impact 3.4-1: Generation of temporary, short-term, construction-related emissions of criteria air pollutants and ozone precursors.</b>	PS	<b>Mitigation Measure 3.4-1a: Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced</b>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p><b>Exhaust Control Practices (2019 SOIA EIR Mitigation Measure 3.4-1a)</b></p> <p>Regardless of the significance determination, all construction projects are required to implement the SMAQMD Basic Construction Emission Control Practices for controlling fugitive dust at construction sites. For projects that would generate maximum daily NO<sub>x</sub> emissions in exceedance of the SMAQMD threshold of significance, the SMAQMD recommends implementation of the Enhanced On-site Exhaust Control measures for off-road construction equipment. The SMAQMD requires projects that exceed the PM<sub>10</sub> and PM<sub>2.5</sub> emissions thresholds after implementation of the Basic Construction Emission Control Practices to implement all feasible and applicable measures of the Enhanced Fugitive PM Dust Control Practices (SMAQMD 2020a).</p> <p>During construction of off-site improvements, and at the time of submittal of any application for development within the Project site, the City of Elk Grove shall require the implementation of then current SMAQMD Basic Construction Emission Control Practices as a condition of approval. For those projects that exceed the applicable thresholds of significance for emissions of criteria air pollutants or ozone precursors, the City of Elk Grove shall require the implementation of the Enhanced On-site Exhaust Control measures to address exceedances of NO<sub>x</sub> emissions thresholds and the implementation of Enhanced Fugitive PM Dust Control Practices to address continued exceedances of PM<sub>10</sub> and/or PM<sub>2.5</sub> thresholds of significance.</p> <p>a. Basic Construction Emission Control Practices identified by the SMAQMD as listed below, or as they may be updated in the future:</p> <ul style="list-style-type: none"> <li>– Control of fugitive dust is required by District Rule 403 and enforced by District staff.</li> <li>– Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.</li> <li>- Use wet power vacuum street sweepers to remove any visible track out mud or dirt onto adjacent public roads at least once a day. Use of dry powered sweeping is prohibited.</li> <li>- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).</li> <li>- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.</li> <li>- Provide current certificate(s) of compliance for ARB’s In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].</li> <li>- Maintain all construction equipment in proper working condition according to manufacturer’s specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.</li> </ul> <p>b. If, after application of the Basic Construction Emission Control Practices, emissions would still exceed SMAQMD threshold of significance for NO<sub>x</sub>, implement the SMAQMD Enhanced On-site Exhaust Control Practices as listed below, or as they may be updated in the future:</p> <ul style="list-style-type: none"> <li>- Provide a plan, for approval by SMAQMD, demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles, including owned, leased, and subcontractor vehicles, to be used 8 hours or more during the construction project will achieve a project wide fleet-</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>average 10 percent NO<sub>x</sub> reduction compared to the most current California Air Resources Board (ARB) fleet average that exists at the time of construction. The plan shall have two components: an initial report submitted before construction and a final report submitted at the completion.</p> <ul style="list-style-type: none"> <li>▪ Submit the initial report at least four (4) business days prior to construction activity.</li> <li>▪ Provide project information and construction company information.</li> <li>▪ Include equipment type, horsepower rating, engine model year, projected hours of use, and the ARB equipment identification number for each piece of equipment in the plan. Incorporate all owned, leased and subcontracted equipment to be used.</li> <li>▪ Submit the final report at the end of the job, phase, or calendar year, as pre-arranged with SMAQMD staff and documented in the approval letter, to demonstrate continued project compliance.</li> </ul> <ul style="list-style-type: none"> <li>– SMAQMD staff and/or other officials may conduct periodic site inspections to determine compliance. Nothing in the mitigation shall supersede other air district, state or federal rules or regulations.</li> <li>– The mitigation is applicable until full implementation of ARB In-Use Off-Road Regulation is in place, expected January 1, 2028.</li> </ul> <p>c. If, after application of the Basic Construction Emission Control Practices, emissions would still exceed SMAQMD threshold of significance for PM<sub>10</sub> and/or PM<sub>2.5</sub>, implement the SMAQMD Enhanced Fugitive PM Dust Control Practices as listed below, or as they may be updated in the future:</p> <ul style="list-style-type: none"> <li>– Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.</li> <li>– Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 miles per hour.</li> </ul>	



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>– Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.</li> <li>– Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.</li> <li>– Install wheel washers for all existing trucks, or wash off all trucks and equipment leaving the site.</li> <li>– Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads.</li> <li>– Post a publicly visible sign with telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.</li> </ul>	
		<p><b>Mitigation Measure 3.4-1b: Use Off-Site Mitigation Fee for NO<sub>x</sub> Emissions Generated by Construction (2019 SOIA EIR Mitigation Measure 3.4-1b)</b></p> <p>As projects are proposed, the City will assess the effectiveness of Basic Construction Emission Control Practices and Enhanced On-site Exhaust Control Practices for addressing NO<sub>x</sub> emissions relative to SMAQMD threshold of significance. If, after development of project details and scheduling, any project within the Project site would result in NO<sub>x</sub> emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced On-site Exhaust Control Practices, the subject project will participate in SMAQMD’s off-site mitigation fee program. The mitigation fee will be set at a level that would bring NO<sub>x</sub> emissions to a less-than-significant level (i.e., less than the SMAQMD Thresholds of Significance at that time). Whether the fee is needed, and if it is needed, determining the fee amount shall be calculated when the daily construction emissions can be more accurately determined (based on actual equipment use and scheduling). Calculation of fees shall occur in consultation with SMAQMD staff before the approval of grading plans by the City.</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<p><b>Impact 3.4-2: Generation of long-term operational emissions of criteria air pollutants and ozone precursors.</b></p>	<p>S</p>	<p><b>Mitigation Measure 3.4-2: Implement Strategies to Reduce Potential Operational Emissions (2019 SOIA EIR Mitigation Measure 3.4-2)</b></p> <p>For future development projects that may result in operational emissions exceeding the SMAQMD thresholds of significance, the City of Elk Grove shall require the implementation of strategies to reduce operational ozone precursors. This can be in the form of an Air Quality Mitigation Plan or another enforceable mechanism. This would be submitted to SMAQMD for review and approval prior to the issuance of a building permit. The performance standard is to achieve a reduction in, or offset of operational ozone precursor emissions by at least 35 percent of the total mobile-source emissions or by 15 percent for areas that have a land use designation under the City’s General Plan that is consistent with the Metropolitan Transportation Plan/Sustainable Communities Strategy and applicable State Implementation Plan, as well as all feasible PM reduction measures for future development that would exceed the SMAQMD thresholds of significance. Reduction strategies can include policies and emissions reduction measures demonstrating compliance with the City of Elk Grove’s General Plan, including policies MOB-1-1, MOB-3-1, MOB-3-2, MOB-3-7, MOB-3-15, MOB-3-16, MOB-4-1, MOB-4-5, NR-4-1, NR-4-4, NR-6-5, and NR-6-7 (or equivalent measures as may be amended), in addition to reduction measures recommended by the SMAQMD, which may include the use of offsets once all other feasible measures have been exhausted.</p> <p>If the performance standard cannot be fulfilled with an Air Quality Mitigation Plan, the City of Elk Grove will consult with the SMAQMD regarding the use of an off-site mitigation fee. Any fee will be subject to consultation between SMAQMD and the City of Elk Grove.</p>	<p>SU</p>
<p><b>Impact 3.4-3: Exposure of sensitive receptors to substantial pollutant concentrations</b></p>			
<p>Exposure of sensitive receptors to localized concentrations of carbon monoxide (CO).</p>	<p>LTS</p>	<p>No mitigation measures are required.</p>	<p>LTS</p>

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Exposure of sensitive receptors to toxic air contaminant emissions during construction.	PS	<b>Mitigation Measure 3.4-3a: Implement Mitigation Measure 3.4-1a</b>	LTS
Exposure of sensitive receptors to toxic air contaminant emissions during operations.	PS	<p><b>Mitigation Measure 3.4-3b: Implement Guidelines in the California Air Resources Board’s Air Quality and Land Use Handbook: A Community Health Perspective (2019 SOIA EIR Mitigation Measure 3.4-5)</b></p> <p>The City of Elk Grove shall require, as a part of proposed development projects, the implementation of strategies to avoid exposure of sensitive receptors to substantial toxic air contaminant pollutant concentrations. Projects that would result in substantial TAC emissions directly or indirectly (e.g., industrial sources), that would expose sensitive receptors to substantial TAC concentrations (e.g., residential land uses located near existing TAC sources), the City of Elk Grove will implement ARB’s <i>Air Quality and Land Use Handbook: A Community Health Perspective</i> (Handbook) guidance concerning land use compatibility with regard to sources of TAC emissions, or ARB guidance as it may be updated in the future. If these guidelines are infeasible, and a project would have the potential to generate substantial TAC emissions or expose sensitive receptors to substantial TAC pollutant concentrations, the City will require project-level analysis and appropriate mitigation, as necessary, to ensure that sensitive receptors are not exposed to substantial pollutant concentrations. In communication with the SMAQMD, the City will require, if necessary, a site-specific analysis for operational activities to determine whether health risks would exceed applicable health risk thresholds of significance. Site-specific analysis may include screen level analysis, dispersion modeling, and/or a health risk assessment, consistent with applicable guidance from the SMAQMD. Analyses shall take into account regulatory requirements for proposed uses.</p> <p>If the results of analysis determine that the performance standard for this mitigation would be exceeded, actions shall be taken to reduce potential operational impacts which may include, but not necessarily limited to:</p>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• locating air intakes and designing windows to reduce particulate matter exposure by, for example, not allowing windows facing the source to open;</li> <li>• providing electrification hook-ups for TRUs to avoid diesel-fueled TRUs continuing to operate at loading docks during loading and unloading operations;</li> <li>• requiring the TAC-generating activity (e.g., loading docks) be located away from sensitive receptors;</li> <li>• incorporating exhaust emission controls on mobile and/or stationary sources (e.g., filters, oxidizers);</li> <li>• develop and implement a dock management system at the time of occupancy to minimize on-site idling below regulatory limits;</li> <li>• require all on-site user owned and operated trucks with transportation refrigeration units to be capable of plugging into power at loading docks and require plug-in when at the loading dock;</li> <li>• utilize on-site cargo and material handling equipment that is the lowest emitting equipment available at the time of occupancy;</li> <li>• evaluate the potential to electrify a portion of entirety of an on-site user-owned and operated truck fleet;</li> <li>• evaluate the potential to consolidate delivery or haul truck trips to increase the load and decrease vehicle trips;</li> <li>• provide building air filtration units with a Minimum Efficiency Reporting Value (MERV) that is adequate to address adjacent sensitive land uses according to performance standards of this mitigation measure;</li> <li>• Ensure adequate distance between existing and planned sensitive receptors and gasoline dispensing facilities, based on the proposed size and design of any gasoline-dispensing facilities.</li> <li>• The City will require the project applicant(s) to identify and implement feasible mitigation measures to reduce any potentially significant effect and communicate with SMAQMD to identify measures to reduce exposure of</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		sensitive receptors to substantial pollutant concentrations to levels consistent with thresholds recommended by the SMAQMD applicable at the time the project is proposed. Agreed upon feasible mitigation actions shall be documented as a project condition of approval.	
Exposure of sensitive receptors to long-term emissions of criteria air pollutants and precursors.	LTS	No mitigation measures are required.	LTS
<b>Impact 3.4-4: Result in Other Emissions (such as those leading to odors) Adversely Affecting a Substantial Number of People.</b>	PS	<b>Mitigation Measure 3.4-6: Reduce Exposure of Sensitive Receptors to Odorous Emissions (2019 SOIA EIR Mitigation Measure 3.4-6).</b> Projects that propose uses that could expose sensitive receptors to objectionable odors shall implement strategies to avoid exposure of sensitive receptors to objectionable odors. <ul style="list-style-type: none"> <li>• Project applicant(s) for residential development in areas adjacent to ongoing agricultural operations shall include a disclosure clause advising buyers and tenants of the potential adverse odor impacts in the deeds to all residential properties. Residential subdivisions shall provide notification to buyers in writing of odors associated with existing dairies, agricultural burning, and decay of agricultural waste.</li> <li>• For existing odor-producing sources, sensitive receptors shall be sited as far away as possible from the existing sources.</li> <li>• For new project-generated odor-producing sources, sensitive receptors shall be sited as far away as possible from the new sources.</li> <li>• Apply SMAQMD-Recommended Odor Screening Distances in the siting of land uses.</li> </ul>	LTS
<b>3.5 Biological Resources</b>			
<b>Impact 3.5-1: Loss of Habitat for Special-Status Plant Species.</b>	PS	<b>Mitigation Measure 3.5-1a: Minimize the Temporary Off-Site Construction Impact Footprint.</b> <ul style="list-style-type: none"> <li>• During final project design and siting, minimize the temporary project footprint to the areas necessary for construction, and select locations that are already disturbed or developed to the greatest extent feasible.</li> </ul>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Avoid known occurrences of all special-status species, wetlands, riparian habitat, and sensitive natural communities to the greatest extent feasible.</li> <li>• Minimize grading to the greatest extent feasible to avoid clearing of trees and shrubs.</li> </ul>	
		<p><b>Mitigation Measure 3.5-1b: Conduct Special-status Plant Surveys; Implement Compensatory Mitigation for Special-status Plants (2019 SOIA EIR Mitigation Measure 3.5-1).</b></p> <p>Before any vegetation removal or ground-disturbing activities, both on- and off-site, the following measures shall be implemented to mitigate the potential loss of special-status plants:</p> <ul style="list-style-type: none"> <li>• Participate in the South Sacramento Habitat Conservation Plan through payment of the appropriate SSHCP Fee and/or dedication of land meeting SSCHP criteria and compliance with relevant Avoidance and Minimization Measures as detailed in the City’s Memorandum of Agreement with the South Sacramento Conservation Agency for Becoming a Participating Special Entity in the South Sacramento Habitat Conservation Plan; OR</li> <li>• Retain a qualified botanist to conduct protocol-level preconstruction special-status plant surveys for potentially occurring species following the CDFW rare plant survey protocols (CDFW 2018) (or the most recent CDFW rare plant survey protocols). All plant species encountered shall be identified to the taxonomic level necessary to determine species status. The surveys shall be conducted no more than 5 years prior and no later than the blooming period immediately preceding the approval of a grading or improvement plan or any ground disturbing activities, including grubbing or clearing.</li> <li>• Notify CDFW, as required by the California Native Plant Protection Act, if any special-status plants are found. Notify USFWS if any plant species listed under the ESA are found.</li> <li>• Develop a mitigation and monitoring plan to compensate for the loss of special-status plant species found during preconstruction surveys, if any. The mitigation and</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>monitoring plan shall be submitted to CDFW or USFWS, as appropriate depending on species status, for review and comment. The City shall consult with these entities, as appropriate, depending on species status, before approval of the plan to determine the appropriate mitigation measures for impacts on any special-status plant population. Mitigation measures may include preserving and enhancing existing on-site populations, creation of off-site populations on project mitigation sites through seed collection or transplantation, and/or preserving occupied habitat off-site in sufficient quantities to offset loss of occupied habitat or individuals.</p> <ul style="list-style-type: none"> <li>• If transplantation is part of the mitigation plan, include the following elements in the plan: a description and map of mitigation sites; details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, and monitoring and reporting requirements; remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements; and sources of funding to purchase, manage, and preserve the sites. The following performance standards shall be applied:               <ul style="list-style-type: none"> <li>– The extent of occupied area and the flower density in compensatory reestablished populations shall be equal to or greater than the affected occupied habitat and shall be self-producing.</li> <li>– Reestablished populations shall be considered self-producing when:                   <ul style="list-style-type: none"> <li>▪ plants reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and</li> <li>▪ reestablished habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types.</li> </ul> </li> </ul> </li> </ul> <p>If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		responsible parties for long-term management, conservation easement holders, long-term management requirements, and other details, as appropriate, to target the preservation of long-term, viable populations.	
		<p><b>Mitigation Measure 3.5-1c: Implement an Off-Site Revegetation and Weed Control Plan.</b></p> <p>To control invasive/noxious weeds, particularly in the off-site improvement areas, implement the following actions to avoid and minimize the spread or introduction of invasive plant species:</p> <ul style="list-style-type: none"> <li>• Clean construction equipment and vehicles in a designated wash area prior to entering and exiting the construction site.</li> <li>• Educate construction supervisors and managers about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.</li> <li>• Treat small, isolated infestations with eradication methods that have been approved by or developed in conjunction with CDFW and USFWS to prevent or destroy viable plant parts or seeds.</li> <li>• Minimize surface disturbance to the greatest extent feasible to complete the work.</li> <li>• Use native, noninvasive species or nonpersistent hybrids in erosion-control plantings to stabilize site conditions and prevent invasive plant species from colonizing.</li> <li>• Use weed-free imported erosion-control materials (or rice straw) in upland areas.</li> <li>• One year after construction, conduct a monitoring visit to each active or previously active (within 1 year) improvement footprint to ensure that no new occurrences of invasive plant species have become established.</li> </ul> <p>Reclaim all areas disturbed by project construction, including temporary disturbance areas around construction sites, laydown/staging areas, and temporary access roads, using a locally sourced native and naturalized seed mix in ruderal and natural areas; or reclaim to the pre-existing agricultural condition, if temporary impacts occur in agricultural lands. A</p>	



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		qualified biologist with demonstrated experience with the habitat to be restored shall have oversight for the selection of reclamation species.	
		<b>Implement Mitigation Measure 3.4 1a (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).</b>	
<b>Impact 3.5-2: Adverse Effects on Valley Elderberry Longhorn Beetle Habitat.</b>	PS	<b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b>	LTS
		<b>Mitigation Measure 3.5-2a: Conduct VELB Surveys (2019 SOIA EIR Mitigation Measure 3.5-2a).</b> Before any vegetation removal or ground-disturbing activities for construction both on- and off-site, the following measure shall be implemented to mitigate the potential for impacts on VELB: A qualified biologist shall survey for the presence of elderberry shrubs with stems measuring than 1-inch diameter at ground level. Surveys shall be conducted in accordance with USFWS' Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). If no elderberry shrubs with one or more stems measuring 1 inch or greater in diameter at ground level are documented, no further mitigation is required.	
		<b>Mitigation Measure 3.5-2b: Establish a Construction Buffer and Initiate Consultation with USFWS (2019 SOIA EIR Mitigation Measure 3.5-2b).</b> If elderberry shrubs are detected with stems greater than 1 inch in diameter and with evidence of VELB occupancy in the project site or the off-site improvement areas, the following measures shall be implemented to avoid, minimize, or mitigate effects on VELB, in accordance with USFWS' <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (USFWS 1999): <ul style="list-style-type: none"> <li>• Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Brief contractors and work crews about the status of the beetle and the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.</li> <li>• Erect signs every 50 feet along the edge of the avoidance area with the following information: “This area is habitat of the VELB, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment.” The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.</li> </ul> <p>If avoidance of an elderberry shrub and establishment of a 100-foot buffer is not practicable, initiate consultation with USFWS to determine if Incidental Take authorization need to be obtained from the USFWS, and if compensatory mitigation is required according to the guidelines identified in USFWS’ Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). This may include, but is not limited to, establishment of a conservation area to be maintained in perpetuity, transplanting elderberry shrubs that cannot be avoided, planting elderberry seedlings, planting associated native vegetation, and monitoring and maintenance of the conservation area. With USFWS approval, payment to a mitigation bank or payment into an in-lieu fee fund may be used to satisfy this measure.</p>	
<p><b>Impact 3.5-3: Loss of Nesting and Foraging Habitat for Special-Status and Other Protected Raptors</b></p>	<p>PS</p>	<p><b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b></p>	<p>LTS SU (for Swainson’s hawk only)</p>
		<p><b>Mitigation Measure 3.5-3a: Avoid Direct Loss of Swainson’s Hawk and Other Raptors (2019 SOIA EIR Mitigation Measure 3.5-3a).</b></p> <p>Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of nesting Swainson’s hawks and other nesting raptors:</p> <ul style="list-style-type: none"> <li>• Tree and vegetation removal shall be completed during the nonbreeding season for raptors (September 1–February 15).</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• To avoid, minimize, and mitigate potential impacts on Swainson’s hawk and other raptors (not including burrowing owl) nesting on or adjacent to the project site or off-site improvement areas, retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (March 1–September 15). The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines provided in the <i>Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in the Central Valley</i> (Swainson’s Hawk Technical Advisory Committee 2000) or future applicable updates to this guidance shall be followed for surveys for Swainson’s hawk. If no nests are found, no further mitigation will be required.</li> <li>• Impacts on nesting Swainson’s hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. No project activity shall commence within the buffer areas until a qualified biologist has determined, in consultation with CDFW, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. The buffer distance for Swainson’s hawk nests shall be determined by a qualified biologist and the City, in consultation with CDFW, based on the distance required to avoid adversely affecting the nest(s).</li> <li>• The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson’s hawk) shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.</li> </ul> <p>Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The qualified biologist will have the authority to shut down construction activities within a portion or all of a construction site if necessary to avoid nest abandonment or take of individuals. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.	
		<p><b>Mitigation Measure 3.5-3b: Avoid Loss of Burrowing Owl (2019 SOIA EIR Mitigation Measure 3.5-3b).</b></p> <p>Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of burrowing owl:</p> <ul style="list-style-type: none"> <li>• To avoid, minimize, and mitigate potential impacts on burrowing owl, retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat on and within 1,500 feet of the project site. Surveys will be conducted before the start of construction activities and in accordance with Appendix F of CDFW’s <i>Staff Report on Burrowing Owl Mitigation</i> (DFG 2012) or the most recent CDFW protocols.</li> <li>• If no occupied burrows are found, a letter report documenting the survey methods and results will be submitted to the City and CDFW and no further mitigation will be required.</li> <li>• If an active burrow is found during the nonbreeding season (September 1 through January 31), owls will be relocated to suitable habitat outside of the project area using passive or active methodologies developed, in consultation with CDFW, and may include active relocation to preserve areas if approved by CDFW and the preserve managers. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is developed and approved by CDFW.</li> <li>• If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows will not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer will depend on the time of year and level of disturbance, as outlined in the CDFW Staff Report (DFG 2012:9) or the most recent CDFW protocols. Once the fledglings are capable of independent survival, the owls will be relocated to suitable habitat outside the project area, in accordance with a burrowing owl exclusion and relocation plan developed in consultation with CDFW and the burrow will be destroyed to prevent owls from reoccupying it. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is approved by CDFW. Following owl exclusion and burrow demolition, the site shall be monitored by a qualified biologist to ensure burrowing owls do not recolonize the site before construction.</p> <ul style="list-style-type: none"> <li>• If active burrowing owl nests are found on the project site and these nest sites are lost as a result of implementing the project, the project applicant shall mitigate the loss through preservation of other known nest sites in Sacramento County, at a minimum ratio of 1:1, according to the provisions of a mitigation and monitoring plan for the compensatory mitigation areas.</li> <li>• The mitigation and monitoring plan will include detailed information on the habitats present within the preservation areas, the long-term management and monitoring of these habitats, legal protection for the preservation areas (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment). All burrowing owl mitigation lands shall be preserved in perpetuity and incompatible land uses shall be prohibited in habitat conservation areas.</li> </ul> <p>Burrowing owl mitigation land shall be transferred, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and CDFW named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, after consultation with CDFW. The City, after consultation with CDFW and the Conservation Operator, shall approve the content and form of the conservation easement. The City and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to ensure compliance with the terms of the easement.	
		<p><b>Mitigation Measure 3.5-3c: Implement the City of Elk Grove Swainson’s Hawk Foraging Habitat Mitigation Program (2019 SOIA EIR Mitigation Measure 3.5-3c).</b></p> <ul style="list-style-type: none"> <li>• Participate in the South Sacramento Habitat Conservation Plan through payment of the appropriate SSHCP Fee and/or dedication of land meeting SSCHP criteria and compliance with relevant Avoidance and Minimization Measures as detailed in the City’s Memorandum of Agreement with the South Sacramento Conservation Agency for Becoming a Participating Special Entity in the South Sacramento Habitat Conservation Plan; OR</li> <li>• Before the start of construction activities both on- and off-site, project applicants shall demonstrate compliance with the City’s Swainson’s Hawk Foraging Habitat Mitigation Program as it exists in Chapter 16.130 of the Municipal Code, or as it may be updated in the future. The City of Elk Grove will consult with the County of Sacramento to seek to develop an approach to mitigation for loss of Swainson’s hawk foraging habitat that integrates with the SSHCP Conservation Strategy Biological Goals and Objectives for this species and with the interconnected landscape-level preserve system envisioned in the SSHCP.</li> </ul>	
<p><b>Impact 3.5-4: Loss and Disturbance of Nesting Habitat for Special-Status Birds and Common Nesting Birds.</b></p>	<p>PS</p>	<p><b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b></p>	<p>LTS</p>

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p><b>Mitigation Measure 3.5-4: Avoid Loss of Special-Status Birds and Protected Bird Nests (2019 SOIA EIR Mitigation Measures 3.5-4 and 3.5-5).</b></p> <p>Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of special-status birds and protected bird nests:</p> <ul style="list-style-type: none"> <li>• To the extent feasible, vegetation removal, grading, and other ground-disturbing activities will be carried out during the nonbreeding season for protected bird species in this region (generally September 1–January 31).</li> <li>• For vegetation removal, grading, and other ground-disturbing activities that would occur during the nesting season (February 1–August 31), a qualified biologist shall conduct preconstruction surveys to determine if active special-status bird nests are present within an on- or off-site project footprint or within 500 feet of a project footprint. The biologist shall conduct preconstruction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence or absence of special-status birds. Preconstruction surveys shall be conducted during the breeding/nesting season. Surveys conducted in February (to meet preconstruction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities.</li> <li>• Surveys for least Bell’s vireo shall be conducted according to USFWS’ <i>Least Bell’s Vireo Survey Guidelines</i> (USFWS 2001).</li> <li>• If an active nest of a special-status bird species, or common bird species protected by the MBTA or California Fish and Game Code is found, the qualified biologist shall establish a buffer around the nest. No construction activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffer shall be determined in consultation with CDFW. Buffer size is anticipated to range from 50 to 500 feet, depending on the species of bird, nature of the project activity, the extent of existing disturbance in the area, and other relevant</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>circumstances, as determined by a qualified biologist, in consultation with CDFW.</p> <p>A qualified biologist shall monitor the nest(s) throughout the nesting season and to determine when the young have fledged. The biologist will be on-site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that birds are exhibiting agitated behavior, construction shall cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting birds. If the biologist determines that bird colonies are at risk, a meeting with CDFW will be held to determine the best course of action to avoid nest abandonment or take of individuals. The biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a special-status bird flies into an active construction zone (i.e., outside the buffer zone).</p>	
<p><b>Impact 3.5-5: Potential for Injury to or Mortality of American Badger.</b></p>	<p>PS</p>	<p><b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b></p>	<p>LTS</p>
		<p><b>Mitigation Measure 3.5-5: Avoid Direct Loss of American Badgers (2019 SOIA EIR Mitigation Measure 3.5-6).</b></p> <p>Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate potential impacts on American badgers:</p> <ul style="list-style-type: none"> <li>• A qualified biologist shall conduct preconstruction surveys for American badger in areas that will be subject to ground-disturbing activities. The survey shall be conducted no more than 2 weeks before initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during preconstruction surveys, CDFW will be consulted to obtain permission for animal relocation. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from reusing them during construction.</li> </ul>	



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for 3–5 days to discourage use of these dens before project disturbance. The den entrances shall be blocked to an incrementally greater degree over the 3- to 5-day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent reuse during construction.	
<b>Impact 3.5-6: Potential for Injury to or Mortality of Western Pond Turtle and Giant Garter Snake.</b>	PS	<b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b>	LTS
		<b>Mitigation Measure 3.5-6a: Retain a Biological Monitor During Off-Site Construction Activities.</b> <ul style="list-style-type: none"> <li>• The project applicant shall retain a qualified biologist to monitor construction activity in the off-site improvement areas for compliance with all project permits and the approved mitigation and monitoring program for the proposed project; and to report on monitoring activities as required by project permits.</li> <li>• During construction activities, if an injured or dead special-status species is encountered, the work shall stop in the immediate vicinity. The project applicant shall notify the biological monitor, and the appropriate resource agency (e.g., USFWS or CDFW). Any measures required by these agencies shall be implemented, and proof of implementation shall be submitted to the agencies before construction is allowed to proceed.</li> <li>• At the end of each work day, the biological monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with exclusion fencing. If any wildlife species become entrapped, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible.</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Employees and contractors shall look under vehicles and equipment for the presence of wildlife before moving vehicles and equipment. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled without the appropriate permits.</li> <li>• Vehicle speed limits shall not exceed 15 miles per hour during construction and operation of the proposed project. A speed limit sign shall be posted at all project site entry locations.</li> </ul>	
		<p><b>Mitigation Measure 3.5-6b: Avoid Western Pond Turtle and Giant Garter Snake During Off-Site Construction Activities.</b></p> <p><b>Western Pond Turtle</b></p> <ul style="list-style-type: none"> <li>• Where feasible, construction activities involving construction with heavy equipment (e.g., excavation, grading, contouring) in suitable western pond turtle upland habitat will avoid the western pond turtle egg-laying period (generally mid-May to early July).</li> <li>• Prior to the start of construction in western pond turtle habitat (i.e., any undeveloped areas within 1,300 feet of riverine aquatic habitat, ponds, seasonal wetlands), the project applicant will retain a biologist approved by the CDFW to survey and handle western pond turtles and conduct preconstruction surveys. Surveys will be conducted at each habitat area no more than 7 days prior to the initiation of ground disturbance at that location.</li> <li>• If ground-disturbing activities occur during the nesting or overwintering seasons, 1 week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist will conduct surveys for western pond turtle. The surveys will be timed to coincide with the time of day when turtles are most likely to be active (the cooler part of the day between 8:00 a.m. and 12:00 p.m. during spring and summer). Prior to conducting the surveys, the biologist will locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey will include a 30-minute wait time after arriving on the site to allow startled turtles to return to open basking areas.</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>The survey will consist of a minimum 15-minute observation time per area where turtles could be observed. If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed; and capture and relocate, if possible, any entrapped turtle. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat, and periodically inspect these areas for nests and turtles.</p> <p><b>Giant Garter Snake</b></p> <ul style="list-style-type: none"> <li>• Where feasible, construction activities involving construction with heavy equipment use (e.g., excavation, grading, contouring) in suitable giant garter snake habitat (i.e., within 200 feet of Deer Creek) will avoid the snake’s inactive/dormant period (generally October 2 to April 30).</li> <li>• To the maximum extent possible, all construction activities in giant garter snake habitat will be conducted during the snake’s active period (May 1 to October 1).</li> <li>• To reduce the likelihood of snakes entering the active construction areas that include or are adjacent to freshwater wetlands, slow-moving riverine aquatic habitat, marshes, ditches, and canals in the off-site improvement areas during construction activities, the project applicant or the construction contractor will install exclusion fencing along the freshwater marsh, aquatic riverine features, and open water areas outside of the environmental footprint (areas within 200 feet of suitable habitat). The exclusion fencing will be installed and maintained for the duration of construction in or adjacent to these features. The fencing will consist of 3- to 4-foot-tall erosion fencing buried at least 6 to 8 inches below the ground. To ensure that construction equipment and personnel do not affect aquatic habitat for giant garter snake outside the construction corridor, orange barrier fencing will be erected (in addition to the exclusion fencing) to clearly define the aquatic habitat to be avoided.</li> <li>• A qualified biologist will conduct a preconstruction survey in suitable habitat no more than 24 hours before construction. Prior to construction each morning, construction personnel</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>will inspect exclusion and orange barrier fencing to ensure they are in good condition. Observations of snakes in the environmental footprint and access routes will be immediately reported to the biologist, and all activities will cease until appropriate corrective measures have been completed; the snake leaves the construction site under its own volition; or the biologist determines that the snake will not be harmed. The area undergoing construction will be re-inspected and surveyed by the biologist whenever a lapse in construction activity of 2 weeks or more occurs.</p> <ul style="list-style-type: none"> <li>• Any ground-disturbing activities within 200 feet of giant garter snake habitat that occur after October 1 will be monitored by a USFWS- and a CDFW-approved biologist for the duration of the work.</li> <li>• Vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat will be limited to the minimum area necessary. Giant garter snake habitat outside of—but adjacent to—the construction areas will be flagged, and designated as an environmentally sensitive area to be avoided by all construction personnel.</li> <li>• The movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat will be confined to designated access and haul routes to minimize habitat disturbance.</li> <li>• Staging areas will be located at least 200 feet from suitable giant garter snake aquatic habitat.</li> </ul>	
<b>Impact 3.5-7: Potential Loss of Western Red Bat.</b>	LTS	<b>Implement Mitigation Measure 3.5-1a (Minimize the Off-Site Construction Impact Footprint).</b>	LTS
<b>Impact 3.5-8: Potential Indirect Effects to Vernal Pool Crustacean Habitat.</b>	PS	<b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b>	LTS
		<b>Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).</b>	
		<b>Mitigation Measure 3.5-8: Avoid and Minimize Potentially-Occupied Habitat for Vernal Pool Fairy Shrimp and</b>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p><b>Conservancy Fairy Shrimp During Off-Site Construction Activities.</b></p> <ul style="list-style-type: none"> <li>• A qualified biologist shall monitor for impacts on potentially occupied vernal pool fairy shrimp and Conservancy fairy shrimp habitat during off-site construction activities to ensure that they are identified for avoidance on site plans and preserved and avoided during off-site construction activities.</li> <li>• Vernal pool habitat shall be flagged and orange exclusionary fencing shall be erected prior to the start of off-site construction activities in the vicinity of the southern-most drainage ditch (along the UPRR tracks) and the 8-acre pond. The exclusionary fencing shall establish a 250-foot buffer from the vernal pool boundary.</li> <li>• The project applicant shall obtain a Construction General Stormwater Permit from the Central Valley RWQCB, prepare a stormwater pollution prevention plan, and implement best management practices (BMPs) to reduce water quality effects during construction.</li> <li>• USFWS consultation with USACE would occur during the CWA Section 404 permitting process that is required as mitigation for impacts on wetlands and other waters of the United States (see discussion under Impact 3.5-8, below).</li> </ul>	
		<p><b>Implement Mitigation Measure 3.4-1a (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).</b></p>	
<p><b>Impact 3.5-9: Disturbance, Degradation, or Removal of Federally Protected Waters of the United States.</b></p>	<p>PS</p>	<p><b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b></p>	<p>LTS</p>
		<p><b>Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).</b></p>	
		<p><b>Mitigation Measure 3.5-9a: Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State (2019 SOIA EIR Mitigation Measure 3.5-7).</b></p> <p>Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of waters:</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Conduct a delineation of waters of the United States according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and Arid West Supplement (Environmental Laboratory 2008) or applicable guidance manual that is in place at the time of application for proposed development that could adversely affect waters of the State or United States. The delineation shall map and quantify the acreage of all aquatic habitats and shall be submitted to USACE for verification and jurisdictional determination.</li> <li>• Off-site improvements shall be planned and designed to avoid waters of the United States, including wetlands, and waters of the state to the maximum extent technically feasible and appropriate. Avoidance shall be deemed technically feasible and appropriate if the habitat may be preserved while still obtaining the project purpose and objectives and if the preserved aquatic habitat could reasonably be expected to continue to provide the same habitat functions following project implementation.</li> <li>• The function of all wetlands and other waters that would be removed as a result of implementing the project shall be replaced or restored on a “no-net-loss” basis. Wetland habitat will be restored or replaced at an acreage and location and by methods agreeable to USACE and the Central Valley RWQCB, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.</li> <li>• Mitigation methods may consist of establishment of aquatic resources in upland habitats where they did not exist previously, reestablishment (restoration) of natural historic functions to a former aquatic resource, enhancement of an existing aquatic resource to heighten, intensify, or improve aquatic resource functions, or a combination thereof. The compensatory mitigation may be accomplished through purchase of credits from a USACE-approved mitigation bank, payment into a USACE-approved in-lieu fee fund, or through permittee-responsible on-site or off-site establishment,</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>reestablishment, or enhancement, depending on availability of mitigation credits.</p> <ul style="list-style-type: none"> <li>• If applicable, a USACE Section 404 Individual Permit and Central Valley RWQCB Section 401 water quality certification shall be obtained before any groundbreaking activity within 50 feet of waters of the United States or discharge of fill or dredge material into any water of the United States, or meet waste discharge requirements for impacts to waters of the state.</li> <li>• A qualified biologist shall prepare a wetland mitigation plan to describe how the loss of aquatic functions for each project will be replaced. The mitigation plan will describe compensation ratios for acres filled, and mitigation sites, a monitoring protocol, annual performance standards and final success criteria for created or restored habitats, and corrective measures to be applied if performance standards are not met.</li> <li>• Permittee-responsible mitigation habitat shall be monitored for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer.</li> <li>• Water quality certification pursuant to Section 401 of the CWA, or waste discharge requirements (for waters of the state), will be required before issuance of a Section 404 permit. Before construction in any areas containing aquatic features that are waters of the United States, the project applicant(s) shall obtain water quality certification for the project. Any measures required as part of the issuance of water quality certification and/or waste discharge requirements (for waters of the state), shall be implemented. Project applicant(s) shall obtain a General Construction Stormwater Permit from the Central Valley RWQCB, prepare a stormwater pollution prevention plan, and implement best management practices (BMPs) to reduce water quality effects during construction.</li> </ul>	
		<p><b>Mitigation Measure 3.5-9b: Comply with the Section 1600 Streambed Alteration Agreement.</b></p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Before construction, the project applicant shall obtain a Section 1600 Streambed Alteration Agreement from CDFW for any activities proposed in or near Deer Creek and/or associated riparian vegetation that could potentially fall under the jurisdiction of CDFW. The project applicant shall implement all conditions in the permit, including any requirements for compensatory mitigation for loss of riparian habitat as part of the Section 1600 Streambed Alteration Agreement. Where feasible, the compensatory mitigation requirement may be combined with those for other mitigation measures such as that required for the USACE CWA Section 404 permit. To comply with Sacramento County General Plan policies related to compensation for the loss of riparian habitats, impacts on riparian habitat shall be mitigated by the preservation riparian habitat at a minimum 1:1 ratio, in perpetuity.</li> <li>• If on-site restoration is selected as compensatory mitigation for impacts on riparian habitat, the project applicant shall prepare and implement Mitigation Measure 3.5-1d “Develop and Implement an Off-Site Revegetation and Weed Control Plan” to include reestablishment of riparian habitat, including riparian vegetation subject to CDFW jurisdiction, and/or enhancement of existing habitat, on a per-acre basis. To offset the temporary loss of riparian habitat during construction, the minimum mitigation ratio shall be no less than 1.5 acres of riparian habitat restored/created/enhanced for each acre of permanent or temporary impact. The revegetation and weed control plan shall include the following provisions for the restoration of affected riparian habitat:</li> <li>• Baseline data collection at reference sites in the project site to establish expected ranges and minimum thresholds for species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) for each sensitive habitat that would be affected.</li> <li>• An appropriate species planting palette for each sensitive habitat that would be affected.</li> </ul>	



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Minimum planting densities designed to achieve minimum performance standards for survival cover and density, while maintaining the natural character of the vegetation community being restored/created.</li> <li>• Minimum performance standards for percent survival, species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) based on data collected from nearby reference sites and life history traits of the plants being restored (i.e., herbaceous versus woody, fast-growing primary colonizers versus slow-growing successional species).</li> <li>• Compensation for the temporal loss of habitat resulting from the removal of trees. Any trees removed from riparian habitat shall be replaced with the same or similar species at a ratio of 3:1 (three [3] trees planted for every one [1] tree removed). Tree replacement may be carried out concurrently on riparian habitats that are also being restored/created/enhanced on a per-acre compensatory basis.</li> </ul>	
		<p><b>Implement Mitigation Measure 3.4-1a: (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).</b></p>	
<p><b>Impact 3.5-10: Interference with Wildlife Nursery Sites or Migratory Corridors.</b></p>	LTS	No mitigation measures are required.	LTS
<p><b>Impact 3.5-11: Conflicts with Local Policies and Ordinances Protecting Biological Resources.</b></p>	PS	<p><b>Implement Mitigation Measure 3.5-3c (Implement the City of Elk Grove Swainson’s Hawk Foraging Habitat Mitigation Program).</b></p> <p><b>Implement Mitigation Measure 3.5-9a (Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State).</b></p> <p><b>Implement Mitigation Measure 3.5-9b (Comply with the Section 1600 Streambed Alteration Agreement).</b></p> <p><b>Implement Mitigation Measure 3.2-2 (Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance).</b></p>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<b>Impact 3.5-12: Conflicts with the Provisions of an Adopted Habitat Conservation Plan.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.5-13: Loss of Riparian Habitat and Sensitive Natural Communities</b>	PS	<b>Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).</b>	LTS
		<b>Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).</b>	
		<p><b>Mitigation Measure 3.5-13: Avoid, Minimize, or Compensate for Loss of Riparian Habitat and Sensitive Natural Communities (2019 SOIA EIR Mitigation Measure 3.5-11).</b></p> <ul style="list-style-type: none"> <li>Retain a qualified botanist to identify, map, and quantify riparian habitat and other sensitive natural communities in proposed off-site improvement areas before final project design is completed. Off-site improvements shall be planned and designed to avoid loss or substantial degradation of riparian habitat and other sensitive natural communities, if technically feasible and appropriate. Avoidance shall be deemed technically feasible and appropriate if the features may be preserved while still obtaining the project purpose and objectives and if the preserved habitat/community could reasonably be expected to provide comparable habitat functions following project implementation. The avoidance measures shall include relocating off-site improvement components, as necessary and where practicable alternatives are available, to prevent direct loss of riparian habitats and other sensitive natural communities.</li> <li>If riparian habitat or other sensitive natural communities present in off-site improvement areas cannot feasibly be avoided, the project applicant shall coordinate with CDFW to determine appropriate mitigation for removal of riparian habitat and sensitive natural communities resulting from project implementation. Mitigation measures may include restoration of affected habitat, habitat restoration, or preservation and enhancement of existing habitat/natural community in other locations. The compensation habitat shall be similar in composition and structure to the habitat/natural community to be removed and shall be at ratios adequate to</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		offset the loss of habitat functions in the affected off-site improvement area. <ul style="list-style-type: none"> <li>If required, the project applicant shall obtain a Section 1602 streambed alteration agreement from CDFW and comply with all conditions of the agreement.</li> </ul>	
		<b>Implement Mitigation Measure 3.4-1a: (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).</b>	
<b>3.6 Cultural and Tribal Cultural Resources</b>			
<b>Impact 3.6-1: Substantial Adverse Change in the Significance of Known Historical Resources.</b>	NI	No mitigation measures are required.	NI
<b>Impact 3.6-2: Potential to Cause a Substantial Adverse Change in the Significance of an Unknown Historical Resource or Unique Archeological Resource.</b>	PS	<b>Mitigation Measure 3.6-2a: Conduct a Cultural Resources Inventory for Archaeological and/or Historic Architectural Resources and Tribal Cultural Resources (2019 SOIA EIR Mitigation Measure 3.6-2a).</b> <b>Archaeology</b> <ul style="list-style-type: none"> <li>Prior to the approval of development projects and off-site improvements, the City will require that a qualified cultural resources specialist conduct a survey and inventory for archaeological resources that would include field survey, review of updated information from the North Central Information Center and other applicable data repositories. Additional consultation with relevant tribal representatives may be appropriate, depending on the relative level of cultural sensitivity, as identified by traditionally and culturally affiliated California Native American tribes.</li> <li>Management recommendations may include, but are not limited to additional studies to evaluate identified sites or archaeological monitoring at locations determined by a qualified archaeologist in consultation with culturally affiliated California Native American tribes to be sensitive for subsurface cultural resource deposits related to the off-site improvements areas south and southeast of the Project site.</li> <li>All identified cultural resources will be recorded using the appropriate California Department of Parks and Recreation</li> </ul>	SU (unknown archaeological resources outside the City-owned property) LTS (unknown archaeological resources on the City-owned property) SU (unknown historic resources outside the City-owned property) LTS (unknown historic resources on the City-owned property)

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>(DPR) cultural resources recordation forms. The results of the inventory efforts will be documented in a technical report and submitted to the City. Cultural resources will be evaluated for eligibility for inclusion in the CRHR and the Elk Grove Register of Historic Resources and evaluations will be conducted by individuals who meet the Secretary of the Interior’s professional qualification standards in archaeology. If the evaluation is negative (i.e., not historically significant), no further mitigation is required. If the property is found to be an historical resource, the project proponent shall be required to implement mitigation if the proposed project has a substantial adverse change to a historical resource, including physical damage, destruction, relocation, or alteration of the property that materially alters in an adverse manner those physical characteristics of the property that conveys its significance for inclusion in or eligibility for the CRHR or local register.</p> <p><b>Historic Architecture</b></p> <ul style="list-style-type: none"> <li>• Prior to the approval of development projects and off-site drainage improvements, the City will require that a qualified cultural resources specialist conduct a survey and inventory for historic-age built environment resources. The inventory will include a field survey, review of updated information from the North Central Information Center and other applicable data repositories, and interested parties outreach. All identified resources will be recorded using the appropriate California Department of Parks and Recreation (DPR) cultural resources recordation forms. The results of the inventory efforts will be documented in a technical report and submitted to the City. Cultural resources will be evaluated for eligibility for inclusion in the CRHR and the Elk Grove Register of Historic Resources and evaluations will be conducted by individuals who meet the Secretary of the Interior’s professional qualification standards in history and/or architectural history. If the evaluation is negative (i.e., not historically significant), no further mitigation is required. If the property is found to be an historical resource, the project proponent shall be required to implement mitigation if the proposed project has a substantial adverse change to a</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		historical resource, including physical damage, destruction, relocation, or alteration of the property that materially alters in an adverse manner those physical characteristics of the property that conveys its significant for inclusion in or eligibility for the CRHR or local register.	
		<p><b>Mitigation Measure 3.6-2b: Avoid Effects on Historical Resources (2019 SOIA EIR Mitigation Measure 3.6-2b). Archaeology and Historic Architecture</b></p> <p>If the survey and evaluation required in Mitigation Measure 3.6-2a determines that a cultural resources site is an historical resource for the purposes of CEQA, the development project(s) will be redesigned to avoid the historical site(s). The historic site(s) will be deeded to a nonprofit agency to be approved by the City for the maintenance of the site(s). If avoidance is determined to be infeasible by the City, the applicant will prepare a treatment plan to minimize adverse effects, relocate resources, if feasible, and conduct all required documentation (in addition to the items above) in accordance with appropriate standards:</p> <ul style="list-style-type: none"> <li>• The development of a site-specific history and appropriate contextual information regarding the particular resource; in addition to archival research and comparative studies, this task could involve limited oral history collection.</li> <li>• Accurate mapping of the noted resource(s), scaled to indicate size and proportion of the structure(s).</li> <li>• Architectural description of affected buildings and structures.</li> <li>• Photo documentation of the designated resources.</li> <li>• Recordation of measured architectural drawings, in the case of specifically designated buildings of higher architectural merit.</li> <li>• Any historically significant artifacts within buildings and the surrounding area shall be recorded and may be deposited with the appropriate museum or collection with the consent of their owners.</li> <li>• Document the affected historical resource and integrate aspects of the historical resource into an interpretive display panel and/or signage for public exhibition concerning the history of the resource. The display and/or signage can be</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		based on the photographs, measured architectural drawings, salvaged material, and site-specific contextual information.	
		<p><b>Mitigation Measure 3.6-2c: Stop Work If Any Prehistoric or Historical Subsurface Cultural Resources Are Discovered, Consult a Qualified Archaeologist to Assess the Significance of the Find, and Implement Appropriate Measures, as Required (2019 SOIA EIR Mitigation Measure 3.6-2c).</b></p> <p><b>Archaeology</b></p> <ul style="list-style-type: none"> <li>• If previously unknown archaeological cultural resources (i.e., prehistoric sites, historical sites, and isolated artifacts) are discovered during construction work, work shall be halted immediately within 50 feet of the discovery, the City shall be notified, and a professional archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards shall be retained to determine the significance of the discovery.</li> <li>• If any elements of the on-site development or the off-site drainage improvements will impact an archaeological site, including those determined to be a Tribal Cultural Resource, and avoidance is not a feasible option, a qualified archaeologist, in consultation with traditionally and culturally affiliated California Native American tribes, shall evaluate the eligibility of the site for listing in the California Register of Historical Resources. If the archaeological site is found to be a historical resource as per CEQA Guidelines Section 15064.5 (a)(3), the qualified archaeologist shall recommend further mitigative treatment, which could include preservation in place or data recovery.</li> <li>• If a site to be tested is prehistoric, the City will determine the need for tribal monitoring.</li> <li>• If significant archaeological resources that meet the definition of historical or unique archaeological resources, including those determined by the City to be Tribal Cultural Resources, are identified in the project area, the preferred mitigation of impacts is preservation in place. If impacts cannot be avoided through project design, appropriate and feasible treatment measures are required, which may consist of, but are not</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>limited to actions, such as data recovery excavations. If only part of a site will be impacted by the project or the off-site improvements, data recovery will only be necessary for that portion of the site. Data recovery will not be required if the implementing agency determines prior testing and studies have adequately recovered the scientifically consequential information from the resources. Studies and reports resulting from the data recovery shall be deposited with the North Central Information Center.</p> <ul style="list-style-type: none"> <li>The project proponent shall be required to implement any mitigation necessary for the protection of archaeological cultural resources, including Tribal Cultural Resources.</li> </ul>	
<p><b>Impact 3.6-3: Substantial Adverse Change to a Tribal Cultural Resource.</b></p>	S	<p><b>Implement Mitigation Measure 3.6-2a (Conduct a Cultural Resources Inventory for Archaeological and/or Historic Architectural Resources and Tribal Cultural Resources).</b></p>	SU
		<p><b>Implement Mitigation Measure 3.6-2b (Avoid Effects on Historical Resources).</b></p>	
		<p><b>Mitigation Measure 3.6-2c (Stop Work If Any Prehistoric or Historical Subsurface Cultural Resources Are Discovered, Consult a Qualified Archaeologist to Assess the Significance of the Find, and Implement Appropriate Measures, as Required).</b></p>	
<p><b>Impact 3.6-4: Disturbance of Human Remains.</b></p>	PS	<p><b>Mitigation Measure 3.6-4: Halt Construction if Human Remains are Discovered and Implement Appropriate Actions (2019 SOIA EIR Mitigation Measure 3.6-4).</b></p> <p>In accordance with California law described above, if human remains are uncovered during future ground-disturbing activities, the project applicant(s) and/or their contractors would be required to halt potentially damaging excavation in the area of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner would be required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by</p>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.9. Following the coroner’s findings, the property owner, contractor or project proponent, an archaeologist, and the NAHC-designated Most Likely Descendant will determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.</p> <ul style="list-style-type: none"> <li>• Upon the discovery of Native American remains, project applicant(s) and/or their contractors would be required to ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards and practices) is not damaged or disturbed by further development activity until consultation with the Most Likely Descendant has taken place. The Most Likely Descendant would have 48 hours to complete a site inspection and make recommendations after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. Public Resources Code Section 5097.9 suggests that the concerned parties may extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that could be employed:             <ol style="list-style-type: none"> <li>1. record the site with the NAHC and the appropriate Information Center,</li> <li>2. use an open-space or conservation zoning designation or easement, and</li> <li>3. record a document with the county in which the property is located.</li> </ol> </li> <li>• If the NAHC is unable to identify a Most Likely Descendant or the Most Likely Descendant fails to make a recommendation within 48 hours after being granted access to the site, the Native American human remains and associated grave goods would be reburied with appropriate dignity on the</li> </ul>	



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		subject property in a location not subject to further subsurface disturbance.	
<b>3.7 Geology, Soils, Minerals, and Paleontological Resources</b>			
<b>Impact 3.7-1: Exposure to Strong Seismic Ground Shaking.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.7-2: Seismic-Related Ground Failure.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.7-3: Unstable Soils.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.7-4: Soil Erosion or Loss of Topsoil.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.7-5: Expansive Soils</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.7-6: Damage to Unknown Paleontological Resources</b>	PS	<b>Mitigation Measure 3.7-6: Avoid Impacts to Unique Paleontological Resources (2019 SOIA EIR Mitigation Measure 3.7-6).</b> <ul style="list-style-type: none"> <li>• Prior to the start of on- or off-site earthmoving activities that would disturb 1 acre of land or more within the Riverbank Formation, project applicants shall inform all construction personnel involved with earthmoving activities regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered.</li> <li>• If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the City of Elk Grove.</li> <li>• The project applicant shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan. The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum curation for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the City to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resource or resources were discovered.</li> </ul>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<b>3.8 Greenhouse Gas Emissions</b>			
Impact 3.8 1. Generation of Greenhouse Gas Emissions or Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs.	CC	<p><b>Mitigation Measure 3.8-1a: Achieve GHG Emissions Rate Consistent with State Guidance (2019 SOIA EIR Mitigation Measure 3.8-1)</b></p> <p>Prior to issuance of building permits, Project Building Plans shall demonstrate compliance with the following applicable measures included in the City’s Climate Action Plan, to the satisfaction of the City of Elk Grove Planning Division:</p> <ul style="list-style-type: none"> <li>• BE-4: The Project shall comply with 2016 CalGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24, Part 6, Building Energy Efficiency Standards. If building permits are issued subsequent to January 1, 2020, the Project shall provide a level of efficiency at least that of Tier 1 of the 2016 CalGreen Code, or baseline of the current CalGreen Code, whichever is more efficient.</li> <li>• BE-5: Should any residential portion of the Project (including single-family and multi-family) be constructed after January 1, 2025, these units shall be constructed as Zero Net Energy units. The Project shall achieve a Total Energy Deign Rating (Total EDR) and Energy Efficiency Design Rating (Efficiency EDR) of zero, consistent with the standards in Title 24, Part 6 of the California Code of Regulations, for all units permitted after January 1, 2025.</li> <li>• BE-6: At least 10 percent of all residential units shall include all-electric appliances and HVAC systems, including, but not limited to, (A) a heat pump water heater with a minimum Uniform Energy Factor of 2.87, and (B) an induction cooktop/range for all cooking surfaces in the unit.</li> <li>• TACM-8: A minimum of 25 percent of the off-road construction fleet used during construction of the Project shall include Environmental Protection Agency certified off-road Tier 4 diesel engines (or better).</li> <li>• TACM-9: The Project shall, at a minimum, provide the following minimum electrical vehicle service equipment: <ul style="list-style-type: none"> <li>– EV-ready for all single-family units;</li> </ul> </li> </ul>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>- For multi-family units, 2.5 percent of parking stalls with EV charging equipment installed and 2.5 percent of parking stalls EV-ready; and</li> <li>- For retail uses, 3 percent of parking stalls with EV charging equipment installed and 3 percent of parking stalls EV-ready.</li> </ul> <p>Should the City adopt a higher standard prior to issuance of any applicable building permit, such higher standards shall apply.</p>	
		<p><b>Mitigation Measure 3.8-1b: Implement the SMAQMD BMPs, or equivalent on-site or off-site mitigation, as applicable for land use operations</b></p> <p>The City of Elk Grove shall require, as a part of plans for development within the Project site, the implementation of the following SMAQMD BMPs, or BMPs as they may be revised in the future, or equivalent on-site or off-site mitigation, as applicable. If equivalent on-site or off-site mitigation is used in-lieu of the below measures, it must be demonstrated that the proposed measures would achieve an equivalent or greater reduction in the GHG emissions rate.</p> <ul style="list-style-type: none"> <li>• All projects must implement Tier 1 BMPs (BPM 1 and 2):               <ul style="list-style-type: none"> <li>- BMP 1 – projects shall be designed and constructed without natural gas infrastructure;</li> <li>- BMP 2 – projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.</li> </ul> </li> <li>• Projects that exceed 1,100 metric tons/year after implementation of Tier 1 BMPs must implement Tier 2 BMPs (BMP 3):               <ul style="list-style-type: none"> <li>- BMP 3 – residential projects shall achieve a 15 percent reduction in vehicle miles traveled per resident and office projects shall achieve a 15 percent reduction in vehicle miles traveled per worker compared to existing average vehicle miles traveled for the county, and retail projects shall achieve a no net increase in total vehicle miles traveled to show consistency with SB 743.</li> </ul> </li> </ul>	

<b>Table ES-1. Summary of Project Impacts and Mitigation Measures</b>			
<b>Impacts</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<b>3.9 Hazards, Hazardous Materials, and Wildfire</b>			
<b>Impact 3.9-1: Routine Transport, Use, or Disposal of Hazardous Materials.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.9-2: Potential Human Health Hazards from Exposure to Existing On-Site Hazardous Materials.</b>	LTS	<p><b>Mitigation Measure 3.9-2: Hazardous Materials Identification and Remediation (2019 SOIA Mitigation Measure 3.9-2)</b></p> <p>For development proposed after 5 years have passed (after 2023), update the review of environmental risk databases for the presence of potential hazardous materials. This evaluation should consider the SOIA Area and any off-site improvement areas and if this assessment or other indicators point to the presence or likely presence of contamination, Phase I environmental site assessments and/or Phase II soil/groundwater testing and remediation shall be required before development. The sampling program developed as a part of the Phase II EA shall be conducted to determine the degree and location of contamination, if any, exists. If contamination is determined to exist, it will be fully remediated, by qualified personnel, in accordance with federal, State, and local regulations and guideline established for the treatment of hazardous substances. The designation of encountered contamination will be based on the chemicals present and chemical concentrations detected through laboratory analysis. Based on the analytical results, appropriate disposal of the material in accordance with EPA, Department of Toxic Substances Control, and Regional Water Quality Control Board guidelines shall be implemented. Any land disturbance near potential hazardous sites should occur only after the remediation and clean-up of the existing site is complete..</p>	LTS
<b>Impact 3.9-3: Upset and Accident Conditions</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.9-4: Interfere with Emergency Response or Evacuation Plans</b>	PS	<p><b>Mitigation Measure 3.9-4: Implement Traffic Control Plans (2019 SOIA EIR Mitigation Measure 3.9-4).</b></p> <p>Implement traffic control plans for construction activities that may affect road rights-of-way during Project construction. The traffic control plans shall be designed to avoid traffic-related hazards and maintain emergency access during construction phases. The traffic control plan will illustrate the location of the</p>	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>proposed work area; provide a diagram showing the location of areas where the public right-of-way would be closed or obstructed and the placement of traffic control devices necessary to perform the work; show the proposed phases of traffic control; and identify the time periods when traffic control would be in effect and the time periods when work would prohibit access to private property from a public right-of-way. The plan may be modified in order to eliminate or avoid traffic conditions that are hazardous to the safety of the public. Traffic control plans should be submitted to the affected agencies, as appropriate, shall be submitted to the City for review and approval before approval of improvement plans, where future construction may cause impacts on traffic.</p>	
<p><b>Impact 3.9-5: Risks from Wildfires</b></p>	<p>LTS</p>	<p>No mitigation measures are required.</p>	<p>LTS</p>
<p><b>3.10 Hydrology and Water Quality</b></p>			
<p><b>Impact 3.10-1: Violate Water Quality Standards or Waste Discharge Requirements.</b></p>	<p>LTS</p>	<p><b>Mitigation Measure 3.10 1: Implement Mitigation Measure 3.9 2 (2019 SOIA EIR Mitigation Measure 3.9-2).</b></p>	<p>LTS</p>
<p><b>Impact 3.10-2: Substantially Decrease Groundwater Supplies or Interfere with Groundwater Recharge.</b></p>	<p>LTS</p>	<p>No mitigation measures are required.</p>	<p>LTS</p>
<p><b>Impact 3.10-3: Alteration of Drainage Patterns Resulting in Substantially Increased Erosion, Siltation, Downstream Flooding, or Increased Stormwater Runoff Volumes.</b></p>	<p>LTS</p>	<p>No mitigation measures are required.</p>	<p>LTS</p>
<p><b>Impact 3.10-4: Impede Flood Flows or Risk Release of Pollutants from Inundation in a Flood Hazard Zone.</b></p>	<p>PS</p>	<p><b>Mitigation Measure 3.10-4a: Ensure Structures are Outside of the 100-Year Floodplain (2019 SOIA EIR Mitigation Measure 3.10-5)</b>            The City of Elk Grove shall verify that no habitable structures or structures that negatively obstruct the flow of water are proposed within the 100-year floodplain. Further, all development shall comply with applicable provisions of Elk Grove Municipal Code Section 16.50 (Flood Damage Prevention).</p>	<p>LTS</p>
		<p><b>Mitigation Measure 3.10-4b: Prevent Storage of Construction Materials and Equipment in a Flood Zone During the Rainy Season.</b>            The City shall note on the construction plans and require as a condition of grading permits that construction materials and</p>	

<b>Table ES-1. Summary of Project Impacts and Mitigation Measures</b>			
<b>Impacts</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
		equipment shall not be stored in a 100- or 200-year floodplain between October 1 and April 31 of any year during construction.	
<b>Impact 3.10-5: Conflict with a Water Quality Control Plan or Sustainable Groundwater Management Plan.</b>	LTS	No mitigation measures are required.	LTS
<b>3.11 Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities</b>			
<b>Impact 3.11-1: Consistency with Adopted Sacramento County and Elk Grove General Plan Policies and Land Use Designations.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.11-2: Consistency with LAFCo Policies, Standards, and Procedures.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.11-3: Induce Substantial Unplanned Population Growth.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.11-4: Conversion of Open Space.</b>	S	<b>Mitigation Measure 3.11 4: Implement Mitigation Measure 3.3 1 (Preserve Agricultural Land).</b>	SU
<b>3.12 Noise and Vibration</b>			
<b>Impact 3.12-1: Temporary, Short-Term Exposure of Sensitive Receptors to Construction Noise.</b>	S	<p><b>Mitigation Measure 3.12-1: Implement Noise-Reducing Construction Practices (2019 SOIA EIR Mitigation Measure 3.12-1).</b></p> <p>During both on- and off-site Project-related construction, the following measures shall be implemented to reduce construction noise impacts.</p> <ul style="list-style-type: none"> <li>Noise-generating construction in areas that could affect noise-sensitive land uses shall be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. and 6 p.m. on Saturdays and Sundays.</li> <li>Noisy construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses.</li> <li>All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment-engine shrouds shall be closed during equipment operation.</li> </ul>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• All motorized construction equipment shall be shut down when not in use to prevent idling.</li> <li>• Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site).</li> <li>• Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) when noise sensitive receptors are located within 250 feet of construction activities.</li> <li>• Written notification of construction activities shall be provided to all noise-sensitive receptors located within 850 feet of construction activities. The notification shall include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, for the Project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall also be included in the notification.</li> <li>• To the extent feasible and necessary to reduce construction noise levels consistent with applicable policies, acoustic barriers (e.g., noise curtains, sound barriers) shall be constructed to reduce construction-generated noise levels at affected noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and on-site construction equipment.</li> <li>• When future noise sensitive uses are within close proximity to prolonged construction noise, noise-attenuating buffers such as structures, truck trailers, or soil piles shall be located between noise sources and future residences, as feasible, to shield sensitive receptors from construction noise.</li> </ul>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<b>Impact 3.12-2: Temporary, Short-Term Exposure of Sensitive Receptors to Increased Traffic Noise Levels from Project Construction.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.12-3: Temporary, Short-Term Exposure of Sensitive Receptors to Potential Groundborne Noise and Vibration from Project Construction.</b>	PS	<p><b>Mitigation Measure 3.12-3: Reduce Groundborne Noise and Vibration Levels at Sensitive Receptors and Buildings (2019 SOIA EIR Mitigation Measure 3.12-3).</b></p> <p>During construction of on-site and off-site improvements, the following measures shall be implemented to reduce groundborne noise and vibration within 60 feet of existing non-historical structures and within 25 feet of historic, older, or potentially sensitive structures:</p> <ul style="list-style-type: none"> <li>• Route heavily loaded trucks away from residential streets where residences are within 60 feet of the edge of the roadway.</li> <li>• Operate earthmoving equipment on the construction lot as far away from noise- and vibration-sensitive uses as feasible.</li> <li>• Phase earthmoving and other construction activities that would affect the ground surface so as not to occur in the same time period.</li> <li>• Large bulldozers and other construction equipment that would produce vibration levels at or above 86 VdB shall not be operated within 50 feet of adjacent, occupied residences. Small bulldozers shall be used instead of large bulldozers in these areas, if construction activities are required. For any other equipment types that would produce vibration levels at or above 86 VdB, smaller versions or different types of equipment shall be substituted for construction areas within 50 feet of adjacent, occupied residences.</li> <li>• Construction activities shall not occur on weekends or federal holidays and shall not occur on weekdays between the hours of 7 p.m. of 1 day and 7 a.m. of the following day.</li> </ul> <p>In addition, the following measures shall be implemented to reduce groundborne noise and vibration for pile driving within 200 feet of any vibration-sensitive receptor, if required by the City:</p>	SU



**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• A disturbance coordinator shall be designated, and this person’s contact information shall be posted in a location near the project site that it is clearly visible to the nearby receivers most likely to be disturbed. The director would manage complaints and concerns resulting from activities that cause vibrations. The severity of the vibration concern should be assessed by the disturbance coordinator, and if necessary, evaluated by a professional with construction vibration expertise.</li> <li>• The existing condition of all buildings within a 180-foot radius within the proposed pile driving activities shall be recorded in the form of a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by construction activities.</li> <li>• Vibration monitoring shall be conducted before and during pile driving operations. Every attempt shall be made to limit construction generated vibration levels in accordance with Caltrans recommendations during pile driving and impact activities in the vicinity of the historic, older, or potentially sensitive structures.</li> </ul> <p>Pile driving required within a 285-foot radius of sensitive receptors or within 180 feet of a historic, older, or potentially sensitive structure should use alternative installation methods, where possible (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers).</p>	
<b>Impact 3.12-4: Long-Term Traffic Noise Levels at Existing Noise-Sensitive Receivers.</b>	S	No feasible mitigation measures	SU
<b>Impact 3.12-5: Land Use Compatibility of On-Site Sensitive Receptors with Future Transportation Noise Levels.</b>	PS	<p><b>Mitigation Measure 3.12-5: Improve Land Use Compatibility to Reduce Exposure of On-Site Sensitive Receptors to Traffic Noise (2019 SOIA EIR Mitigation Measure 3.12-5).</b></p> <p>Consistent with General Plan Noise Policies N-1-1, N-1-2, N-2-1, N-2-2, N-2-3, and N-2-4, or these policies as they may be updated in the future, feasible strategies to improve land use/transportation noise compatibility will be incorporated into the design of projects, including, but not limited to the following strategies, as feasible:</p>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> <li>• incorporate site planning strategies to reduce noise levels within compliance of applicable noise standards, such as building orientation, which can take advantage of shielding provided by the intervening building façade at the outdoor activity area;</li> <li>• consider setback distances from the noise source. Increasing the setback distance would achieve a natural attenuation of traffic noise levels due to excess ground attenuation and additional noise propagation over distance;</li> <li>• use of increased noise-attenuation measures for second- and third-story facades in building construction (e.g., dual-pane, sound-rated windows; exterior wall insulation);</li> <li>• install low-noise pavement, such as open-grade asphalt or rubberized asphalt.</li> </ul>	
<p><b>Impact 3.12-6: Land Use Compatibility of On-Site Sensitive Receptors with or Generation of Non-Transportation Noise Levels in Excess of Local Standards.</b></p>	S	<p><b>Mitigation Measure 3.12-6: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Non-Transportation Source-Generated Noise (2019 SOIA EIR Mitigation Measure 3.12-6).</b></p> <p>The City of Elk Grove shall require discretionary projects to reduce potential exposure of on-site sensitive receptors to non-transportation source noise.</p> <p>To reduce potential long-term exposure of on-site sensitive receptors to noise generated by project-related non-transportation noise sources, the City shall evaluate individual facilities, subdivisions, and other project elements for compliance with the City Noise Ordinance and policies contained in the City’s General Plan at the time that tentative subdivision maps and improvements plans are submitted. All project elements shall comply with City noise standards. The project applicants for all project phases shall implement the following measures to assure maximum reduction of project interior and exterior noise levels from operational activities.</p> <ul style="list-style-type: none"> <li>• The proposed land uses shall be designed so that on-site mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units, compressors, and generators) and area-source operations (e.g., loading docks, parking lots, and</li> </ul>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>recreational-use areas) are located as far as possible from or shielded from nearby noise-sensitive land uses.</p> <ul style="list-style-type: none"> <li>• Residential air conditioning units shall be located a minimum of 10 feet from adjacent residential dwellings, including outdoor entertainment and relaxation areas, or shall be shielded to reduce operational noise levels at adjacent dwellings or designed to meet City noise standards. Shielding may include the use of fences or partial equipment enclosures. To provide effectiveness, fences or barriers shall be continuous or solid, with no gaps, and shall block the line of sight to windows of neighboring dwellings.</li> <li>• To the extent feasible, residential land uses located within 500 feet of and within the direct line of sight of major noise-generating commercial uses (e.g., loading docks and equipment/vehicle storage repair facilities,) shall be shielded from the line of sight of these facilities by construction of a noise barrier. To provide effectiveness, noise barriers shall be continuous or solid, with no gaps, and shall block the line of sight to windows of neighboring dwellings.</li> <li>• Dual-pane, noise-rated windows; mechanical air systems; exterior wall insulation; and other noise-reducing building materials shall be used.</li> <li>• Routine testing and preventive maintenance of emergency electrical generators shall be conducted during the less sensitive daytime hours (i.e., 7:00 a.m. to 6:00 p.m.). All electrical generators shall be equipped with noise control (e.g., muffler) devices in accordance with manufacturers' specifications.</li> <li>• Prior to issuance of occupancy permits, project applicants shall provide buyer-renter notification for any noise sensitive uses located within 200 feet on ongoing operations of agricultural equipment at adjacent agricultural land uses.</li> </ul> <p>In addition, the City shall seek to reduce potential long-term exposure of sensitive receptors to noise generated by project-related non-transportation noise sources from public activities on school grounds, in neighborhood and community parks, and in open-space areas. Specifically, the City shall encourage the</p>	

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		controlling agencies (i.e., schools and park and recreation districts) to implement measures to reduce project-generated interior and exterior noise levels to within acceptable levels, including but not limited to the following: <ul style="list-style-type: none"> <li>• On-site landscape maintenance equipment shall be equipped with properly operating exhaust mufflers and engine shrouds, in accordance with manufacturers' specifications.</li> <li>• For maintenance areas located within 500 feet of noise-sensitive land uses, the operation of on-site landscape maintenance equipment shall be limited to the least noise-sensitive periods of the day, between the hours of 7 a.m. and 7 p.m.</li> <li>• Outdoor use of amplified sound systems within 500 feet of noise-sensitive land uses shall be permitted only between 7 a.m. and 10 p.m. Sunday through Thursday, and between 7 a.m. and 11 p.m. on Friday and Saturday.</li> </ul>	
<b>3.13 Public Services and Recreation</b>			
<b>Impact 3.13-1: Increased Demand for Fire Protection and Emergency Medical Services.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.13-2: Increased Demand for Law Enforcement Services.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.13-3: Increased Demand for Schools.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.13-4: Increased Demand for Parks and Recreation Facilities.</b>	LTS	No mitigation measures are required.	LTS
<b>3.14 Transportation</b>			
<b>Impact 3.14 1. Conflict with an applicable transportation plan, ordinance, policy, or congestion management program.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.14-2. Conflict or inconsistency with CEQA Guidelines section 15064.3, subdivision (b).</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.14-3. Hazards due to a design feature.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.11-4. Inadequate emergency access.</b>	LTS	No mitigation measures are required.	LTS

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
<b>3.15 Utilities and Public Service</b>			
<b>Impact 3.15-1: Require or Result in the Relocation of or the Construction of New or Expanded Utilities and Service Systems Facilities, the Construction of Which Could Cause Significant Environmental Effects.</b>	LTS	<b>Mitigation Measure 3.15-1: Prepare Utility Service Plans that Demonstrate Adequate Electrical and Natural Gas Supplies and Infrastructure are Available before the Annexation of Territory within the SOIA (2019 SOIA EIR Mitigation Measure 3.16-2)</b>  The City of Elk Grove shall require utility service plans that identify the projected electrical and natural gas demands and that appropriate infrastructure sizing and locations to serve future development will be provided within the annexation territory. The utility service plans shall demonstrate that SMUD will have adequate electrical supplies and infrastructure and PG&E will have adequate natural gas supplies and infrastructure available for the amount of future development proposed within the annexation territory. If SMUD or PG&E must construct or expand facilities, environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of mitigation measures. Such measures should include those necessary to avoid or reduce environmental impacts associated with, but not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects..	LTS
<b>Impact 3.15-2: Increased Demand for Water Supplies</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.15-3: Increased Demand for Wastewater Treatment Facilities.</b>	LTS	No mitigation measures are required.	LTS
<b>Impact 3.15-4: Increased Generation of Solid Waste and Compliance with Solid Waste Statutes and Regulations.</b>	LTS	No mitigation measures are required.	LTS
<b>3.16 Energy</b>			
<b>Impact 3.16-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources.</b>	S	<b>Mitigation Measure 3.16-1a: Implement Mitigation Measures 3.4-2, 3.8-1a and 3.8-1b (2019 SOIA EIR Mitigation Measure 3.16-1a)</b>	SU

**Table ES-1. Summary of Project Impacts and Mitigation Measures**

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p><b>Mitigation Measure 3.16-1b: Incorporate Energy Conservation Strategies (2019 SOIA EIR Mitigation Measure 3.16-1b)</b></p> <p>Incorporate strategies for direct energy conservation, as well as strategies that indirectly conserve energy into the design and construction of new development, including, but not limited to:</p> <ul style="list-style-type: none"> <li>• use recycled building materials that minimize energy-intensive generation and shipping/transport of new materials;</li> <li>• install energy-efficient lighting, including a lighting control system with dimmer switches to minimize the energy expended for unused fields;</li> <li>• install water-efficient landscaping and irrigation systems to minimize the energy consumption associated with water supply systems;</li> <li>• design energy-efficient buildings, including complying with California Energy Commission Title 24 requirements for energy-efficient roofing and insulation; and</li> <li>• conserve existing trees and plant new trees to provide shade and minimize watering requirements.</li> </ul>	
<p><b>Impact 3.16-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.</b></p>	<p>LTS</p>	<p>No mitigation measures are required.</p>	<p>LTS</p>

# 1 INTRODUCTION

This Supplemental Environmental Impact Report (SEIR) evaluates the impacts of the Multi-Sport Complex and Southeast Industrial Annexation Area Project (the proposed Project). This SEIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code Section 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 *et seq.*).

## 1.1 PROJECT BACKGROUND

The City of Elk Grove (City) is proposing a change in the proposed future land uses for the Project site compared to the array of uses assumed in the Environmental Impact Report (EIR) certified by the Sacramento Local Agency Formation Commission (LAFCo) in May of 2019 for the Project site. The Project site in its entirety was a part of a proposed Sphere of Influence amendment (SOIA), which was approved by LAFCo, along with the EIR certification (2019 SOIA EIR). This SEIR supplements the 2019 SOIA EIR. Further, the City's proposed General Plan land use designations and rezoning are provided to implement the planned future land uses for a portion of the Project area (referred to as the Phase 1 area).

The 2019 SOIA EIR addressed development of a multi-sports park complex on a City-owned property within the SOIA Area, along with a mix of commercial, industrial, and mixed uses in the surrounding area. There are four parts of the revised Project description that are the focus of analysis in this SEIR: (1) a change in the planned future land uses within the Project area; (2) additional information related to infrastructure improvements that will be necessary to serve the Project site; (3) the establishment of General Plan and rezoning for a Phase 1 annexation; and (4) consideration of the annexation application for Phase 1 of the Project

This SEIR considers ultimate buildout of the entire SOIA, including the phased annexation of a core area of just over 375 acres that includes the properties to be pre-zoned for Light Industrial (LI), Heavy Industrial (HI), and Regional Commercial (RC) development, as well as assumed development of an approximately 64-acre Parks and Open Space area and an approximately 118-acre mixed-use area. While the property analyzed for a multi-sport complex in the 2019 SOIA EIR is now analyzed for Light Industrial (LI) development, a multi-sport complex could still be developed through the City's conditional use permit process.<sup>1</sup> This SEIR focuses on additional information needed to address the proposed changes in use and additional information related to the infrastructure that will be required to support the Project site at buildout. See Chapter 2 of this SEIR, "Project Description" for more detail about the Project analyzed in this SEIR, including exhibits illustrating the planned land uses and proposed General Plan and rezoning for the Phase 1 area.

## 1.2 INTENDED USES AND PURPOSE OF THE SUPPLEMENTAL EIR

The City, as the lead agency, has prepared this SEIR to evaluate the environmental impacts of implementation of the proposed changes to the Multi-Sport Complex and Southeast Industrial Annexation Area Project, including, but not limited to, adoption of General Plan land use designations and rezoning, approval of annexation (by LAFCo), construction of infrastructure to serve future development, and approval of subsequent development within the Project area. The CEQA Guidelines charge public agencies with the responsibility of avoiding or minimizing environmental damage that could result from implementation of a project, where feasible. As part of

---

<sup>1</sup> The 2019 SOIA EIR appropriately addresses the impacts associated with the sports complex use, along with the associated ancillary uses to the sports complex, required infrastructure to support the sports complex, lighting, parking, and other features.

this responsibility, public agencies are required to balance various public objectives, including economic, environmental, and social issues.

The purpose of an EIR is not to recommend approval or denial of a project. An EIR is an informational document used in the planning and decision-making process by the lead agency and responsible and trustee agencies. An EIR describes the significant environmental impacts of a project, identifies potentially feasible measures to mitigate significant impacts, and describes potentially feasible alternatives to the project that can reduce or avoid significant environmental effects. CEQA requires decision-makers to balance the benefits of a project against its environmental effects in deciding whether to carry out a project.

CEQA Guidelines Section 15163 states that a lead agency may choose to prepare a SEIR when only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. The SEIR need only contain the information necessary to make the previous EIR adequate for the project, as revised.

This SEIR revisits each resource topic from the 2019 EIR, including cumulative effects, to determine if the proposed Project, as revised, would result in new or substantially more severe significant effects that were not analyzed in the 2019 SOIA EIR. The purpose of the 2019 SOIA EIR was to support consideration of both the SOIA, subsequent General Plan amendment and rezoning by the City, and possible annexation of the Project area to the City by LAFCo. As necessary, this document updates or expands the material presented in the 2019 SOIA EIR to evaluate the changes to the Project and the Project context and describes any changes in impacts attributable to the proposed Project. The 2019 EIR established mitigation measures to reduce potential impacts, as applicable and feasible, to a less than significant level. This SEIR considers and incorporates these mitigation measures and, to the extent that new information is available, or the Project has been revised, the measures have been updated or revised, or augmented with additional measures. All mitigation measures are applicable to the entirety of the Project, including Phases 1 and 2. Appendix H provides a table of the 2019 EIR mitigation measures and illustrates, in track changes, the revisions proposed with this SEIR. Although future conditions related to traffic congestion are not related to any impact under CEQA, mitigation measures related to this topic (Mitigation Measure 3.14-1 and 4.2-1) have been retained for planning purposes.

If significant environmental effects are identified, the City will adopt “findings” indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects. If the environmental impacts are identified as significant and unavoidable, the City may still approve the Project if it determines that social, economic, legal, technological, or other factors override the unavoidable impacts. The City will then be required to prepare a “Statement of Overriding Considerations” that discusses the specific reasons for approving the Project, based on information in the SEIR and other information in the record.

The City Council must certify a Final SEIR before approving the Project. In making its decision whether or not to approve the project, the City will consider “the whole of record,” which includes the information in the SEIR, comments received on the SEIR and responses to those comments, and the 2019 SOIA EIR and the administrative record supporting the previous EIR.

### **1.3 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES**

In accordance with the CEQA Guidelines Section 15051(b)(1), the City of Elk Grove is the lead agency with primary authority for approval of the Project. Approvals for the Project include, but are not limited to:



- ▶ certification of the SEIR prepared for the Project,
- ▶ adoption of a General Plan amendment to designate properties within Phase 1 portion of the Project area on the City’s General Plan Land Use Diagram and otherwise update Chapters 3 (Planning Framework) and 4 (Urban and Rural Development) of the General Plan to incorporate the Project,
- ▶ rezoning of properties within the Phase 1 annexation area consistent with the General Plan amendment.

The ultimate buildout of uses anticipated on the Project site will require additional entitlements from the City, including, but not limited to, the following:

- ▶ site development plans, including conditional or minor use permits and major or minor design review
- ▶ tentative and final parcel and subdivision maps
- ▶ grading and building permits

Other agencies that may require permission or approvals may include, but are not limited to:

- ▶ Sacramento Local Agency Formation Commission
- ▶ U.S. Army Corps of Engineers
- ▶ U.S. Fish and Wildlife Service
- ▶ California Department of Fish and Wildlife
- ▶ Central Valley Regional Water Quality Control Board
- ▶ Sacramento Metropolitan Air Quality Management District
- ▶ Sacramento County
- ▶ Sacramento County Water Agency
- ▶ Sacramento Area Sewer District
- ▶ Sacramento Regional County Sanitation District
- ▶ South Sacramento Conservation Agency

These additional agencies with potential permit or approval authority over the project, or elements thereof, will have the opportunity to review this document during the public review period, and will use this information in consideration and issuance of any permits required for the Project.

The Sacramento Local Agency Formation Commission (LAFCo) has authority over annexation applications and will use their independent judgement in reviewing and certifying this SEIR. It is anticipated that LAFCo will rely on the original 2019 SOIA EIR and this SEIR as it considers changes in public agency organization, including phased annexation of the Project site into the City of Elk Grove, and detachments from CSA No. 1 (Street Lighting) and CSA No. 11 (Supplemental Police), along with annexation into Sacramento Area Sewer District (SASD) and Sacramento ~~County Regional~~ Sanitation District. This SEIR specifically addresses the annexation of the Phase 1 area as described in Chapter 2, Project Description. Further CEQA review may be necessary prior to adoption of General Plan land use designations and rezoning and annexation of the Phase 2 areas depending upon the ultimate land uses.

5-4

Regional County

(Regional San)

## **1.4 PUBLIC INVOLVEMENT PROCESS**

### **1.4.1 SCOPING COMMENT PERIOD**

To initiate preparation of this SEIR, in accordance with the CEQA Guidelines (14 CCR 15082[a], 15103, and 15375), the City circulated a Notice of Preparation (NOP) of a Supplemental EIR (SEIR) for the proposed Project (provided as Appendix A). The NOP was circulated to the public; State Clearinghouse; responsible, trustee, and other relevant local, State, and Federal agencies; and to the Sacramento County Clerk. The scoping period began on July 20, 2020 and ended on August 19, 2020.

CEQA provides for a lead agency to facilitate one or more scoping meetings, which provide opportunity for determining the scope and content of the EIR. Traditionally, the City hosts one scoping meeting for the general public during the NOP comment period. In accordance with State and local health orders limiting in-person public meetings, the City provided an alternative method for the scoping meeting. A video presentation by staff, introducing the Project and outlining the CEQA process was provided for review on the City's website, along with instructions for providing responses to the NOP. This video and comment opportunity was available throughout the NOP comment period.

The NOP and scoping meeting provided opportunity for comment from public agencies, stakeholders, organizations, and interested individuals on the scope of the environmental analysis addressing the potential effects of the proposed Project. The City reviewed and considered all public comments in preparing this SEIR.

### **1.4.2 DRAFT SUPPLEMENTAL EIR COMMENT PERIOD**

The City is circulating this Draft SEIR for a 45-day public review and comment period to provide agencies and interested individuals with the opportunity to comment on the content of the Draft SEIR.

#### **WRITTEN COMMENTS**

Written comments or questions concerning this Draft SEIR must be submitted within the 45-day review period. When submitting a comment, please include the name of a contact person in your agency or organization. All comments must be directed to the name and address listed below, either via postal mail or email:

City of Elk Grove Office of Strategic Planning and Innovation  
c/o Christopher Jordan  
8401 Laguna Palms Way  
Elk Grove, CA 95758  
[cjordan@elkgrovecity.org](mailto:cjordan@elkgrovecity.org)

A copy of the Draft SEIR is also available for review on the City's website at the following address:

<http://www.elkgrovecity.org/sportscomplex>

## 1.5 ISSUES TO BE RESOLVED AND AREAS OF CONTROVERSY

CEQA Guidelines Section 15123 suggests that an EIR include a summary of “areas of controversy known to the Lead Agency” and “[i]ssues to be resolved.” Topics addressed in responses to the City’s NOP represent the most comprehensive list of issues of interest for the proposed Project and include:

- ▶ Cultural and Tribal Cultural Resources (Section 3.6, Cultural and Tribal Cultural Resources)
- ▶ Drainage improvements and avoiding mosquito breeding potential (Section 3.10, Hydrology and Water Quality)
- ▶ Water supply, including groundwater (Section 3.15, Utilities and Service Systems)
- ▶ Conversion of agricultural land to urban uses (Section 3.3, Agricultural Resources)
- ▶ Special-status species and sensitive habitats (Section 3.5, Biological Resources)
- ▶ Utility service (Section 3.15, Utilities and Service Systems)
- ▶ Energy efficiency and demand (3.16, Energy)
- ▶ Climate change (Section 3.8, Greenhouse Gas Emissions)

## 1.6 ORGANIZATION OF THE SUPPLEMENTAL EIR

This SEIR is organized as follows:

- ▶ **Chapter ES, “Executive Summary,”** provides an overview of the findings, conclusions, and any recommended mitigation measures in the SEIR.
- ▶ **Chapter 1, “Introduction,”** describes the Project background; intended uses and purposes of this SEIR; lead, responsible, and trustee agencies; public involvement process; issues to be resolved and areas of controversy; and SEIR organization.
- ▶ **Chapter 2, “Project Description,”** describes the Project location, Project components, supporting infrastructure, Project schedule, required approvals and entitlements, and Project objectives.
- ▶ **Chapter 3, “Environmental Impact Analysis,”** evaluates the environmental effects of the revised Project and identifies mitigation for potentially significant and significant effects.
- ▶ **Chapter 4, “Cumulative Impacts,”** describes the impacts of implementing the revised Project in combination with the impacts of related past, present, and reasonably foreseeable future projects.
- ▶ **Chapter 5, “Alternatives,”** provides a comparative analysis between the Project and alternatives to the Project. The Alternatives chapter provides a summary of the relative environmental impacts of the Project alternatives, including the No Project Alternative. This chapter also identifies the “environmentally superior” alternative.
- ▶ **Chapter 6, “Other CEQA Considerations** discusses the Project’s growth inducement potential, any significant irreversible environmental changes associated with the revised Project, and any significant and unavoidable effects of the revised Project.
- ▶ **Chapter 7, “List of Preparers,”** lists the individuals who contributed to preparation of the SEIR.

- ▶ **Chapter 8, “References,”** lists the sources of information cited throughout the SEIR.
- ▶ **Appendices** provide background and technical information.

## 2 PROJECT DESCRIPTION

### 2.1 PROJECT LOCATION AND SURROUNDING LAND USES

#### 2.1.1 PROJECT LOCATION

The Project site consists of approximately 571 acres located southeast of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99. The Project site extends eastward past the intersection of Grant Line Road and Mosher Road, and extends southward to the Sacramento County Urban Services Boundary (USB), approximately following the 100-year floodplain (see Exhibit 2-1). The Project area is made up of five properties (as defined by ownership), which are listed in Table 2-1 and illustrated in Exhibit 2-2.

#### 2.1.2 EXISTING AND SURROUNDING LAND USES

Most of the Project site is currently undeveloped. Existing uses consist primarily of agricultural land (i.e., row crops and pasture). The Project site also includes three existing home sites, five residences, and multiple barns and sheds.

Grant Line Road borders the Project site to the north, and the UPRR tracks border the site to the west. Industrial uses are present on the northern and western sides of the Project site, opposite Grant Line Road and the UPRR. Agricultural land (row crops) is present east of the Project site. The Deer Creek/Cosumnes River floodplain, which also includes row crops, is present to the south.

#### 2.1.3 ADOPTED SPHERE OF INFLUENCE AMENDMENT

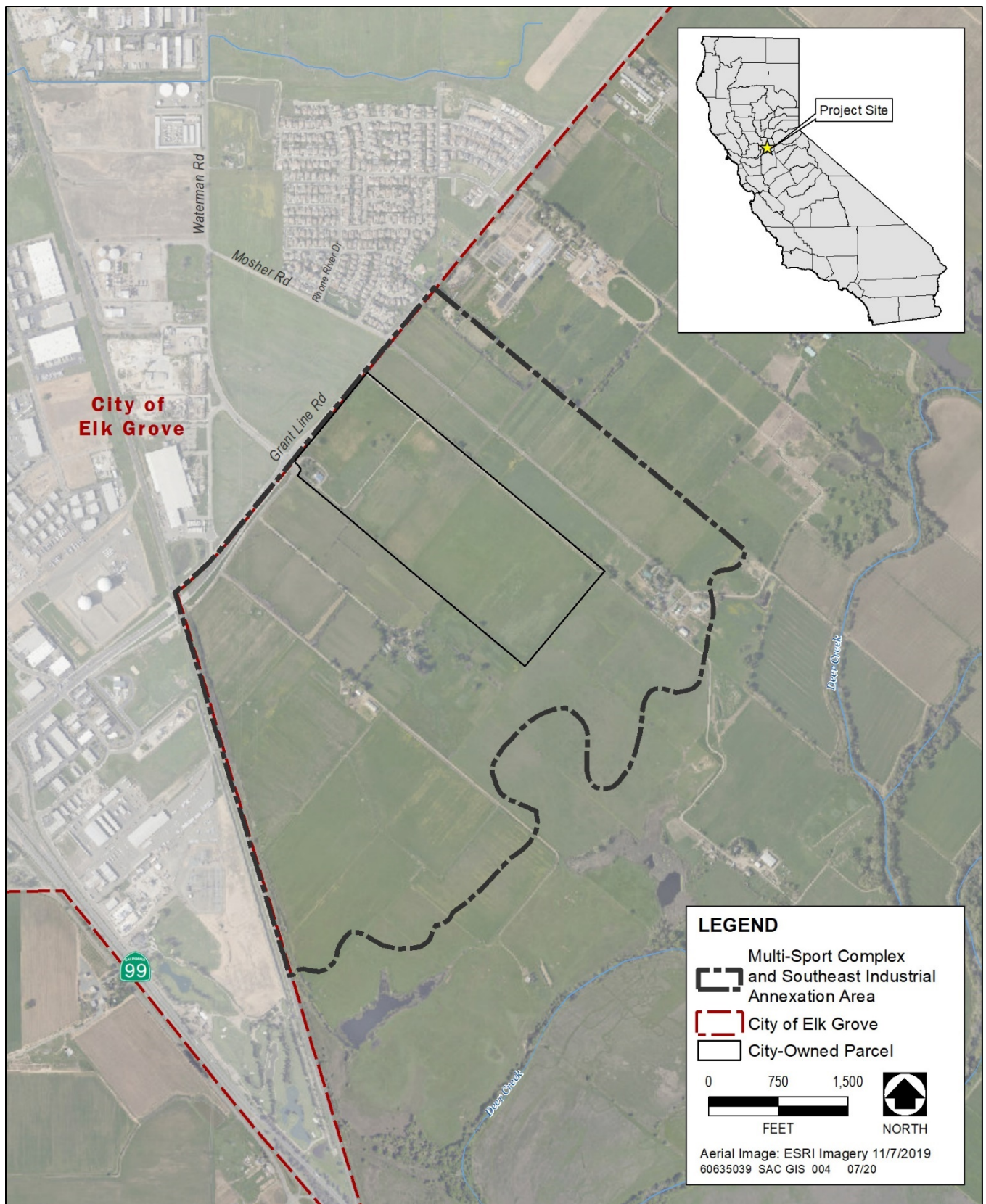
The Sacramento Local Agency Formation Commission (LAFCo) approved a Sphere of Influence amendment (SOIA) for the Project site, to add this area to the City of Elk Grove's Sphere of Influence in May of 2019. LAFCo certified an EIR for this SOIA at the same hearing. The area that was included in the approved SOIA will not change as a result of the revised land use designations now proposed by the City.

LAFCo approval of the SOIA was conditioned on certain actions that the City must complete prior to annexation. These actions included, but were not limited to, the following:

- ▶ Establishment of General Plan designation(s) and rezoning for the area proposed to be annexed.
- ▶ Preparation of master plans for infrastructure, including storm drainage, water, wastewater, and transportation.

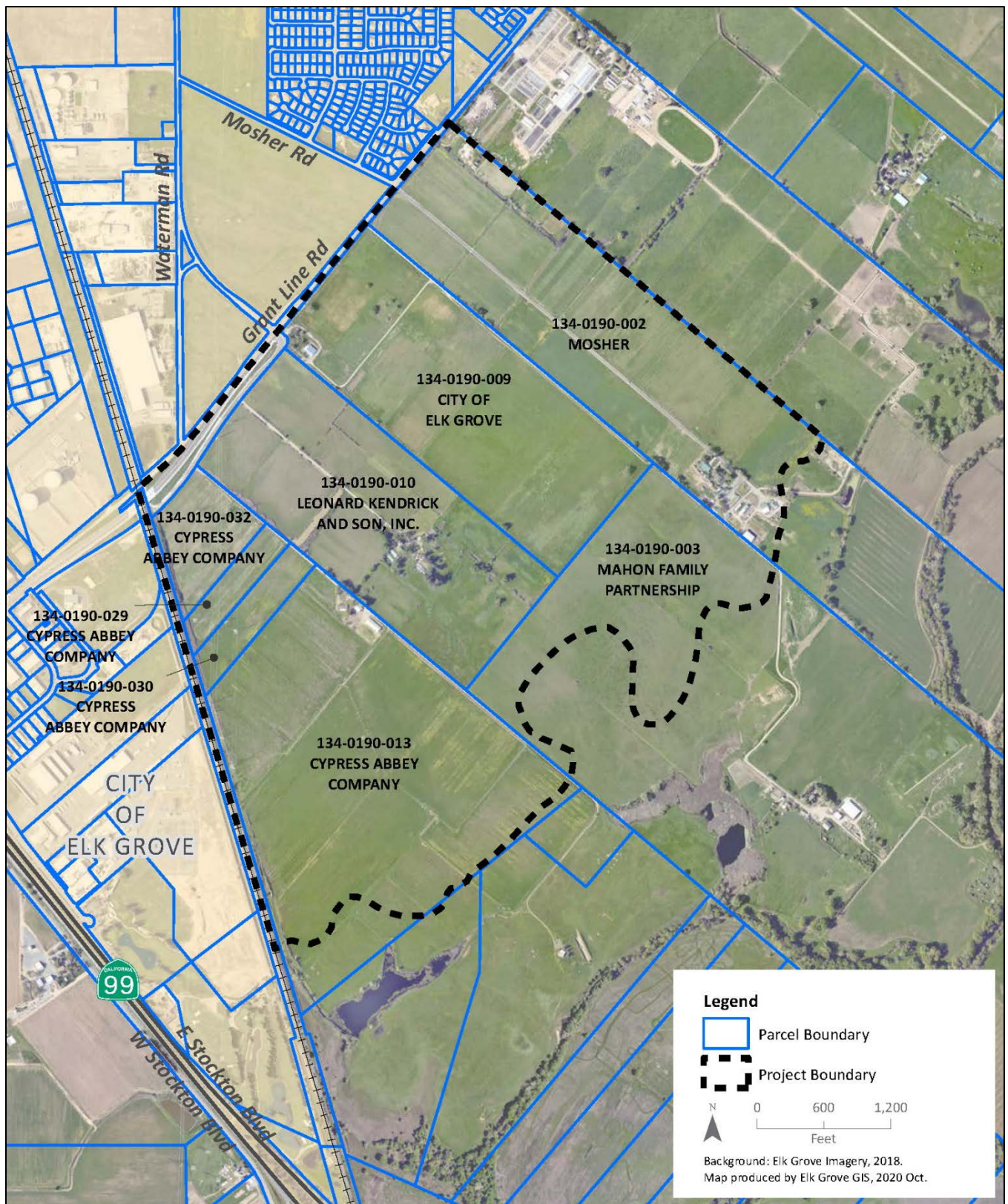
### 2.2 PROPOSED PROJECT COMPONENTS

The 2019 SOIA EIR addressed development of a multi-sports park complex, along with a mix of commercial, industrial, and mixed uses in the surrounding area. There are four parts of the revised Project description that are the focus of analysis in this SEIR: (1) a change in the planned future land uses within the Project area; (2)



Source: City of Elk Grove 2020

**Exhibit 2-1. Project Site and Vicinity**



Source: City of Elk Grove 2020

### Exhibit 2-2. Parcels in the Project Area

additional information related to infrastructure improvements that will be necessary to serve the Project site; (3) the establishment of General Plan and rezoning for a Phase 1 annexation; and (4) consideration of the annexation application for Phase 1 of the Project (described below).

This SEIR considers the annexation and buildout of the Project area pursuant to the planned land uses described in section 2.2.1, as well as the infrastructure necessary to serve these uses as described in section 2.2.4.

Annexation and development is planned to occur in three phases as follows:

- ▶ Phase 1 includes the City’s property, as well as the adjoining properties to the west (Kendrick and Cypress Abbey). Discussion of proposed General Plan land use designations and rezoning are included in section 2.2.2.
- ▶ Phase 2A includes the Mosher property, east of the City property.
- ▶ Phase 2B includes the Mahon property, south of the City property.

It is possible that Phases 2A and 2B may be combined into a single Phase 2, depending upon the nature and timing of development and desires of the property owners. Phase 1 of the annexation is planned to occur in 2021. The timing of Phases 2A and 2B are not specifically known but is assumed to occur within the next 20 years. Further CEQA review may be necessary prior to adoption of General Plan land use designations and rezoning and annexation of the Phase 2 areas depending upon the ultimate land uses.

The Project also includes a reorganization for the Sacramento Area Sewer District and the Sacramento Regional County Sanitation District to align their service boundaries to include the Project area.

The Project area will also be detached from CSA No. 1 (Street Lighting) and CSA No. 11 (Supplemental Police).

<b>Table 2-1 Parcels in the Project Area by Ownership</b>		
<b>Situs</b>	<b>Owner</b>	<b>Assessor’s Parcel Numbers (APNs)</b>
10251 Grant Line Road	City of Elk Grove	134-0190-009
10313 Grant Line Road	Leonard Kendrick and Son, Inc.	134-0190-010
No address on file	Cypress Abbey Company	134-0190-032
		134-0190-029
		134-0190-030
		134-0190-013*
10171 Grant Line Road	Mahon Family Partnership	134-0190-003*
10161 Grant Line Road	Mosher	134-0190-002*
Source: GIS shapefiles for proposed Project from the City of Elk Grove 2020. * Only a portion is included in the Project area. It should be noted that as of October 2020, the lands of Cypress Abbey were preparing a Boundary Line Adjustment (BLA) through Sacramento County such that APN 134-0190-013’s southern property line conformed to the approved SOIA. The BLA application includes all lands owned by Cypress Abbey within and adjoining the Project area and, as such, upon approval the properties will be issued new APNs. The BLA approval will occur prior to consideration of the annexation application by LAFCo.		

## 2.2.1 PLANNED FUTURE LAND USES

The City is proposing a change in the proposed future land use designations for the Project site compared to the array of uses assumed in the EIR certified by the Sacramento LAFCo in May of 2019 for the Project site. The 2019 SOIA EIR included detailed analysis related to the development and operation of a multi-sport complex on



the approximately 100-acre City-owned parcel, as well as the development of adjoining properties to the south, east, and west with a collection of industrial, commercial/retail, parks/open space, and mixed uses. This Supplemental EIR focuses on additional information needed to address the proposed changes in use. The proposed changes, which are described in Table 2-1 and illustrated in Exhibit 2-3, would involve the following:

- ▶ The approximately 100-acre City-owned parcel in the center of the Project site would be designated for Light Industrial uses. It was formerly designated as Public Open Space/Recreation. A multi-sport complex could still be developed through the City’s conditional use permit process.
- ▶ The land uses for the Kendrick property were formerly designated as approximately 60 acres of retail commercial, with the balance as Light Industrial. This would be changed to approximately 20 acres of retail commercial with the balance as Light Industrial.

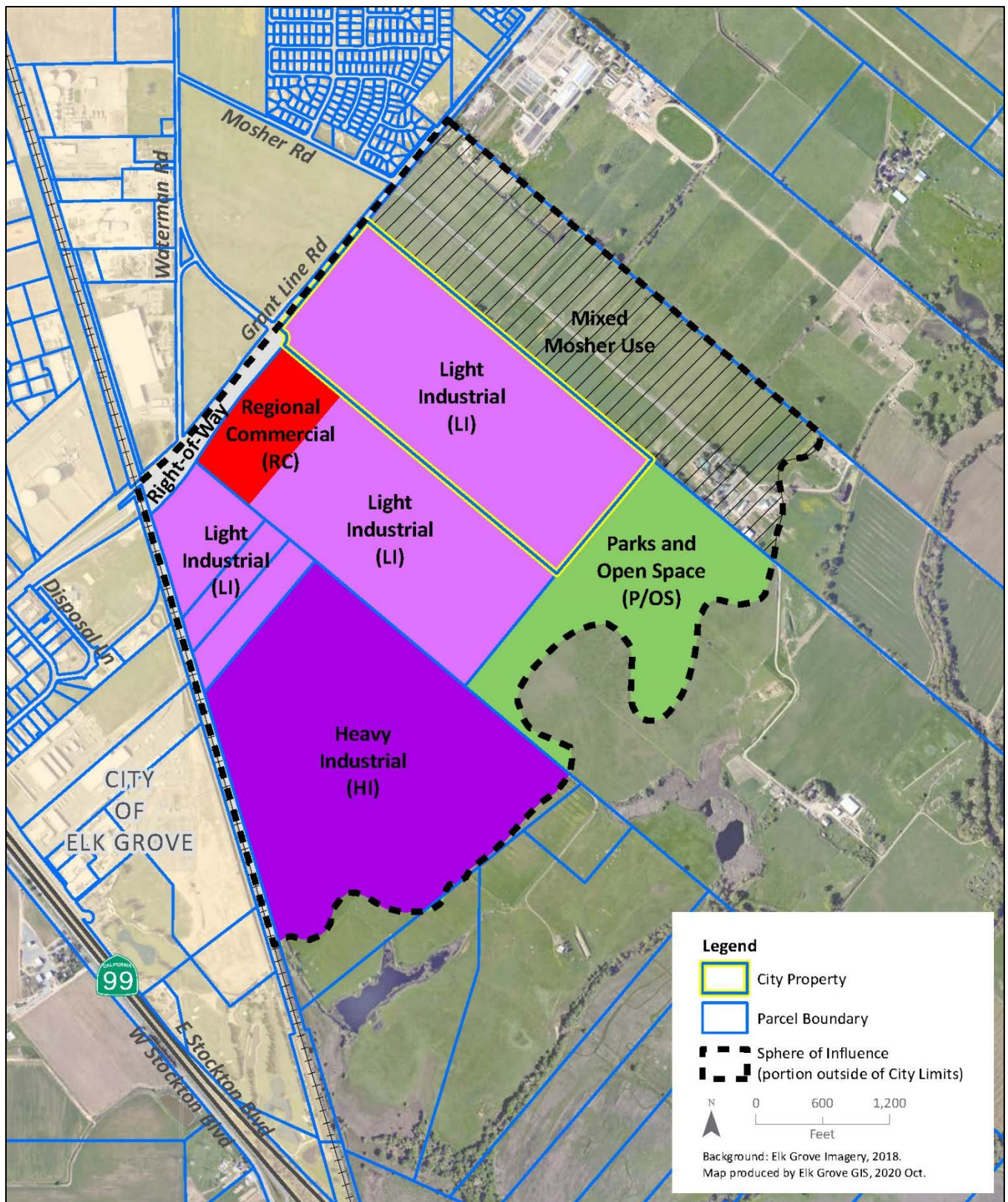
Land Use	2019 SOIA EIR (acres)	Proposed Project (acres)	Net Change (acres)
Parks and Open Space (P/OS)	171+/-	64+/-	(107)
Mixed Use (MU)	118+/-	118+/-	0
Light Industrial (LI) and Heavy Industrial (HI)	211+/- (undifferentiated)	212+/- (Light Industrial) 143+/- (Heavy Industrial)	144
General Commercial/Commercial Office (GC)	61	0	(61)
Regional Commercial (RC)	0	20+/-	20
Existing City Right-of-Way	10+/-	14+/-	4
<b>Total</b>	<b>571</b>	<b>571</b>	<b>0</b>

Source: GIS shapefiles for proposed Project from the City of Elk Grove 2020.  
 Note: The acreage total for the 2019 SOIA EIR did not include the existing City rights-of-way, and so the total had shown as approximately 561, rather than 571 acres.

## 2.2.2 GENERAL PLAN AMENDMENT, PREZONING, AND SPECIFIC PLAN

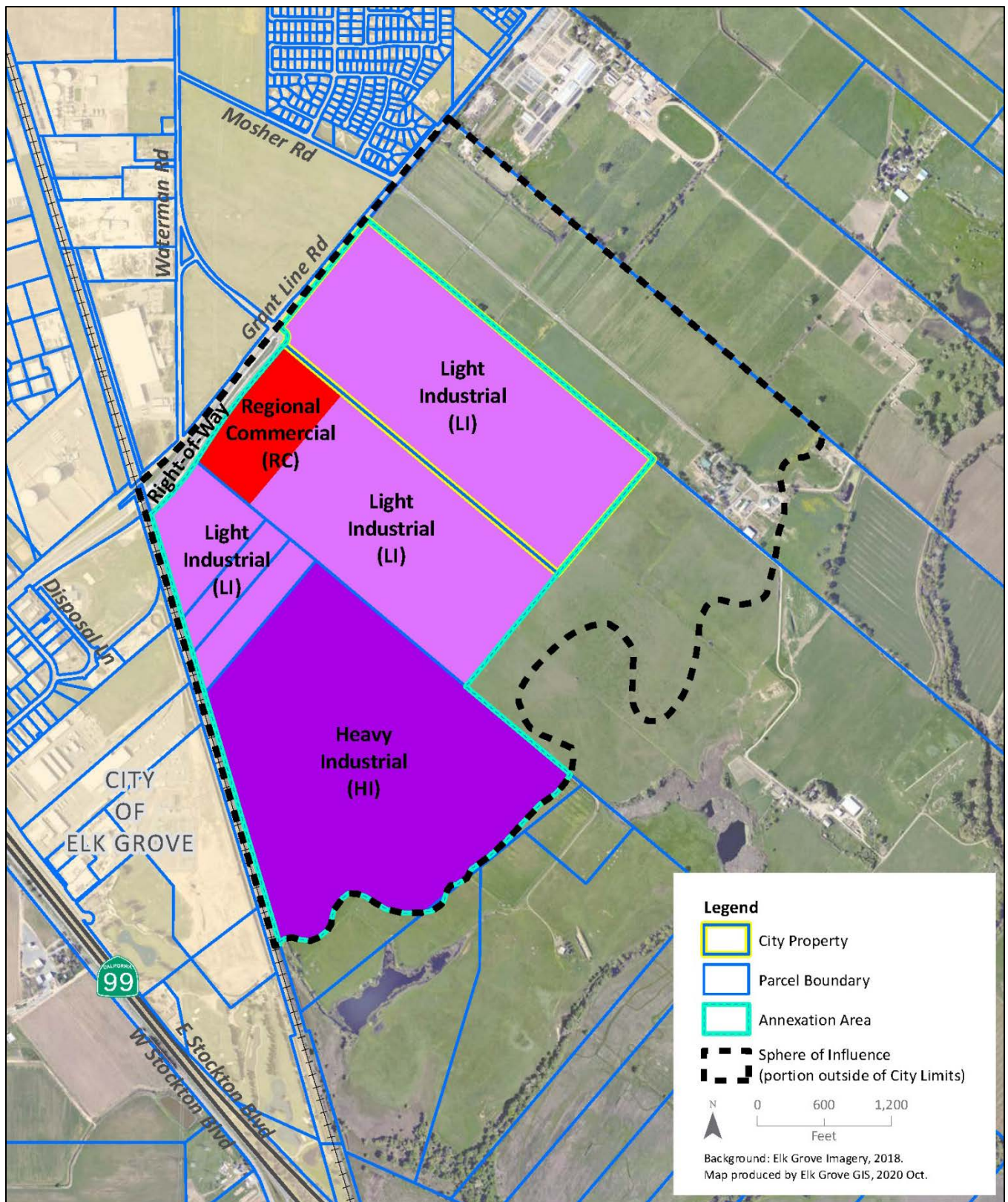
To implement the Project, the City proposes to amend its General Plan to include the planned land uses, as well as adopt prezoning, for the Phase 1 annexation area. Table 2-3 and Exhibits 2-4 and 2-5 illustrate the proposed designations for the subject properties. General Plan designations and prezoning are not proposed for the Mahon and Mosher properties as they are not included in the Phase 1 annexation.

Further, in keeping with City General Plan policy LU-3-28, the City has prepared and would adopt a Specific Plan for the Project area. The Specific Plan would apply to the entirety of the Project area (in keeping with the intent of the LAFCo conditions on the SOIA to consider the entirety of the Project area), but would only be effective on the territory approved for annexation. The Specific Plan establishes a framework for future development of the Project area, including further discussion on the land plan and how it is implemented through zoning, and the infrastructure and public services necessary to serve future development infrastructure (described further in section 2.2.4 of this SEIR). The Specific Plan also incorporates information from the Plan for Services and Public Facilities Financing Plan.



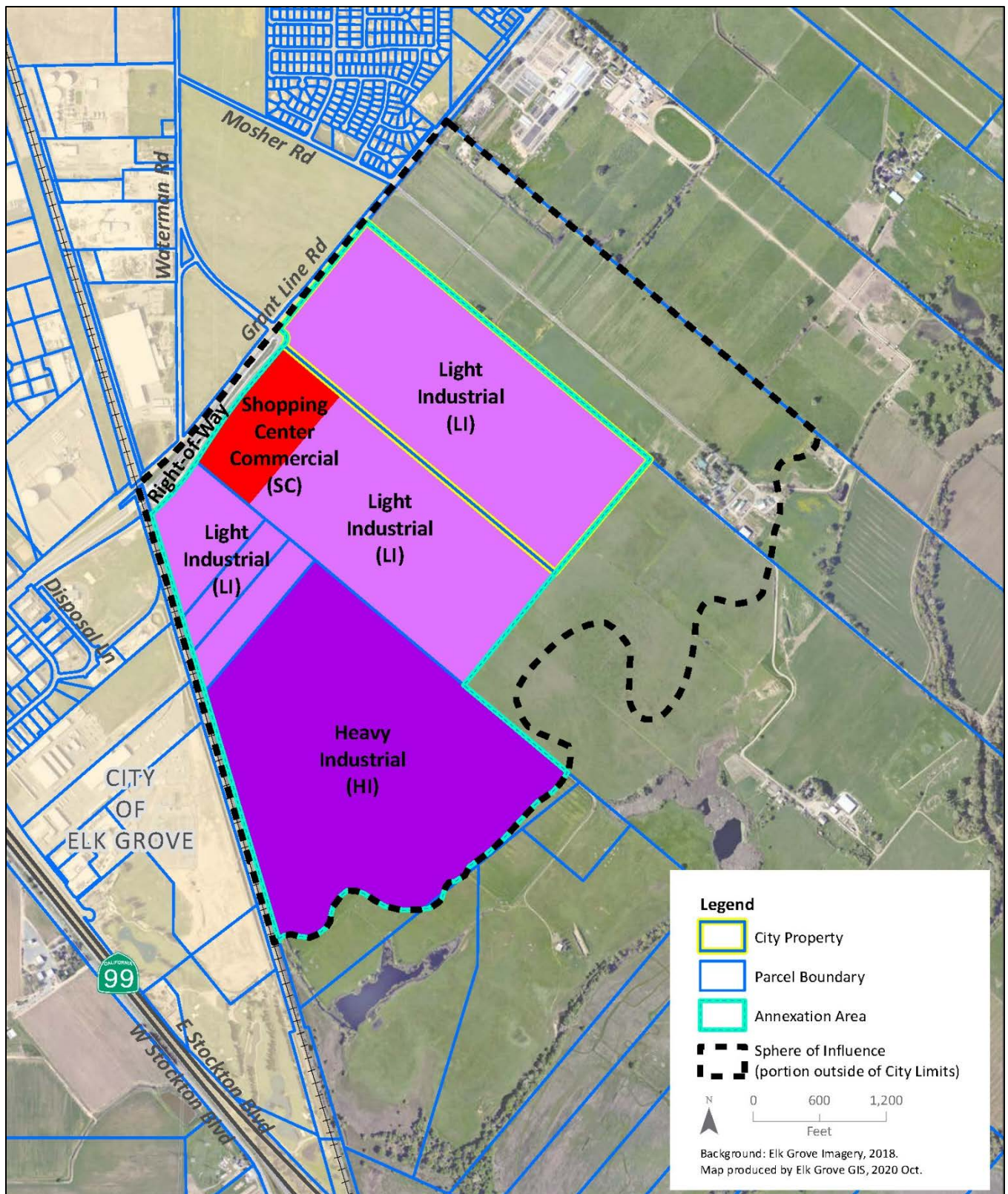
Source: City of Elk Grove 2020

### Exhibit 2-3. Proposed Land Use Plan



Source: City of Elk Grove 2020

**Exhibit 2-4. Proposed General Plan Land Use Designations for the Phase 1 Annexation**



Source: City of Elk Grove 2020

### Exhibit 2-5. Proposed Rezoning for the Phase 1 Project Area

<b>Table 2-3 Proposed General Plan Land Use Designations and Rezoning for Phase 1</b>			
APN	Owner	Proposed	
		General Plan Land Use Designation	Proposed Rezoning
134-0190-009	City of Elk Grove	Light Industrial (LI)	Light Industrial (LI)
134-0190-010	Leonard Kendrick and Son, Inc.	Regional Commercial (RC) Light Industrial (LI)	Shopping Center (SC) Light Industrial (LI)
134-0190-032	Cypress Abbey Company	Light Industrial (LI)	Light Industrial (LI)
134-0190-029		Light Industrial (LI)	Light Industrial (LI)
134-0190-030		Light Industrial (LI)	Light Industrial (LI)
134-0190-013*		Heavy Industrial (HI)	Heavy Industrial (HI)

Source: GIS shapefiles for proposed Project from the City of Elk Grove 2020.  
\* Only a portion is included in the Project area.

### 2.2.3 ANNEXATION

This SEIR, in combination with the prior EIR, will be used by LAFCo to consider approval of the annexation for Phase 1 of the Project area. As described in section 2.2, to the extent additional CEQA review is not required, this SEIR could also be used to consider Phase 2 annexation.

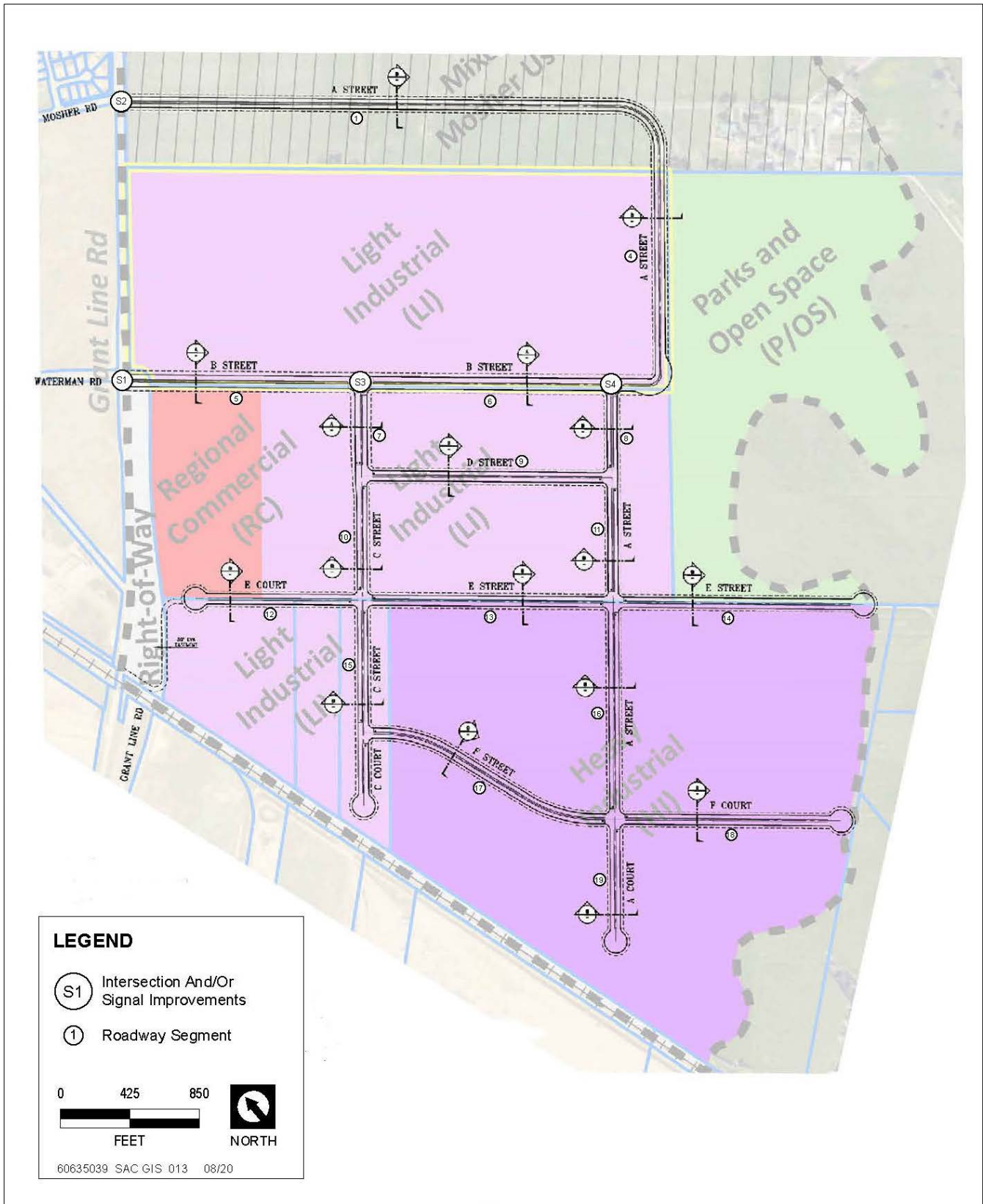
### 2.2.4 SUPPORTING INFRASTRUCTURE

The on-site infrastructure needs at the Project site were evaluated in the 2019 SOIA EIR. However, since the 2019 SOIA EIR was approved, and in response to LAFCo’s conditions of approval on the SOIA, additional detailed studies have been conducted relative to the infrastructure that would be required to serve the Project site. Additional information related to on-site and off-site infrastructure needs is summarized below. In keeping with the intent of the conditions of approval, infrastructure master planning has been completed for the entire Project area.

#### ON-SITE INFRASTRUCTURE

##### Access, Circulation, and Parking

The proposed Project includes two access points from Grant Line Road. The main entrance is proposed at Waterman Road, and the secondary entrance would be located at Mosher Road. The Project site entrances and internal circulation network are shown on Exhibit 2-6. The Waterman Road arterial street would be 74 feet wide with a 25-foot-wide landscape corridor on each side. Sidewalks would be included within the landscape corridors. A 12-foot-wide landscape median would be installed in the center of the street. The other internal collector streets would be 62 feet wide, and would include a parking lane, Class II bicycle lane, and a sidewalk on each side. The proposed circulation system is described in the Elk Grove Multi-Sport Complex & Grant Line Industrial Annexation Area Transportation Master Plan (Appendix G). Note that the ultimate alignment of internal streets A, C, D, E, and F will be determined by the City during review of subsequent development applications; the extension of Waterman Road (B Street) and the point of connection of A Street at Grant Line/Mosher Road are fixed conditions.



Source: Wood Rogers 2020

**Exhibit 2-6. Circulation Network**

The setbacks on both sides of the internal collector streets would be planted with landscape trees. In addition, the Project includes a proposed trail connection to the northwest that would use the existing Grant Line Road overcrossing at the UPRR tracks to allow pedestrians and bicyclists to pass below Grant Line Road and provide connections to areas north of Grant Line Road.

Intersection improvements are required at the Project entrances proposed for Waterman and Mosher Roads. The City is currently working on the Grant Line Road Widening Project that would include construction of most of the necessary improvements for the Project (such as some of the necessary turn lanes and roadway widening) (Appendix G, Transportation Master Plan). Further phased widening of Grant Line Road to an eight-lane facility will provide for ultimate planned capacity and intersection configuration (see Appendix G, Transportation Master Plan).

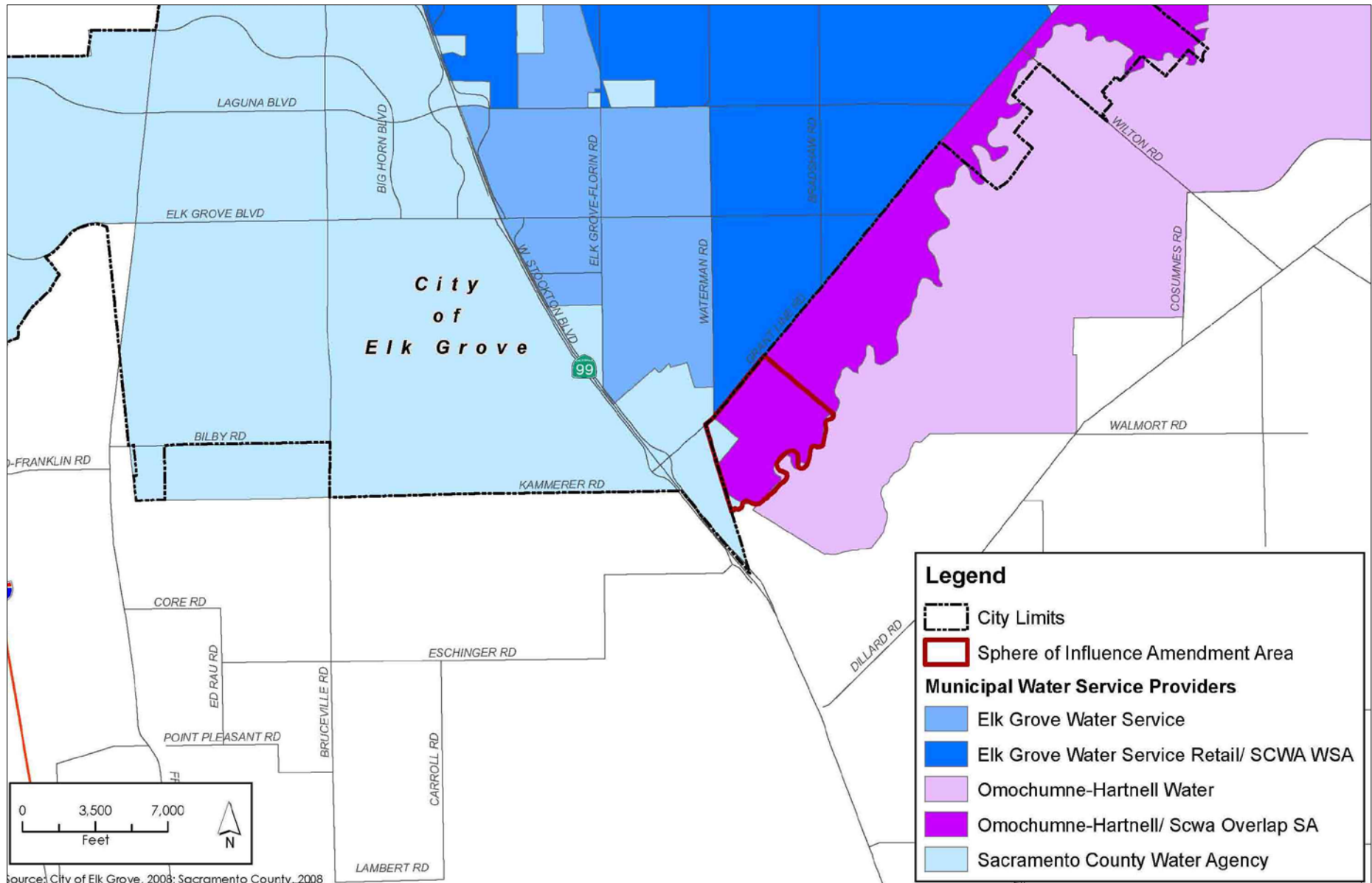
## **Water Supply and Distribution**

Currently, there are no public water supply facilities within the Project site. The majority of the Project site is located within the “overlap service area” of the Omochumne-Hartnell Water District (OHWD) and the Sacramento County Water Agency (SCWA), with the exception of 17 acre and 48 acres that are located exclusively in the OHWD and SCWA service areas, respectively (Brown & Caldwell 2020) (see Exhibit 2-7). Domestic water supplies are currently provided by private groundwater wells, and most agricultural water supplies are provided by OHWD’s irrigation wells. As discussed further in the Project’s Municipal Service Review, OHWD does not provide municipal and industrial water in the Project area. OHWD focuses on groundwater recharge and operates four flashboard dams that increase the wetted perimeter of the Cosumnes River to affect greater groundwater recharge. These dams are located outside of the Project area. As anticipated in the 2019 SOIA EIR, water supply for the Project site would be provided by the SCWA’s Zone 40. Zone 40 implements a conjunctive-use water system, which includes groundwater (pumped from the South American Sub-basin of the Sacramento Valley Groundwater Basin, which is identified locally as the Central Basin), surface water, and recycled water. Exhibit 2-8 illustrates the boundaries of the South American Sub-Basin, Zone 40, and the location of the Project. SCWA’s conjunctive use program implements a coordinated approach to manage surface water and groundwater supplies to maximize the yield of available water resources.

An amendment to the SCWA Water Supply Master Plan has been prepared to include service for the proposed Project. (Appendix B).

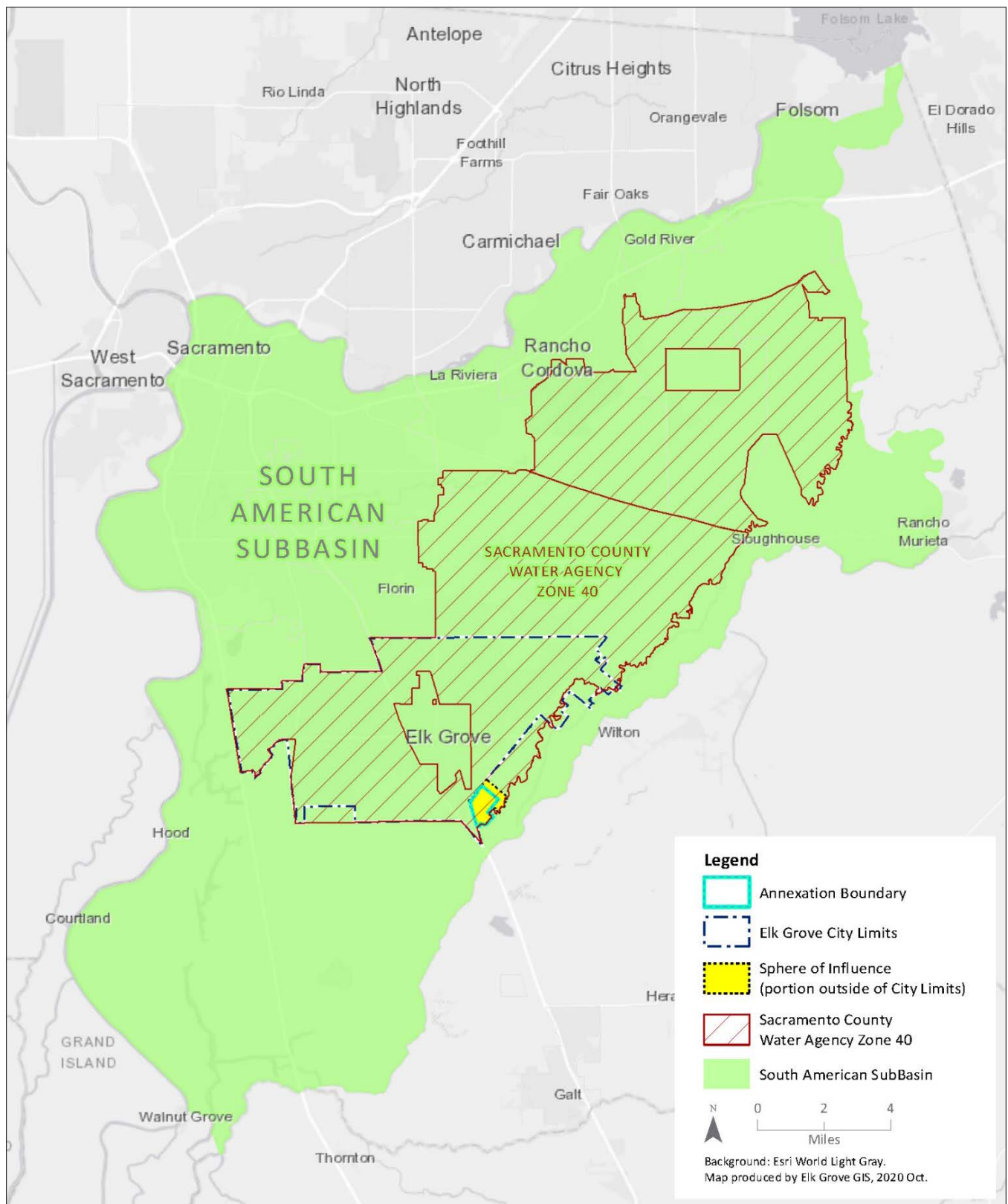
Water will be delivered to the Project site through existing 24-inch and 16-inch transmission pipelines located in Grant Line Road. The 24-inch transmission main originates west of the Project site, and extends easterly within Grant Line Road to the intersection of Waterman Road. From Waterman Road, the transmission main continues easterly as a 16-inch-diameter transmission main. There are two proposed points of connection to the existing transmission main in Grant Line Road: one at the intersection of Waterman Road, and one at the intersection of Mosher Road.

Exhibit 2-9 shows the proposed on-site water conveyance facilities, and the proposed points of connection with existing off-site SCWA facilities. The on-site domestic water backbone infrastructure layout has been designed to comply with SCWA requirements and aligns with the planned on-site roadway system; should the internal roadway system be modified through subsequent development applications, corresponding changes to the water infrastructure layout would also be made.



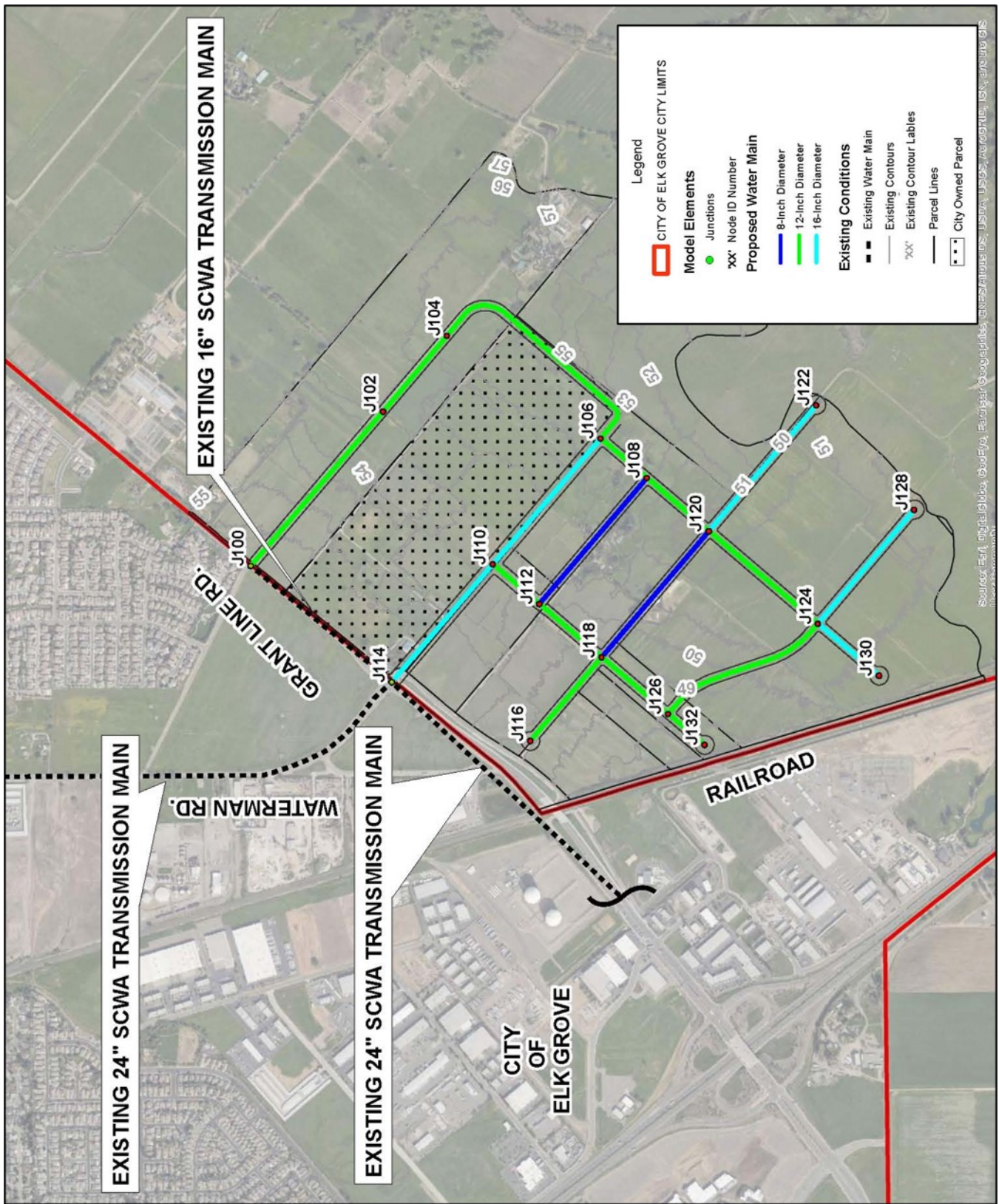
**Exhibit 2-7. Water Service Providers**





Source: City of Elk Grove 2020

### Exhibit 2-8. South American Subbasin



Source: Wood Rogers 2020

**Exhibit 2-9. Proposed Water System**

## Wastewater Collection and Treatment

The Project site is not currently served by a municipal wastewater service provider. Rather, wastewater service is currently provided by on-site septic systems.

As anticipated in the 2019 SOIA EIR, wastewater collection for the Project site will be provided by the Sacramento Area Sewer District (SASD). A sewer study (known as a “Level II Sewer Study”) has been prepared for the Project site (Wood Rodgers 2020) (Appendix C). The study assumes sewage conveyance for an estimated total of 3,429 Equivalent Single-Family Dwelling Units (ESDs), based on the SASD standard assumption of 6 ESDs per acre. The Level II Sewer Study conservatively includes gross acreages and does not deduct for areas that would be in future public road rights-of-way. At full build-out, the Project site would generate approximately 1.05 million gallons per day (MGD) during average dry weather flow (ADWF) and 2.74 MGD during peak wet weather flow (PWWF). at the intersection of Waterman Road and Grant Line Road.

There are two existing points of connection to the existing SASD system immediately adjacent to, or within the Project site: a 12-inch pipeline on the north side of Grant Line Road ~~near the end of Waterman Court~~, and an 18-inch pipeline stubbed just east of the UPRR along the western border of the Project site (see Exhibit 2-10). The Level II Sewer Study for the Project site shows points of connection along with the on-site backbone sewer collection system, which has been designed to comply with SASD’s minimum design standards and aligns with the planned on-site roadway system; should the internal roadway system be modified through subsequent development applications, corresponding changes to the sewer infrastructure layout would also be made. SASD conducted an analysis and confirmed that the existing off-site conveyance system has adequate capacity to accommodate the PWWF generated by the Project site at full build-out (Wood Rodgers 2020). See Appendix C for a detailed discussion of proposed wastewater collection and conveyance improvements.

5-5

(Regional San)

From the SASD sewer pipelines, wastewater would be conveyed through larger sewer interceptors owned and operated by the Sacramento Regional County Sanitation District ~~(SRCSDD)~~ to the Sacramento Regional Wastewater Treatment Plant located northwest of Elk Grove. No improvements are necessary to the interceptor system or the Regional Wastewater Treatment Plan in order to accommodate the Project.

5-6

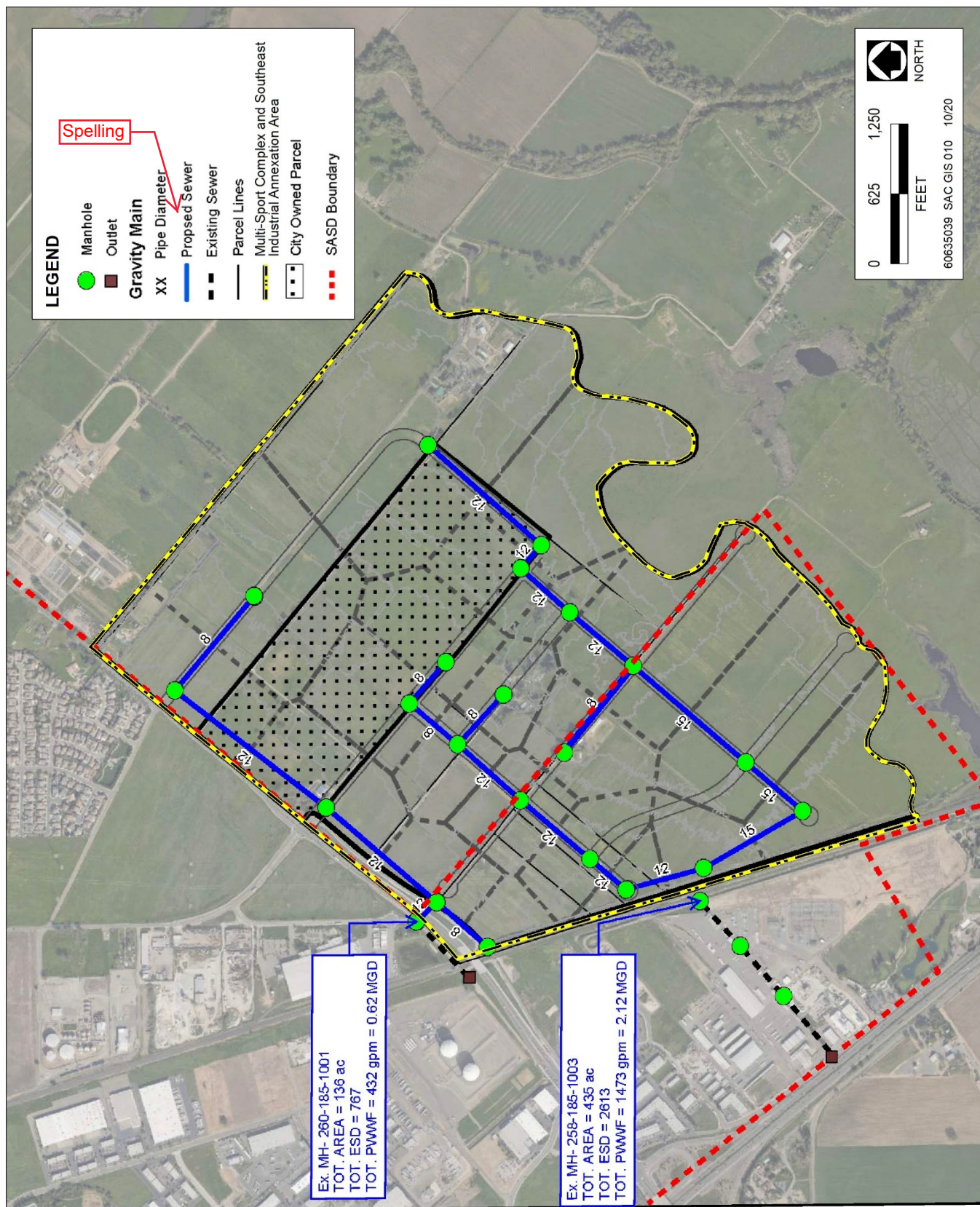
5-7

## Stormwater Drainage

Plan? or Plant?

Stormwater drainage at the Project site currently consists of various small agricultural ditches and channels. Some of the stormwater discharges off-site to an existing canal along the northeastern portion of the Project site, which then flows southeast into an approximately 0.5-acre pond, and then into Deer Creek. Most of the Project site stormwater discharges to an existing ditch along Grant Line Road, which runs westward into another larger canal that flows south along the east side of the UPRR and discharges into an approximately 8-acre pond. A short channel conveys water from this pond to Deer Creek.

West Yost Associates (2020) has prepared a Drainage Master Plan for the Project site (Appendix D). The Drainage Master Plan includes, and this SEIR provides analysis of full buildout of the Project site with the completed drainage improvements. Interim drainage improvements will be constructed to serve phased development of the Project site, as determined by the City and consistent with the overall Drainage Master Plan.



Source: Wood Rogers 2020

### Exhibit 2-10. Proposed Wastewater System

In order to accommodate stormwater generated by anticipated development, an underground network of drainage pipelines would be installed throughout the Project site. The underground pipelines, as well as overland stormwater flow, are designed to drain into one of seven detention basins that would be developed throughout the Project site (see Exhibit 2-11). Furthermore, the planned 48-inch-diameter underground drainage pipeline that would be located along the south-southeast border of the City-owned parcel would be upsized to a 60-inch-diameter drainage pipeline in order to carry a portion of the Project site's stormwater flow. In addition to drainage needs for the Project site, this upsized drainage pipeline would serve drainage needs for a proposed project known as "Waterman 75," located north of Grant Line Road and within the existing City limits.

As an alternative, it is possible that stormwater flows from the City, Kendrick, and Cypress Abbey properties (along with flows from Grant Line Road itself and from the adjoining Waterman 75 development north of the Project in the City) may continue to drain into the existing ditch along Grant Line Road and the east of the UPRR. Such a solution would require an engineering study and approval by the City that demonstrates the solution shall not create a statistically significant increase in flows from those assumed in the West Yost report and illustrated in Exhibit 2-12. This solution would eliminate the 60-inch diameter drainage pipeline.

### **Electric and Natural Gas Services**

Electricity would be provided by the Sacramento Municipal Utility District (SMUD). Electricity could be served from the 69-kilovolt (kV) line on Grant Line Road. SMUD's power line would be connected to a utility transformer and metering/distribution equipment in the site's service yard and the City would connect service feeders that would extend throughout the site. SMUD would require 12.5-foot overhead/underground public utility easements along all streets and a 25-foot easement along Grant Line Road for the existing 69kV line. There is an existing 12kV overhead line along Waterman Road and Grant Line Road; an existing and proposed 12kV line along Mosher Road; a proposed second 69kV circuit along Grant Line Road on an existing pole line; and proposed 12kV underground lines along Grant Line Road and Waterman Road.

Natural gas service would be provided by Pacific Gas and Electric Company (PG&E). However, natural gas lines do not currently serve the Project site according to the Gas Transmission Pipeline Systems Map. The existing grid network of gas lines would have to be extended to serve the increased demand for natural gas generated by development on the Project site.

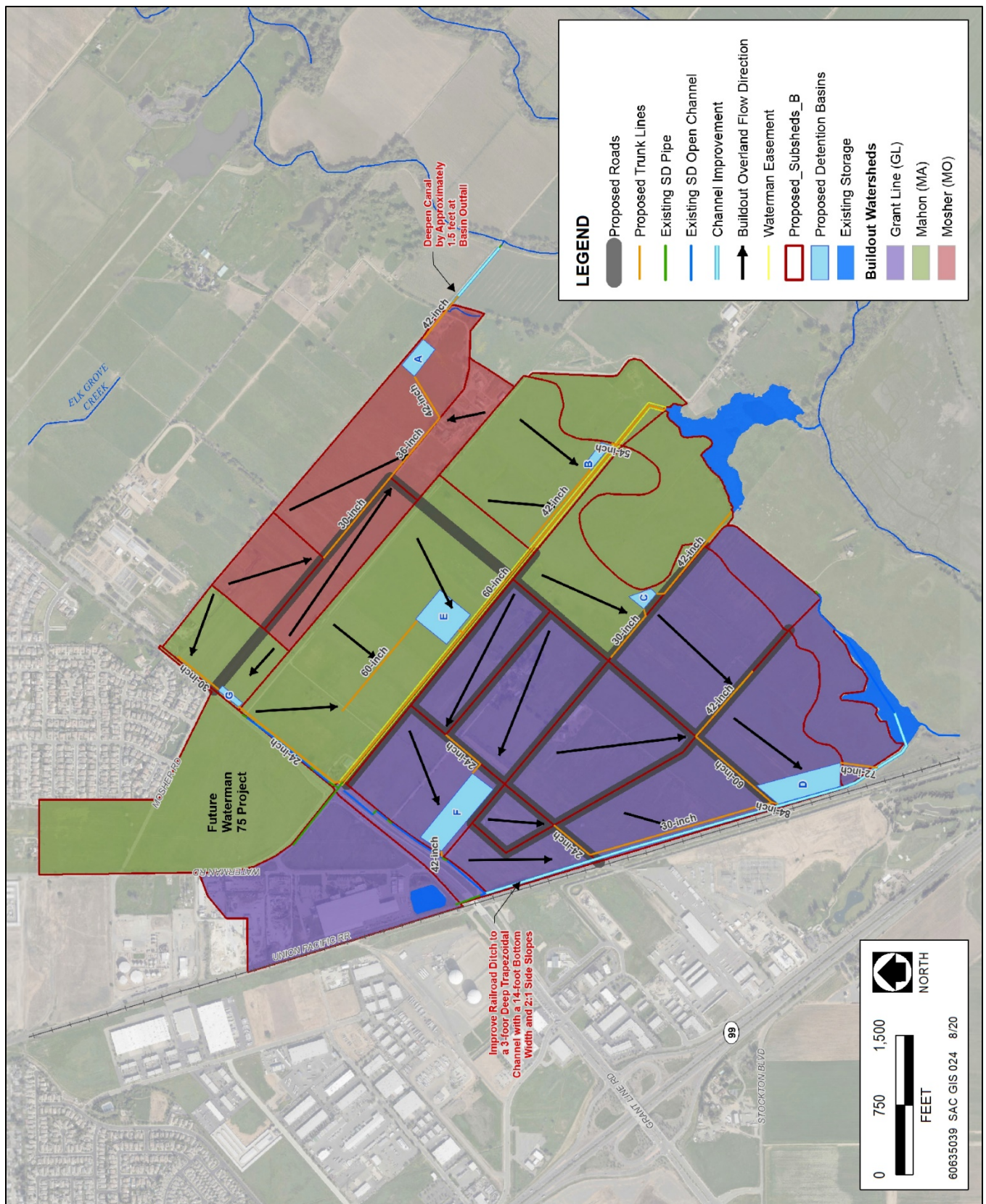
On-site electrical transmission infrastructure and natural gas lines would be installed underground and would generally follow the alignment of the internal roadway network.

### **OFF-SITE IMPROVEMENT AREAS**

The results of additional detailed studies performed since the 2019 SOIA EIR was certified have determined that three off-site facilities (described below) would be required, which were not previously evaluated in the 2019 SOIA EIR. Specific off-site improvements include connection to the SCWA and SASD systems, as described above, and improvements to Grant Line Road. Additionally, off-site stormwater drainage improvements are required as described below.<sup>1</sup>

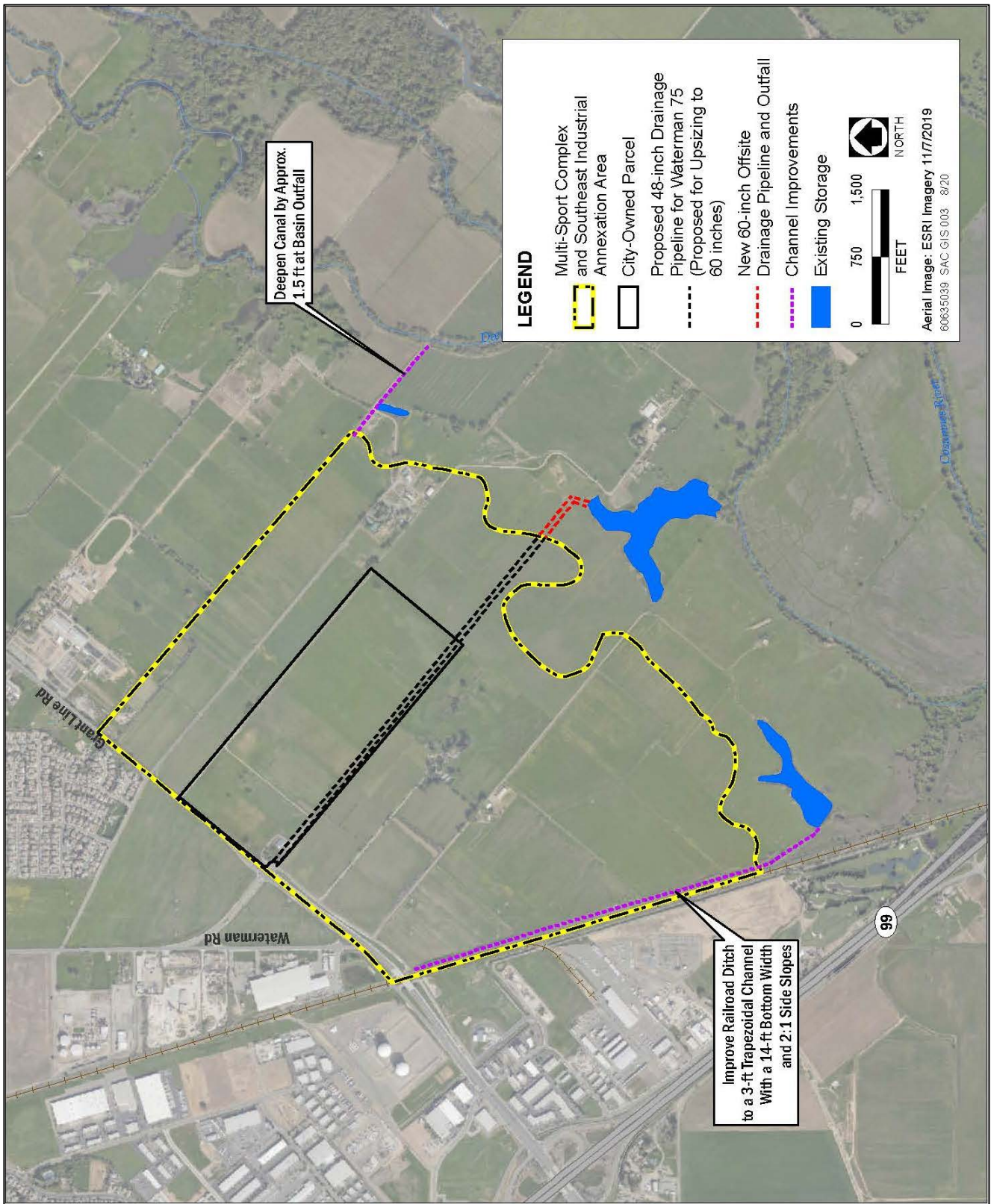
---

<sup>1</sup> Impacts associated with additional off-site improvements were analyzed in the 2019 SOIA EIR.



Source: West Yost 2020

**Exhibit 2-11. Proposed On-Site Drainage Network**



Source: City of Elk Grove 2020

**Exhibit 2-12. Proposed Off-Site Drainage Improvements**

## **Stormwater Drainage**

A portion of the Project site's flows would be conveyed through the planned 60-inch-diameter pipeline off-site to an existing 15-acre pond that discharges through an existing outfall into Deer Creek (see Exhibit 2-11). Because this off-site pond also provides agricultural water storage for the landowner, the pond would need to be deepened in order to accommodate the Project site runoff in addition to the existing needs for agricultural water storage. The existing inflow area at the northeastern end of the pond would also need to be improved, along with the existing outflow at the southeastern end of the pond. Water from the pond is discharged in a short channel, which in turn discharges to Deer Creek. The channel to Deer Creek may need to be widened. It is possible that these channel improvements could extend to Deer Creek. It appears that Deer Creek is deep enough to accept even a lowered ditch if that is required, but it is possible that that transition improvements or grading may be required at Deer Creek. These improvements would not be required if the alternative solution described above is selected, which relies solely on the existing ditch along the UPRR.

In addition, an existing drainage canal that runs northwest-southeast along the eastern portion of the Project site boundary would be deepened by approximately 1.5 feet both on-site and off-site to the southeast where the canal discharges to an existing 0.5-acre pond, and then to Deer Creek. No improvements to the 0.5-acre pond or the existing outfall at Deer Creek are proposed.

Finally, an existing drainage ditch that runs north-south along the east side of the UPRR tracks would be enlarged to a 3-foot trapezoidal channel with a 14-foot bottom width and 2:1 side slopes, both on-site and off-site to the south where the channel discharges into an existing 8-acre pond. A short channel conveys water from the pond to the south to Deer Creek. No improvements to the 8-acre pond or the conveyance channel or the outfall at Deer Creek are proposed.

## **2.3 PROJECT SCHEDULE**

Development of the Project site is assumed to start as soon as 2021 and continue for approximately 20 years. The specific timing of construction and operation of any individual use within the Project site is unknown, and subject to market conditions and other factors outside the control of the City.

## **2.4 REQUIRED APPROVALS**

Proposed construction would require demolition and disposal of existing structures, grading and excavation, construction of building foundations, trenching and installation of utilities, paving of parking lots and internal roadways, lighting, and construction of commercial and industrial buildings subject to review under the City's zoning regulations and design guidelines. Project site development would require various permits and other types of approvals from agencies with a purview over air quality, biological resources, water quality, public services and utilities, and other topics.

The Project includes a General Plan amendment to establish land use designations for the Project site, as well as rezoning. It also includes the adoption of a Specific Plan that establishes a framework for future development of the Project area, including further discussion on the land plan and how it is implemented through zoning, and the infrastructure and public services necessary to serve future development. The Specific Plan also incorporates information from the Plan for Services and Public Facilities Financing Plan.



The ultimate buildout of uses anticipated for the Project site may require additional entitlements from the City of Elk Grove including, but not limited to, the following:

- ▶ Site development plans
- ▶ Tentative subdivision maps
- ▶ Grading and building permits
- ▶ Encroachment permits

Other agencies that may require permission or approvals may include, but are not limited to:

- ▶ Sacramento Local Agency Formation Commission (LAFCo)
- ▶ U.S. Army Corps of Engineers
- ▶ U.S. Fish and Wildlife Service
- ▶ California Department of Fish and Wildlife
- ▶ Central Valley Regional Water Quality Control Board
- ▶ Sacramento Metropolitan Air Quality Management District
- ▶ Sacramento County
- ▶ Sacramento County Water Agency
- ▶ Sacramento Area Sewer District
- ▶ Sacramento Regional County Sanitation District
- ▶ South Sacramento Conservation Agency

The Sacramento Local Agency Formation Commission (LAFCo) will rely on the original 2019 SOIA EIR and this SEIR as it considers changes in public agency organization, including phased annexation of the Project site into the City of Elk Grove, and detachments from CSA No. 1 (Street Lighting) and CSA No. 11 (Supplemental Police), along with annexation into Sacramento Area Sewer District (SASD) and Sacramento ~~County Regional Sanitation District~~.

5-8

Regional County

## 2.5 PROJECT OBJECTIVES

The Project objectives are as follows:

- ▶ Provide for development consistent with the General Plan Study Area Organizing Principles and the East Study Area Land Use District Program Standards.
- ▶ Create a mix of employment activities in the southwestern portion of the East Study Area that transitions to residential neighborhoods toward the northeast.
- ▶ Focus employment uses within the East Study Area on industrial, office, and regional retail uses.
- ▶ Designate open space as needed to meet resource conservation standards and to provide an adequate floodplain buffer.
- ▶ Facilitate development that would create a better balance between the types of local jobs available and the skills and interests of the local labor force.

This page intentionally left blank.

# 3 ENVIRONMENTAL IMPACT ANALYSIS

## 3.1 APPROACH TO THE ANALYSIS

### 3.1.1 INTRODUCTION

This chapter of the SEIR provides an analysis of the impacts of the proposed Project on the environment. The contents of this section are primarily focused on the changes to environmental impacts of the revised Project compared to that addressed in the 2019 SOIA EIR.

Topic area analyses in Sections 3.2 through 3.16 are organized in the following format:

1. The **Environmental Setting** subsection provides an overview of the baseline physical environmental conditions (i.e., the environmental baseline), in accordance with the CEQA Guidelines (14 CCR Section 15125[a][1]). The environmental setting is focused on presenting current (2020) conditions that have changed since the 2019 SOIA EIR was prepared.
2. The **Regulatory Framework** subsection identifies the plans, policies, laws, regulations, and ordinances that are relevant to each topical section based on current (2020) conditions. This subsection identifies those regulatory concerns that have changed since the 2019 SOIA EIR was prepared, or are new (i.e., have been enacted or adopted since the 2019 SOIA EIR).
3. The **Environmental Impacts and Mitigation Measures** subsection identifies the impacts of the land use changes associated with the proposed Project on the existing natural environment, in accordance with the CEQA Guidelines (CCR Sections 15125 and 15143). This subsection is organized as follows:
  - The **Thresholds of Significance** provide criteria established by the City to define at what level an impact would be considered significant in accordance with CEQA. Thresholds may be quantitative or qualitative; they may be based on examples found in CEQA regulations or the CEQA Guidelines; scientific and factual data relative to the City’s jurisdiction; legislative or regulatory performance standards of federal, state, regional, or local agencies relevant to the impact analysis; City goals, objectives, and policies (e.g., the City’s General Plan or implementing guidance); or other factors. Generally, however, the thresholds of significance used are derived from Appendix G of the CEQA Guidelines, as amended; factual or scientific information and data; and regulatory standards of federal, state, regional, and local agencies, including the City and its General Plan. The thresholds in this SEIR have been revised from the 2019 SOIA EIR to reflect the current (2020) Appendix G Checklist contained in the CEQA Guidelines.
  - The **Impact Analysis** describes potential adverse physical environmental effects associated with implementation of the proposed Project, as revised. The analysis focuses on impacts that are different for the revised Project, as compared with the assessment presented in the 2019 SOIA EIR. This assessment specifies why impacts are found to be significant and unavoidable, significant or potentially significant, or less than significant, or why there is no environmental impact, based on the identified thresholds of significance. The impacts are listed numerically and sequentially throughout each section, and follow the same numbering used in the 2019 SOIA EIR.

- **Mitigation Measures** to avoid, minimize, rectify, reduce, or compensate for significant and potentially significant impacts of the proposed Project, in accordance with the CEQA Guidelines (14 CCR Sections 15370, 15002[a][3], 15021[a][2], and 15091[a][1]), where feasible, are recommended for each significant impact. Each mitigation measure is identified numerically to correspond with the number of the impact being reduced by the measure. For example, Impact 3.3-1 would be mitigated by Mitigation Measure 3.3-1. If implementation of feasible mitigation measures is not sufficient to reduce an impact to a “less-than-significant” level, or no feasible mitigation measures are available, the impacts are described as “significant and unavoidable.”

## 3.2 AESTHETICS

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. However, no comments related to aesthetics were received.

### 3.2.1 ENVIRONMENTAL SETTING

The visual character of the Project site and the surrounding area have not changed since the 2019 SOIA EIR was prepared. The Project site consists of farmland (i.e., row crops). Several rural residences and associated outbuildings are also present on the Project site, but only one building is visible from Grant Line Road. The off-site improvement areas also consist of farmland (cultivated with row crops), and an approximately 15-acre and 8-acre pond, respectively, surrounded by trees and shrubs. The surrounding area generally consists of buildings and parking areas associated with industrial development to the north and west, and row crops to the east and south.

As discussed in the 2019 SOIA EIR, a very low level of nighttime lighting associated with rural residences is present. Nighttime skyglow is present in the area from the existing developed properties to the north and west.

### 3.2.2 REGULATORY FRAMEWORK

#### CITY OF ELK GROVE GENERAL PLAN

The City's General Plan (City of Elk Grove 2019) includes the following policies related to aesthetics that are applicable to the proposed Project.

#### Urban and Rural Development Element

"Urban design" generally refers to the design of public and private buildings and spaces. Good urban design is essential in creating attractive, appealing, and livable districts and neighborhoods. The City recognizes that the public's interest is served by ensuring that new development in Elk Grove is of a high level of design and quality.

- ▶ **Policy LU-5-1:** Ensure that new development reflects the City's desire to create a high-quality, attractive, functional, and efficient built environment.
- ▶ **Policy LU-5-2:** Provide and implement regulations that encourage high-quality signage, ensure that businesses and organizations can effectively communicate through sign displays, promote wayfinding, achieve visually vibrant streetscapes, and control excessive visual clutter.
- ▶ **Policy LU-5-3:** Reduce the unsightly appearance of overhead and aboveground utilities by requiring the undergrounding of appropriate services within the urban areas of the City.
  - **Standard LU-5-3.a:** New utility facilities should be located underground to the extent possible. Facilities to be placed underground should include electrical transformers (where consistent with the guidelines of the electrical utility), water backflow preventers, and similar items.
  - **Standard LU-5-3.b:** Require that existing overhead utility facilities be undergrounded as a condition of project approval. This shall include electrical service lines under 69kV. Electrical service lines of 69kV and higher are encouraged to be undergrounded.

- ▶ **Policy LU-5-4:** Require high standards of architectural and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses. Design standards shall address new construction and the reuse and remodeling of existing buildings.
  - **Standard LU-5-4.a:** Nonglare glass shall be used in all nonresidential buildings to minimize and reduce impacts from glare. Buildings that are allowed to use semi-reflective glass must be oriented so that the reflection of sunlight is minimized. This requirement shall be included in subsequent development applications.
- ▶ **Policy LU-5-5:** Improve the visual appearance of business areas and districts by applying high standards for architectural design, landscaping, and signs for new development and the reuse or remodeling of existing buildings.
- ▶ **Policy LU-5-6:** When resources are available, seek to enliven the public right-of-way with attractive landscaping, public art, lighting, civic landmarks, sidewalk cafés, gateways, water features, interpretive/wayfinding signage, farmers markets, festivals, outdoor entertainment, pocket parks, street furniture, plazas, squares, or other amenities in spaces for public use.
- ▶ **Policy LU-5-7:** Encourage incorporation of publicly accessible spaces, such as plazas or squares, into new commercial and mixed-use developments.
- ▶ **Policy LU-5-8:** Require developers to provide pedestrian amenities, such as trees, lighting, recycling and refuse containers, seating, awnings, and/or art, in pedestrian areas along project frontages. Where appropriate, install pedestrian amenities in public rights-of-way.
- ▶ **Policy LU-5-9:** Emphasize placemaking design principles in new development projects.
  - **Standard LU-5-9.a:** Prioritize the pedestrian by implementing the following measures:
    - Minimize parking areas and curb cuts along commercial street frontages.
    - Encourage a vertical and horizontal mix of land uses.
    - Provide urban plazas and gathering spaces in commercial and multifamily development.
    - Provide pedestrian amenities such as lighting, landscaping, and benches.
  - **Standard LU-5-9.b:** Encourage public art in all new large-scale development projects equal to or greater than 100,000 square feet.

## Mobility Element

- ▶ **Policy MOB-3-7:** Develop a complete and connected network of sidewalks, crossings, paths, and bike lanes that are convenient and attractive, with a variety of routes in pedestrian-oriented areas.
- ▶ **Policy MOB-3-8:** Provide a thorough and well-designed wayfinding signage system to help users of all modes of travel navigate the City in an efficient manner.

## Community and Resource Protection Element

- ▶ **Policy NR-2-1:** Preserve large native oak and other native tree species as well as large nonnative tree species that are an important part of the City’s historic and aesthetic character. When reviewing native or non-native trees for preservation, consider the following criteria:
  - Health of the tree
  - Safety hazards posed by the tree
  - Suitability for preservation in place
  - Biological value
  - Aesthetic value
  - Shade benefits
  - Water quality benefits
  - Runoff reduction benefits
  - Air quality benefits (pollutant reduction)
  
- ▶ **Policy NR-2-4:** Preserve and plant trees in appropriate densities and locations to maximize energy conservation and air quality benefits.
  
- ▶ **Policy NR-2-6:** Promote the planting of drought-resistant shade trees with substantial canopies as part of private development projects and require, where feasible, site design that uses trees to shade rooftops, parking facilities, streets, and other facilities.

### 3.2.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to visual resources if it would:

- ▶ have a substantial adverse effect on a scenic vista;
  
- ▶ substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
  
- ▶ except as provided in Public Resources Code Section 21099, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
  
- ▶ create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

#### ISSUES NOT DISCUSSED FURTHER

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

**Substantial Adverse Effect on a Scenic Vista**—A scenic vista is a public viewpoint that provides expansive views of highly valued scenery or landscapes. The City has not designated any scenic vistas in the Project area. Therefore, no impact would occur, and this issue is not evaluated further in this SEIR.

**Damage Scenic Resources within a State Scenic Highway**—The proposed Project would not affect features, including trees, rock outcroppings, or historic buildings, within a state scenic highway. The closest designated scenic highway segment is a portion of State Route (SR) 160, from Freeport south to the County line (California Department of Transportation 2017). SR 160 is approximately 9 miles to the west, and due to the flat topography and intervening vegetation, the Project area is not visible from SR 160. Therefore, no impact would occur, and this issue is not evaluated further in this SEIR.

## **IMPACT ANALYSIS**

### **Impact 3.2-1: Substantial Degradation of Existing Visual Character.**

The Project site and off-site improvement areas are more than two miles south/southwest from areas designated Rural Residential by the City, and the Elk Grove Triangle Policy Area is located between the Project site and most of the areas designated for Rural Residential development by the City.

The areas that would be rezoned for regional commercial and light and heavy industrial development currently support agricultural uses (i.e., row crops) that are consistent with the visual character of undeveloped areas on the south side of Grant Line Road. The Project site's rural character is visible to motorists on Grant Line Road, with views of agricultural areas and distant views of trees along the Cosumnes River floodplain. The Project site provides agricultural views that are typical of the region.

Buildings and related signage, landscaping, electrical substations, and other above ground supportive infrastructure associated with proposed development would alter the existing visual character of the Project site, as well as views of the Project site from public viewing locations. Public views from Grant Line Road and from the intersections of Grant Line Road and Mosher and Waterman Roads would change substantially compared to existing conditions. Views of development at the Project site would be prominent as motorists and nearby residents cross the UPRR tracks and approach the intersection of Grant Line Road with Waterman Road and drive northeast. Adding commercial uses, urban landscaping, and frontage improvements along Grant Line Road would change the site's visual character, consistent with relevant City policies, design guidelines, and code requirements.

The off-site drainage pipeline improvements to the existing 15-acre pond would be installed underground. Public views of improvements to the existing drainage channel on the east side of the UPRR tracks that discharges to the existing 8-acre pond, from the Emerald Lakes Golf Course, are blocked by tall trees and the elevated railroad track embankment. Views of this channel to the south for motorists traveling on Grant Line Road would be fleeting in nature for a few seconds from the UPRR overpass and would not change substantially from existing conditions. The presence of construction equipment would be temporary. The portion of the existing off-site drainage channel that would be improved near the northeastern Project site boundary (which discharges to Deer Creek) is not visible from any public location.



Temporary fencing would be used at the Project site and along pipeline alignments needed to extend utilities. Construction equipment and personnel, excavated soils, and parked vehicles and trailers would temporarily alter visual conditions; however, these conditions would be temporary and intermittent as construction progresses.

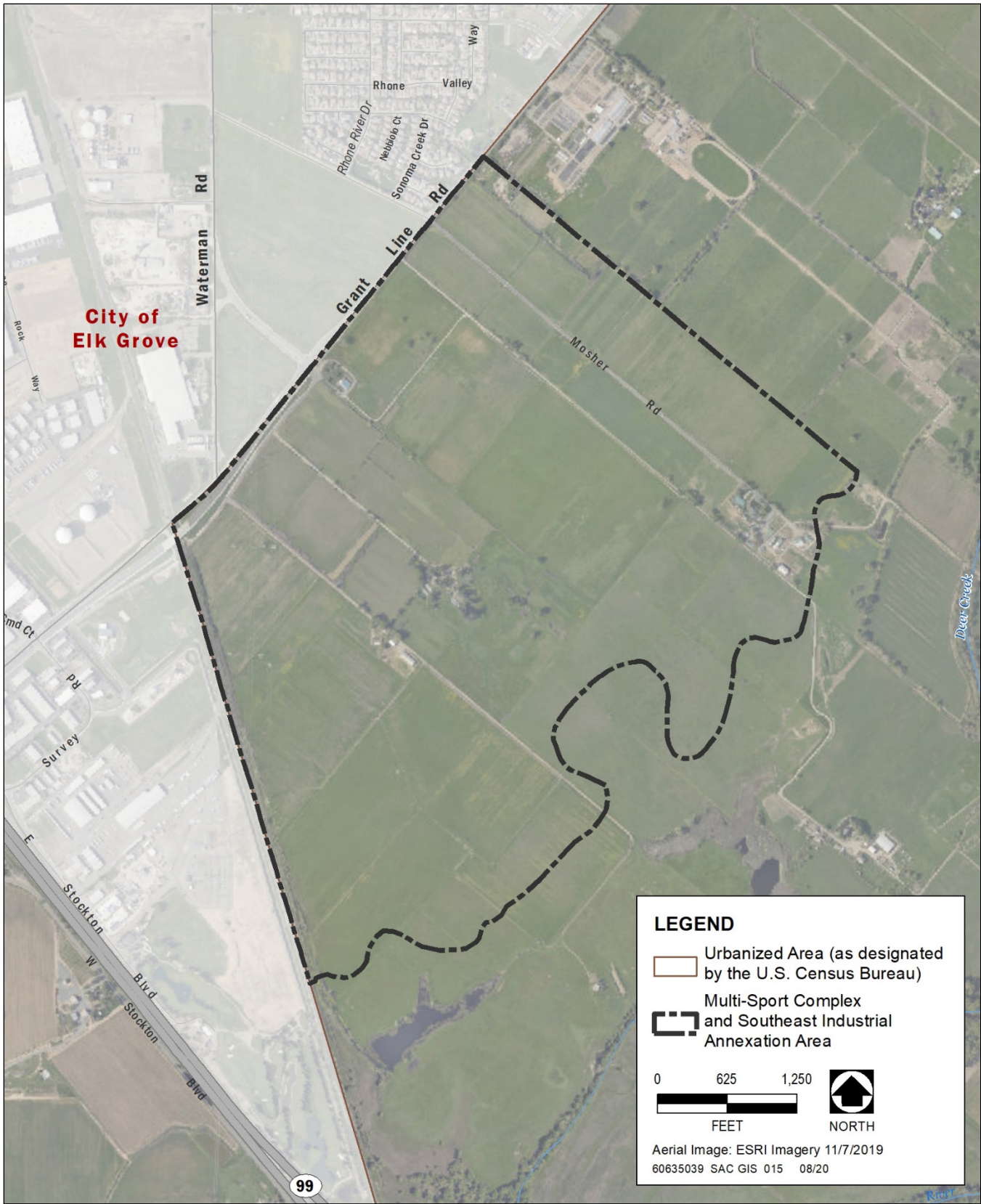
As applications for development within the Project site are processed by the City, they would be subject to applicable City General Plan policies, zoning regulations, and design guidelines, which are designed to reduce adverse visual impacts associated with new development. The City's Design Review regulations (Elk Grove Municipal Code Section 23.16.080) and the Elk Grove Design Guidelines (City of Elk Grove 2007) contain measures specifically for commercial and industrial development proposals, including building design and landscaping measures, which are intended to reduce visual effects. Specifically, for light industrial areas and business parks, the Design Guidelines have measures to protect adjoining uses from objectionable views. For example, service areas would likely be located at the rear of buildings and the City would emphasize review of the building entryways and landscaping. The General Plan policies and action items ensure the protection of certain trees, that the use of reflective materials would be reduced, and indicate that utilities should be located underground to the extent possible. The Elk Grove Municipal Code Title 23 also has additional restrictions related to landscaping, lighting, building siting and design, and other aesthetic characteristics. The Design Guidelines encourage incorporating natural features, setting back parking areas away from the front of the site to minimize visual impacts, planting landscaping to provide visual screening, and shielding lighting. Consistent with the Design Guidelines, City Design Guidelines require that parking is set back from Grant Line Road and would use street trees and on-site landscaping to shield views of future buildings.

Aesthetics impacts are inherently subjective. With adherence to City policies, Design Guidelines, and Code requirements, some viewers may consider changes to the visual character attributable to the proposed Project to be an improvement. However, the impact of proposed development within the Project site and the off-site improvements on the views of agricultural lands is conservatively determined to be **significant** because it would change the existing visual character of the Project site and as shown in Exhibit 3.2-1 the Project site is considered non-urbanized. Other than the implementation of City policies, design guidelines, and Code requirements that are designed to minimize visual impacts and promote high-quality design, there are no feasible mitigation measures to avoid or reduce this impact to a less-than-significant level. Therefore, as with the 2019 SOIA EIR, this impact would be **significant and unavoidable**.

#### Impact 3.2-2: Potential Loss of Trees of Local Importance.

The Project site contains scattered native trees, including valley oaks, that would be considered trees of local importance under Section 19.12.040 of the City Municipal Code. The off-site drainage improvement area in the vicinity of the 15-acre pond also contains trees, which may qualify as trees of local importance. In addition, nonnative trees are also scattered throughout the Project site in the form of urban landscaping around existing rural residences. Through Elk Grove's design review and tree regulations, the City would evaluate site planning to determine whether existing trees can be preserved. If preservation is not feasible, individual development projects would be subject to compensation requirements for tree removal consistent with the City's tree regulations.

As with the 2019 SOIA EIR, removal of trees of local importance, including native oak trees, at the Project site and the off-site improvement areas is considered a **potentially significant** impact.



Source: U.S. Census Bureau 2010

**Exhibit 3.2-1. Urbanized Areas**

**Mitigation Measure 3.2-2: Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance (2019 SOIA EIR Mitigation Measure 3.2-2).**

Mitigation for the removal of trees of local importance shall be provided according to the Elk Grove Municipal Code, Title 19, "Trees," Chapter 19.12, "Tree Preservation and Protection." Mitigation will provide 1 new inch diameter at breast height (dbh) of tree for each inch dbh lost (1:1 ratio) through on-site or off-site replacement, payment of an in-lieu fee, or on-site or off-site relocation.

***Significance after Mitigation***

Development at the Project site and off-site improvements would be subject to the City's Municipal Code, which regulates preservation of, and compensation for, the loss of trees of local importance. As with the 2019 SOIA EIR, implementation of Mitigation Measure 3.2-2, which would require replacement of trees, would reduce this impact to a **less-than-significant** level.

**Impact 3.2-3: Light and Glare Effects from New Lighting Sources.**

Skyglow is artificial lighting from urbanized uses that alters the rural landscape and, in sufficient quantity, lights up the nighttime sky, and thus reducing the darkness of the night sky and the visibility of the stars. The Project site currently supports agricultural uses and has few sources of ambient light other than the existing rural residences, lighting of Grant Line Road, and adjacent land uses in Elk Grove. Development would introduce street, parking lot, and building lighting, which would result in substantial new sources of light and glare.

To minimize lighting effects, the City would impose the requirements of Title 23 of the Elk Grove Municipal Code, which contains standards for lighting that address shielding of light fixtures, photometric calculations to determine the allowed level of illumination, and fixture height. Furthermore, the City's Design Guidelines encourage shielded and downward-pointing lighting. The Citywide Design Guidelines include provisions for outdoor light fixtures to be directed/shielded downward. Development would be required to limit outdoor lighting, which would be directed downward and shielded to minimize light spillover and skyglow. Further, the City would impose conditions of approval that minimize the use of reflective materials in building design. Compliance with City General Plan policies, zoning regulations, and Design Guidelines would minimize lighting and glare for development within the Project site. The off-site improvement areas would not require installation of lighting or structures that could create glare.

As with the 2019 SOIA EIR, compliance with the City's Municipal Code and Design Guidelines will ensure that this impact is **less than significant**.

It should be noted that, the prior 2019 EIR included the following Mitigation Measures 3.2-3a and 3.2-3b. These mitigation measures remain applicable to the Project.

**Mitigation Measure 3.2-3a: Minimize Over-Lighting (2019 SOIA EIR Mitigation Measure 3.2-3a).**

The City of Elk Grove will implement the following specific measures to minimize over-lighting in the SOIA Area, including the multi-sport park complex, consistent with Elk Grove Zoning Code:

- Exterior lighting shall be architecturally integrated with the building style, material and colors and be of a human scale.

- Design pole heights and light shielding to minimize spillover and skyglow.
- Schedule the use of outdoor lights and use an automated lighting control system to turn off unused lights.
- The hours of operation for the lighting system for any game or event shall not exceed one (1) hour after the end of the event.
- Schedule field use to emphasize using fields at the southern end of the site to increase the distance of night lighting from residential areas.
- Prepare and implement an operational plan to meet or exceed field lighting standards for field sports events established by oversight organizations (e.g., California Interscholastic Federation).
- Use methods to provide lower intensity light (“dimming”) for events that require less lighting and during post-event periods as teams leave the field and spectators move toward the parking lots.
- Implement a monitoring plan to ensure that light levels in adjacent residential areas do not exceed thresholds listed in the Elk Grove Design Guidelines.

**Mitigation Measure 3.2-3b: Minimize Glare (2019 SOIA EIR Mitigation Measure 3.2-3b).**

Consistent with Elk Grove Zoning Code, future development within the SOIA Area shall avoid the use of materials that could cause glare, such as reflective, mirrored, or black glass. Buildings that are allowed to use semi-reflective glass will be oriented to minimize the reflection of sunlight to sensitive receptors. Where the light source from an outdoor light fixture is visible beyond the property line, shielding shall be required to reduce glare so that the light source is not visible from within any residential dwelling unit.

### **3.3 AGRICULTURAL RESOURCES**

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento County Farm Bureau expressing concern related to the conversion of on-site agricultural land to urban uses. In addition, a comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo) expressing concern regarding Project effects on agricultural resources. The City reviewed and considered this information during preparation of this section.

#### **3.3.1 ENVIRONMENTAL SETTING**

The Project site is located within unincorporated Sacramento County and supports a range of agricultural uses, including oats and grass for hay crops, seasonal row crops, and irrigated pasture.

##### **FARMLAND CLASSIFICATIONS**

Based on a review of the Sacramento County Important Farmland map, published by the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP), most of the Project site is designated as Farmland of Statewide Importance (409 acres), with several smaller areas of Farmland of Local Importance (including the City-owned parcel) (134 acres). An area designated as Other Land, which has been developed with several rural residences and associated outbuildings, is located in the southeastern corner of the Project site. The 0.5-acre off-site storage pond is designated as Other Land. The 8-acre and 15-acre off-site water storage ponds and surrounding areas are designated as Grazing Land. The three off-site drainage pipeline and channel improvement areas have been assigned a mixture of the same designations listed above (DOC 2018).

##### **WILLIAMSON ACT**

As reported in the 2019 SOIA EIR, the majority of the Project area is not held under Williamson Act contracts. Two properties, APNs 134-0190-002 and 134-0190-003, which are east and southeast of the City property, respectively, are in active contracts (Sacramento County 2020a). See Exhibit 2-2 for location of these parcels within the Project area.

##### **AGRICULTURAL ZONING**

The Project site is located in an unincorporated area of Sacramento County. As noted in the 2019 SOIA EIR, most of the Project site is zoned AG-80 (Agricultural, 80-acre minimum) with the exception of a parcel in the northwestern corner zoned M-2 (Heavy Industrial) and two smaller parcels adjacent to the south zoned AR-2 (Agricultural Residential, 2 acres) (Sacramento County 2020b). All three off-site improvement areas assessed as a part of this SEIR are also zoned AG-80 by the County.

##### **CORTESE-KNOX-HERTZBERG LOCAL GOVERNMENT REORGANIZATION ACT**

Government Code Section 56064, created by the Cortese-Knox-Hertzberg Local Government Reorganization Act, defines "prime agricultural land." "Prime agricultural land" means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

- (a) Land that qualifies, if irrigated, for rating as class I or class II in the NRCS land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
- (b) Land that qualifies for rating 80 through 100 Storie Index Rating.
- (c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
- (d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.
- (e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years.

### **3.3.2 REGULATORY FRAMEWORK**

#### **CITY OF ELK GROVE GENERAL PLAN**

The City General Plan (City of Elk Grove 2019), contains the following policies related to agricultural resources that are applicable to the proposed Project.

- ▶ **Policy AG-1-3:** Recognize the right of existing agricultural uses to continue as long as individual owners/farmers desire. As appropriate for the neighborhood, allow for buffers or feathering of lot sizes where appropriate between farmland and urban uses. Additionally, continue implementing the City's Right to Farm regulations and property title disclosures to notify prospective buyers of agricultural activities in the area.
- ▶ **Policy AG-1-5:** Protect agricultural lands from future risk of conversion by requiring mitigation of the loss of qualified agricultural land at a 1:1 ratio.
- ▶ **Policy AG-1-6:** Limit the siting of projects with land uses that might result in conflicts near existing agriculture due to noise, air quality, or odors.

### **3.3.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to agricultural resources if it would:

- ▶ convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use;
- ▶ conflict with existing zoning for agricultural use or a Williamson Act contract;

- ▶ conflict with existing zoning for, or cause rezoning of, forestland (as defined by Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- ▶ result in the loss of forestland or conversion of forestland to nonforest use; or
- ▶ involve other changes in the existing environment that, because of their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use.

In addition, the proposed Project would have a significant impact related to prime agriculture resources if it would convert prime agricultural land as defined by Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act.

### **ISSUES NOT DISCUSSED FURTHER**

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

**Conversion of Prime Farmland**—Neither the Project site nor the off-site improvement areas are classified as Prime Farmland (DOC 2018), and the Project site does not contain prime agricultural land as defined by Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act. As detailed in the 2019 SOIA EIR:

- ▶ None of the Project site is designated as Prime Farmland.
- ▶ The Project site is rated class III and class IV in the NRCS land use capability classification for irrigation and has a rating of 11-79 on the Storie Index (NRCS 2018).
- ▶ Based on NRCS soil productivity data, certain soils in the SOIA area could produce up to 234 pounds of dry forage per acre per month (NRCS 2018). The U.S. Department of Agriculture’s National Range and Pasture Handbook specifies that 1 animal unit month is equal to 790 pounds of dry forage per acre per month (USDA 2003). Therefore, the Project site does not contain lands that could support at least one animal unit per acre.
- ▶ The Project site does not contain fruit or nut-bearing trees, vines, or bushes.
- ▶ There is no land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than \$400 per acre (Jensen, pers. comm. 2018). Thus, there would be no impact, and this issue is not evaluated further in this SEIR.

**Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land, Timberland, or Timberland Zoned Timberland Production**—The Project site is not zoned as forest land, timberland, or a Timberland Production Zone. Thus, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forestry resources and this issue is not evaluated further in this SEIR.

**Result in the Loss of Forest Land or Conversion of Forest Land to Nonforest Use**—The Project site does not contain timberland as defined by Public Resources Code Section 4526 or contain 10 percent native tree cover that

would be classified as forest land under Public Resources Code Section 12220(g). Thus, the proposed Project would not result in conversion of forest land to nonforest use. Therefore, this issue is not evaluated further in this SEIR.

## **IMPACT ANALYSIS**

### **Impact 3.3-1: Direct and Indirect Loss of Agricultural Land, Including Farmland of Statewide Importance.**

Based on analysis of farmland mapping provided under the FMMP (DOC 2018), approximately 409 acres of the Project site is designated as Farmland of Statewide Importance, and would be converted to nonagricultural uses. In addition, active agricultural fields adjacent to the Project site are designated as Farmland of Statewide Importance.

Proposed development could indirectly result in conversion of surrounding agricultural land to urban use. Three parcels (APNs 134-0190-002, 134-0190-003, and 134-0190-013) are only partially within the Project site and these parcels are actively farmed and designated as Farmland of Statewide Importance. The portions of these parcels outside of the Project site boundary would be encroached upon such that the parcels would become fragmented, reduced in size, and irregularly shaped to such a degree that continuing agricultural land uses could be less profitable or otherwise less feasible. Therefore, future development could indirectly result in other changes in the physical environment that could result in the conversion of agricultural land, including agricultural land designated as Farmland of Statewide Importance, to nonagricultural uses. The three new off-site improvement areas assessed as a part of this SEIR are not currently actively used for agricultural production, as they are existing channels that would be widened or deepened, or areas where drainage pipelines would be installed and where disturbance related to drainage improvements would be temporary.

Because the proposed Project would result in the conversion of Farmland of Statewide Importance and active agricultural lands within the Project site, this impact is considered **significant**.

#### **Mitigation Measure 3.3-1: Preserve Agricultural Land (2019 SOIA EIR Mitigation Measure 3.3-1).**

Project applicants shall protect one (1) acre of existing farmland land of equal or higher quality for each acre of Farmland of Statewide Importance that would be developed as a result of the project. This protection may consist of the establishment of a farmland conservation easement, farmland deed restriction, or other appropriate farmland conservation mechanism to ensure the preservation of the land from conversion in perpetuity, but may also be utilized for compatible wildlife habitat conservation efforts (e.g., Swainson's hawk foraging habitat mitigation) that substantially impairs or diminishes the agricultural productivity of the land. The farmland/wildlife habitat land to be preserved must have adequate water supply to support agricultural use. The City shall consider the benefits of preserving farmlands in proximity to other protected lands. The preservation of farmland may be done at one time, or in increments with the buildout of the Project site.

The total acres of land conserved will be based on the total on-site agriculture acreage converted to urban uses. Conserved agriculture areas may include areas within the Project site, lands secured for permanent habitat enhancement (e.g., giant garter snake habitat, Swainson's hawk habitat), or additional land identified by the City. The City shall attempt to locate preserved farmland within 5 miles of the Project site; however, the preserved farmland shall at a minimum be located inside Sacramento County.

Conservation easement content standards shall include, at a minimum: land encumbrance documentation;



documentation that the easements are permanent, monitored, and appropriately endowed for administration, monitoring, and enforcement of the easements; prohibition of activity which substantially impairs or diminishes the agricultural productivity of the land; and protection of water rights.

The following or equally effective minimum conservation easement content standards are required:

- a) All owners of the agricultural/wildlife habitat mitigation land shall execute the document encumbering the land.
- b) The document shall be recordable and contain an accurate legal description of the agricultural/wildlife habitat mitigation land.
- c) The document shall prohibit any activity that substantially impairs or diminishes the agricultural productivity of the land. If the conservation easement is also proposed for wildlife habitat mitigation purposes, the document shall also prohibit any activity that substantially impairs or diminishes the wildlife habitat suitability of the land.
- d) The document shall protect any existing water rights necessary to maintain agricultural uses on the land covered by the document and retain such water rights for ongoing use on the agricultural/wildlife habitat mitigation land.
- e) Interests in agricultural/habitat mitigation land shall be held in trust by an entity acceptable to the City and/or by the City in perpetuity. The entity shall not sell, lease, or convey any interest in agricultural/wildlife habitat mitigation land that it acquires without the City's prior written approval.
- f) An agricultural/wildlife habitat mitigation monitoring fee is required to cover the costs of administering, monitoring, and enforcing the document.
- g) The City shall be named a beneficiary under any document conveying the interest in the agricultural/wildlife habitat mitigation land to an entity acceptable to the City.
- h) If any qualifying entity owning an interest in agricultural/wildlife habitat mitigation land ceases to exist, the duty to hold, administer, monitor, and enforce the interest shall be transferred to another entity acceptable to the City or transferred to the City.

City approval is required for the selection of farmland proposed for preservation.

### **Significance after Mitigation**

While conservation easements for the same area and quality of farmland placed elsewhere in the region would offset the direct conversion of agricultural land, including Farmland of Statewide Importance, attributable to development of the Project site, this approach would not create new farmland to replace farmland that would be lost. There is no additional feasible mitigation. Therefore, as with the 2019 SOIA EIR, the impact is **significant and unavoidable**.

### Impact 3.3-2: Potential Conflict with Existing On-site and Off-site Williamson Act Contracts.

The area identified for development of mixed uses would occur on Williamson Act-contracted land, as well as a portion of the area identified for public/open space uses (APNs 134-0190-003 and 134-0190-002). These areas total approximately 179 acres of the Project site. Cancellation before their expiration date or nonrenewal of these Williamson Act contracts would be required before development could occur.

Contract cancellation requests would be submitted as development applications are received and in conjunction with tentative map approval or other entitlement actions. The project applicant(s) for contracted parcels would apply to the City for contract cancellation; as a result, the actual determination of consistency with the statutory consistency requirements would be made by the Elk Grove City Council, as Sacramento County would succeed to the contracts upon annexation of the relevant parcel. The City would be required to make findings pursuant to Section 51282 of the California Government Code by determining whether the cancellation is consistent with the California Land Conservation Act or in the public interest.

Lands north and east of the Project site are under Williamson Act contracts and are currently under cultivation. These areas are located in unincorporated Sacramento County and portions of these properties are outside of the County's Urban Service Boundary, while all of these properties are outside the County's Urban Policy Area. These sites are also outside of the City's Planning Area. The proposed parks and open spaces uses in the southern portion of the Project site would provide a buffer between the site and agricultural uses to the southeast within the 100-year floodplain (see Exhibit 2-3). Therefore, it is not anticipated that future development would result in cancellations of Williamson Act contracts on adjacent lands.

However, development of the proposed mixed uses and a portion of the parks/open space area would directly result in cancellation of Williamson Act contracts. Therefore, this impact is considered **significant**.

#### Implement Mitigation Measure 3.3-1 (Preserve Agricultural Land).

##### Significance after Mitigation

Implementation of Mitigation Measure 3.3-1 would reduce the conversion of farmland, including Williamson Act contract land, by conserving lands in permanent conservation easements. However, this approach would not prevent the permanent loss of Williamson Act contract land or create new farmland to replace farmland that would be lost. There is no additional feasible mitigation. Therefore, as with the 2019 SOIA EIR, the impact is **significant and unavoidable**.

### Impact 3.3-3: Conflict with Existing Off-site Agricultural Operations.

The proposed public/open space uses would not result in conflicts with off-site agricultural operations to the east/southeast of the Project site. The 64-acre area identified for parks and open space uses would be designated as Parks and Open Space (P/OS), which allows public and private parks, public plazas, trails, paseos, and similar features that provide off-street connectivity, oriented toward active uses, and potentially including commercial recreation facilities principally oriented toward outdoor use. These types of uses are not generally considered sensitive to ongoing agricultural operations. However, since the specific uses and design are not known at this time, it is assumed that there could be a potential impact, and the mitigation provided below would apply to annexation of the area identified for parks and open space uses.

The proposed Heavy Industrial (HI) land use designation for the Project site could abut ongoing agricultural operations to the south and southeast. However, industrial land uses are generally not considered sensitive to agricultural operations and do not result in conflicts with agricultural uses that would create pressure for such agricultural uses to convert to a different use. Properties proposed for Light Industrial (LI) and Regional Commercial (RC) are not adjacent to off-site areas in agricultural production. To the extent that the portion of the Project site identified for parks and open space could have ongoing agricultural operations, uses allowed under the Light Industrial (LI) land use designation are not considered sensitive to agricultural operations and not known to produce pressure to prematurely convert to another use.

Development of residential uses could occur in the Project site within the parcel designated for mixed uses (APN 134-0190-002), which could abut ongoing agricultural operations to the northeast. Residential uses are sensitive to agricultural operations and conflicts with on-going agricultural operations north and northeast of the Project site could occur. Agricultural-urban interfaces have the potential for conflicts between agricultural practices and adjacent landowners. Agricultural operations may create risks and nuisances for urban residences and businesses. Health risks and nuisances potentially created by agricultural operations include, but are not limited to exposure to pesticide applications; exposure to dust (from soil preparation); exposure to noise (from machinery and trucks); odors from existing dairies, agricultural burning, and decaying rice stubble; and exposure to mosquitoes breeding in flooded fields. Conversely, urban land uses and the associated population create operational difficulties for agriculture. Increased restrictions on agriculture processes and other aspects of encroachment on agricultural areas can lower productivity, increase costs, and otherwise impair agricultural operations. Urban activities can result in vandalism and the introduction of domestic animals that may disturb certain agricultural activities.

Policy CAQ-4 of the City's General Plan states that the City does not require buffers between farmland and urban uses to address the impacts of farming on urban uses; rather, the City relies instead on implementing the City's "Right to Farm" ordinance (i.e., City of Elk Grove Municipal Code Chapter 14.05) (General Plan Policy CAQ-4-Action 1). As required by the City's Agricultural Activities Ordinance (General Plan Policy CAQ-4-Action 2), prospective buyers of property adjacent to agricultural land would be notified through the property title report that they could be subject to inconvenience or discomfort resulting from accepted farming activities. In addition, City of Elk Grove Municipal Code Chapter 14.05 ensures buyers are notified that agricultural operations that are operated in a manner consistent with proper and accepted customs and standards are allowed to continue, and requires that notification be provided to residents of property located near properties designated for agricultural use; that these agricultural uses are encouraged; that accepted agricultural practices may continue; and that efforts to prohibit, ban, restrict, or otherwise eliminate established agricultural uses will not be favorably received by the City.

However, implementing these General Plan actions does not preclude the possibility that if future urban development of the Project site occurs adjacent to existing off-site agricultural lands, this could result in land use compatibility conflicts, which could impair agricultural activities and could contribute to the conversion of agricultural land, including Important Farmland. Thus, this indirect impact is conservatively considered **potentially significant**.

**Mitigation Measure 3.3-3: Prepare an Agricultural Land Use Compatibility Plan (2019 SOIA EIR Mitigation Measure 3.3-3)**

Prior to the approval of any development project for a site that is adjacent to ongoing agricultural cultivation, the project applicant shall prepare an agricultural land use compatibility plan. The plan shall

include establishing a buffer zone; providing additional suitable barriers, such as on-site fencing or walls, between the edge of development and the adjacent agricultural operations; or other measures, as directed by the City of Elk Grove. The City of Elk Grove would verify that the agricultural land use compatibility plan, as prepared, will reduce conflicts between ongoing agricultural operations and adjacent urban uses before issuance of grading permits for future development within the SOIA Area, including the multi-sports complex.

### Significance after Mitigation

As with the 2019 SOIA EIR, implementation of Mitigation Measure 3.3-3 would reduce impacts associated with conflicts between urban land uses adjacent to existing agricultural lands to a **less-than-significant** level by ensuring that buffer zones are provide a suitable barrier between ongoing agricultural operations and urban land uses, as determined by the City of Elk Grove. The City has prepared a draft Agricultural Land Use Compatibility Plan, which is included in the draft Specific Plan. The Compatibility Plan includes the following specific components:

- ▶ Descriptions of the levels of compatibility between urban and agricultural uses.
- ▶ Development guidelines to address potential compatibility conflicts, including:
  - Site design provisions, which include providing buffers and increased building setbacks along the boundary between urban and agricultural development. Specifically, buffers should be proportional to the intensity/density of the urban development and its potential level of conflict, such as 30 to 50 feet for industrial and commercial development, and 50 to 100 feet for residential.
  - Limiting urban stormwater runoff to agricultural lands through collection strategies that may include bioswales and specific grading designs.
  - Development consultation between proposed urban uses and existing agricultural operators.
  - Opportunities to consider changes to agricultural operations at the option of the agricultural operation.

In addition, the City of Elk Grove Municipal Code Chapter 14.05, which protects the rights of agricultural property owners and farmers to continue agricultural operations on their land, requires that property sellers disclose to purchasers and residents of nearby agricultural operations of the potential inconveniences that those agricultural operations may present to residences and that agricultural operations that are operated in a manner consistent with proper and accepted customs and standards are allowed to continue.

### Impact 3.3-4: Conflict with Existing Zoning.

The proposed Project would include rezoning portions of the site to zoning designations that would permit urban land uses (such as Regional Commercial, Light Industrial, and Heavy Industrial). As with the 2019 SOIA EIR, this SEIR assumes that, with approval of the proposed Project and rezoning, the Project would not conflict with zoning for agricultural use for the properties that would be rezoned as a part of this Project (see Section 3.11, “Land Use and Planning and Population, Housing, and Employment,” for further discussion). Thus, there would be no impact.

The 64-acre area identified for parks and open space uses would be designated as Parks and Open Space (P/OS), which allows public and private parks, public plazas, trails, paseos, and similar features that provide off-street connectivity, oriented toward active uses, and potentially including commercial recreation facilities principally oriented toward outdoor use. The area designated as a part of this Project for Parks and Open Space (P/OS) is currently zoned AG-80 (Agricultural, 80-acre minimum) by Sacramento County. The AG-80 zoning designation is used to eliminate the encroachment of land uses incompatible with the long-term agricultural use of land, to preserve the maximum amount of the limited supply of agricultural land in order to conserve the County's economic resources that are vital for a healthy agricultural economy, to discourage the premature and unnecessary conversion of agricultural land to urban uses, and to encourage the retention of sufficiently large agricultural lots to ensure maintenance of viable agricultural units (Sacramento County 2015). Depending on the use of the Parks and Open Space (P/OS) area, this could potentially conflict with the County's zoning. There is no impact associated with this conflict that is distinct, however, from the analysis under Impact 3.3-1 or 3.3-3. As discussed under Impact 3.1-1, mitigation for agricultural resources would not create new farmland to replace farmland that would be lost and therefore the loss of agricultural resources, as well as the conflict with agricultural zoning is **significant and unavoidable**.

This page intentionally left blank.

## 3.4 AIR QUALITY

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) related to mitigation to reduce the Project's emissions of operational ozone precursors. The City reviewed and considered this information during preparation of this section.

### 3.4.1 ENVIRONMENTAL SETTING

The environmental setting for the proposed Project as it relates to air quality has not changed since the 2019 SOIA EIR was prepared.

Adjacent to the western boundary of the Project site are the Union Pacific Railroad tracks with commercial and industrial uses beyond. Commercial and industrial developments are to the northwest past Grant Line Road; residential development is to the northeast of the Project site east of Mosher Road. Areas to the east are primarily rural residential, with commercial and industrial uses fronting on Grant Line Road and the now-closed Sunset Sky ranch Airport grounds beyond. The area to the south is agricultural.

The Project site is within the Sacramento Valley Air Basin (SVAB). The 2019 SOIA EIR describes the most recent criteria air pollutant National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), as well as air monitoring data for monitoring stations in proximity to the Project site for the years 2014 through 2016. Sacramento County's attainment status for the NAAQS and CAAQS has not changed since the 2019 SOIA EIR was prepared. Sacramento County currently meets NAAQS for all criteria air pollutants except ozone and the 24-hour particulate matter with an aerodynamic diameter less than 2.5 microns (PM<sub>2.5</sub>) standard. Sacramento County meets the CAAQS for all criteria air pollutants except ozone and particulate matter with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>). The NAAQS and CAAQS are set, and reevaluated on a regular basis, to ensure, with a margin of safety, that ambient air pollutant concentrations are protective of public health.

The following provides a brief description of these criteria air pollutants, including their source types and health effects, along with the most current attainment designations for area surrounding the Project site.

#### Ozone

Ozone is the primary component of urban smog. It is not emitted directly into the air, but is formed through a series of reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO<sub>x</sub> includes various combinations of nitrogen and oxygen, including nitric oxide, nitrogen dioxide (NO<sub>2</sub>), and others, typically resulting from the combustion of fuels.

Emissions of both ROG and NO<sub>x</sub> are considered critical to ozone formation. Therefore, either ROG or NO<sub>x</sub> can limit the rate of ozone production. When the production rate of NO<sub>x</sub> is lower, indicating that NO<sub>x</sub> is scarce, the rate of ozone production is NO<sub>x</sub>-limited. Under these circumstances, ozone levels could be most effectively reduced by lowering current and future NO<sub>x</sub> emissions (from fuel combustion), rather than by lowering ROG emissions. Rural areas tend to be NO<sub>x</sub>-limited, while areas with urban populations tend to be ROG-limited. Both ROG and NO<sub>x</sub> reductions provide ozone benefits in the region, but the Sacramento Federal Nonattainment Area,

which includes Sacramento County, exhibits a NO<sub>x</sub>-limited regime; therefore, NO<sub>x</sub> reductions (such as those available through reducing mobile source emissions) are more effective than ROG reductions on a tonnage basis (SMAQMD et al. 2017).

Ozone concentrations reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air, coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas.

Individuals exercising outdoors, children, and people with lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term ozone exposure (lasting for a few hours) can result in changes in breathing patterns, reductions in breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes. In recent years, a correlation has also been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality (EPA 2020a). An increased risk of asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Emissions of the ozone precursors ROG and NO<sub>x</sub> have decreased in the past several years. According to the most recently published edition of ARB's *California Almanac of Emissions and Air Quality*, NO<sub>x</sub> and ROG emissions levels in the Sacramento metropolitan area are projected to continue to decrease through 2035, largely because of more stringent motor vehicle standards and cleaner burning fuels, as well as rules for controlling ROG emissions from industrial coating and solvent operations (ARB 2013).

## **Carbon Monoxide**

Carbon monoxide (CO) is produced primarily by the incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. Other emissions sources include fires (both wildfires and prescribed fires), releases from vegetation and soil, wood-burning stoves, incinerators, and industrial sources. Relatively high concentrations are typically found near crowded intersections and along high-volume roadways carrying slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300–600 feet) of high-volume roadways. Vehicular traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections. Overall, CO emissions are decreasing, in part because the Federal Motor Vehicle Control Program has mandated increasingly lower emission levels for vehicles manufactured since 1973.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, drastically reducing the amount of oxygen available to the cells. Adverse health effects from exposure to high CO concentrations, which typically can occur only indoors or within similarly enclosed spaces, include dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2020b).



## Nitrogen Dioxide

NO<sub>2</sub> is one of a group of highly reactive gases known as oxides of nitrogen, or NO<sub>x</sub>. NO<sub>2</sub> is formed when ozone reacts with nitric oxide (i.e., NO) in the atmosphere and is listed as a criteria pollutant because NO<sub>2</sub> is more toxic than nitric oxide. The major human-made sources of NO<sub>2</sub> are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. The combined emissions of nitric oxide and NO<sub>2</sub> are referred to as NO<sub>x</sub> and reported as equivalent NO<sub>2</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with ozone, the NO<sub>2</sub> concentration in a geographical area may not be representative of local NO<sub>x</sub> emission sources. NO<sub>x</sub> also reacts with water, oxygen, and other chemicals to form nitric acids, contributing to the formation of acid rain.

Inhalation is the most common route of exposure to NO<sub>2</sub>. Breathing air with a high concentration of NO<sub>2</sub> can lead to respiratory illness. Short-term exposure can aggravate respiratory diseases, particularly asthma, resulting in respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO<sub>2</sub> may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups (EPA 2016).

## Sulfur Dioxide

Sulfur dioxide (SO<sub>2</sub>) is one component of the larger group of gaseous oxides of sulfur (SO<sub>x</sub>). SO<sub>2</sub> is used as the indicator for the larger group of SO<sub>x</sub>, as it is the component of greatest concern and found in the atmosphere at much higher concentrations than other gaseous SO<sub>x</sub>. SO<sub>2</sub> is typically produced by such stationary sources as coal and oil combustion facilities, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO<sub>2</sub> exposure pertain to the upper respiratory tract. On contact with the moist mucous membranes, SO<sub>2</sub> produces sulfurous acid, a direct irritant. Concentration rather than duration of exposure is an important determinant of respiratory effects. Children, the elderly, and those who suffer from asthma are particularly sensitive to effects of SO<sub>2</sub> (EPA 2019).

SO<sub>2</sub> also reacts with water, oxygen, and other chemicals to form sulfuric acids, contributing to the formation of acid rain. SO<sub>2</sub> emissions that lead to high concentrations of SO<sub>2</sub> in the air generally also lead to the formation of other SO<sub>x</sub>, which can react with other compounds in the atmosphere to form small particles, contributing to particulate matter pollution, which can have health effects of its own.

## Particulate Matter

Particulate matter (PM) is a complex mixture of extremely small particles and liquid droplets made up of several components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulates include windblown dust and ocean spray. The major areawide sources of PM<sub>2.5</sub> and PM<sub>10</sub> are fugitive dust, especially from roadways, agricultural operations, and construction and demolition. Other sources of PM<sub>10</sub> include crushing or grinding operations. PM<sub>2.5</sub> sources also include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. Exhaust emissions from mobile sources contribute only a very small portion of directly emitted PM<sub>2.5</sub> and PM<sub>10</sub> emissions. However, they are a major source of ROG and NO<sub>x</sub>, which undergo reactions

in the atmosphere to form PM, known as secondary particles. These secondary particles make up the majority of PM pollution.

The size of PM is directly linked to its potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects, even death. The adverse health effects of PM<sub>10</sub> depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons, and other toxic substances adsorbed onto fine PM (referred to as the “piggybacking effect”), or with fine dust particles of silica or asbestos. Effects from short- and long-term exposure to elevated concentrations of PM<sub>10</sub> include respiratory symptoms, aggravation of respiratory and cardiovascular diseases, a weakened immune system, and cancer (WHO 2018). PM<sub>2.5</sub> poses an increased health risk because these very small particles can be inhaled deep in the lungs and may contain substances that are particularly harmful to human health.

Direct emissions of PM<sub>2.5</sub> in the Sacramento metropolitan area decreased between 2000 and 2010, but are projected to increase very slightly through 2035. Similarly, emissions of diesel PM (DPM) decreased from 2000 through 2010 because of reduced exhaust emissions from diesel mobile sources. These emissions are anticipated to continue to decline through 2035 (ARB 2013).

## **Lead**

Lead is a highly toxic metal that may cause a range of human health effects. Lead is found naturally in the environment and is used in manufactured products. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. Soon after its inception, EPA began working to reduce lead emissions, issuing the first reduction standards in 1973. Lead emissions have decreased substantially as a result of the near elimination of leaded gasoline use. Metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose “hot spot” problems in some areas. As a result, ARB has identified lead as a toxic air contaminant (TAC).

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotients. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death, although it appears that lead does not directly affect the respiratory system.

## **Sensitive Receptors**

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals. Children, pregnant women, the elderly, those with existing health conditions, and athletes or others who engage in frequent exercise are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered sensitive receptors include schools, daycare centers, parks and playgrounds, and medical facilities.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to the pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as most of the workers tend to stay indoors most of the time.

The nearest sensitive receptors outside the Project site are residences to the northeast that are approximately 100 feet from the northern border of the Project site. There are three existing homes on large parcels within the Project site. The proposed Project could also include development of sensitive receptors within the “mixed use” area in the eastern portion of the Project site that assumes the potential for a wide range of land uses, including residential development.

### **3.4.2 REGULATORY FRAMEWORK**

Air quality is regulated at the federal level by the EPA and at the state level by the California Air Resources Board (ARB). At the local level, the Sacramento Metropolitan Air Quality Management District (SMAQMD) develops rules, regulations, policies, and/or goals to comply with applicable federal and State legislation. Although EPA regulations may not be superseded, in general, both State and local regulations may be more stringent.

The regulatory framework surrounding criteria air pollutants, toxic air contaminants (TACs), and odor emissions, as it pertains to the proposed Project, is described in the 2019 SOIA EIR. The following highlights relevant changes in the regulatory framework since the preparation of the 2019 SOIA EIR.

#### **FEDERAL**

##### **Corporate Average Fuel Economy (CAFE) Standards and the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule**

U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration set CAFE standards for passenger cars and for light trucks (collectively, light-duty vehicles), and separately sets fuel efficiency standards for passenger cars and light trucks (collectively, light-duty vehicles) for model years 2012 through 2025.

The Safer Affordable Fuel Efficient (SAFE) Vehicles Rule, proposed by the United States Department of Transportation and EPA in 2018, would amend the existing CAFE standards and establish new standards for model years 2021 through 2026. The proposed rule would retain the model year 2020 standards through model year 2026.

In response to the proposed SAFE Vehicles Rule, on July 25, 2019, automobile manufactures Ford, Volkswagen, Honda, and BMW entered into a voluntary framework agreement with ARB to set fuel economy and carbon dioxide limits at levels between the existing federal standards and the standards proposed by the SAFE Vehicles Rule. Under this framework, the auto companies’ party to the voluntary agreement would only sell cars in the United States that meet these levels.

On September 27, 2019, the EPA and the National Highway Traffic Safety Administration published the “SAFE Vehicles Rule Part One: One National Program” (84 Fed. Reg. 51310). The Part One Rule revokes California’s authority to set its own greenhouse gas (GHG) emissions standards and set zero-emission vehicle mandates in California. Part 2 of the regulations, which, if implemented, would address fuel efficiency standards for light-duty vehicles model years 2021 through 2026, have not been drafted as of the writing of this document.

## STATE

All relevant State plans, policies, regulations, and laws are summarized in the 2019 SOIA EIR.

## LOCAL

### City of Elk Grove General Plan

The *Elk Grove General Plan* (City of Elk Grove 2019), which was adopted after the drafting of the 2019 SOIA EIR, contains the following policies related to air quality that are applicable to the Project.

- ▶ **Policy LU-1-4:** Land uses in the vicinity of areas designated as Heavy Industry should include transitions in intensity, buffers, or other methods to reduce potential impacts on residential uses. Buffers may include land designated for other uses, such as light industry, commercial, or open spaces.
- ▶ **Policy LU-1-6:** Support the development of neighborhood-serving commercial uses adjacent to residential areas that provide quality, convenient, and community-serving retail choices in a manner that does not impact neighborhood character.
- ▶ **Policy LU-1-7:** Encourage disclosure of potential land use compatibility issues including but not limited to noise, dust, and odors, in order to provide potential purchasers with complete information to make informed decisions about purchasing property.
- ▶ **Policy LU-1-9:** Encourage employee-intensive commercial and industrial uses to locate within walking distance of fixed transit stops. Encourage regional public transit providers to provide or increase coordinated services to areas with high concentrations of residents, workers, or visitors.
- ▶ **Policy MOB-1-1:** Achieve State-mandated reductions in VMT by requiring land use and transportation projects to comply with the following metrics and limits. These metrics and limits shall be used as thresholds of significance in evaluating projects subject to CEQA. Projects that do not achieve the daily VMT limits outlined below shall be subject to all feasible mitigation measures necessary to reduce the VMT for, or induced by, the project to the applicable limits. If the VMT for or induced by the project cannot be reduced consistent with the performance metrics outlined below [provided in the 2019 City of Elk Grove General Plan], the City may consider approval of the project, subject to a statement of overriding considerations and mitigation of transportation impacts to the extent feasible, provided some other stated form of public objective including specific economic, legal, social, technological or other considerations is achieved by the project.
- ▶ **Policy MOB-3-1:** Implement a balanced transportation system using a layered network approach to building complete streets that ensure the safety and mobility of all users, including pedestrians, cyclists, motorists, children, seniors, and people with disabilities.

- ▶ **Policy MOB-3-2:** Support strategies that reduce reliance on single occupancy private vehicles and promote the viability of alternative modes of transport.
  - **Standard MOB-3-2-a:** Require new development to install conduits for future installation of electric vehicle charging equipment.
- ▶ **Policy MOB-3-7:** Develop a complete and connected network of sidewalks, crossings, paths, and bike lanes that are convenient and attractive, with a variety of routes in pedestrian-oriented areas.
- ▶ **Policy MOB-3-15:** Utilize reduced parking requirements when and where appropriate to promote walkable neighborhoods and districts and to increase the use of transit and bicycles.
- ▶ **Policy MOB-3-16:** Ensure new multifamily and commercial developments provide bicycle parking and other bicycle support facilities appropriate for the users of the development.
- ▶ **Policy MOB-4-1:** Ensure that community and area plans, specific plans, and development projects promote context-sensitive pedestrian and bicycle movement via direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area. This may include convenient pedestrian and bicycle connections to public transportation.
- ▶ **Policy MOB-4-5:** Encourage employers to offer incentives to reduce the use of vehicles for commuting to work and increase commuting by active transportation modes. Incentives may include a cash allowance in lieu of a parking space and on-site facilities and amenities for employees such as bicycle storage, shower rooms, lockers, trees, and shaded seating areas.
- ▶ **Policy MOB-5-5:** Promote strong corridor connections to and between activity centers that are safe and attractive for all modes.
- ▶ **Policy NR-4-1:** Require all new development projects which have the potential to result in substantial air quality impacts to incorporate design, and/or operational features that result in a reduction in emissions equal to 15 percent compared to an “unmitigated baseline project.” An unmitigated baseline project is a development project which is built and/or operated without the implementation of trip reduction, energy conservation, or similar features, including any such features which may be required by the Zoning Code or other applicable codes.
  - **Standard NR-4-1a:** As part of the environmental review of projects that are not exempt, the City shall identify the air quality impacts of development proposals to avoid significant adverse impacts and require appropriate mitigation measures to the extent feasible and appropriate, potentially including—in the case of projects which may conflict with applicable air quality plans—emission reductions in addition to those required by Policy NR-4-1.
- ▶ **Policy NR-4-3:** Implement and support programs that reduce mobile source emissions.
- ▶ **Policy NR-4-4:** Promote pedestrian/bicycle access and circulation to encourage residents to use alternative modes of transportation in order to minimize direct and indirect emissions of air contaminants.

- ▶ **Policy NR-4-5:** Emphasize demand management strategies that seek to reduce single-occupant vehicle use in order to achieve State and federal air quality plan objectives.
- ▶ **Policy NR-4-8:** Require that development projects incorporate best management practices during construction activities to reduce emissions of criteria pollutants.
  - **Standard NR-4-8a:** Require all future projects with construction emissions to incorporate the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Basic Construction Emission Control Practices as identified in the most current version of the SMAQMD CEQA Guide in effect at the time of construction.
  - **Standard NR-4-8b:** All projects with construction emissions exceeding the SMAQMD ozone precursors thresholds shall implement enhanced exhaust control practices as identified in the most current version of the SMAQMD CEQA Guide in effect at the time of construction.
    - **Standard NR-4-8c:** All projects with construction emissions exceeding the SMAQMD fugitive particulate matter (PM) thresholds shall implement enhanced fugitive PM dust control practices as identified in the most current version of the SMAQMD CEQA Guide in effect at the time of construction.
  - **Standard NR-4-8d:** For projects exceeding the SMAQMD NO<sub>x</sub> and PM construction emissions thresholds that cannot be mitigated to less than significant with implementation of Standards NR-4-8.a, NR-4-8.b, and NR-4-8.c, the project shall pay a mitigation fee into the SMAQMD's off-site mitigation program.
- ▶ **Policy NR-4-9:** Prohibit the future siting of sensitive land uses, such as hospitals, schools, day care facilities, elderly housing, convalescent facilities, and all residential facilities within the distances recommended by the California Air Resources Board and applicable guidance from SMAQMD for air pollutant emission sources, unless adequate mitigation measures are adopted and implemented.
- ▶ **Policy NR-4-10:** Require new air pollution point sources, such as industrial, manufacturing, and processing facilities, to be located an adequate distance from residential and other sensitive land uses.
  - **Standard NR-4-10a:** Require the provision of buffers between sensitive land uses and sources of odor and toxic air contaminants. The City shall implement this policy when siting future sensitive land uses within the proximity of existing odor and toxic air contaminant sources or when siting new odor-producing or toxic air contaminant generating land uses within the proximity of existing sensitive land uses.
- ▶ **Policy NR-4-12:** Coordinate with the Sacramento Metropolitan Air Quality Management District on the review of proposed development projects, specifically projects that could conflict with any applicable air quality plans and/or the State Implementation Plan.
- ▶ **Policy NR-4-13:** Minimize exposure of sensitive land uses to objectionable odors.
  - **Standard NR-4-13a:** Future sensitive land uses, such as hospitals, schools, day care facilities, elderly housing, convalescent facilities, and all residential uses shall not be sited within the distance from odor

sources recommended in the SMAQMD's most current CEQA Guide - Recommended Odor Screening Distance Table unless documentation is provided that the proposed site would not expose a substantial number of people to objectionable odors.

- ▶ **Policy NR-6-5:** Promote energy conservation measures in new development to reduce on-site emissions and seek to reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development.
- ▶ **Policy NR-6-7:** Encourage the use of solar energy systems in homes, commercial businesses, and City facilities as a form of renewable energy.

### **Sacramento Area Council of Governments**

The Sacramento Area Council of Governments (SACOG) serves as the Metropolitan Planning Organization for the Sacramento region, maintaining the regional Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in coordination with each of the local 28 member cities and counties, including Sacramento County. SACOG plays a central role in transportation infrastructure planning for the region, while also serving as a forum for the study, planning, and resolution of other planning issues facing the local member governments. The most recent MTP/SCS for the SACOG region was adopted in November 2019, after the drafting of the 2019 SOIA EIR. The 2020 MTP/SCS lays out a plan that links land use, air quality, greenhouse gas emissions, and transportation needs.

## **3.4.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, the proposed Project could have a significant impact on air quality if it would:

- ▶ conflict with or obstruct implementation of the applicable air quality plan;
- ▶ violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- ▶ result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS or CAAQS (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- ▶ expose sensitive receptors to substantial pollutant concentrations; or
- ▶ result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. SMAQMD has established criteria air pollutant and precursor mass emissions thresholds for land use development projects. These thresholds are considered to be the allowable amount of emissions each project can generate without conflicting with or obstructing implementation of the applicable air quality plans developed to maintain and attain the NAAQS and CAAQS for each pollutant. The NAAQS and CAAQS, and therefore the SMAQMD thresholds of significance,

identify levels of air quality necessary to protect the public health with an adequate margin of safety. Thus, pursuant to the SMAQMD-recommended thresholds (SMAQMD 2020a) for evaluating project-related air quality impacts, the proposed project would result in a significant impact if it would:

- ▶ generate construction-related criteria air pollutant or ozone precursor emissions that exceed 85 pounds per day for NO<sub>x</sub>, or, after implementation of best management practices (BMPs), 80 pounds per day or 14.6 tons per year of PM<sub>10</sub> and 82 pounds per day or 15 tons per year of PM<sub>2.5</sub>;
- ▶ generate long-term regional criteria air pollutant or ozone precursor emissions that 65 pounds per day of ROG or NO<sub>x</sub>, 80 pounds per day or 14.6 tons per year of PM<sub>10</sub> and 82 pounds per day or 15 tons per year of PM<sub>2.5</sub>;
- ▶ generate emissions of toxic air contaminants that would cause an excess cancer risk level of more than 10 in one million or exceed a noncarcinogenic Hazard Index of 1; or
- ▶ result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Since there is considerable overlap between the threshold questions, this section has been organized to address the following:

- ▶ Short-term, construction-related emissions
- ▶ Long-term, operational emissions
- ▶ Exposure of sensitive receptors to substantial pollutant concentrations; and
- ▶ Exposure to other emissions (such as those leading to odors).

Two of the Appendix G checklist questions address conflicts with an air quality plan and contribution to an air quality violation. The criteria air pollutant significance thresholds serve as a proxy for these impacts, and therefore, the evaluation of potential conflicts with air quality plans and air quality violations is consolidated.

For cumulative impacts, SMAQMD states that, as a result of the District's approach to thresholds of significance, if a project's emissions are not anticipated to exceed the SMAQMD-recommended thresholds, as listed above, the project would not be expected to result in a cumulatively considerable contribution to a significant impact on a cumulative level (SMAQMD 2020a). Chapter 4 of this EIR addresses cumulative impacts in detail.

## **METHODOLOGY**

The proposed Project would result in air pollutant emissions from short-term construction and long-term operational activities. Potential air quality impacts associated with short-term construction and long-term operations were evaluated according to guidance and methods from ARB and SMAQMD. A summary of the data inputs, emissions factors, and calculation methodologies used are provided below for both construction and operational elements of the proposed Project. Detailed project inputs, calculations, and modeling outputs are provided in Appendix E, *Quantification of Criteria Air Pollutant and Greenhouse Gas Emissions, and Energy Use*.

### **Construction**

Future development is assumed to occur over approximately 20 years, but the specific timing of construction activities each year is subject to market conditions and unknown at the time of preparing this analysis. In



accordance with SMAQMD-recommended methodology, it is conservatively assumed that 25 percent of land uses within the Project site could be constructed within a single year, assumed to be 2021 as the first possible year of construction; off-site improvements were assumed to be constructed in their entirety in this same initial year. Not only is this level of construction in a single year a conservative assumption, but modeling all emissions for the year 2021 also results in a conservative estimate of construction-related emissions over the construction period. Any construction in future years would more realistically result in fewer emissions for the same level of activity due to fleet turnover over time, in which older equipment and vehicles are replaced by those with new engines meeting more recent and more stringent emission standards.

Emissions associated with construction were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, which is the most current version of the SMAQMD-recommended model for estimating emissions from land use development projects. CalEEMod includes default assumptions for construction parameters, such as construction equipment, haul trucks, and worker trips, which were used to model the proposed Project's construction-related emissions. Likewise, CalEEMod also allows the user to input project-specific parameters. In this case, Project-specific construction inputs included site acreage for proposed land uses, assumed building square footage, and construction schedule. Where Project-specific information was not available, default parameters provided by the model were used. Default assumptions provided by the model are typically conservative to avoid underestimating emissions. Although it is unlikely that the most intensive days of construction would occur concurrently, to conservatively estimate maximum potential daily emissions, it is assumed that all construction phases could occur concurrently throughout the Project site for the duration of the year of maximum-potential development. Construction of off-site roadway improvements, as described in the traffic analysis (Section 3.14, "Transportation"), were modeled using the SMAQMD-developed Road Construction Emissions Model, Version 9.0.0, and assumed to occur in 2021.

## **Operations**

Future operational emissions would be generated by area-, energy-, and mobile-sources, as well as potential stationary sources. Operational area- and energy-source air pollutant emissions were modeled in CalEEMod based on the assumed land use acreages and building square footage. In order to account for 2019 Title 24, Part 6 standards, the Title 24 energy intensity factors in CalEEMod were adjusted to account for an estimated 7-percent energy reduction in new-construction nonresidential buildings and 53-percent energy reduction in new-construction residential buildings compared to the 2016 Title 24, Part 6 standards that were in place at the time of the CalEEMod Version 2016.3.2 model release (CEC 2020).

Mobile-source emissions were estimated using the CalEEMod default ITE trip generation rates for each land use category. The CalEEMod default vehicle trip distances and fleet mix were used for the residential and regional commercial land uses, but were adjusted for industrial land uses to reflect the potential for a higher percentage of heavy trucks to serve these land uses and longer trips between the project site and regional ports and distribution areas. All operational emissions were modeled based on a 2022 operational year; this is a conservative estimate because development would occur over an estimated 20-year horizon and emissions per unit of activity would presumably decrease in future years as building energy standards continue to become more stringent, energy sources become more dependent upon renewable sources and vehicle fleets turnover with new vehicles that meet more rigorous emissions control regulations.

## IMPACT ANALYSIS

Impact 3.4-1: Generation of temporary, short-term, construction-related emissions of criteria air pollutants and ozone precursors.

Construction activities would generate emissions of criteria air pollutants and ozone precursors from a variety of sources, including off-road construction equipment, on-road vehicles, earthmoving activities, off-gas from paving activities and application of architectural coatings. Construction emissions are described as “short-term” or temporary in duration but have the potential to adversely affect air quality.

Estimated maximum daily construction-related emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are shown in Table 3.4-1. As noted above in the methodology section, construction-related emissions were estimated based upon a maximum development scenario in which 25 percent of on-site land uses and all off-site improvements would be constructed in a single year, using equipment and fleet mixes for the year 2021 to represent a “worst-case” construction year. Emissions estimate inputs and modeling files are provided in Appendix E.

Portion of Construction Phase	Maximum Daily Emissions (pounds per day)				Maximum Annual Emissions (tons per year)	
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Maximum Daily Emissions<sup>a</sup></b>	123	303	79	40	8	4
<b>SMAQMD significance threshold<sup>b</sup></b>	-	85	0	0	0	0
<b>Exceeds Threshold?</b>	-	Yes	Yes	Yes	Yes	Yes

Notes: NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM<sub>2.5</sub> = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; VOC = volatile organic compounds; SMAQMD = Sacramento Metropolitan Air Quality Management District.

<sup>a</sup> Maximum daily and annual emissions account for a maximum construction year scenario in which 25% of proposed land uses are constructed in a single year, and all off-site improvements are constructed in the same year.

<sup>b</sup> Represents SMAQMD Threshold of Significance without the application of Best Management Practices (BMPs) and Best Available Control Technology (BACT).

Source: Modeled by AECOM in 2020; see Appendix E for detailed modeling assumptions, outputs, and results.

As shown in Table 3.4-1, as with the 2019 SOIA EIR, the daily emissions generated by construction activities would exceed the SMAQMD-recommended threshold of significance for NO<sub>x</sub> and, without application of BMPs and Best Available Control Technologies (BACT), would generate daily emissions of PM<sub>10</sub> and PM<sub>2.5</sub> in excess of the SMAQMD-recommended thresholds of significance during construction. In addition, as the duration and intensity of specific construction activities associated with future development of the Project site are unknown, emissions generated as a result could exceed SMAQMD thresholds of significance and therefore would violate or contribute substantially to an existing or projected air quality violation. Therefore, emissions associated with construction of the proposed Project could result in a **potentially significant** impact.

## Mitigation Measures

### Mitigation Measure 3.4-1a: Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices (2019 SOIA EIR Mitigation Measure 3.4-1a)

Regardless of the significance determination, all construction projects are required to implement the SMAQMD Basic Construction Emission Control Practices for controlling fugitive dust at construction sites. For projects that would generate maximum daily NO<sub>x</sub> emissions in exceedance of the SMAQMD threshold of significance, the SMAQMD recommends implementation of the Enhanced On-site Exhaust Control measures for off-road construction equipment. The SMAQMD requires projects that exceed the PM<sub>10</sub> and PM<sub>2.5</sub> emissions thresholds after implementation of the Basic Construction Emission Control Practices to implement all feasible and applicable measures of the Enhanced Fugitive PM Dust Control Practices (SMAQMD 2020a).

During construction of off-site improvements, and at the time of submittal of any application for development within the Project site, the City of Elk Grove shall require the implementation of then current SMAQMD Basic Construction Emission Control Practices as a condition of approval. For those projects that exceed the applicable thresholds of significance for emissions of criteria air pollutants or ozone precursors, the City of Elk Grove shall require the implementation of the Enhanced On-site Exhaust Control measures to address exceedances of NO<sub>x</sub> emissions thresholds and the implementation of Enhanced Fugitive PM Dust Control Practices to address continued exceedances of PM<sub>10</sub> and/or PM<sub>2.5</sub> thresholds of significance.

- a. Basic Construction Emission Control Practices identified by the SMAQMD as listed below, or as they may be updated in the future:
  - Control of fugitive dust is required by District Rule 403 and enforced by District staff.
  - Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
  - Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
  - Use wet power vacuum street sweepers to remove any visible track out mud or dirt onto adjacent public roads at least once a day. Use of dry powered sweeping is prohibited.
  - Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
  - All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
  - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)]

and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

- Provide current certificate(s) of compliance for ARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
  - Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.
- b. If, after application of the Basic Construction Emission Control Practices, emissions would still exceed SMAQMD threshold of significance for NO<sub>x</sub>, implement the SMAQMD Enhanced On-site Exhaust Control Practices as listed below, or as they may be updated in the future:
- Provide a plan, for approval by SMAQMD, demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles, including owned, leased, and subcontractor vehicles, to be used 8 hours or more during the construction project will achieve a project wide fleet-average 10 percent NO<sub>x</sub> reduction compared to the most current California Air Resources Board (ARB) fleet average that exists at the time of construction. The plan shall have two components: an initial report submitted before construction and a final report submitted at the completion.
    - Submit the initial report at least four (4) business days prior to construction activity.
    - Provide project information and construction company information.
    - Include equipment type, horsepower rating, engine model year, projected hours of use, and the ARB equipment identification number for each piece of equipment in the plan. Incorporate all owned, leased and subcontracted equipment to be used.
    - Submit the final report at the end of the job, phase, or calendar year, as pre-arranged with SMAQMD staff and documented in the approval letter, to demonstrate continued project compliance.
  - SMAQMD staff and/or other officials may conduct periodic site inspections to determine compliance. Nothing in the mitigation shall supersede other air district, state or federal rules or regulations.
  - The mitigation is applicable until full implementation of ARB In-Use Off-Road Regulation is in place, expected January 1, 2028.
- c. If, after application of the Basic Construction Emission Control Practices, emissions would still exceed SMAQMD threshold of significance for PM<sub>10</sub> and/or PM<sub>2.5</sub>, implement the SMAQMD Enhanced Fugitive PM Dust Control Practices as listed below, or as they may be updated in the future:
- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.

- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 miles per hour.
- Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.
- Install wheel washers for all existing trucks, or wash off all trucks and equipment leaving the site.
- Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads.
- Post a publicly visible sign with telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

**Mitigation Measure 3.4-1b: Use Off-Site Mitigation Fee for NO<sub>x</sub> Emissions Generated by Construction (2019 SOIA EIR Mitigation Measure 3.4-1b)**

As projects are proposed, the City will assess the effectiveness of Basic Construction Emission Control Practices and Enhanced On-site Exhaust Control Practices for addressing NO<sub>x</sub> emissions relative to SMAQMD threshold of significance. If, after development of project details and scheduling, any project within the Project site would result in NO<sub>x</sub> emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced On-site Exhaust Control Practices, the subject project will participate in SMAQMD's off-site mitigation fee program. The mitigation fee will be set at a level that would bring NO<sub>x</sub> emissions to a less-than-significant level (i.e., less than the SMAQMD Thresholds of Significance at that time). Whether the fee is needed, and if it is needed, determining the fee amount shall be calculated when the daily construction emissions can be more accurately determined (based on actual equipment use and scheduling). Calculation of fees shall occur in consultation with SMAQMD staff before the approval of grading plans by the City.

**Significance after Mitigation**

Implementation of Mitigation Measure 3.4-1a, would be considered application of BMPs and BACT and would reduce construction-related emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>x</sub> to less than the SMAQMD thresholds of significance, as shown in Table 3.4-2. However, due to the unknown duration and intensity of specific construction activities associated with future development of the Project site, the uncertainty with regard to the availability of construction equipment that meet Tier 4 engine emissions standards, and the fact that estimated NO<sub>x</sub> emissions are approaching the SMAQMD threshold of 85 pounds per day, in is within the realm of possibility that a given development project within the Project site could exceed the maximum daily emissions threshold for NO<sub>x</sub>. In such a case, payment of an off-site mitigation fee to off-set any incremental construction-generated NO<sub>x</sub> emissions in exceedance of the SMAQMD threshold of significance, if needed and as required by Mitigation Measure 3.4-1b, would reduce emissions of NO<sub>x</sub> associated with future development in the Project

site, to levels that do not exceed SMAQMD’s threshold of significance. Implementation of these mitigation measures would also ensure compliance with the City’s General Plan Policy NR-4-8 and related standards that require development projects incorporate best management practices during construction activities to reduce emissions of criteria pollutants to levels that do not exceed the SMAQMD thresholds of significance. Thus, as with the 2019 SOIA EIR, this impact would be **less than significant with mitigation**.

<b>Table 3.4-2 Summary of Mitigated Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Ozone Precursors</b>						
Portion of Construction Phase	Maximum Daily Emissions (pounds per day)				Maximum Annual Emissions (tons per year)	
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Maximum Daily Emissions<sup>b</sup></b>	105	78	43	17	4.4	1.6
<b>SMAQMD significance threshold</b>	-	85	80	82	14.6	15
<b>Exceeds Threshold?</b>	-	No	No	No	No	No

Notes: ROG = Reactive Organic Gases; NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM<sub>2.5</sub> = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; VOC = volatile organic compounds; SMAQMD = Sacramento Metropolitan Air Quality Management District.

<sup>a</sup> Mitigation includes use of cleaner engines, represented as equipment that meet Tier 4 Final engine emissions standards; watering exposed areas twice daily; reducing vehicle speed on unpaved roadways to a maximum of 15 miles per hour.

<sup>b</sup> Maximum daily and annual emissions account for a maximum construction year scenario in which 25% of proposed land uses are constructed in a single year, and all off-site improvements are constructed in the same year. Source: Modeled by AECOM in 2020; see Appendix E for detailed modeling assumptions, outputs, and results.

**Impact 3.4-2: Generation of long-term operational emissions of criteria air pollutants and ozone precursors.**

Development within the Project site would include new buildings, structures, paved areas, roadways, utilities, and other improvements. Land uses that would be developed throughout the Project site would include parks and open spaces, light and heavy industrial uses, regional commercial, and mixed uses that is assumed to include up to 707 single-family residential units. Daily activities associated with the operation of these land uses would generate criteria air pollutant and ozone precursor emissions from mobile, energy, and area sources, as well as potential stationary sources. Mobile sources would involve vehicle trips for residential (e.g., work, shopping, and other trips) and non-residential (e.g., customers, employees, and material delivery trips) activities associated with the future land uses within the Project site. Area sources include, but are not limited to, natural gas combustion for water and space heating, landscape maintenance equipment, and periodic architectural coatings (such as paints). While construction emissions are considered short-term and temporary, operational emissions are considered long-term and occur for the lifetime of the development. Therefore, operational emissions have greater potential to affect the attainment status of an air basin, particularly as a result of increased traffic and energy demands from additional development.

Table 3.4-3 summarizes the maximum daily emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> that would be generated by long-term operations. As explained above in the methodology section, operational emissions were conservatively estimated with the assumption that all proposed uses would be operational in the year 2022. This is a conservative estimate as development is assumed over a 20-year horizon and emissions per unit of activity would decrease in future years as building energy standards continue to become more stringent, energy sources become more dependent upon renewable sources and vehicle fleets turnover with new vehicles that meet more rigorous

emissions control regulations. As shown in Table 3.4-3, the total operational emissions would exceed SMAQMD thresholds for ROG and NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Refer to Appendix E for emissions estimating inputs and model output files.

Emissions Source	Daily Emissions (pounds per day)				Annual Emissions (tons per year)	
	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	240	0.7	0.3	0.3	0.04	0.04
Energy	5	46	3	3	0.64	0.64
Mobile	119	1170	658	185	92.56	26.03
<b>Total Operational Emissions<sup>2</sup></b>	<b>363</b>	<b>1216</b>	<b>662</b>	<b>189</b>	<b>93</b>	<b>27</b>
<b>SMAQMD Thresholds of Significance</b>	<b>65</b>	<b>65</b>	<b>80</b>	<b>82</b>	<b>14.6</b>	<b>15</b>
<b>Exceeds Thresholds?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Notes: ROG = reactive organic gases; NO <sub>x</sub> = oxides of nitrogen; PM <sub>10</sub> = respirable particulate matter; PM <sub>2.5</sub> = fine particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District						
<sup>1</sup> Operational emissions were modeled for the year 2022, as the earliest year of construction would occur in 2021, although the majority of construction and therefor the start of additional operations would likely occur in later years.						
<sup>2</sup> Total emissions may not add correctly due to rounding.						
Source: Modeled by AECOM in 2020; see Appendix E for detailed modeling assumptions, outputs, and results.						

In addition to typical emission sources (e.g., mobile, energy, area), future land uses could also involve new stationary sources that generate long-term operational emissions above the emissions shown in Table 3.4-3. These sources could include, but are not limited to, diesel engine or gas turbine generators for emergency power generation; central heating boilers for commercial or large residential buildings; process equipment for light industrial uses; service station equipment; and dry-cleaning equipment. These stationary sources would be required to obtain permits from SMAQMD, which are issued with the intent of reducing air pollution and attaining (or maintaining) the ambient air quality standards. Permitted stationary-source facilities are required to implement BACT, which may include the installation of emissions control equipment or implementation of administrative practices to reduce emissions. Stationary-source facilities may also be required to offset their emissions of criteria air pollutants in order to be permitted. Information on stationary sources that could operate in support of future development is not available at this time. The emissions from these sources would be in addition to the estimated operational emissions described above.

The SMAQMD thresholds of significance are considered the allowable amount of emissions each project can generate without conflicting with or obstructing implementation of the applicable air quality plans, which are developed to maintain and attain ambient air quality standards. Consequently, because operations of future uses within the Project site could generate long-term operational emissions that exceed the SMAQMD thresholds, it could also conflict with or obstruct implementation of the applicable air quality plan. This impact would be **significant**.

## Mitigation Measures

### Mitigation Measure 3.4-2: Implement Strategies to Reduce Potential Operational Emissions (2019 SOIA EIR Mitigation Measure 3.4-2)

For future developments proposed within the Project site, the City of Elk Grove shall require the implementation of strategies to reduce operational ozone precursors presented in an Air Quality Mitigation Plan, which shall be submitted to SMAQMD for review and approval. The performance standard for the AQMP is to achieve a reduction in, or offset of operational ozone precursor emissions. Reduction strategies can include policies and emissions reduction measures demonstrating compliance with the City of Elk Grove's General Plan, including policies MOB-1-1, MOB-3-1, MOB-3-2, MOB-3-7, MOB-3-15, MOB-3-16, MOB-4-1, MOB-4-5, NR-4-1, NR-4-4, NR-6-5, and NR-6-7 (or equivalent measures as may be amended), in addition to reduction measures recommended by the SMAQMD, which may include the use of offsets once all other feasible measures have been exhausted. Future projects shall demonstrate compliance with the AQMP reduction strategies or equivalent strategies prior to issuance of a building permit.

### Significance after Mitigation

Mitigation Measure 3.4-2 would assist in reducing operational air pollutant emissions and is similar to the City's General Plan Policy NR-4-1, which requires an emissions reduction of 15 percent or greater for new development projects.

Several of the Mobility Element policies of the General Plan aim to reduce reliance on single use vehicles and promote alternative forms of transportation to reduce VMT, which oftentimes provides a co-benefit of reducing mobile-source emissions of criteria air pollutants and ozone precursors. For example, Policy MOB-1-1 requires new development to demonstrate conformance with the VMT limit of the relevant General Plan land use designation, which was established to ensure that the total VMT generated by operations throughout the City would achieve State-mandated reductions in VMT. Policy MOB-3-2 and associated standard requires new development to install conduits for future installation of electric vehicle charging equipment. Policy MOB-3-16 requires new multifamily and commercial development provide bicycle parking and other bicycle support facilities. In addition, the planned land uses and siting have been developed with consideration of the regional location to generate an appropriate mix of residential and employment-generating land uses in order to reduce commute distances.

Table 3.4-4 presents the estimated emissions reductions that would be required to attain a reduction in, or offset of operational ozone precursor emissions by at least 15 percent of the total mobile-source emissions. Table 3.4-5 presents estimated mitigated operational emissions with implementation of VMT reduction measures consistent with General Plan land use planning and transportation policies such that the proposed Project would achieve the VMT limits for the respective land uses, consistent with limits established in General Plan Policy MOB-1-1.



<b>Table 3.4-4 Air Quality Management Plans Ozone Precursor Emissions Reduction Requirements</b>		
	Annual Emissions (tons per year)	
	ROG	NO <sub>x</sub>
Unmitigated Mobile Emissions	14.87	165.54
15% Reduction	2.23	24.83

Notes: ROG = reactive organic gases; NO<sub>x</sub> = oxides of nitrogen  
Source: Modeled by AECOM in 2020; see Appendix E for detailed modeling assumptions, outputs, and results.

<b>Table 3.4-5 Summary of Long-Term Mitigated Operational Emissions of Criteria Air Pollutants and Precursors with VMT Reductions Consistent with General Policy MOB-1-1. <sup>1</sup></b>						
Emissions Source	Daily Emissions (pounds per day)				Annual Emissions (tons per year)	
	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	240	0.7	0.3	0.3	0.04	0.04
Energy	5	46	3	3	0.64	0.64
Mobile	57.63	547.72	211.28	59.15	37.19	10.45
<b>Total Maximum Daily Operational Emissions with VMT Reduction Measures 2</b>	<b>302</b>	<b>594</b>	<b>215</b>	<b>63</b>	-	-
<b>Total Annual Operational Emissions with VMT Reduction Measures (tons per year)</b>	<b>57</b>	<b>107</b>	<b>38</b>	<b>11</b>	<b>38</b>	<b>11</b>
<b>Mass Reduction from Unmitigated Emissions (tons per year)</b>	<b>2.84</b>	<b>67.26</b>	<b>55.33</b>	<b>15.55</b>	<b>55.33</b>	<b>15.55</b>
<b>Meet Target Reduction of 15%?</b>	<b>Yes</b>	<b>Yes</b>	-	-	-	-

Notes: ROG = reactive organic gases; NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = respirable particulate matter; PM<sub>2.5</sub> = fine particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District

<sup>1</sup> Operational emissions were modeled for the year 2022, as the earliest year of construction would occur in 2021, although the majority of construction and therefore the start of additional operations would likely occur in later years.

<sup>2</sup> Total emissions may not add correctly due to rounding.

Source: Modeled by AECOM in 2020; see Appendix E for detailed modeling assumptions, outputs, and results.

As shown in Table 3.4-4, reducing mobile emissions as a result of achieving the VMT limits would help to substantially reduce future operational emissions, and operational ozone precursor emissions would be reduced by more than 15 percent of the total mobile-source emissions, exceeding Air Quality Management Plans (AQMP) reduction requirement. However, because the details of future development projects are not currently known, it is not possible to demonstrate at this time that future development within the Project site would be able to meet the performance standard for ozone precursor emissions. Operations of future development could result in air pollutant emissions that still exceed the SMAQMD thresholds. There is no additional feasible mitigation available that would avoid this impact. As with the 2019 SOIA EIR, the impact is **significant and unavoidable**.

#### Impact 3.4-3: Exposure of sensitive receptors to substantial pollutant concentrations

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. The potential health effects, as well as the national and State ambient air quality standards

established to be protective of human health, are outlined in Section 3.2, “Environmental Setting,” above, as well as outlined in the 2019 SOIA EIR and have not changed since that time. Negative health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Due to the difference in sources, dispersion, and potential health effects, the following analysis discusses the potential for the exposure of sensitive receptors to criteria air pollutants and precursors, carbon monoxide, and toxic air contaminants (TACs) separately.

### ***Exposure of sensitive receptors to localized concentrations of carbon monoxide (CO).***

A mobile-source pollutant of localized concern is CO. Continuous engine exhaust may elevate localized CO concentrations, or “hot spots.” Prior SMAQMD guidance for the assessment of potential impacts associated with CO emissions included a two-tiered screening approach to determine whether traffic would cause a potential CO hotspot at affected intersections. The June 2020 update of the SMAQMD CEQA Guide no longer includes this specific screening approach. The current guidance does acknowledge that land use development projects do not typically have the potential to result in localized concentrations of criteria air pollutants that expose sensitive receptors to substantial pollutant concentrations, in part, because the predominant source of these pollutants is typically in the form of mobile-source exhaust from vehicle trips that occur throughout a network of roads and are not concentrated in a single location.

Emissions and ambient concentrations of CO have decreased substantially throughout California in the past three decades. The national statewide CO standard is attained statewide in California, and an exceedance of NAAQS or CAAQS in the region was last recorded in 1993. This is primarily attributable to requirements for cleaner vehicle emissions. The Federal Motor Vehicle Control Program has mandated increasingly lower emission levels for vehicles manufactured since 1973. Between 2000 and 2019, national average CO concentrations, as well as regional average CO concentrations in the California and Nevada region, have decreased by approximately 65 percent (EPA 2020c).

Local mobile-source emissions of CO near roadway intersections are a direct function of traffic volume, speed, and delay. CO typically disperses rapidly with distance from the source under normal meteorological conditions. Under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels for local sensitive land uses such as residential units, hospitals, schools, and childcare facilities. CO hot spots are typically observed at heavily congested roadway intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations throughout the day. Construction sites are less likely to result in localized CO hot spots due to the nature of construction activities, which normally utilize diesel-powered equipment for intermittent or short durations.

While ambient CO concentrations in the region have not exceeded NAAQS or CAAQS in many years, localized CO concentrations could still occur, particularly at intersections of high-volume roadways. Relevant screening metrics that serve as indicators of potential CO hotspots include whether a project would contribute to substantial traffic delays at or along high-volume intersections and roadways or contribute additional traffic to a unique setting in which mixing of air, and therefore pollutant dispersion, would be substantially limited, such as within a tunnel, underpass, urban street canyon, below-grade roadway, or other similar setting. Several air districts, including the surrounding Bay Area Air Quality Management District, San Joaquin Valley Unified Air Pollution Control District, and Placer County Air Pollution Control District provide recommended screening methodologies

as a conservative indication of whether implementation of a proposed project would result in localized CO emissions that would generate a hotspot and potentially significant impact. If all screening criteria are met, a proposed project is considered to result in a less-than-significant impact to air quality with respect to concentrations of local CO; projects that exceed these screening thresholds would be required to further quantify CO emissions and conduct modeling to determine localized CO concentrations with implementation of the proposed project.

The Bay Area Air Quality Management District screening criteria requires the following metrics be met (BAAQMD 2017):

- ▶ Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- ▶ The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- ▶ The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Placer County Air Pollution Control District-recommended criteria identify a project as having a potential CO impact if (PCAPCD 2017):

- ▶ The project's CO emissions from vehicle operation would be more than 550 pounds per day (lb/day); *and*
- ▶ Traffic generated by the proposed project would result in deterioration of intersection peak-hour level of service (LOS) from an acceptable peak-hour LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., E or F);  
or
- ▶ project would contribute additional traffic that would substantially worsen and already existing unacceptable peak-hour LOS on one or more intersections in the project vicinity. "Substantially worsen" is defined by PCAPCD as a situation where a delay would increase by 10 seconds or more when project-generated traffic is included.

Similarly, the San Joaquin Valley Unified Air Pollution Control District considers a project to have a potentially significant impact if it would reduce the LOS on one or more streets or at one or more intersections in the project vicinity to LOS E or F, or substantially worsen the traffic at a location within the project vicinity already operating at LOS F (SJVAPCD 2015).

Although this screening criteria is no longer a part of the SMAQMD CEQA Guide, it is provided here as a reference for how the above noted indicators have typically been used to determine potential CO hotspot impacts within the project vicinity. The first tier states that the project's CO impact would be less than significant if:

- ▶ Traffic generated by the proposed Project would not result in deterioration of intersection LOS to LOS E or F;  
and

- ▶ The Project would not contribute additional traffic to an intersection that already operates at LOS of E or F.

If the first tier of screening criteria is not met, SMAQMD provides a second tier screening step which states that the project's CO impacts would be less than significant if:

- ▶ The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour.
- ▶ The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other locations where horizontal or vertical mixing of air would be substantially limited.
- ▶ The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average.

Under existing plus full development of the Project site, according to the traffic analysis (see Section 3.14 of this EIR, "Transportation"), most of the study intersections would continue to operate acceptably at LOS D or better, except for five identified intersections, which would operate at LOS E or F with future development within the project site. However, the most vehicles per hour that affected intersections would experience would range from approximately 500 vehicles per hour during peak hour at the lowest-volume intersections to 4,800 vehicles per hour during peak hour at the heaviest-traveled intersections (Wood Rodgers 2020). This is substantially less than the historical SMAQMD second-tier screening criterion of 31,600 vehicles per hour, as well as the above noted BAAQMD screening criterion of 44,000 vehicles per hour. In addition, the future development within the project site would not contribute to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other locations where horizontal or vertical mixing of air would be substantially limited, and the mix of vehicle types at the intersections is not anticipated to be substantially different from the County average. Finally, the proposed Project will be required by the City to implement roadway improvements identified in the traffic analysis, in order to ensure that development of the Project site would not result in increased congestion, pursuant to City policies. Therefore, future development of the proposed Project would meet all recommended first tier screening criteria, in addition to tier two screening criteria, and, as with the 2019 SOIA EIR, this impact is **less than significant**.

### **Mitigation Measures**

No mitigation measures are required.

### ***Exposure of sensitive receptors to toxic air contaminant emissions during construction.***

Construction of the proposed Project would generate emissions of TACs from a variety of sources, including off-road construction equipment, on-road vehicles, earthmoving activities, architectural coating activities, and paving activities. These activities may expose nearby receptors to TACs, including residences on the north side of Grant Line Road that are approximately 100 feet from the northern border of the Project site, as well as existing and future on-site receptors. The greatest potential for TAC emissions during construction would be related to diesel particulate matter (DPM) emissions associated with operation of diesel-powered heavy-duty construction equipment and trucks.

However, as the Project site is more than 550 acres, the majority of construction activities would take place throughout the entirety of the Project site, not along the Project site boundaries that are closest to off-site sensitive

receptors. Existing off-site residents would only be within close proximity (as near as 100 feet [30 meters]) to construction activities associated with the mixed-use planned land use and off-site roadway improvements at the northeast of the project site.

Generation of diesel PM from construction projects typically occurs in a single area for a short period of time but could also include linear infrastructure projects to support new land uses. Because construction activities and subsequent emissions vary depending on the phase of construction (e.g., grading, building construction), the construction-related emissions to which nearby receptors could be exposed would also vary throughout the duration of construction activities. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). Construction would occur throughout the Project site, and even in intensive phases of construction, there would not be substantial pollutant concentrations, with the potential exception of the immediate vicinity of a particular construction site, due the highly dispersive properties of DPM (concentrations lower extremely quickly over distance).

The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks for nearby sensitive receptors. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments used to determine the exposure of sensitive receptors to TAC emissions should be based on a 30-year exposure period (OEHHA 2015). Duration associated with any given construction activity at a specific location within the project site would be temporary. Existing off-site residents on the north side of Grant Line Road would only be within close proximity to construction activities during the construction activities associated with development in the immediate vicinity of Grant Line Road. Such exposure durations would be temporary and of short duration relative to the total exposure period used for typical health risk calculations (i.e., 30 years).

It is important to note that emissions from construction equipment would be reduced over the approximately 20-year period of development of the Project site. The use of newer off-road equipment is also effective in reducing PM emissions from off-road equipment used during construction; while not required, these vehicles are increasingly in use in construction equipment fleets. In January 2001, EPA promulgated a final rule to reduce emissions standards for heavy-duty diesel engines in 2007 and subsequent model years. These emissions standards represent a 90 percent reduction in NO<sub>x</sub> emissions, 72 percent reduction of non-methane hydrocarbon emissions, and 90 percent reduction of PM emissions, in comparison to the emissions standards for the 2004 model year. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA on May 11, 2004. Tier 4 emission standards requires engine manufacturers to meet after-treatment-based exhaust standards for NO<sub>x</sub> and PM starting in 2011 that are more than 90 percent lower than 2004 levels, putting emissions from off-road engines virtually on par with those from on-road heavy-duty diesel engines. As construction equipment continues to turnover and/or be retrofitted over time, diesel PM emissions associated with construction will continue to decrease.

In addition to generating emissions that could result in the exposure of off-site receptors to TACs, there are three existing homes on large parcels within the project site and the proposed Project could include development of sensitive land uses within the “mixed use” designation that is proposed and assumes the potential for a wide range of land uses, including residential development. Land use planning would occur after further study, zoning, and design review to ensure that the proposed uses are compatible with surrounding lands. Future applications for development in this area may require additional environmental analysis. However, even considering the

information above, because the exact location with respect to sensitive receptors and length of construction activities cannot be determined at the time of this analysis, it is conservatively assumed that certain construction activities could expose sensitive receptors to substantial TAC concentrations. This TAC impact from construction activities is considered **potentially significant**.

## **Mitigation Measures**

Mitigation Measure 3.4-3a: Implement Mitigation Measure 3.4-1a

### **Significance after Mitigation**

Implementation of the Mitigation Measure 3.4-1a would further reduce PM emissions and satisfy the recommendation of SMAQMD. The use of newer off-road equipment is also effective in reducing PM emissions. In January 2001, EPA promulgated a final rule to reduce emissions standards for heavy-duty diesel engines in 2007 and subsequent model years. These emissions standards represent a 90 percent reduction in NO<sub>x</sub> emissions, 72 percent reduction of non-methane hydrocarbon emissions, and 90 percent reduction of PM emissions, in comparison to the emissions standards for the 2004 model year. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA on May 11, 2004. Tier 4 emission standards requires engine manufacturers to meet after-treatment-based exhaust standards for NO<sub>x</sub> and PM starting in 2011 that are more than 90 percent lower than current levels, putting emissions from off-road engines virtually on par with those from on-road heavy-duty diesel engines. With the application of mitigation, as with the 2019 SOIA EIR, the impact is considered **less than significant**.

### ***Exposure of sensitive receptors to toxic air contaminant emissions during operations.***

Future development of the project site is assumed to include parks and open spaces, mixed-use, commercial, and industrial uses. Residential land uses do not typically generate substantial TAC emissions. Land uses that are more likely to generate substantial TAC emissions include industrial land uses that involve stationary sources and manufacturing processes, some commercial land uses such as dry-cleaning establishments and gasoline-dispensing facilities, as well as any land uses with diesel-fueled backup generators. Such stationary sources and any others that may emit TACs would be subject to SMAQMD Rules and Regulations. Non-stationary sources of TACs also include portable engines, cargo handling equipment that may be used at warehouses or distribution centers, transportation refrigeration units, and idling by commercial vehicles and large haul trucks. While State regulations has been shown to lead to successful implementation of TAC reduction measures, land use planning to consider potential localized TAC impacts on sensitive receptors is critical, particularly as mixed-use development and connectivity between residential uses and employment service land uses (such as commercial and industrial) is one of the primary strategies to reduce vehicle miles travelled and associated criteria and greenhouse gas pollutants.

While not law or adopted policy, ARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook), providing guidance concerning land use compatibility with regard to sources of TAC emissions (ARB 2005). The handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities. The recommended distances of separation between land uses relevant to the future development of the project site include:

- ▶ Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads carrying 100,000 vehicles per day, or rural roads carrying 50,000 vehicles per day.
- ▶ Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard.
- ▶ Avoid siting new sensitive land uses within 300 feet of a large gasoline station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gasoline dispensing facilities.
- ▶ Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation using perchloroethylene. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult the local air district. Do not site new sensitive land uses in the same building with dry-cleaning operations that use perchloroethylene.
- ▶ Avoid the siting of new commercial trucking facilities that accommodate more than 100 trucks per day, or 40 trucks equipped with transportation refrigeration units (TRUs), within 1,000 feet of sensitive receptors (e.g., residences).

Since the 2005 publication of the Handbook, ARB also published a Technical Advisory as a supplement to the Handbook to provide information on scientifically based strategies to reduce exposure to emissions near high-volume roadways in order to protect public health (ARB 2017). This Technical Advisory demonstrates that reduced exposure to traffic-related pollution can be achieved while pursuing infill development that independently provides public health benefits. The Technical Advisory identifies strategies to reduce air pollution exposure near roadways, including those that reduce vehicular emissions, such as incorporation of roundabouts for speed reduction, traffic signal management, and speed limit reductions on high-speed roadways (those greater than 55 miles per hour); strategies that reduce the concentrations of traffic pollution, such as urban design that promotes air flow, solid barriers to pollution, and vegetation to reduce pollutant concentrations; and strategies that remove pollution from indoor air such as through high efficiency filtration. This Technical Advisory does not negate the ARB Handbook but offers multiple variables for consideration for land use, transportation, and environmental planning and development.

ARB implements several statewide diesel-related programs and strategies designed to reduce diesel PM emissions and subsequent exposure. The following programs reduce and regulate criteria pollutant emissions, as well as diesel PM and TAC emissions, from exhaust:

- ▶ **In-Use Mobile Agricultural Equipment Regulation.** Used as a regulation for mobile agricultural equipment that moves California towards meeting ambient air quality standards for the San Joaquin Valley by using the cleanest available technologies. The regulation provides the administrative mechanism for emission reductions resulting from mobile agricultural equipment program projects to be eligible for State Implementation Plan credit.
- ▶ **In-Use Off-Road Equipment.** Used as a regulation to reduce diesel particulate matter and oxides of nitrogen emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations.

- ▶ **New Off-Road Engines and Equipment.** This category consists of regulations applicable to Off-Road Compression-Ignition Engines (a.k.a. diesel engines), and is primarily for the interest and needs of manufacturers and others that are required to obtain certification from ARB. These engines are found in a wide variety of off-road applications, such as farming, construction, and industrial. Some familiar examples include tractors, excavators, dozers, scrapers, and portable generators.
- ▶ **Heavy-Duty In-Use Vehicle Regulation.** This regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds.
- ▶ **Heavy-Duty Vehicle Inspection Program.** Enforcement program developed to control excessive smoke emissions and tampering from heavy-duty diesel trucks and buses. The Heavy-Duty Vehicle Inspection Program requires heavy-duty trucks and buses to be inspected for excessive smoke and tampering, and engine certification label compliance. Any heavy-duty vehicle traveling in California, including vehicles registered in other states and foreign countries may be tested.
- ▶ **Heavy-Duty Diesel Emission Control Label Inspection Program.** Enforcement program developed as a way to reduce emissions of air contaminants through the fair, consistent and comprehensive enforcement of air pollution laws, and by providing training and compliance assistance. Each vehicle operating in California - including those in transit from Mexico, Canada, or any other state - must be equipped with engines that meet California and/or EPA or equivalent emission standards as provided on specified Emission Control Labels (ECLs). The ECL must be legible, maintained at the location originally installed by the engine manufacturer and correspond to the engine serial number stamped on the engine.
- ▶ **In-Use Public and Utility Fleets (Heavy-Duty).** Regulation mandating Public Agency and utility vehicle owners reduce diesel PM emissions from their affected vehicles through the application of Best Available Control Technology on these vehicles by specified implementation dates. Implementation is phased-in by engine model year groups with the goal to reduce both criteria pollutant emissions and exposure to toxic air contaminants.
- ▶ **In-Use Solid Waste Collection Vehicles (SWCV).** Regulation targeting the reduction of cancer-causing particulate matter and smog-forming nitrogen oxide emissions from diesel-fueled waste collection trucks to reduce the harmful health impacts of exhaust. The regulation requires owners to use ARB-verified control technology that best reduces emissions, following a phased-in schedule from 2004 through 2010.
- ▶ **PCAPCD Rule 501 (General Permit Requirements).** The requirements are intended to provide an orderly procedure for the review of new stationary sources of air pollution and modification and operation of existing sources through the issuance of permits. Stationary Sources that would emit more than 2 pounds of any pollutant in any 24-hour period would be subject to PCAPCD's permit requirements.

ARB has also, and continues to, work to reduce emissions from locomotives. Emission reductions from the rail sector are critical to meet the criteria pollutant standards across the state, particularly as rail activity increases and



is promoted as an alternative to personal automobile transportation. ARB and South Coast AQMD have developed draft concepts to reduce criteria pollutants, toxic air contaminants, and greenhouse gas emissions for locomotives in-use, idling, and maintenance activities, as well as emissions from other equipment at railyards. ARB has submitted the Locomotive Petition to the EPA, requesting EPA to update its emissions standards for locomotives and create a new, cleaner Tier 5 emissions standard for locomotives that would take effect for remanufactured locomotives in 2023 and for newly built locomotives in 2025.

Proposed development within the Project site would not result in the siting of sensitive land uses within 500 feet of a freeway, urban roads carrying 100,000 vehicles per day, or rural roads carrying 50,000 vehicles per day or within 1,000 feet of a major service and maintenance rail yard; nor would it result in an increase in daily vehicle trips to this level at affected intersections and roadway segments (see Section 3.14 of this EIR, "Transportation"). The proposed land uses within 1,000 feet of the Union Pacific Railroad that runs adjacent to the western boundary of the project site are industrial and would not be considered to include sensitive receptors. However, mobile sources of TACs could be associated with the operation of on-road heavy-duty diesel trucks used for on-site commercial and industrial activities (e.g., unloading/loading). In addition, operational activities associated with planned land uses could require the use of diesel-fueled vehicles for extended periods, such as commercial trucking facilities or delivery/distribution areas, and thereby generate diesel PM emissions that could expose sensitive receptors to DPM emissions. The diesel exhaust PM emissions generated by these uses could be produced primarily at single locations on a regular basis (e.g., loading dock areas). Idling trucks, including TRUs, would increase DPM levels at these locations. Existing and potential future sensitive land uses could be exposed to DPM emissions on a recurring basis.

It is also possible that future development within the Project site would include stationary sources of TACs, such as dry-cleaners, gasoline-dispensing facilities and diesel-fueled backup generators. These types of stationary sources, in addition to any other stationary sources that may emit TACs, would be subject to SMAQMD rules and regulations, including but not limited to Rule 202, *New Source Review*, Rule 203, *Prevention of Significant Deterioration*, and Rule 801, *New Source Performance Standards*. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air toxics control measures. SMAQMD limits emissions and public exposure to TACs through several programs. SMAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Because the exact location of potential operational sources of TACs cannot be determined at the time of this analysis, it is conservatively assumed that certain long-term operational activities could expose sensitive receptors to substantial TAC concentrations. Therefore, this TAC impact from operational activities is considered **potentially significant**.

## **Mitigation Measures**

### **Mitigation Measure 3.4-3b: Implement Guidelines in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective (2019 SOIA EIR Mitigation Measure 3.4-5)**

The City of Elk Grove shall require, as a part of proposed development projects, the implementation of strategies to avoid exposure of sensitive receptors to substantial toxic air contaminant pollutant concentrations. Projects that would result in substantial TAC emissions directly or indirectly (e.g., industrial sources), that would expose sensitive receptors to substantial TAC concentrations (e.g.,

residential land uses located near existing TAC sources), the City of Elk Grove will implement ARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) guidance concerning land use compatibility with regard to sources of TAC emissions, or ARB guidance as it may be updated in the future. If these guidelines are infeasible, and a project would have the potential to generate substantial TAC emissions or expose sensitive receptors to substantial TAC pollutant concentrations, the City will require project-level analysis and appropriate mitigation, as necessary, to ensure that sensitive receptors are not exposed to substantial pollutant concentrations. In communication with the SMAQMD, the City will require, if necessary, a site-specific analysis for operational activities to determine whether health risks would exceed applicable health risk thresholds of significance. Site-specific analysis may include screen level analysis, dispersion modeling, and/or a health risk assessment, consistent with applicable guidance from the SMAQMD. Analyses shall take into account regulatory requirements for proposed uses.

If the results of analysis determine that the performance standard for this mitigation would be exceeded, actions shall be taken to reduce potential operational impacts which may include, but not necessarily limited to:

- locating air intakes and designing windows to reduce particulate matter exposure by, for example, not allowing windows facing the source to open;
- providing electrification hook-ups for TRUs to avoid diesel-fueled TRUs continuing to operate at loading docks during loading and unloading operations;
- requiring the TAC-generating activity (e.g., loading docks) be located away from sensitive receptors;
- incorporating exhaust emission controls on mobile and/or stationary sources (e.g., filters, oxidizers);
- develop and implement a dock management system at the time of occupancy to minimize on-site idling below regulatory limits;
- require all on-site user owned and operated trucks with transportation refrigeration units to be capable of plugging into power at loading docks and require plug-in when at the loading dock;
- utilize on-site cargo and material handling equipment that is the lowest emitting equipment available at the time of occupancy;
- evaluate the potential to electrify a portion of entirety of an on-site user-owned and operated truck fleet;
- evaluate the potential to consolidate delivery or haul truck trips to increase the load and decrease vehicle trips;
- provide building air filtration units with a Minimum Efficiency Reporting Value (MERV) that is adequate to address adjacent sensitive land uses according to performance standards of this mitigation measure;

- Ensure adequate distance between existing and planned sensitive receptors and gasoline dispensing facilities, based on the proposed size and design of any gasoline-dispensing facilities.

The City will require the project applicant(s) to identify and implement feasible mitigation measures to reduce any potentially significant effect and communicate with SMAQMD to identify measures to reduce exposure of sensitive receptors to substantial pollutant concentrations to levels consistent with thresholds recommended by the SMAQMD applicable at the time the project is proposed. Agreed upon feasible mitigation actions shall be documented as a project condition of approval.

### **Significance after Mitigation**

Implementation of Mitigation Measure 3.4-3b would ensure that all uses that could generate TAC emissions will evaluate and mitigate TAC emissions to ensure that sensitive receptors are not exposed to substantial pollutant concentrations. With the feasible actions outlined that have been demonstrated to substantially reduce exposure to TAC emissions and the clear performance standards included in this mitigation, with implementation of mitigation, as with the 2019 SOIA EIR, this impact would be reduced to a **less-than-significant** level.

### ***Exposure of sensitive receptors to long-term emissions of criteria air pollutants and precursors.***

As described above in the Environmental Setting, criteria air pollutants and their precursors can contribute to a variety of health effects in sensitive receptors, which vary depending on the pollutant, the ambient air concentrations of each given pollutant, the duration of exposure, and any other underlying health conditions that a receptor may have. Recent rulings from California Supreme Court, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, determined that the subject EIR should relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of drafting to provide such an analysis.

The analysis of potential health impacts resulting from criteria pollutant emissions has long been focused on a regional or air basin wide level because criteria air pollutants typically act on a large, regional scale, whereas TACs and CO act on a more localized level. In many cases, the concern regarding health risks from criteria pollutants is not related to the specific pollutant itself, such as ROG or NO<sub>x</sub>, but the potential for the pollutant to undergo reactions within the atmosphere and form secondary pollutants, such as ozone. In such cases, the secondarily formed ozone is the pollutant of concern. The formation of PM can similarly be dependent on regional atmospheric chemistry, geography, weather, and climate. The complex reactions and conditions that lead to the formation of ozone and PM in the atmosphere can also result in the transport of pollutants over wide areas, meaning that the emissions of ozone precursor pollutants and PM, from a single project does not necessarily translate directly into a specific concentration of ozone, or a specific level of health risk, in the project vicinity.

Since the time of adoption of the 2019 SOIA EIR, SMAQMD published *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (SMAQMD 2020b), which provides a screening level analysis estimating the health effects of criteria air pollutants and their precursors, ROG, NO<sub>x</sub>, CO, ozone, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, as well as provides guidance for conducting a health effects analysis of a project that satisfies the requirements of the Friant Ranch court decision. The Guidance was prepared by conducting regional photochemical modeling and relies on the EPA's Benefits Mapping and Analysis Program to assess health impacts from ozone and PM<sub>2.5</sub>. Analysis was conducted to estimate the level of health effects for a proposed project that has emissions at the maximum SMAQMD-recommended thresholds of significance using 41

hypothetical project locations, as well as a screening model conducted to estimate potential health effects for strategic areas where growth is anticipated to exceed thresholds of significance. The results were used to develop two screening tools intended to support individual projects in analyzing health risks from criteria pollutants: the Minor Project Health screening Tool for projects with criteria pollutant emissions below SMAQMD's adopted thresholds of significance, and the Strategic Area Project Health Screening Tool for projects with emissions between two and six times the SMAQMD threshold levels.

The modeling results support a conclusion that any one proposed project in the Five-Air-District Region with emissions at or below the maximum SMAQMD threshold of significance levels for criteria air pollutants does not on its own lead to sizeable health effects. The findings of the SMAQMD screening modeling indicate that the mean health incidence for a project emitting at the threshold of significance levels at all 41 representative locations within the air district was less than 3 per year for mortality and less than 1.5 per year for other health outcomes evaluated. At the strategic area locations, as expected, mean health incidences are higher than the Minor Projects Health Effects Screening Tool. The maximum reported mortality rate is 22 incidences per year and all other health outcomes evaluated are under 9 per year from a project emitting 656 pounds/day of NO<sub>x</sub>, ROG, and PM at the downtown Sacramento location.

As shown in Table 3.4-3, modeled emissions for future operations of the proposed Project would exceed SMAQMD's maximum emissions levels used in the strategic area locations screening analysis. However, table 3.4-3 is intended to demonstrate a conservative estimate of the maximum potential daily emissions that could result from the proposed Project, and not the realistic average annual or average daily emissions. Table 3.4-3 presents emissions assuming full operations in the year 2022, while development is realistically anticipated to occur over a 20-year duration, with increasingly stringent emissions regulations in place over the duration of development. Because mobile emissions are the primary source of NO<sub>x</sub> emissions, and there is existing regulation in place that will result in continued reductions in mobile-source emissions over time, taking into account the realistic nature of development of the proposed Project for the purposes of analyzing the potential health risks is appropriate. In addition, the emissions in Table 3.4-3 are inclusive of all anticipated vehicle miles travelled, a substantial portion of which would occur outside of the Project site itself, particularly for commercial and industrial land uses that would incur truck to and from the Project site from outside of the City to serve daily operations. Finally, the proposed Project would be subject to the City's General Plan policies, and land use planning and design of the Project site will be required to take into consideration the City's required VMT limits.

As shown in Table 3.4-4, modeled emissions for operations of the proposed Project with implementation of VMT reduction measures to meet the VMT limits per General Plan Policy MOB-1-1, yet still assuming full operations in the year 2022 and the less strict emissions standards associated with the fleet mix in 2022, would be approximately 302 lb/day for ROG, 594 lb/day for NO<sub>x</sub> and 63 lb/day for PM<sub>2.5</sub>. These emissions are still inclusive of vehicle activity serving land uses of the proposed Project that would not necessarily all occur within the boundaries of the Project site.

In order to present a realistic but still conservative analysis of potential health impacts of the Project's emissions, with reduced VMT but operations occurring in 2022, the emissions shown in Table 3.4-5 were applied to the SMAQMD Strategic Area Project Health Screening Tool. The screening tool estimates that a project at the strategic growth area location of Ranch Cordova, emitting 302 lb/day for ROG, 594 lb/day for NO<sub>x</sub> and 63 lb/day for PM<sub>2.5</sub>, would result in 5.3 premature deaths per year or a 0.011 percent increase from background health incidences across the modeling domain due to the increase in PM concentrations, and 0.33 premature deaths per

year or a 0.00091 percent increase from background health incidences across the modeling domain due to the increase in ozone.

As discussed above, the nature of criteria pollutants is such that the emissions from an individual project cannot be directly identified as responsible for health impacts within any specific geographic location. As a result, attributing health risks at any specific geographic location to a single proposed project is not feasible. Nonetheless, the results of the Strategic Area Project Health Screening Tool have been presented for informational purposes. The modeling results support a conclusion that the proposed project does not, on its own, lead to sizeable regional health effects from the emissions of criteria air pollutants and precursors (note that the discussion of TAC and CO emissions as they relate to localized health risks is addressed in the sub-section above). It should also be noted that this screening evaluation applied the maximum daily emissions to simulate a full year of exposure, thereby assuming that the maximum daily emissions would in fact be the average daily emissions over each operational year. As a result, the actual Project-related health effects will be less because the maximum daily emissions are substantially higher than the average daily scenario. In addition, as noted above, any projects that could result in localized health risks would be subject to Mitigation Measures 3.4-3a and 3.4-3b, which would further reduce project-related emissions, particularly those associated with vehicle and off-road equipment, including the ROG, NO<sub>x</sub> and PM emissions that were analyzed here on a regional scale. Therefore, criteria air pollutants generated as a result of the proposed Project would not result in the exposure of sensitive receptors to substantial criteria air pollutant concentrations and this impact would be **less than significant**.

### **Significance after Mitigation**

No mitigation measures are required.

#### **Impact 3.4-4: Result in Other Emissions (such as those leading to odors) Adversely Affecting a Substantial Number of People.**

Development of the Project site could involve actions that would expose people to objectionable odors. The human response to odors is subjective and sensitivity to odors varies greatly among the public. Two situations increase the potential for odor problems. The first occurs when a new odor source is located near existing sensitive receptors. The second occurs when new sensitive receptors are developed near existing sources of odors.

During construction, the predominant source of power for construction equipment is diesel engines. Odors from these sources would be localized and generally confined to the immediate area surrounding the development area. Exhaust odors from diesel engines, as well as emissions associated with asphalt paving and the application of architectural coatings, may be considered offensive to some individuals. Similarly, diesel-fueled trucks traveling on local roadways would produce associated diesel exhaust fumes. However, odors associated with diesel fumes, asphalt paving, and architectural coatings would be temporary and would disperse rapidly with distance from the source. Projects constructed within the Project site would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. In addition, because odors would be temporary and disperse rapidly with distance from the source, construction-generated odors would not result in the frequent exposure of receptors to objectionable odor emissions. Furthermore, the City of Elk Grove is required to comply with SMAQMD Rules 402 (Nuisance) and 442 (Architectural Coatings), which would ensure that odors generated by short-term construction would not affect a substantial number of people. Therefore, this impact would be **less than significant**.

Operationally, industries and/or facilities that are widely considered major sources of odors include wastewater treatment and pumping facilities, chemical manufacturing facilities, sanitary landfills, fiberglass manufacturing facilities, transfer stations, painting/coating operations (e.g., auto body shops), composting facilities, food processing facilities, confined animal facilities, asphalt batch plants, rendering plants, metal smelting plants, and coffee roasters. This list is meant not to be entirely inclusive, but to act as general guidance. In the context of land use planning, one of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors, or a “buffer zone.” SMAQMD has published its *Recommended Odor Screening Distances* table, which provides suggested buffer distances between sensitive receptors and a variety of odor-generating sources. These recommended buffer distances are listed below in Table 3.4-6.

Land Use / Type of Operation	Suggested Buffer Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	2 miles
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting / Coating Operations	1 mile
Rendering Plant	4 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Feed lot / Dairy	1 mile
Green Waste and Recycling Operations	2 miles
Metal Smelting Plants	1 mile
Source: SMAQMD 2009	

Future development of the Project site would include multiple land use types. Surrounding land uses include both agricultural and industrial land uses, which are likely to generate odors that are detectable on and in the vicinity of the Project site. Future development within the Project site could result in the siting of sensitive receptors that would be exposed to these odor sources. However, land use proposed on the west side of the Project site, in proximity to the existing industrial uses and railway include heavy industrial and light industrial land uses. Proposed mixed-use designated land uses, which could include the siting of sensitive receptors, are more than one-half mile east of the existing railway and other industrial land uses.

The City of Elk Grove and SMAQMD work in cooperation with industrial facilities and agricultural producers to limit the odor emissions associated with manufacturing processes and agricultural burning. Other smaller and dispersed odor sources include residential and commercial dumpsters, which can be in proximity of sensitive receptors. However, with proper disposal containers and regular trash collection services, odors from residential and commercial dumpsters are typically minimized. SMAQMD Rule 402 provides that air contaminants emitted

by any person shall not cause annoyances, and SMAQMD provides an on-line complaint website and phone number if any resident experiences odor concerns.

It cannot be known at this time what specific development would be implemented and if any development would generate objectionable odors. However, future land uses could result in the operation of new land use that generates objectionable odors or the siting of sensitive receptors in proximity to then-existing odor-generating land uses within the Project site. Therefore, future development of the Project site could result in the exposure of receptors to objectionable odor emissions. This impact is considered to be **potentially significant**.

## **Mitigation Measures**

**Mitigation Measure 3.4-6: Reduce Exposure of Sensitive Receptors to Odorous Emissions (2019 SOIA EIR Mitigation Measure 3.4-6).**

Projects that propose uses that could expose sensitive receptors to objectionable odors shall implement strategies to avoid exposure of sensitive receptors to objectionable odors.

- Project applicant(s) for residential development in areas adjacent to ongoing agricultural operations shall include a disclosure clause advising buyers and tenants of the potential adverse odor impacts in the deeds to all residential properties. Residential subdivisions shall provide notification to buyers in writing of odors associated with existing dairies, agricultural burning, and decay of agricultural waste.
- For existing odor-producing sources, sensitive receptors shall be sited as far away as possible from the existing sources.
- For new project-generated odor-producing sources, sensitive receptors shall be sited as far away as possible from the new sources.
- Apply SMAQMD-Recommended Odor Screening Distances in the siting of land uses.

## **Significance after Mitigation**

Implementation of Mitigation Measure 3.4-6 would reduce odor emissions because siting measures imposed would avoid conflicts between odor emissions and sensitive receptors. With implementation of mitigation, as with the 2019 SOIA EIR, this impact would be reduced to a **less-than-significant** level.

This page intentionally left blank.



## 3.5 BIOLOGICAL RESOURCES

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. The U.S. Army Corps of Engineers (USACE) provided a comment letter indicating concurrence with the wetland delineation that was performed for the City-owned parcel, finding that the on-site pond and on-site agricultural ditch are not Waters of the U.S. that would be regulated by USACE under Section 404 of the Clean Water Act (CWA). In addition, a comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo), stating that LAFCo maintains an interest in the Project's impacts on biological resources.

A comment letter was also submitted by the California Department of Fish and Wildlife (CDFW) suggesting that the SEIR should evaluate "the whole of the action" (i.e., including off-site improvements); incorporate a range of alternatives that would avoid or minimize impacts to biological resources; perform habitat assessments; implement detection surveys; evaluate project impacts on special-status species; and include a complete analysis of endangered, threatened, candidate, and locally unique species. CDFW also noted the protections afforded by the Migratory Bird Treaty Act, and urged the City to consider participation in the South Sacramento County Habitat Conservation Plan. Finally, CDFW suggests that future landscaping plans consider incorporation of the California Native Plant Society's "Homegrown Habitat Plant List." A search of the California Native Plant Society's website does not yield any information about the Homegrown Habitat Plant List, although some general information under the heading, "Homegrown Habitat" on native plants is available on the website of the Sacramento Valley Chapter of the California Native Plant Society.

The City reviewed and considered the information provided in these comments during preparation of this section.

### 3.5.1 ENVIRONMENTAL SETTING

The biological resources setting for the Project site itself has not changed since the 2019 SOIA EIR was prepared. However, since that time, the City has identified the need for several off-site improvements associated with the proposed drainage plan. This section focuses on new biological resources information associated with the off-site drainage improvement areas. (For a detailed discussion of biological resources within the Project site, refer to Section 3.5, "Biological Resources," in the 2019 SOIA EIR.)

An AECOM biologist performed a site visit to the off-site improvement areas in August 2020. AECOM also performed an updated search of the CDFW's California Natural Diversity Database (CNDDDB), and the California Native Plant Society (CNPS) Inventory, the results of which are presented in this section.

The Project site and off-site improvement areas are located in southern Sacramento County within the Great Central Valley Region of the California Floristic Province. The Cosumnes River is approximately 0.5 miles to the east and its tributary, Deer Creek, is immediately adjacent to two of the off-site improvement areas. The Sacramento-San Joaquin Delta (Delta) begins approximately 9 miles southwest of the Project site.

Surface water in the Project site and in the off-site improvement areas flows into a network of agricultural drainage ditches. Most of the water in the ditches is pumped groundwater. The network of ditches is interconnected through a variety of culverts. One on-site ditch within the City-owned parcel overflows into an agricultural pond that is located on-site. The USACE has determined that this on-site pond and ditch do not constitute jurisdictional Waters of the U.S. under the CWA Section 404 (USACE 2020). The other ditches within the Project site eventually converge and flow into an east/west roadside ditch along Grant Line Road, which in

turn flows into a larger north/south ditch along the UPRR; this ditch, which is proposed for widening, discharges southward off the Project site into an approximately 8-acre pond. A short stretch of existing channel conveys flows from the pond to Deer Creek.

An existing ditch (a portion of which is proposed for widening) is also located along the northeastern property boundary; this ditch flows southward off the Project site into an approximately 0.5-acre pond, and then discharges through an existing ditch to an outfall into Deer Creek.

Finally, agricultural return water is stored in an existing off-site 15-acre stock pond, where a variety of Project-related improvements are proposed including a new 60-inch underground drainage pipeline, deepening the existing pond, improving the pond's existing inflow and outfall, and improving the existing conveyance channel from the pond to the existing outfall at Deer Creek. In addition, transition improvements from this channel to Deer Creek may be required, which may include some grading at its connection to Deer Creek.

## **HABITAT TYPES**

The Project site is characterized by four habitat types: urban/disturbed, cropland (including oats and grass for hay crops, and seasonal row crops), irrigated pasture, and aquatic features (an on-site agricultural pond and on-site agricultural ditch) (see Figure 6, Appendix C to the 2019 SOIA EIR).

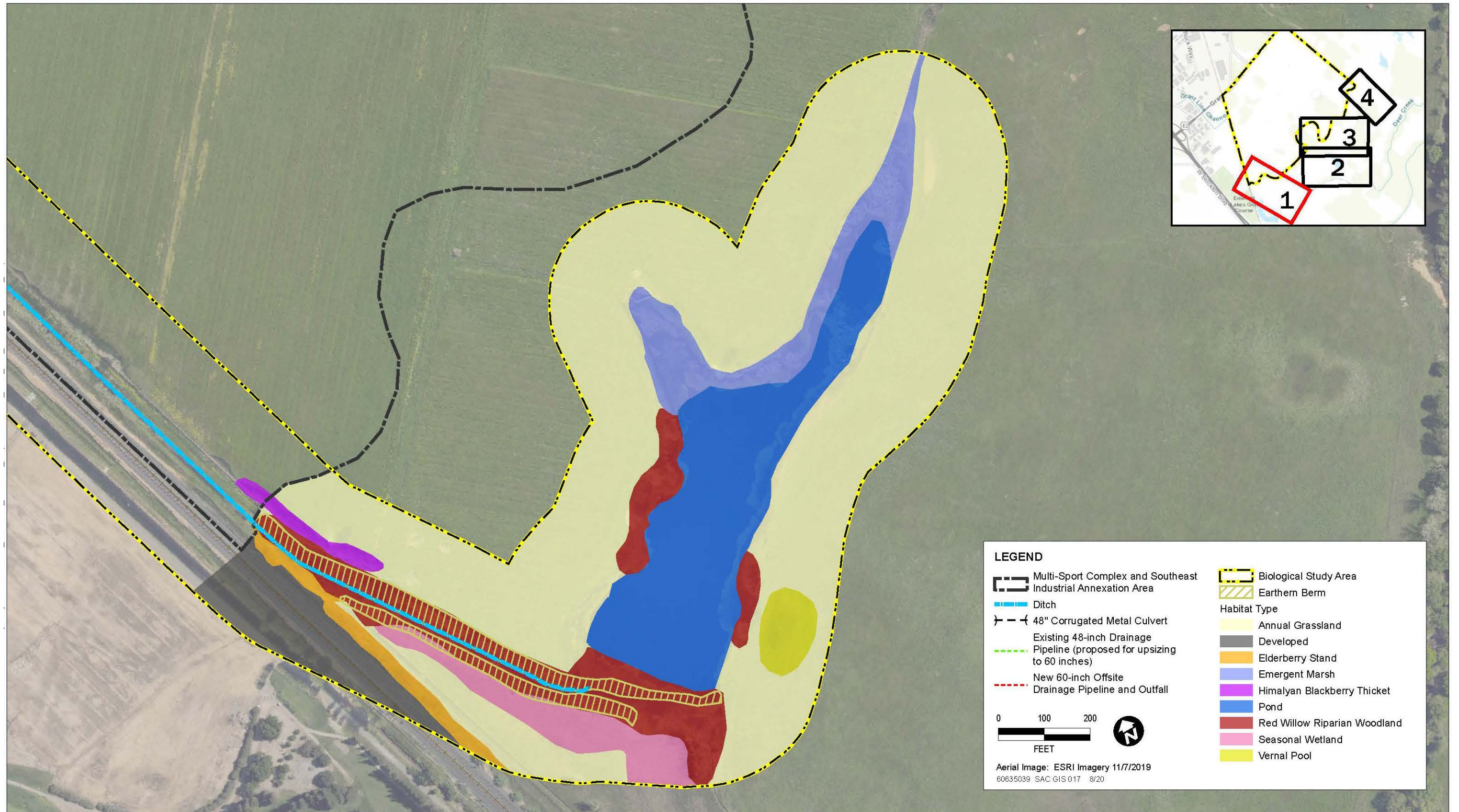
The off-site drainage improvement areas are composed of a variety of habitat types, as shown in Exhibits 3.5-1a through 3.5-1d. These habitat types include urban/disturbed (developed), cropland, irrigated pasture, elderberry stand and Himalayan blackberry thicket (along the southern-most drainage ditch), red willow riparian woodland, Valley oak woodland, and aquatic features. Each of these habitat types are described in further detail below.

### **Developed (Urban/Disturbed)**

Developed areas associated with urban communities are classified as areas that have been heavily modified by humans, including roadways, existing buildings, and structures, as well as recreation fields, lawns, and landscaped vegetation found in residential yards. Because of the high degree of disturbance in these areas, they generally have low habitat value for wildlife; however, migratory birds may find limited nesting and foraging opportunities in trees and shrubs scattered throughout urban areas.

Typically, the species composition in urban areas consists of a mix of native and nonnative trees, shrubs, flowers, and turf grass. Common landscape trees in the project area include valley oak (*Quercus lobata*), redwoods (*Sequoia sempervirens*), eucalyptus (*Eucalyptus* spp.), various pines (*Pinus* spp.), and ornamentals. Wildlife adapted to living in heavily urbanized areas includes common raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), black rat (*Rattus rattus*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaidura macroura*), house finch (*Carpodacus mexicanus*), cliff swallow (*Hirundo pyrrhonota*), northern mockingbird (*Mimus polyglottus*), and common ground dove (*Columbina passerina*).

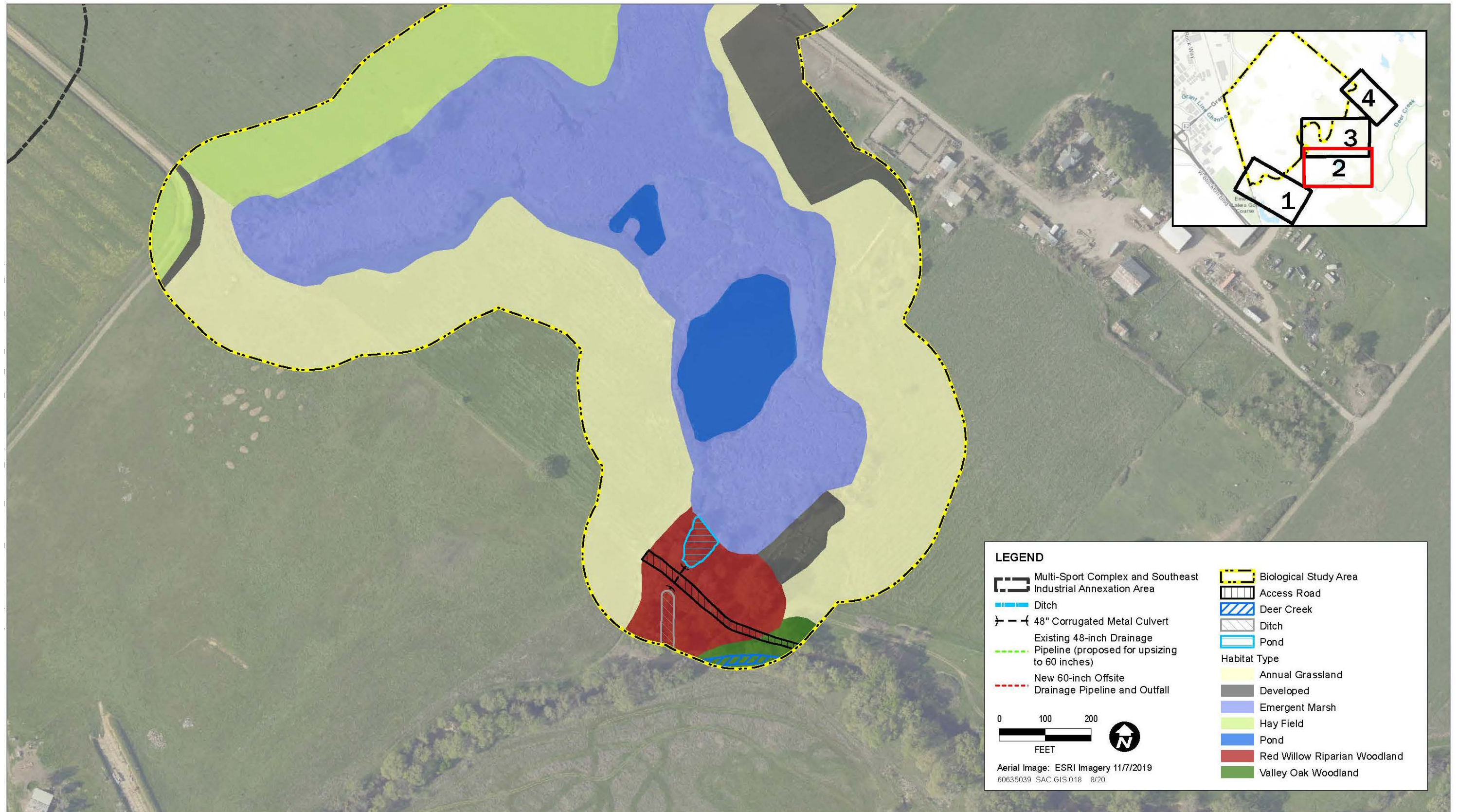
Developed areas are present in all of the off-site improvement areas, including the UPRR tracks, adjacent to the 15-acre pond, and surrounding the northern-most agricultural ditch.



Source: AECOM 2020

Exhibit 3.5-1a. Habitat Types in the Off-site Improvement Areas (Map 1 of 4)

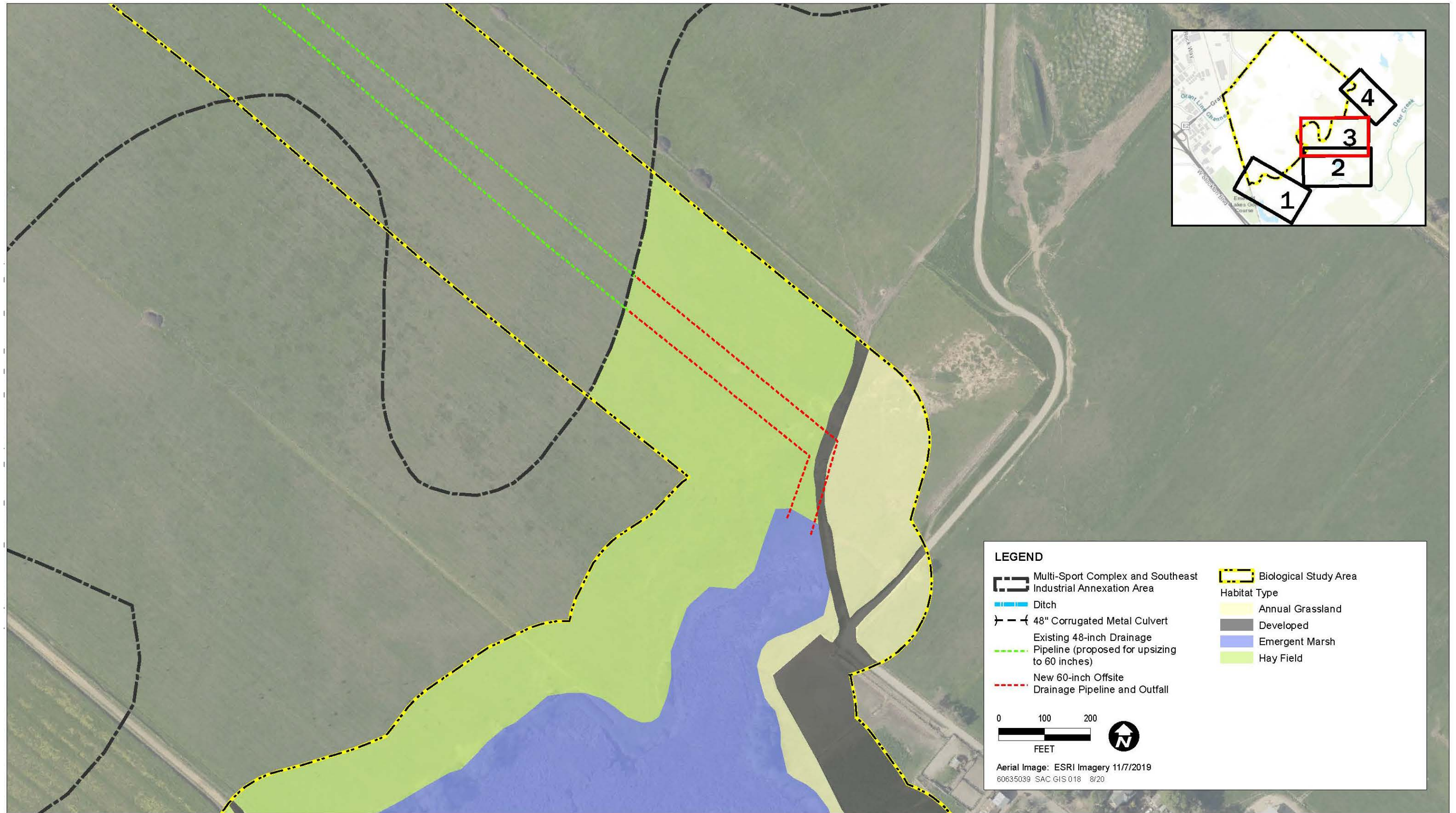
This page intentionally left blank



Source: AECOM 2020

**Exhibit 3.5-1b. Habitat Types in the Off-site Improvement Areas (Map 2 of 4)**

This page intentionally left blank

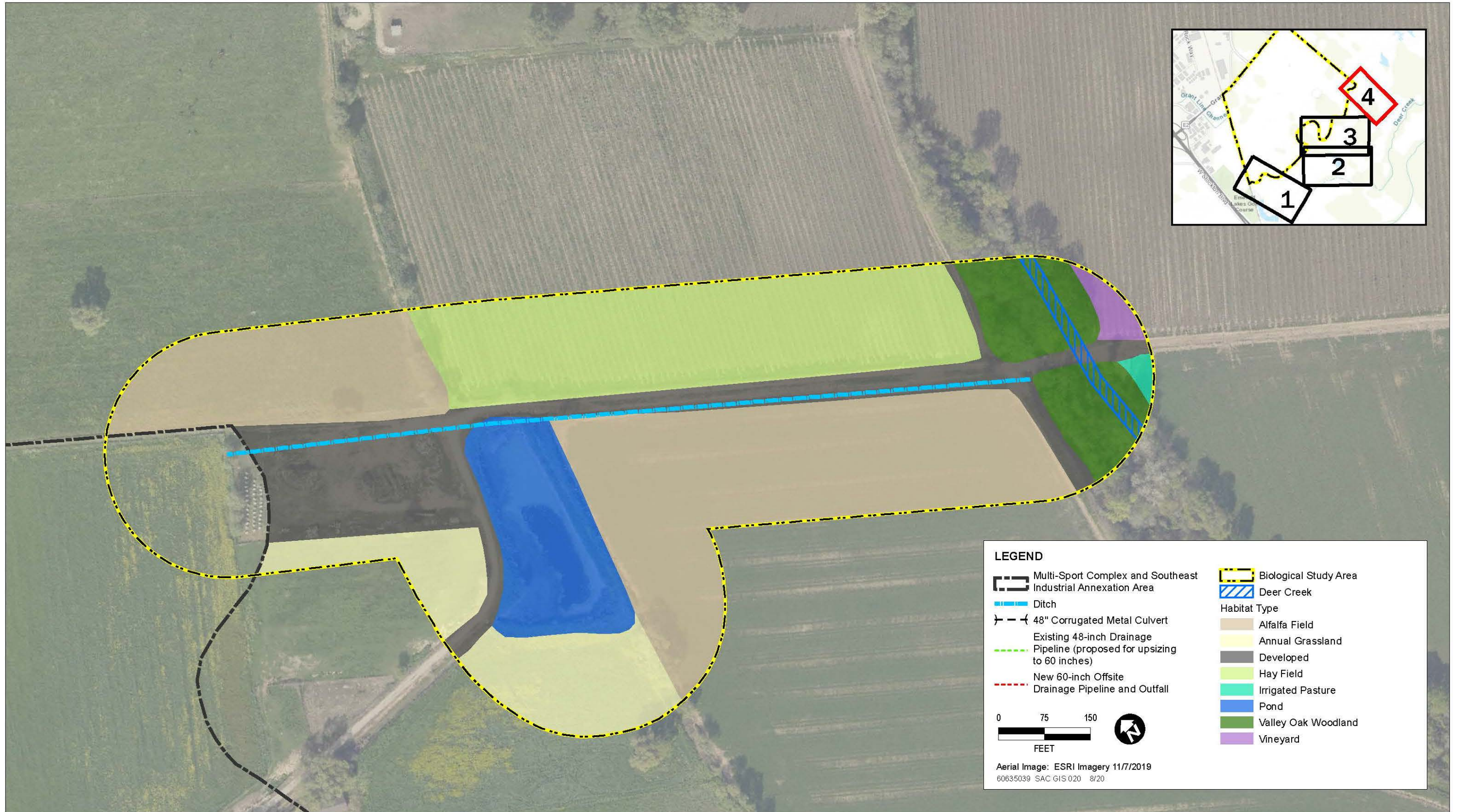


Source: AECOM 2020

Exhibit 3.5-1c. Habitat Types in the Off-site Improvement Areas (Map 3 of 4)

This page intentionally left blank





Source: AECOM 2020

Exhibit 3.5-1d. Habitat Types in the Off-site Improvement Areas (Map 4 of 4)

This page intentionally left blank

## **Cropland**

Croplands are generally located on flat to gently rolling terrain. Soil characteristics often dictate the crops grown. Croplands occur in association with orchard-vineyard, pasture, residential-park, and wildlife habitats such as riparian, chaparral, wetlands, desert, and herbaceous types. Croplands have greatly reduced wildlife richness and diversity in California. However, many species of rodents and birds have adapted to croplands. This landcover can provide foraging opportunities for many avian species including greater sandhill crane, Swainson's hawk, white-tailed kites, and various passerines.

Cropland, in the form of hay and alfalfa, is present on the northwest side of the 15-acre pond and surrounding the northern-most agricultural ditch.

## **Annual Grassland**

Within the annual grassland habitat, dominant species consist of nonnative annual grasses including slender wild oat (*Avena barbata*), common wild oat (*Avena fatua*), brome grass (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), and false barley (*Hordeum murinum*). This habitat type occurs in foothills, waste places, rangelands, and openings in woodlands.

Annual grassland is present around all of the off-site improvement areas. Swainson's hawk, red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and Northern harrier (*Circus hudsonius*) were observed either foraging or flying over the off-site improvement areas during the AECOM site visit in 2020.

## **Irrigated Pasture**

Pasture vegetation is a mix of perennial grasses and legumes that normally provide 100 percent canopy cover. The height of the pasture vegetation varies from a few inches to 2 or more feet. Height and density of vegetation in irrigated pastures depends of cultural and grazing management practices. The type of livestock, stocking rates, and duration of grazing directly impact the composition, density, and height of irrigated pasture vegetation. Irrigated pastures are often a permanent agricultural habitat, established on soils not suitable for other crops and where an ample water supply is available. Pastures are used by a variety of wildlife depending on geographic area and types of adjacent habitats. Ground nesting birds nest in pastures if adequate residual vegetation is present at the beginning of the nesting season. This landcover can provide foraging opportunities for many avian species, including greater sandhill crane (*Grus canadensis*), Swainson's hawk (*Buteo swainsoni*), white-tailed kites (*Elanus leucurus*), and various passerines.

The irrigated pasture habitat type is only present on the south side of Deer Creek.

## **Blue Elderberry Stands**

Blue elderberry (*Sambucus nigra*) is dominant in the shrub canopy within stream terraces and in bottomlands, as well as localized areas in upland settings. Soils are typically gravelly alluvium and are intermittently flooded. The shrub canopy of blue elderberry stands generally includes species such as California sagebrush (*Artemisia californica*), ceonothus, currants (*Ribes* spp.), willow (*Salix* spp.), and California wild grape (*Vitis californica*), among others.

This habitat type forms a narrow row of densely growing, large elderberry shrubs along the base of railroad ballast along the south side of the off-site ditch that runs along the UPRR tracks. In this area, blue elderberry is intermixed with Oregon ash (*Fraxinus latifolia*), box elder (*Acer negundo*), small valley oak trees (*Quercus lobata*), Himalayan blackberry (*Rubus armeniacus*), coyotebrush (*Baccharis pilularis*), and fennel (*Foeniculum vulgare*).

In addition, two small elderberry shrubs (less than 1-inch diameter) are present southeast of the existing outfall to Deer Creek, where the existing hand-dug ditch conveys water from the 15-acre pond.

### **Red Willow Riparian Woodland**

Red willow (*Salix gooddingii* and/or *Salix laevigata*) is dominant or co-dominant in the tree or shrub canopy. This habitat type is found on terraces along large rivers, canyons, along floodplains of streams, seeps, springs, ditches, floodplains, lake edges, low-gradient depositions. The tree canopy in this habitat type also commonly includes species such box elder, California buckeye (*Aesculus californica*), white alder (*Alnus rhombifolia*), and incense cedar (*Calocedrus decurrens*), among others. The shrub canopy commonly includes mule fat (*Baccharis salicifolia*), red osier dogwood (*Cornus sericea*), and Himalayan blackberry.

At the off-site improvement areas (along the UPRR ditch and the 8-acre pond, and the south end of the 15-acre pond), red willow is intermixed with valley oak, black walnut (*Juglans nigra*), black willow (*Salix nigra*), arroyo willow (*Salix lasiolepis*), and an understory of stinging nettle (*Urtica dioica*), California wild grape, Himalayan blackberry, poison oak (*Toxicodendron diversilobum*), coyotebrush, and mugwort (*Artemisia* spp.).

### **Valley Oak Woodland**

Valley oak (*Quercus lobata*) is co-dominant with 35 percent relative cover in the tree canopy along with box elder, white alder, Oregon ash, Fremont's cottonwood (*Populus fremontii*), or western sycamore (*Platanus racemosa*). This habitat type is found on valley bottoms, lower slopes, and summit valleys. Soils are alluvial or residual.

At the off-site improvement areas, this habitat type is found along Deer Creek, and is dominated by valley oak, Fremont cottonwood, Oregon ash, and box elder trees. The understory is dense with California wild grape, sandbar willow (*Salix exigua*), small Oregon ash seedlings, poison oak, and Himalayan blackberry. At the time of the survey, some shallow, turbid, flowing water was observed in Deer Creek.

### **Aquatic Features**

The City-owned parcel includes an on-site agricultural pond and agricultural ditch (discussed in the 2019 SOIA EIR). Agriculture pond features are characterized by man-made depressions in the ground that hold ponded water. Agriculture ditches carry agricultural runoff water along with flashy, ephemeral flows of stormwater runoff from roads and adjacent uplands. The USACE has determined that this on-site pond and ditch do not constitute jurisdictional Waters of the U.S. under the CWA Section 404 (USACE 2020).

The northernmost off-site earthen agricultural ditch was dry at the time of the AECOM site visit, but saturated soils indicated recent irrigation. This ditch is approximately 6 feet deep and appears to be highly maintained; at the time of the site visit, it was almost completely devoid of vegetation except for a few clumps of Harding grass (*Phalaris aquatica*). The adjacent 0.5-acre pond consists primarily of open water, with some floating water

primrose (*Ludwigia* spp.) and duckweed (*Lemna* spp.); the edges of pond are rimmed with narrow patches of cattails (*Typha* spp.). The pond appears to be approximately 6 to 8 feet deep. Small clumps of valley oak trees and sandbar willows are scattered along the banks of this pond. A great egret (*Ardea alba*) was observed foraging in the pond. South of the pond, the drainage ditch discharges into Deer Creek at an existing outfall. At this location, Deer Creek flows underneath an access road, through a box culvert. The outfall on the west side of the box culvert appears to receive regular maintenance (i.e., mucking out).

The approximately 15-acre off-site pond provides emergent wetland habitat. The wetland area where the proposed 60-inch pipeline would connect consists of a large freshwater emergent marsh dominated by cattail and bulrush (*Shoenoplectus* sp.); vegetation on the north end is dominated by knotweed (*Persicaria* spp.), sedges (*Cyperus* spp.), and orchardgrass (*Dactylis glomerata*). The National Wetlands Inventory includes two “riverine” features that historically fed into the marsh from the north and east, but these features do not exist today. The pond functions as a stock pond for cattle and horses, and a permit to excavate fine material from the pond was issued by CDFW in 2010. Water from the south end of the pond travels through a 48-inch box culvert underneath a dirt access road, into a hand-dug ditch (circa 1900) that discharges to Deer Creek. Beaver activity (i.e., damming) was observed at the culvert inlet.

A deep, perennial, drainage ditch runs south along the southern Project site boundary, and extends off the Project site to the southeast. This ditch is approximately 3 to 5 feet deep with man-made earthen berms. Water in the off-site portion of the ditch is covered in pondweed (*Potamogeton* spp.). The edges of the ditch have patches of wetland vegetation including soft rush (*Juncus effusus*), deergrass (*Muhlenbergia rigens*), bulrush, Harding grass, nutsedge (*Cyperus eragrostis*), Dallis grass (*Paspalum dilatatum*), and cattails. Seasonal wetland is present on the south side of the berm along the ditch. The seasonal wetland is dominated by perennial pepperweed (*Lepidium latifolium*), Italian ryegrass (*Lolium multiflorum*), curly dock (*Rumex crispus*), knotweed, English plantain (*Plantago lanceolata*), and yellow star thistle (*Centaurea solstitialis*). Other species intermixed are narrowleaf milkweed (*Asclepias fascicularis*), field bindweed (*Convolvulus arvensis*), chicory (*Cichorium intybus*), and prickly lettuce (*Lactuca serriola*). Emergent trees associated with the seasonal wetland are isolated and scattered and include red willow, black willow, arroyo willow, and box elder. The drainage ditch discharges into an approximately 8-acre pond, which consists of open water. The eastern fingers of the pond consist of emergent marsh that are dominated by cattails.

## **SENSITIVE BIOLOGICAL RESOURCES**

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under the California Environmental Quality Act (CEQA), California Fish and Game Code, California Endangered Species Act (CESA), federal Endangered Species Act (ESA), Clean Water Act (CWA), and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

An updated list of special-status species that could potentially occur at the Project site or the off-site improvement areas (provided suitable habitat conditions were present), was developed in 2020 for this SEIR through review of available background reports; previous studies conducted in or near the Project site; an official list obtained from the USFWS Information, Planning, and Conservation System; and CNDDDB and CNPS Inventory records of previously documented occurrences of special-status species in the Elk Grove, Florin, Bruceville, Sloughhouse, Clay, Galt, Buffalo Creek, Sacramento East, Carmichael, Thornton, Lodi North, and Lockeford U.S. Geological Survey 7.5-minute quadrangles.

## Special-Status Species

Special-status species include plants and animals in the following categories:

- ▶ species officially listed by the State of California or the federal government as endangered, threatened, or rare;
- ▶ candidates for State or federal listing as endangered or threatened;
- ▶ taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations Section 15380 of the CEQA Guidelines;
- ▶ species identified by the CDFW as species of special concern;
- ▶ species listed as fully protected under the California Fish and Game Code;
- ▶ species afforded protection under local or regional planning documents; and
- ▶ taxa considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B.

The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:

- ▶ CRPR 1A – Plants presumed to be extinct in California;
- ▶ CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere;
- ▶ CRPR 2A – Plants presumed to be extinct in California, but more common elsewhere;
- ▶ CRPR 2B – Plants that are rare, threatened, or endangered in California, but more common elsewhere;
- ▶ CRPR 3 – Plants about which more information is needed (a review list); and
- ▶ CRPR 4 – Plants of limited distribution (a watch list).

All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW’s CNDDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that CRPR 1 and 2 species be addressed within the context of CEQA analyses and documentation. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380; however, these species may be evaluated by the lead agency on a case-by-case basis to determine significance criteria under CEQA.

The term “California species of special concern” is applied by CDFW to animals not listed under the ESA or CESA, but that are nonetheless declining at a rate that could result in listing, or that historically occurred in low numbers, or have limited ranges, and known threats to their persistence currently exist. “Fully protected” was the first state classification used to identify and protect animal species that are rare or facing possible extinction. Most of these species were subsequently listed as threatened or endangered under CESA or ESA. The remaining fully protected species that are not officially listed under CESA or ESA are still legally protected under California Fish and Game Code, as described below in the “Regulatory Framework” section, and qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380.

Exhibit 3.5-2 depicts CNDDDB occurrence data within 3 miles of the Project site and the off-site improvement areas. Information regarding the status and potential to occur for special-status plants, invertebrates, fish, amphibians, reptiles, birds, and mammals in the Project area is presented in Table 3.5-1.

### **Sensitive Habitats**

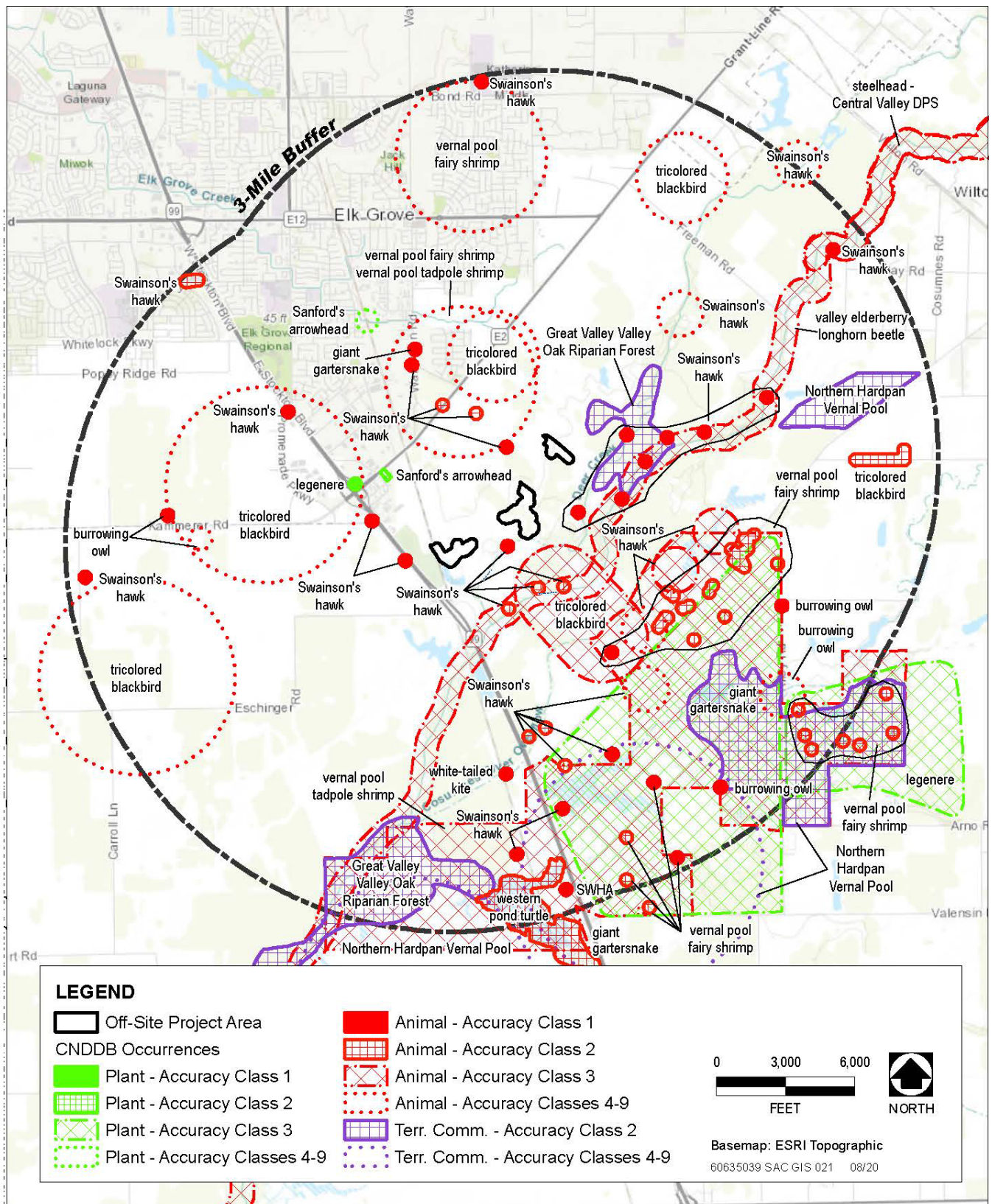
Sensitive habitats include areas of special concern to resource agencies, areas protected under CEQA, areas designated as sensitive natural communities by the CDFW, areas outlined in Section 1600 of the California Fish and Game Code, areas regulated under Section 404 of the federal CWA, and areas protected under local regulations and policies.

The irrigated pasture and croplands provide suitable foraging habitat for the State-threatened Swainson's hawk. Elk Grove Municipal Code Chapter 16.130, Swainson's Hawk Impact Mitigation Fees, provides a pathway for mitigation of impacts to Swainson's hawk habitat. This chapter of the Municipal Code requires mitigation for the loss of Swainson's hawk habitat at a 1:1 ratio. Mitigation can be achieved through the payment of a fee, which is used to fund the City's Swainson's hawk habitat restoration program. Other options for achieving mitigation through the code include the direct transfer to the City of a Swainson's hawk habitat conservation easement, along with an easement monitoring endowment or the purchase of credits at a CDFW-approved conservation bank. The site must be surveyed to determine whether it is suitable Swainson's hawk foraging habitat. The South Sacramento Habitat Conservation Plan also provides a process for mitigating for these impacts.

A vernal pool is present within 0.25 mile of the southern end of the ditch proposed for widening along the UPRR tracks and the 8-acre pond. Vernal pools are a type of seasonal wetland that form in shallow depressions underlain by an impervious or restrictive soil layer near the surface that hinders the percolation of water. These wetland types support low-growing, herbaceous plant communities dominated by annual plants, and are typically characterized by a high percentage of native plant species, many of which may be endemic (restricted) to vernal pools.

The approximately 15-acre off-site pond provides emergent wetland habitat. The wetland area where the proposed 60-inch pipeline would connect consists of a large freshwater emergent marsh. Freshwater emergent wetland is also present within the channel that conveys water from the pond to the outfall in Deer Creek. Emergent marsh is also present along the eastern fingers of the 8-acre pond. A freshwater emergent marsh is a marsh wetland that contains fresh water, and is continuously or frequently flooded. Freshwater emergent marshes primarily consist of emergent plants, which have soft stems and are highly adapted to live in saturated soils. In the off-site improvement areas, the dominant emergent plant is cattails.

Finally, seasonal wetland habitat is present on the southwest side of the irrigation ditch adjacent to the UPRR tracks that is proposed for widening and deepening. Seasonal wetlands support annual and perennial native and nonnative wetland plant species. This habitat type typically resembles a wetland community during the wet season and for a few weeks following the end of the wet season, drying up rapidly with the onset of summer. Seasonal wetlands form in seasonally flooded or saturated soils in depressions in ruderal or grassland areas, at the edges of creeks and ponds, and in ditches and canals.



Source: CNDDB June 2020

**Exhibit 3.5-2. CNDDB Occurrence Data within 1 mile of the Project Site and Off-site Improvement Areas**



Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<b>Plants</b>						
<i>Amsinckia grandiflora</i>	large-flowered fiddleneck	FE	SE	1B.1	Blooming period: (Mar)Apr–May. Inhabits cismontane woodlands and valley and foothill grassland. Elev: 900–1,800 ft.	No potential. Project site is below species' elevation range.
<i>Arctostaphylos myrtifolia</i>	Ione manzanita	FT	—	1B.2	Blooming Period: Nov–Mar. Inhabits acidic, Ione soil, clay or sandy soil. Chaparral, Cismontane woodlands. Elev: 200–1,800 ft.	No potential. Suitable habitat (chaparral, cismontane woodland) not present. Project site is below species' elevation range.
<i>Brasenia schreberi</i>	Watershield	—	—	2B.3	Blooming Period: June–September Freshwater marshes and swamps. Elev: 98–7,218 ft.	Not likely to occur. Project site is below species' elevation range.
<i>Calystegia stebbinsii</i>	Stebbins' morning-glory	FE	SE	1B.1	Blooming Period: Apr–Jul. Inhabits gabbroic or serpentinite soils within chaparral openings and cismontane woodland. Elev: 600–3,200 ft.	No potential. Suitable habitat (chaparral, cismontane woodland) not present. Project site is below species' elevation range.
<i>Carex comosa</i>	Bristly sedge	—	—	2B.1	Blooming Period: May–September Coastal prairies, valley and foothill grasslands, as well as marshes, swamps and lake margins. Elev: 0– 2,051 feet.	Could occur in freshwater marsh habitat in ponds.
<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Succulent owl's-clover	FT	SE	1B.1	Blooming Period: April–May Acidic vernal pools. Elev: 80 to 2,500 ft.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Ceanothus roderickii</i>	Pine Hill Ceanothus	FE	—	1B.1	Blooming Period: Apr–Jun. Inhabits serpentinite or gabbroic soils within chaparral and cismontane woodland. Elev: 750–3,200 ft.	No potential. Suitable habitat (chaparral, cismontane woodland) not present. Project site is below species' elevation range.
<i>Chloropyron molle</i> ssp. <i>molle</i>	soft bird's-beak	FE	—	1B.2	Blooming Period: Jun–Nov Marshes and swamps (coastal salt). Elev: 0–10 ft.	Could occur in freshwater marsh habitat in ponds.
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	—	—	2B.1	Blooming Period: July–September Coastal, fresh, or brackish marshes and swamps. Elev: 0–656 ft.	Could occur in freshwater marsh habitat in ponds.
<i>Cordylanthus palmatus</i>	Palmate-bracted bird's beak	FE	SE	1B.1	Blooming Period: May–Oct. Inhabits alkaline soils within chenopod scrub and valley and foothill grassland. Elev: 15-500 ft.	Could occur, but only if there are alkaline soils in the Project area.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Cuscuta obtusifloravar. glandulosa</i>	Peruvian dodder	—	—	2B.2	Blooming Period: July–October Freshwater marshes and swamps. Elev: 49–919 ft.	Could occur in freshwater marsh habitat in ponds.
<i>Downingia pusilla</i>	Dwarf downingia	—	—	2B.2	Blooming Period: March–May Vernal pools and mesic valley and foothill grasslands. Elev: 3–1,459 ft.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Eriogonum apricum var. prostratum</i>	Irish Hill buckwheat	FE	SE	1B.1	Blooming period: Jun-Jul Inhabits chaparral openings, Ione soil. Elev: 200–400 ft.	No potential. Suitable habitat (chaparral, Ione soils) not present. Project site is below species' elevation range.
<i>Erysimum capitatum var. angustatum</i>	Contra Costa wallflower	FE	SE	1B.1	Blooming Period: Mar-Jul. Inhabits inland dunes, known only in Antioch Dunes. Elev: 10–100 ft.	No potential. Suitable habitat (inland dunes) not present.
<i>Fremontodendron decumbens</i>	Pine Hill flannelbush	FE	—	1B.2	Blooming Period: Apr-Jul Inhabits gabbroic or serpentinite, rocky soils. Chaparral, cismontane woodland. Elev: 1300–2400 ft.	No potential. Suitable habitat (gabbro or serpentine soils) not present. Project site is below species' elevation range.
<i>Galium californicum ssp. sierrae</i>	El Dorado bedstraw	FE	—	1B.2	Blooming Period: May-Jun Inhabits gabbroic, chaparral, cismontane woodland, lower montane coniferous forest. Elev: 300–1,800 ft.	No potential. Suitable habitat (gabbro soils) not present. Project site is below species' elevation range.
<i>Gratiola heterosepala</i>	Boggs Lake hedge- hyssop	—	SE	1B.2	Blooming Period: April–August Clay soils in marshes, swamps, lake margins, and vernal pools. Elev: 33–7,792 ft (10–2,375 m).	Could occur, but only if there are clay soils in the Project area.
<i>Hibiscus lasiocarpus var. occidentalis</i>	Woolly rose-mallow	—	—	1B.2	Blooming Period: June–September Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed (CDFW 2015c). Elev: 0–394 ft.	No potential. Suitable habitat (sloughs, river banks, riprap levees) not present.
<i>Juncus leiospermus var. ahartii</i>	Ahart's dwarf rush	—	—	1B.2	Blooming Period: March–May Mesic valley and foothill grasslands. Vernal pool margins and wet chaparral or woodland. Elev: 98–751 ft.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Lasthenia conjugens</i>	Contra costa goldfields	FE		1B.1	Blooming period: Mar-Jun. Habitat is often mesic, cismontane woodland, playas (alkaline), valley and foothill grassland, and vernal pools. Elev: 0–1500 ft.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	—	—	1B.2	Blooming Period: May–September Usually on marsh and slough edges .Freshwater and brackish marshes and swamps. Elev: 0–13 ft.	Not likely to occur. Project site is above species’ range. All CNDDDB records occur in marshes and sloughs in the Delta (CDFW 2020).
<i>Legenere limosa</i>	Legenere	—	—	1B.1	Blooming Period: April–June Vernal pools and ditches. Elev: 3–2,887 ft.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard’s pepper-grass	—	—	1B.2	Blooming Period: March–May Alkaline flats in valley and foothill grasslands. Elev: 7–656 ft.	No potential to occur. Suitable habitat not present. No alkaline flats or alkali lake beds occur on-site.
<i>Lilaeopsis masonii</i>	Mason’s lilaeopsis	—	SR	1B.1	Blooming Period: April– November Tidal zones, in muddy or silty soil formed through river deposition or riverbank erosion. Riparian scrub, and brackish or freshwater marshes and swamps. Elev: 3–30 ft.	Not likely to occur. Project site outside of species’ range. All CNDDDB records occur in marshes and sloughs in the Delta.
<i>Limosella australis</i>	Delta mudwort	—	—	2B.1	Blooming Period: May–August Usually mud banks in riparian scrub, and freshwater or brackish marshes and swamps. Elev: 0–10 ft.	Could occur in freshwater marsh habitat in ponds.
<i>Neostapfia colusana</i>	Colusa grass	FT	SE	1B.1	Blooming Period: May-August. Found growing in single-species stands in alkaline basins of Sacramento and San Joaquin valleys. Elev: 15–600 ft.	Could occur, but only if there are alkaline soils in the Project area.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Oenothera deltooides</i> ssp. <i>howellii</i>	Antioch Dunes evening-primrose	FE	SE	1B.1	Blooming Period: Mar–Sep. Antioch Dunes evening-primrose grows in mostly pure sand, but unlike other species, it will only re-establish in areas that contain new sand. The only naturally-occurring populations of Antioch Dunes evening-primrose are in the Antioch Dunes National Wildlife Refuge, which has been designated as Critical Habitat for Antioch Dunes evening-primrose by the U.S. Fish and Wildlife Service. Elev: 0–75 ft.	No potential. Outside of species' current range. Suitable habitat (pure sand) not present.
<i>Orcuttia tenuis</i>	Slender Orcutt grass	FT	SE	1B.1	Blooming Period: May–October Vernal pools. Elev: 115–5,774 ft.	Not likely to occur. Project area is below elevation range of this species.
<i>Orcuttia viscida</i>	Sacramento Orcutt grass	FE	SE	1B.1	Blooming Period: April–September Vernal pools. Elev: 98–328 ft.	Not likely to occur. Project area is below elevation range of this species.
<i>Senecio layneae</i>	Layne's ragwort	FT	—	1B.2	Blooming period: Apr–Aug. Inhabits serpentinite or gabbroic, rocky soils in chaparral, and cismontane woodlands. Elev: 600–3,200 ft.	Not likely to occur. Project area is below elevation range of this species.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	—	—	1B.2	Blooming Period: May–October In standing or slow- moving freshwater ponds, marshes, swamps, and ditches (CDFW 2015c [from 2019 SOIA EIR]). Elev: 0–2,133 ft.	Could occur in freshwater marsh and ditch habitats in ponds.
<i>Scutellaria galericulata</i>	Marsh skullcap	—	—	2B.2	Blooming Period: June–September Lower montane coniferous forest, meadows, seeps, marshes, and swamps. Elev: 0–6,890 ft (0–2,100m).	Could occur in freshwater marsh habitats in ponds.
<i>Scutellaria laterifolia</i>	Side-flowering skullcap	—	—	2B.2	Blooming Period: July–September Marshes, swamps, mesic meadows and seeps. Elev: 0–1,640 ft (0–500 m).	Could occur in freshwater marsh habitats in ponds.
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	—	—	1B.2	Blooming Period: May–November Brackish and freshwater marshes and swamps. Elev: 0–10 ft. (0–3 m.)	Could occur in freshwater marsh habitats in ponds.
<i>Trifolium hydrophilum</i>	Saline clover	—	—	1B.2	Blooming Period: April– June Marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools. Elev: 0–984 ft (0–300 m).	Could occur in freshwater marsh habitats in ponds.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<b>Invertebrates</b>						
<i>Apodemia mormo langei</i>	Lange's Metalmark Butterfly	FE	SE		Only occur within Antioch dunes, lay eggs on a subspecies of naked buckwheat.	No potential to occur. Project is outside of species' range.
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	—		Found in vernal pools and ephemeral wetlands. Distributed throughout the Central Valley, including Sacramento County (USFWS 2005).	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE	SE		Inhabits rather large, cool-water vernal pools with moderately turbid water. The pools generally last until June. However, the shrimp are gone long before then. They have been collected from early November to early April.	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<i>Callophrys mossii bayensis</i>	San Bruno Elfin Butterfly	FE	--		Inhabits rocky outcrops and cliffs in coastal scrub on the San Francisco. Host plant is exclusively broadleaf stonecrop.	No potential to occur. Project is outside of species' range.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	—		Dependent on hostplant, elderberry ( <i>Sambucus</i> sp.), which generally grows in riparian woodlands and upland habitats of the Central Valley.	Could Occur. Several elderberry shrubs in the off-site improvement areas near the Cypress Abbey property at the toe of railroad ballast.
<i>Elaphrus viridis</i>	Delta Green Ground Beetle	FT	--		Associated with vernal pool habitats, seasonally wet pools that accumulate in low areas with poor drainage, which occur throughout the Central Valley.	Not likely to occur. The delta green ground beetle has only been found in the greater Jepson Prairie area in south-central Solano County, California.
<i>Lepidurus packardi</i>	Vernal pool tadpole shrimp	FE	—		Wide variety of ephemeral wetland habitats, including vernal pools. Distributed throughout Central Valley and San Francisco Bay area (USFWS 2005).	Could occur in the off-site improvement areas in vernal pools within 200 feet of off-site drainage area in Cypress Abbey property.
<b>Fish</b>						
<i>Hypomesus transpacificus</i>	Delta smelt	FT	SE		Distribution includes the Sacramento River below Isleton, San Joaquin River below Mossdale, and Suisun Bay. Spawning areas include the Sacramento River below Sacramento, Mokelumne River system, Cache Slough, the delta, and Montezuma Slough.	No potential. Suitable habitat is not present.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Lampetra ayresii</i>	River lamprey	—	SSC		Adults require clean, gravelly riffles in permanent streams for spawning, while the ammocoetes require sandy backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 25°C.	No potential. Suitable habitat is not present.
<i>Mylopharodon conocephalus</i>	Hardhead	—	SSC		Small to large streams in a low to mid-elevation environment. May also inhabit lakes or reservoirs. Their preferred stream temperature might easily exceed 20°C, though these fish do not favor low dissolved oxygen levels. The hardhead minnow is usually found in clear deep streams with a slow but present flow.	No potential. Suitable habitat is not present.
<i>Oncorhynchus mykiss irideus</i>	Central Valley steelhead	FT	—		Spawning habitat = gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning = estuarine, marine waters.	No potential. Suitable habitat is not present.
<i>Oncorhynchus tshawytscha</i>	Central Valley spring-run chinook salmon	FT	ST		Spawning habitat = fast moving, freshwater streams and rivers. Juvenile habitat = brackish estuaries. Non-spawning = marine waters.	No potential. Suitable habitat is not present.
<i>Oncorhynchus tshawytscha</i>	winter-run chinook salmon, Sacramento River	FE	SE			No potential. Suitable habitat is not present.
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	—	SSC		Prefer slow-moving sections of freshwater rivers and sloughs. Most abundant in Suisun Bay and Marsh region. Largely absent from Sacramento River except during spawning.	No potential. Suitable habitat is not present.
<i>Spirinchus thaleichthys</i>	Longfin smelt	FC	ST/SSC		Adults and juveniles require salt or brackish estuary waters. Spawning takes place in freshwater over sandy-gravel substrates, rocks, and aquatic plants.	No potential. Suitable habitat is not present.
<b>Amphibians</b>						
<i>Ambystoma californiense</i>	California tiger salamander, central population	FT	ST		Occurs in grasslands of the Central Valley and oak savannah communities in the Central Valley, the Sierra Nevada and Coast ranges, and the San Francisco Bay Area. Needs seasonal or semi-permanent wetlands to reproduce, and terrestrial habitat with active ground squirrel or gopher burrows.	Not likely to occur. Project area is north of the Cosumnes River. There are no known occurrences north of the Cosumnes River (CDFW 2020).

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Rana boylei</i>	Foothill yellow-legged frog	—	SSC		Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	Not likely to occur. Suitable habitat (rocky streams or spring-fed pools) not present.
<i>Rana draytonii</i>	California red-legged frog	FT	SSC		Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streambanks with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry. Occurs along the Coast Ranges from Mendocino County south and in portions of the Sierra Nevada and Cascades ranges.	No potential to occur. The Project site is outside the species' range, which is not known to inhabit the Central Valley.
<i>Spea hammondi</i>	Western spadefoot toad	—	SSC		Open areas with sandy/gravelly soils. Variable habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Not likely to occur. Nearest records of the species are from eastern Sacramento County.
<b>Reptiles</b>						
<i>Emys marmorata</i>	Western pond turtle	—	SSC		Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater.	Could occur in ponds.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Thamnophis gigas</i>	Giant garter snake	FT	ST		Marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, rice fields and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November–mid March). Ranges in the Central Valley from Butte County to Buena Vista Lake in Kern County.	Could occur in Deer Creek.
<b>Birds</b>						
<i>Agelaius tricolor</i>	Tricolored blackbird	—	SE		Nests in wetlands or in dense vegetation near open water. Dominant nesting substrates: cattails, bulrushes, blackberry, agricultural silage. Nesting substrate must either be flooded, spinous, or in some way defended against predators (Hamilton 2004).	Could occur. Suitable nesting and foraging habitat is present in blackberry that is located in ditches and agriculture fields.
<i>Aquila chrysaetos</i>	Golden eagle	—	FP		Uncommon resident and migrant throughout California, except center of Central Valley. Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert.	Not likely to occur. Suitable habitat is not present.
<i>Ammodramus savannarum</i>	Grasshopper sparrow	—	SSC		In the foothills and lowlands west of the Cascades/Sierras. Dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches.	Not likely to occur. Suitable habitat is not present. History of disturbance at the site precludes this species from existing here.
<i>Athene cunicularia</i>	Burrowing owl	—	SSC		Open, flat expanses with short, sparse vegetation and few shrubs, level to gentle topography and well drained soils. Requires underground burrows or cavities for nesting and roosting. Can use rock cavities, debris piles, pipes, and culverts if burrows unavailable. Habitats include grassland, shrub steppe, desert, agricultural land, vacant lots and pastures.	Could occur. Suitable habitat is present. Species not previously documented on-site; however, presence of suitable habitat results in potential for future colonization.
<i>Buteo swainsoni</i>	Swainson's hawk	—	ST		Nests in stands with few trees in riparian areas, juniper-sage flats, and oak savannah in the Central Valley. Forages in adjacent grasslands, agricultural fields and pastures.	Could occur. Suitable foraging and nesting habitat is present.



Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Charadrius montanus</i>	Mountain plover	—	SSC		Found on short grasslands and plowed fields of the Central Valley from Sutter and Yuba counties southward. Also found in foothill valleys. Avoids high and dense cover. Often roosts in depressions such as ungulate hoof prints and plow furrows.	Could occur. Suitable foraging habitat is present.
<i>Charadrius nivosus</i>	Western snowy plover	FT	ST		Southern Washington to Baja California. Breeds on coastal beaches, dunes, salt spits, lagoons, estuaries, above high tide line.	Not likely to occur. Suitable habitat is not present.
<i>Chaetura vauxi</i>	Vaux's swift	—	SSC		Prefers redwood and Douglas fir habitats with nest sites in large hollow trees and snags, especially tall, burnt-out stubs.	Suitable habitat is not present. There are no Douglas fir or redwood trees or any large stands of trees in the off-site improvement areas.
<i>Circus cyaneus</i>	Northern harrier	—	SSC		Nests on the ground in patches of dense, tall vegetation in undisturbed areas. Breeds and forages in variety of open habitats such as marshes, wet meadows, weedy borders of lakes, rivers and streams, grasslands, pastures, croplands, sagebrush flats and desert sinks. (Shuford and Gardali 2008 [from 2019 SOIA EIR]).	Could occur. Suitable foraging habitat is present. Nesting habitat is not present due to highly disturbed nature of site.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT	SE		Nests in riparian forest along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not likely to occur. Project site is outside of the species' current nesting range, which is restricted to larger river systems.
<i>Elanus leucurus</i>	White-tailed kite	—	FP		Typically nest in the upper third of trees that may be 10–160 feet (33– 525 m) tall. These can be open-country trees growing in isolation, or at the edge of or within a forest.	Could occur. Suitable foraging and nesting habitats are present.
<i>Grus canadensis canadensis</i>	Lesser sandhill crane	—	SSC		In summer, occurs in and near wet meadow, shallow lacustrine, and fresh emergent wetland habitats. In winter, frequents moist croplands with rice or corn stubble and open, emergent	Could occur. No roosting habitat is present; however, the off-site improvement areas provides suitable foraging habitat.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Grus canadensis tabida</i>	Greater sandhill crane	—	ST/FP		wetlands. Prefers treeless plains. Nests in remote portions of extensive wetlands or sometimes shortgrass prairies.	Could occur. No roosting habitat is present; however, the off-site improvement areas provides non-high value foraging Habitat as identified in the SSHCP (County of Sacramento et al. 2018). The draft SSHCP identified the average distance from roost site and foraging sites ranges from 0.88 acres to 1.74 acres. Known roost sites are 2 miles from the off-site improvement areas.
<i>Haliaeetus leucocephalus</i>	Bald eagle	D	E		Nests in large, old- growth, or dominant live tree with open branchwork, especially ponderosa pine. Requires large bodies of water or rivers with abundant fish, and adjacent snags.	Not likely to occur. Suitable habitat is not present on-site. There are no large water bodies nearby or suitable nest spots.
<i>Ixobrychus exilis</i>	Least bittern	—	SSC		Large, freshwater wetlands with dense emergent vegetation.	Could occur in large ponds on Mahon Ranch and Cypress Abbey properties with dense emergent vegetation.
<i>Lanius ludovicianus</i>	Loggerhead shrike	—	SSC		Breeds in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground (Shuford and Gardali 2008 [from 2019 SOIA EIR]).	Could occur. Suitable foraging habitat is present. Nesting habitat is not present due to highly disturbed nature of site.
<i>Laterallus jamaicensis coturniculus</i>	California black rail	—	ST/FP		Yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area (CDFW 2020).	Not likely to occur, the project site is outside of the species' known range.
<i>Melospiza melodia</i>	Song sparrow ("Modesto" population)	—	SSC		Breeds and winters in riparian, fresh or saline emergent wetland, and wet meadows. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and fresh or saline emergent vegetation.	Could occur in emergent marsh, riparian, or pond habitats.
<i>Progne subis</i>	Purple martin	—	SSC		Numerous suitable nest cavities, open air space above nest sites, and aerial insect prey (Shuford and Gardali 2008 [from 2019 SOIA EIR]).	Not likely to occur; suitable nesting habitat is not present in the off-site improvement areas.

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Rallus longirostris obsoletus</i>	California Clapper Rail	FE	SE		Limited to saltwater and brackish marshes bordering the San Francisco bay area. Required dense groundcover, especially pickleweed and cordgrass.	No potential to occur. Suitable habitat not present, project is not within established range.
<i>Riparia riparia</i>	Bank swallow	—	ST		Riparian areas with sandy, vertical bluffs or riverbanks. Also nest in earthen banks and bluffs, as well as sand and gravel pits.	No potential to occur. Suitable habitat is not present. There are no sandy vertical banks present in off-site improvement areas.
<i>Setophaga occidentalis</i>	Yellow warbler	—	SSC		Riparian vegetation along streams and in wet meadows. Willow cover and Oregon ash important predictors of abundance in northern California pits.	Could occur in riparian vegetation in the off-site improvement areas.
<i>Sternula antillarum browni</i>	California least tern	FE	SE/FP		Nests and roosts in colonies on open beaches, forage near shore ocean waters and in shallow estuaries and lagoons.	Not likely to occur. Suitable habitat is not present. The off-site improvement areas are not near estuary or ocean waters.
<i>Vireo bellii pusillus</i>	Least bell's vireo	FE	SE		Central valley, southern California and Northern Mexico. Lowland riparian habitat.	Could occur in riparian habitat in the off-site improvement areas.
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	—	SSC		Nest in marshes with tall, emergent vegetation (e.g., tules and cattails) adjacent to deepwater (Shuford and Gardali 2008 [from 2019 SOIA EIR]).	Could occur in ponds and deep ditches with emergent vegetation in the off-site improvement areas.
<b>Mammals</b>						
<i>Lasiurus blossevillii</i>	Western red bat	—	SSC		Roosting habitat includes forests and woodlands, often in edge habitats adjacent to streams, fields, or urban areas.	Could occur. Suitable foraging habitat is present. Potential roosting habitat is present in large valley oaks present in off-site improvement areas.
<i>Reithrodontomys raviventris</i>	Salt Marsh Harvest Mouse	FE	SE		Limited to saltwater and brackish marshes bordering the San Francisco bay area. Required dense groundcover, especially pickleweed.	No potential to occur. Suitable habitat not present. Project site is outside species known range.
<i>Sylvilagus bachmani riparius</i>	Riparian bush rabbit	FE	SE		Inhabit riparian oak forests with a dense understory of wild roses, grapes and blackberries. Only two populations occur, one at Caswell State Park and one at the Faith Ranch (USFWS 2017a).	No potential to occur. The Project site is outside the species' range (USFWS 2017a).

Table 3.5-1. Special-Status Species in the Project Area						
Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Potential to Occur in Off-site Improvement Areas
<i>Taxidea taxus</i>	American badger	—	SSC		Open shrub, forest and herbaceous habitats with friable soils. Associated with treeless regions, prairies, park lands and cold desert areas. Range includes most of California, except the North Coast.	Could occur. Suitable habitat is present.
Notes: USFWS = United States Fish and Wildlife Service; CDFW = California Department of Fish and Wildlife; CRPR = California Rare Plant Rank; CNDDDB = California Natural Diversity Database; ESA = federal Endangered Species Act; CESA = California Endangered Species Act; I-5 = Interstate 5						
Legal Status Definitions						
USFWS:						
E = Endangered			CRPR:			
T = Threatened			1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)			
D = Delisted			2 Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)			
CDFW:						
E = Endangered			CRPR Extensions:			
T = Threatened			.1 Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat)			
CE = Candidate Endangered			.2 Fairly endangered in California (20 to 80% of occurrences are threatened)			
P = Protected						
SSC = State Species of Special Concern						
Potential for Occurrence Definitions:						
Unlikely to occur: Species is unlikely to be present due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.						
Could occur: Suitable habitat is available in the Project site or off-site improvement areas; however, there are little to no other indicators that the species might be present.						
Known to occur: The species, or evidence of its presence, was observed in the Project site or off-site improvement areas during reconnaissance surveys, or was reported by others.						
Sources: CNDDDB 2020, CNPS 2020						

## **Waters of the United States and Waters of the State**

Jurisdictional waters of the United States and isolated wetlands provide a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, migration, and movement corridors for both special-status and common species. In addition to habitat functions, these features provide physical conveyance of surface water flows capable of handling large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of open waters and streams. Jurisdictional waters can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources.

As discussed in the 2019 SOIA EIR, a wetland delineation was conducted for the City-owned parcel, and it was determined that the approximately 1.19 acres of pond and agricultural ditch were not jurisdictional since the water therein is sustained only through groundwater pumping. The USACE has determined that this on-site pond and ditch do not constitute jurisdictional Waters of the U.S. under the CWA Section 404 (USACE 2020).

The off-site improvement areas consist of several agricultural ditches, along with three ponds. All of these features are associated with active, ongoing agricultural operations including crop irrigation and stock watering. The water in these features is obtained from groundwater pumping. However, a wetland delineation has not been performed, and one or more of these features could be found to be a jurisdictional wetland. Furthermore, the off-site 8-acre and 15-acre ponds support freshwater emergent marsh and vernal pools. Deer Creek is a jurisdictional water of the United States.

### **3.5.2 REGULATORY FRAMEWORK**

#### **CITY OF ELK GROVE GENERAL PLAN**

The City General Plan (City of Elk Grove 2019), contains the following policies related to biological resources that are applicable to the proposed Project.

#### **Natural Resources Element**

- ▶ **Policy NR-1-2:** Preserve and enhance natural areas that serve, or may potentially serve, as habitat for special-status species. Where preservation is not possible, require that appropriate mitigation be included in the project.
  - **NR-1-2a.** Require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain special-status plant and animal species.
  - **NR-1-2b.** Develop a Noxious Weed Ordinance that includes regulatory standards for construction activities that occur adjacent to natural areas to inhibit the establishment of noxious weeds through accidental seed import.
  - **NR-1-2c.** Require development projects to retain movement corridor(s) adequate (both in size and in habitat quality) to allow for the continued wildlife use based on the species anticipated in the corridor.
- ▶ **Policy NR-1-3:** Support the establishment of multipurpose open space areas to address a variety of needs, including but not limited to maintenance of agricultural uses, wildlife habitat, recreational open space, aesthetic benefits, and flood control. To the extent possible, lands protected in accordance with this policy

should be in proximity to Elk Grove to facilitate use of these areas by Elk Grove residents, assist in mitigation of habitat loss within the City, and provide an open space resource close to the urbanized areas of Elk Grove.

- ▶ **Policy NR-1-4:** Avoid impacts to wetlands, vernal pools, marshland, and riparian (streamside) areas unless shown to be technically infeasible. Ensure that no net loss of wetland areas occurs, which may be accomplished by avoidance, revegetation, restoration on-site or through creation of riparian habitat corridors, or purchase of credits from a qualified mitigation bank.
- ▶ **Policy NR-1-5:** Recognize the value of naturally vegetated stream corridors, commensurate with flood control and public desire for open space, to assist in removal of pollutants, provide native and endangered species habitat, and provide community amenities.
- ▶ **Policy NR-1-6:** Encourage the retention of natural stream corridors, and the creation of natural stream channels where improvements to drainage capacity are required.
- ▶ **Policy NR-1-7:** Consider the adoption of habitat conservation plans for rare, threatened, or endangered species.
- ▶ **Policy NR-2-1:** Preserve large native oak and other native tree species as well as large nonnative tree species that are an important part of the City's historic and aesthetic character.
- ▶ **Policy NR-2-2:** Maximize and maintain tree coverage on public lands and in open spaces.
- ▶ **Policy NR-2-3:** Ensure that trees that function as an important part of the City's or a neighborhood's aesthetic character or as natural habitat on public and private land are retained or replaced to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.

## Land Use Element

- ▶ **Policy LU-3-22:** Identify a mitigation program for critical habitat for special status species known to occur within the Study Areas. A proposed project determined to have a significant impact to habitat for special-status species shall implement all feasible mitigation measures established in the program, including but not limited to land dedication (which may be located either inside or outside the corresponding Study Area) or fee payment, or both.

## 3.5.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to biological resources if it would:

- ▶ have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

- ▶ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW;
- ▶ have a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means;
- ▶ interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- ▶ conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan; or
- ▶ substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

## IMPACT ANALYSIS

### Impact 3.5-1: Loss of Habitat for Special-Status Plant Species.

As presented in Table 3.5-1, the off-site drainage improvements areas contain habitat that is suitable for 17 different species of special-status plants. Furthermore, as discussed in the 2019 SOIA EIR, surveys of the City-owned parcel found marginal habitat for Sanford’s arrowhead in the on-site agricultural pond and ditches. Therefore, a variety of special-status plant species may be adversely affected by Project-related activities both on- and off-site. Loss of special-status plants is considered a **potentially significant** impact.

#### *Mitigation Measure 3.5-1a: Minimize the Temporary Off-Site Construction Impact Footprint.*

- During final project design and siting, minimize the temporary project footprint to the areas necessary for construction, and select locations that are already disturbed or developed to the greatest extent feasible.
- Avoid known occurrences of all special-status species, wetlands, riparian habitat, and sensitive natural communities to the greatest extent feasible.
- Minimize grading to the greatest extent feasible to avoid clearing of trees and shrubs.

#### *Mitigation Measure 3.5-1b: Conduct Special-status Plant Surveys; Implement Compensatory Mitigation for Special-status Plants (2019 SOIA EIR Mitigation Measure 3.5-1).*

Before any vegetation removal or ground-disturbing activities, both on- and off-site, the following measures shall be implemented to mitigate the potential loss of special-status plants:

- Participate in the South Sacramento Habitat Conservation Plan through payment of the appropriate SSHCP Fee and/or dedication of land meeting SSCHP criteria and compliance with relevant

Avoidance and Minimization Measures as detailed in the City's Memorandum of Agreement with the South Sacramento Conservation Agency for Becoming a Participating Special Entity in the South Sacramento Habitat Conservation Plan; OR

- Retain a qualified botanist to conduct protocol-level preconstruction special-status plant surveys for potentially occurring species following the CDFW rare plant survey protocols (CDFW 2018) (or the most recent CDFW rare plant survey protocols). All plant species encountered shall be identified to the taxonomic level necessary to determine species status. The surveys shall be conducted no more than 5 years prior and no later than the blooming period immediately preceding the approval of a grading or improvement plan or any ground disturbing activities, including grubbing or clearing.
- Notify CDFW, as required by the California Native Plant Protection Act, if any special-status plants are found. Notify USFWS if any plant species listed under the ESA are found.
- Develop a mitigation and monitoring plan to compensate for the loss of special-status plant species found during preconstruction surveys, if any. The mitigation and monitoring plan shall be submitted to CDFW or USFWS, as appropriate depending on species status, for review and comment. The City shall consult with these entities, as appropriate, depending on species status, before approval of the plan to determine the appropriate mitigation measures for impacts on any special-status plant population. Mitigation measures may include preserving and enhancing existing on-site populations, creation of off-site populations on project mitigation sites through seed collection or transplantation, and/or preserving occupied habitat off-site in sufficient quantities to offset loss of occupied habitat or individuals.
- If transplantation is part of the mitigation plan, include the following elements in the plan: a description and map of mitigation sites; details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, and monitoring and reporting requirements; remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements; and sources of funding to purchase, manage, and preserve the sites. The following performance standards shall be applied:
  - The extent of occupied area and the flower density in compensatory reestablished populations shall be equal to or greater than the affected occupied habitat and shall be self-producing.
  - Reestablished populations shall be considered self-producing when:
    - plants reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and
    - reestablished habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types.
- If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement



holders, long-term management requirements, and other details, as appropriate, to target the preservation of long-term, viable populations.

***Mitigation Measure 3.5-1c: Implement an Off-Site Revegetation and Weed Control Plan.***

To control invasive/noxious weeds, particularly in the off-site improvement areas, implement the following actions to avoid and minimize the spread or introduction of invasive plant species:

- Clean construction equipment and vehicles in a designated wash area prior to entering and exiting the construction site.
- Educate construction supervisors and managers about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.
- Treat small, isolated infestations with eradication methods that have been approved by or developed in conjunction with CDFW and USFWS to prevent or destroy viable plant parts or seeds.
- Minimize surface disturbance to the greatest extent feasible to complete the work.
- Use native, noninvasive species or nonpersistent hybrids in erosion-control plantings to stabilize site conditions and prevent invasive plant species from colonizing.
- Use weed-free imported erosion-control materials (or rice straw) in upland areas.
- One year after construction, conduct a monitoring visit to each active or previously active (within 1 year) improvement footprint to ensure that no new occurrences of invasive plant species have become established.

Reclaim all areas disturbed by project construction, including temporary disturbance areas around construction sites, laydown/staging areas, and temporary access roads, using a locally sourced native and naturalized seed mix in ruderal and natural areas; or reclaim to the pre-existing agricultural condition, if temporary impacts occur in agricultural lands. A qualified biologist with demonstrated experience with the habitat to be restored shall have oversight for the selection of reclamation species.

***Implement Mitigation Measure 3.4 1a (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).***

***Significance after Mitigation***

The drainage ditches that require improvement would be maintained by the City under a dedicated easement. Implementation of Mitigation Measures 3.5-1a through 3.5-1c, and 3.4-1a would reduce impacts on potentially-occurring special-status plant species because project applicants would be required to minimize the off-site disturbance areas; identify special-status plants through site-specific protocol-level surveys; implement appropriate avoidance, minimization, and mitigation measures; implement a revegetation and weed control plan; and implement fugitive dust controls. Therefore, as with the 2019 SOIA EIR, this impact would be **less than significant with mitigation**.

### Impact 3.5-2: Adverse Effects on Valley Elderberry Longhorn Beetle Habitat.

The valley elderberry longhorn beetle (VELB) is an insect endemic to the Central Valley of California that inhabits riparian and associated upland habitats where elderberry (*Sambucus mexicana* or *Sambucus racemosa* var. *microbotrys*), its host plant, grows. VELB habitat consists of riparian forests whose dominant plant species include cottonwood, sycamore, valley oak, and willow, with an understory of elderberry shrubs (USFWS 1999). Blue elderberry shrubs in the Central Valley with basal stem diameters larger than 1 inch are considered by the USFWS as potential VELB habitat.

There are several records of VELB within a 3-mile radius of the off-site improvement areas, as shown on Exhibit 3.5-2 (CNDDDB 2020). Blue elderberry shrub habitat forms a narrow row of densely growing, large elderberry shrubs along the base of railroad ballast along the south side of the off-site ditch (proposed for widening) that runs along the UPRR tracks. In addition, two small elderberry shrubs (less than 1-inch diameter) are present southeast of the existing outfall to Deer Creek, where the existing hand-dug ditch conveys water from the 15-acre pond. Furthermore, as described in the 2019 SOIA EIR, one elderberry shrub with three stems approximately 1 inch in diameter was observed in the City-owned parcel.

Elderberry plants without stems measuring 1.0 inch or greater in diameter at ground level are unlikely to provide habitat for VELB because of their small size and/or immaturity (USFWS 1999). However, if construction does not occur for several years, existing elderberry bushes would increase in size and additional elderberry bushes could establish that could support VELB. VELB has been recorded in the nearby Cosumnes River/Deer Creek riparian corridor.

Because of the potential for loss of elderberry shrubs during on- and off-site construction activities, the impact to VELB is considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Mitigation Measure 3.5-2a: Conduct VELB Surveys (2019 SOIA EIR Mitigation Measure 3.5-2a).*

Before any vegetation removal or ground-disturbing activities for construction both on- and off-site, the following measure shall be implemented to mitigate the potential for impacts on VELB:

- A qualified biologist shall survey for the presence of elderberry shrubs with stems measuring than 1-inch diameter at ground level. Surveys shall be conducted in accordance with USFWS' Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). If no elderberry shrubs with one or more stems measuring 1 inch or greater in diameter at ground level are documented, no further mitigation is required.

*Mitigation Measure 3.5-2b: Establish a Construction Buffer and Initiate Consultation with USFWS (2019 SOIA EIR Mitigation Measure 3.5-2b).*

If elderberry shrubs are detected with stems greater than 1 inch in diameter and with evidence of VELB occupancy in the project site or the off-site improvement areas, the following measures shall be implemented to avoid, minimize, or mitigate effects on VELB, in accordance with USFWS' *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999):

- Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.
- Brief contractors and work crews about the status of the beetle and the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.
- Erect signs every 50 feet along the edge of the avoidance area with the following information: “This area is habitat of the VELB, a threatened species, and must not be disturbed. This species is protected by the ESA, as amended. Violators are subject to prosecution, fines, and imprisonment.” The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.
- If avoidance of an elderberry shrub and establishment of a 100-foot buffer is not practicable, initiate consultation with USFWS to determine if Incidental Take authorization need to be obtained from the USFWS, and if compensatory mitigation is required according to the guidelines identified in USFWS’ Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). This may include, but is not limited to, establishment of a conservation area to be maintained in perpetuity, transplanting elderberry shrubs that cannot be avoided, planting elderberry seedlings, planting associated native vegetation, and monitoring and maintenance of the conservation area. With USFWS approval, payment to a mitigation bank or payment into an in-lieu fee fund may be used to satisfy this measure.

### ***Significance after Mitigation***

With implementation of Mitigation Measures 3.5-1a, 3.5-2a, and 3.5-2b, impacts would be reduced because these measures would minimize the off-site construction footprint, and elderberry shrubs in the Project site and the off-site improvement areas that could support VELB would be identified, avoided, and protected before construction activities occur, or potential loss of elderberry shrubs would be mitigated in accordance with USFWS guidelines. The drainage ditches that require improvement would be maintained by the City under a dedicated easement. With enforcement of the above mitigation and General Plan policies, future development would be designed to minimize potential impacts. Therefore, as with the 2019 SOIA EIR, the impact would be reduced to a **less-than-significant** level with mitigation.

### **Impact 3.5-3: Loss of Nesting and Foraging Habitat for Special-Status and Other Protected Raptors.**

Swainson’s hawk is listed as threatened under CESA, white-tailed kite is a fully protected species, and northern harrier and burrowing owl are California species of special concern. All raptors and their active nests, including common species, are protected under Section 3503.5 of the California Fish and Game Code.

Land surrounding the off-site drainage improvements areas would continue to be used for agricultural and open space purposes. The agricultural ditches and ponds would continue to provide foraging habitat after the proposed improvements (i.e., widening and/or deepening) were completed. Therefore, direct loss of foraging habitat would not occur from the off-site improvements. However, the off-site drainage improvements could result in the direct loss of nesting habitat through tree removal, or indirect disturbance of nesting behavior due to noise generated during off-site construction.

Furthermore, as described in the 2019 SOIA EIR, converting land in the Project site from agricultural to urban land uses would result in removal of cropland that provides suitable foraging habitat for Swainson's hawk, white-tailed kite, northern harrier, and burrowing owl. Following the ultimate conversion of the Project site to urban uses, the Project site would retain zero foraging habitat value for all of these special-status raptor species.

Exhibit 3.5-2 shows Swainson's hawk, white-tailed kite, and burrowing owl occurrences in relation to the proposed off-site improvement areas (CNDDDB 2020). In addition, Swainson's hawk, red-tailed hawk, American kestrel, and Northern harrier were observed either foraging or flying over the off-site improvement areas and the adjacent cropland/annual grassland habitat during the AECOM 2020 site visit. At the conclusion of the short-term temporary construction activities associated with widening and/or deepening of the off-site agricultural ditches and ponds, foraging habitat would continue to be available for all of these special-status raptor species.

Conversion of 84 acres of cropland resulting from urban development on the City-owned parcel, and potential loss of up to 412 acres (408 acres of irrigated pasture and 6 acres of cropland) in the remainder of the Project site would remove high-value foraging habitat that is important to the local Swainson's hawk population. This loss could affect nesting success, survival rates, and availability of prey for the local Swainson's hawk population, or result in displacement of nesting pairs of Swainson's hawk, white-tailed kite, and northern harrier. Therefore, the loss of foraging habitat resulting from development of the Project site is considered a **potentially significant** impact on Swainson's hawk, special-status raptors and other nesting raptors.

Vegetation removal, grading, and other construction activities both on- and off-site could result in mortality of individuals and nest abandonment. If trees are to be removed during the raptor breeding season (March–August), mortality of eggs and chicks of tree nesting raptors could result, if an active nest were present. In addition, future development activities could disturb active nests near construction areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. Ground disturbance or vegetation removal during the breeding season could result in loss of active northern harrier nests.

Burrowing owls need burrows at all times to survive, and displacing individuals from their burrows can result in indirect impacts such as predation, increased energetic costs, increased stress, and risks associated with having to find and compete for burrows, all of which can lead to take or reduced reproduction. Although burrowing owls are found within the agricultural landscape of Sacramento County and the species is known to inhabit agricultural field borders and forage in cultivated fields, the Project site is not modeled in the South Sacramento Habitat Conservation Plan (SSHCP) as either wintering or nesting habitat for western burrowing owl. However, burrowing owls may be present both on the Project site and adjacent to the off-site improvement areas.

Future development in the Project site and the off-site drainage improvements areas could result in direct destruction of an active Swainson's hawk, white-tailed kite, northern harrier, burrowing owl, or common raptor nests or disturb nesting raptors, resulting in nest abandonment by adult birds and abandonment of chicks and eggs, causing mortality. Therefore, direct and indirect impacts on active raptor nests or burrows are considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Mitigation Measure 3.5-3a: Avoid Direct Loss of Swainson's Hawk and Other Raptors (2019 SOIA EIR Mitigation Measure 3.5-3a).*

Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of nesting Swainson's hawks and other nesting raptors:

- Tree and vegetation removal shall be completed during the nonbreeding season for raptors (September 1–February 15).
- To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors (not including burrowing owl) nesting on or adjacent to the project site or off-site improvement areas, retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (March 1–September 15). The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines provided in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) or future applicable updates to this guidance shall be followed for surveys for Swainson's hawk. If no nests are found, no further mitigation will be required.
- Impacts on nesting Swainson's hawks and other raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. No project activity shall commence within the buffer areas until a qualified biologist has determined, in consultation with CDFW, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. The buffer distance for Swainson's hawk nests shall be determined by a qualified biologist and the City, in consultation with CDFW, based on the distance required to avoid adversely affecting the nest(s).
- The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson's hawk) shall be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.
- Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer shall be increased until the agitated behavior ceases. The qualified biologist will have the authority to shut down construction activities within a portion or all of a construction site if necessary to avoid nest abandonment or take of individuals. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.

*Mitigation Measure 3.5-3b: Avoid Loss of Burrowing Owl (2019 SOIA EIR Mitigation Measure 3.5-3b).*

Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of burrowing owl:

- To avoid, minimize, and mitigate potential impacts on burrowing owl, retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat on and within 1,500 feet of the project site. Surveys will be conducted before the start of construction activities and in accordance with Appendix F of CDFW's *Staff Report on Burrowing Owl Mitigation* (DFG 2012) or the most recent CDFW protocols.
- If no occupied burrows are found, a letter report documenting the survey methods and results will be submitted to the City and CDFW and no further mitigation will be required.
- If an active burrow is found during the nonbreeding season (September 1 through January 31), owls will be relocated to suitable habitat outside of the project area using passive or active methodologies developed, in consultation with CDFW, and may include active relocation to preserve areas if approved by CDFW and the preserve managers. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is developed and approved by CDFW.
- If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows will not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer will depend on the time of year and level of disturbance, as outlined in the CDFW Staff Report (DFG 2012:9) or the most recent CDFW protocols. Once the fledglings are capable of independent survival, the owls will be relocated to suitable habitat outside the project area, in accordance with a burrowing owl exclusion and relocation plan developed in consultation with CDFW and the burrow will be destroyed to prevent owls from reoccupying it. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is approved by CDFW. Following owl exclusion and burrow demolition, the site shall be monitored by a qualified biologist to ensure burrowing owls do not recolonize the site before construction.
- If active burrowing owl nests are found on the project site and these nest sites are lost as a result of implementing the project, the project applicant shall mitigate the loss through preservation of other known nest sites in Sacramento County, at a minimum ratio of 1:1, according to the provisions of a mitigation and monitoring plan for the compensatory mitigation areas.
- The mitigation and monitoring plan will include detailed information on the habitats present within the preservation areas, the long-term management and monitoring of these habitats, legal protection for the preservation areas (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment). All burrowing owl mitigation lands shall be preserved in perpetuity and incompatible land uses shall be prohibited in habitat conservation areas.

- Burrowing owl mitigation land shall be transferred, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and CDFW named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, after consultation with CDFW. The City, after consultation with CDFW and the Conservation Operator, shall approve the content and form of the conservation easement. The City and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to ensure compliance with the terms of the easement.

***Mitigation Measure 3.5-3c: Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program (2019 SOIA EIR Mitigation Measure 3.5-3c).***

- Participate in the South Sacramento Habitat Conservation Plan through payment of the appropriate SSHCP Fee and/or dedication of land meeting SSCHP criteria and compliance with relevant Avoidance and Minimization Measures as detailed in the City's Memorandum of Agreement with the South Sacramento Conservation Agency for Becoming a Participating Special Entity in the South Sacramento Habitat Conservation Plan; OR
- Before the start of construction activities both on- and off-site, project applicants shall demonstrate compliance with the City's Swainson's Hawk Foraging Habitat Mitigation Program as it exists in Chapter 16.130 of the Municipal Code, or as it may be updated in the future. The City of Elk Grove will consult with the County of Sacramento to seek to develop an approach to mitigation for loss of Swainson's hawk foraging habitat that integrates with the SSHCP Conservation Strategy Biological Goals and Objectives for this species and with the interconnected landscape-level preserve system envisioned in the SSHCP.

***Significance after Mitigation***

Implementing Mitigation Measures 3.5-1a, 3.5-3a, 3.5-3b, and 3.5-3c would reduce potentially significant impacts on white-tailed kite, northern harrier, burrowing owl, and other raptors because it would minimize the off-site construction footprint, and ensure that these species are not disturbed during nesting so that construction would not result in nest abandonment and loss of eggs or young. These measures would also ensure that Swainson's hawk foraging habitat and burrowing owl habitat would be preserved at a 1:1 ratio of habitat lost. Preservation of Swainson's hawk foraging habitat would also benefit white-tailed kite, northern harrier, and other raptors, and would reduce the potential indirect effect of foraging habitat loss on these species.

Implementation of the City's Municipal Code Chapter 16.130 ensures purchase and preservation of replacement foraging habitat before the approval of grading and improvement plans or before any ground-disturbing activities by requiring project applicants to acquire conservation easements or other instruments to preserve suitable foraging habitat for the Swainson's hawk, as determined by CDFW. Municipal Code Chapter 16.130 requires 1:1 mitigation, and the location of mitigation parcels as well as the conservation instruments protecting them must be acceptable to the City. In deciding whether to approve the land proposed for preservation by the project applicant, the City must consider the benefits of preserving lands in proximity to other protected lands. The preservation of

land must be done prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first. In addition, the City's Code requires:

- ▶ The land to be preserved shall be deemed suitable Swainson's hawk foraging habitat.
- ▶ All owners of the mitigation land shall execute the document encumbering the land.
- ▶ The document shall be recordable and contain an accurate legal description of the mitigation land.
- ▶ The document shall prohibit any activity which substantially impairs or diminishes the land's capacity as suitable Swainson's hawk foraging habitat.
- ▶ If the land's suitability as foraging habitat is related to existing agricultural uses on the land, the document shall protect any existing water rights necessary to maintain such agricultural uses on the land covered by the document, and retain such water rights for ongoing use on the mitigation land.
- ▶ The applicant shall pay to the City a mitigation monitoring fee to cover the costs of administering, monitoring and enforcing the document in an amount determined by the receiving entity, not to exceed ten (10%) percent of the easement price paid by the applicant, or a different amount approved by the City Council, not to exceed fifteen (15%) percent of the easement price paid by the applicant.
- ▶ Interests in mitigation land shall be held in trust by an entity acceptable to the City in perpetuity. The entity shall not sell, lease, or convey any interest in mitigation land which it shall acquire without the prior written approval of the City.
- ▶ The City shall be named a beneficiary under any document conveying the interest in the mitigation land to an entity acceptable to the City.

Even with implementation of Mitigation Measures 3.5-1a, 3.5-3a, 3.5-3b, and 3.5-3c, the impact on loss of high-value Swainson's hawk foraging habitat may not be reduced to less-than-significant levels. Only a finite amount of suitable mitigation land is available within the foraging range of the local Swainson's hawk nesting population, and even with preservation of foraging habitat to compensate for losses that would occur, an overall net loss of foraging habitat available to the local nesting Swainson's hawk population would still occur. This conclusion is based on an assessment of the widespread loss of foraging habitat for this species in the region, the status of this local area as supporting a high breeding concentrations of Swainson's hawks, and on the challenges of securing sufficient foraging habitat mitigation lands in areas that would support the local nesting population. This net loss would undoubtedly result in reduced reproductive success and displacement of nesting pairs, thereby contributing to the decline of Swainson's hawk populations. There is no additional feasible mitigation available that would avoid this impact. As with the 2019 SOIA EIR, the impact on Swainson's hawk would remain **significant and unavoidable**.

As with the 2019 SOIA EIR, with implementation of Mitigation Measures 3.5-1a, 3.5-3a, 3.5-3b, and 3.5-3c, future development in the Project site and the off-site improvement areas would be designed to minimize potential impacts. With regard to the other species addressed in the mitigation above (burrowing owl, white-tailed kite, northern harrier, and other raptors), the impact is considered **less than significant with mitigation**.

#### Impact 3.5-4: Loss and Disturbance of Nesting Habitat for Special-Status Birds and Common Nesting Birds.



As presented in Table 3.5-1, construction of the off-site improvements has the potential to affect 10 species of special-status (non-raptor) bird species. As shown in Exhibit 3.5-2, there are numerous documented occurrences of tricolored blackbird, which is a State-listed endangered species, within 3 miles of the off-site improvement areas.

Construction could result in indirect disturbance of breeding birds causing nest abandonment by the adults and mortality of chicks and eggs. Vegetation removal and ground disturbances could also result in direct destruction of active nests of special-status birds, and of common birds protected under the MBTA or California Fish and Game Code. Loss of nests of common bird species (those not meeting the definition of special-status as provided above) would not be a significant impact under CEQA because it would not result in a substantial effect on their populations locally or regionally; however, destruction of bird nests is a violation of the MBTA and Section 3503 of the California Fish and Game Code and mitigation to avoid the loss of active nests of these species is required for compliance with these regulations.

Land surrounding the off-site drainage improvement areas would continue to be used for agricultural and open space purposes. The off-site agricultural ditches and ponds would continue to provide foraging habitat after the proposed improvements (i.e., widening and/or deepening) were completed. Therefore, direct loss of foraging habitat would not occur from the off-site improvements. However, the off-site drainage improvements could result in the direct loss of nesting habitat through habitat removal along the ditches or in the ponds, or indirect disturbance of nesting behavior due to noise generated during off-site project construction.

Furthermore, as discussed in the 2019 SOIA EIR, the Project site includes cropland and irrigated pasture. Both cropland and irrigated pasture provides suitable foraging habitat for special-status bird species, as well as other migratory species. Therefore, in addition to the off-site improvement areas, conversion of the on-site agricultural land to urban development would result in the loss of foraging habit and could result in the loss of nesting habitat. Therefore, this impact is considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Mitigation Measure 3.5-4: Avoid Loss of Special-Status Birds and Protected Bird Nests (2019 SOIA EIR Mitigation Measures 3.5-4 and 3.5-5).*

Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of special-status birds and protected bird nests:

- To the extent feasible, vegetation removal, grading, and other ground-disturbing activities will be carried out during the nonbreeding season for protected bird species in this region (generally September 1–January 31).
- For vegetation removal, grading, and other ground-disturbing activities that would occur during the nesting season (February 1–August 31), a qualified biologist shall conduct preconstruction surveys to determine if active special-status bird nests are present within an on- or off-site project footprint or within 500 feet of a project footprint. The biologist shall conduct preconstruction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence or absence of special-status birds. Preconstruction surveys shall be conducted during the breeding/nesting season. Surveys conducted in

February (to meet preconstruction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities.

- Surveys for least Bell's vireo shall be conducted according to USFWS' *Least Bell's Vireo Survey Guidelines* (USFWS 2001).
- If an active nest of a special-status bird species, or common bird species protected by the MBTA or California Fish and Game Code is found, the qualified biologist shall establish a buffer around the nest. No construction activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffer shall be determined in consultation with CDFW. Buffer size is anticipated to range from 50 to 500 feet, depending on the species of bird, nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances, as determined by a qualified biologist, in consultation with CDFW.
- A qualified biologist shall monitor the nest(s) throughout the nesting season and to determine when the young have fledged. The biologist will be on-site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that birds are exhibiting agitated behavior, construction shall cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting birds. If the biologist determines that bird colonies are at risk, a meeting with CDFW will be held to determine the best course of action to avoid nest abandonment or take of individuals. The biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a special-status bird flies into an active construction zone (i.e., outside the buffer zone).

### ***Significance after Mitigation***

Implementation of Mitigation Measures 3.5-1a and 3.5-4 would reduce potentially significant impacts on special-status (non-raptor) birds and protected bird nests because it would minimize the off-site construction footprint, and ensure these birds are not disturbed during nesting so that project construction would not result in nest abandonment and loss of eggs or young. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant with mitigation**.

### **Impact 3.5-5: Potential for Injury to or Mortality of American Badger.**

The American badger is most common in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers inhabit burrows, which are dug into friable soil for cover. Suitable soil for the construction of burrows and the presence of numerous ground squirrel burrows located throughout the project site suggest that American badgers have the potential to occur within the Project site and the off-site improvement areas.

Project-related construction activities could crush American badger burrows and kill or injure badgers occupying burrows. Although very little empirical data are available about American badger population status and trends in California, badger populations in the middle Central Valley have declined (County of Sacramento et al. 2018). Project-related injury or death to an American badger, particularly if a natal den was destroyed, is considered a **potentially significant** impact.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Mitigation Measure 3.5-5: Avoid Direct Loss of American Badgers (2019 SOIA EIR Mitigation Measure 3.5-6).*

Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate potential impacts on American badgers:

- A qualified biologist shall conduct preconstruction surveys for American badger in areas that will be subject to ground-disturbing activities. The survey shall be conducted no more than 2 weeks before initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during preconstruction surveys, CDFW will be consulted to obtain permission for animal relocation. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from reusing them during construction.
- If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for 3–5 days to discourage use of these dens before project disturbance. The den entrances shall be blocked to an incrementally greater degree over the 3- to 5-day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent reuse during construction.

***Significance after Mitigation***

Implementation of Mitigation Measures 3.5-1a and 3.5-5 would reduce impacts on badgers by minimizing the off-site construction footprint, identifying any badger dens that might occur in impact areas, and implementing measures to avoid impacts. With implementation of Mitigation Measure 3.5-5, construction would be designed to minimize potential impacts. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant with mitigation**.

**Impact 3.5-6: Potential for Injury to or Mortality of Western Pond Turtle and Giant Garter Snake.**

Western pond turtles are found in rivers, streams, creeks, ponds, marshes, irrigation ditches, damp woodland and forest, and grassland. The turtles require logs, rocks, vegetation mats, or exposed banks to bask in the sun. Females lay their eggs between April and August in upland habitat, usually along stream or pond margins. Their diet consists of aquatic plants, invertebrates, worms, frog and salamander eggs and larvae, crayfish, carrion, and occasionally frogs and fish. Giant garter snake is found primarily in marshes, sloughs, drainage canals, and irrigation ditches, especially around rice fields, and occasionally in slow-moving creeks. During the spring and summer, giant garter snake can be found in vegetated upland areas within 200 feet of suitable aquatic habitat. The giant garter snake uses upland habitat for basking, cover, and mammal burrows, and crevices in the soil to escape predation and during ecdysis (shedding of skin). In the fall (October) giant garter snakes move underground into mammal burrows, crevices, or other voids in the ground to avoid potentially lethal cool autumn and winter temperatures.

Although there are no records of western pond turtle or giant garter snake occurrences within the Project site or the off-site improvement areas, the CNDDDB (2020) database indicates that western pond turtle and giant garter snake occurrences have been documented approximately 2.75 miles southwest and approximately 2 miles

southeast, respectively, of the off-site improvement areas. Suitable habitat for western pond turtle is present in the ponds associated with the off-site drainage improvement areas, and in Deer Creek. Suitable habitat for giant garter snake is present along Deer Creek in the areas where off-site widening of agricultural ditches is proposed. Both western pond turtle and giant garter snake could also occur in upland habitats in the off-site drainage improvements areas adjacent to suitable aquatic habitats. Both western pond turtle and giant garter snake are covered species under the SSHCP (County of Sacramento et al. 2018). Construction activities associated with the off-site improvements, such as vegetation clearing, excavation, and grading, could disturb western pond turtle and giant garter snake habitat. Furthermore, construction of the off-site improvements could result in habitat degradation and injury or mortality of western pond turtle or giant garter snake individuals (e.g., equipment strikes, crushing underground individuals), if present in the off-site project footprint during construction. Therefore, this impact is considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Mitigation Measure 3.5-6a: Retain a Biological Monitor During Off-Site Construction Activities.*

- The project applicant shall retain a qualified biologist to monitor construction activity in the off-site improvement areas for compliance with all project permits and the approved mitigation and monitoring program for the proposed project; and to report on monitoring activities as required by project permits.
- During construction activities, if an injured or dead special-status species is encountered, the work shall stop in the immediate vicinity. The project applicant shall notify the biological monitor, and the appropriate resource agency (e.g., USFWS or CDFW). Any measures required by these agencies shall be implemented, and proof of implementation shall be submitted to the agencies before construction is allowed to proceed.
- At the end of each work day, the biological monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with exclusion fencing. If any wildlife species become entrapped, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible.
- Employees and contractors shall look under vehicles and equipment for the presence of wildlife before moving vehicles and equipment. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled without the appropriate permits.
- Vehicle speed limits shall not exceed 15 miles per hour during construction and operation of the proposed project. A speed limit sign shall be posted at all project site entry locations.

*Mitigation Measure 3.5-6b: Avoid Western Pond Turtle and Giant Garter Snake During Off-Site Construction Activities.*

Western Pond Turtle

- Where feasible, construction activities involving construction with heavy equipment (e.g., excavation, grading, contouring) in suitable western pond turtle upland habitat will avoid the western pond turtle egg-laying period (generally mid-May to early July).
- Prior to the start of construction in western pond turtle habitat (i.e., any undeveloped areas within 1,300 feet of riverine aquatic habitat, ponds, seasonal wetlands), the project applicant will retain a biologist approved by the CDFW to survey and handle western pond turtles and conduct preconstruction surveys. Surveys will be conducted at each habitat area no more than 7 days prior to the initiation of ground disturbance at that location.
- If ground-disturbing activities occur during the nesting or overwintering seasons, 1 week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist will conduct surveys for western pond turtle. The surveys will be timed to coincide with the time of day when turtles are most likely to be active (the cooler part of the day between 8:00 a.m. and 12:00 p.m. during spring and summer). Prior to conducting the surveys, the biologist will locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey will include a 30-minute wait time after arriving on the site to allow startled turtles to return to open basking areas. The survey will consist of a minimum 15-minute observation time per area where turtles could be observed. If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed; and capture and relocate, if possible, any entrapped turtle. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat, and periodically inspect these areas for nests and turtles.

Giant Garter Snake

- Where feasible, construction activities involving construction with heavy equipment use (e.g., excavation, grading, contouring) in suitable giant garter snake habitat (i.e., within 200 feet of Deer Creek) will avoid the snake's inactive/dormant period (generally October 2 to April 30).
- To the maximum extent possible, all construction activities in giant garter snake habitat will be conducted during the snake's active period (May 1 to October 1).
- To reduce the likelihood of snakes entering the active construction areas that include or are adjacent to freshwater wetlands, slow-moving riverine aquatic habitat, marshes, ditches, and canals in the off-site improvement areas during construction activities, the project applicant or the construction contractor will install exclusion fencing along the freshwater marsh, aquatic riverine features, and open water areas outside of the environmental footprint (areas within 200 feet of suitable habitat). The exclusion fencing will be installed and maintained for the duration of construction in or adjacent to these features. The fencing will consist of 3- to 4-foot-tall erosion fencing buried at least 6 to 8 inches below the ground. To ensure that construction equipment and personnel do not affect aquatic

habitat for giant garter snake outside the construction corridor, orange barrier fencing will be erected (in addition to the exclusion fencing) to clearly define the aquatic habitat to be avoided.

- A qualified biologist will conduct a preconstruction survey in suitable habitat no more than 24 hours before construction. Prior to construction each morning, construction personnel will inspect exclusion and orange barrier fencing to ensure they are in good condition. Observations of snakes in the environmental footprint and access routes will be immediately reported to the biologist, and all activities will cease until appropriate corrective measures have been completed; the snake leaves the construction site under its own volition; or the biologist determines that the snake will not be harmed. The area undergoing construction will be re-inspected and surveyed by the biologist whenever a lapse in construction activity of 2 weeks or more occurs.
- Any ground-disturbing activities within 200 feet of giant garter snake habitat that occur after October 1 will be monitored by a USFWS- and a CDFW-approved biologist for the duration of the work.
- Vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat will be limited to the minimum area necessary. Giant garter snake habitat outside of—but adjacent to—the construction areas will be flagged, and designated as an environmentally sensitive area to be avoided by all construction personnel.
- The movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat will be confined to designated access and haul routes to minimize habitat disturbance.
- Staging areas will be located at least 200 feet from suitable giant garter snake aquatic habitat.

### ***Significance after Mitigation***

Implementation of Mitigation Measures 3.5-1a 3.5-6a, and 3.5-6b would reduce impacts on western pond turtle and giant garter snake by requiring avoidance and minimization of impacts on aquatic habitats, and requiring preconstruction surveys, biological monitoring, and avoidance measures for individuals of the species. With implementation of Mitigation Measures 3.5-1a, 3.5-6a, and 3.5-6b, project-related construction would be designed to minimize potential impacts on western pond turtle and giant garter snake. Therefore, the impact is considered **less than significant with mitigation**.

### **Impact 3.5-7: Potential Loss of Western Red Bat.**

No surveys for bat roosts have been conducted in the Project area, but large trees and riparian habitats in the off-site improvement areas offer appropriate features to support individual and maternity bat roosts for western red bats. Western red bats tend to roost in trees in edge habitats near fields or streams. Suitable foraging habitat is present, and potential roosting habitat is present in large valley oaks, in and adjacent to the off-site drainage improvements areas. Western red bat is a Covered Species under the SSHCP (County of Sacramento et al. 2018).

Construction activities that would cause temporary disturbance or permanent removal of an occupied bachelor, migratory, maternity, or solitary bat roost could cause direct and indirect adverse effects on individual bats or groups. Potential adverse effects could include direct mortality during roost removal; dysfunctional allocation of time and energy to vigilance behaviors; increased energy costs for maintenance, growth, and reproduction;

degradation of physiological condition and social order; shifts in habitat use patterns, species distribution, and community structure; and roost abandonment (Caltrans 2016). Roost abandonment may cause pup mortality, expose bats to predation, require them to redirect their limited energy reserves to finding new roosts, and require bats to expend more energy for thermoregulation in suboptimal replacement roosts (Caltrans 2016).

However, western red bats change roosts frequently and mothers can move their young; therefore, they would have the capacity to fly away from disturbance. In addition, bats inhabiting bachelor and migratory roosts would be volant, and would be able to fly away from construction disturbances. None of the indirect adverse effects would be expected to cause mortality in large numbers of bats, and would not be expected to cause a local bat population to drop below self-sustaining levels.

A minor amount of grassland habitat and aquatic features may be lost during construction of the off-site drainage improvements, which could result in the loss of bat foraging habitat. Permanent loss of oak trees (and other large trees) could result in the permanent loss or degradation of nonessential roosts. Because abundant foraging habitat is available in the off-site drainage improvements area (along the Deer Creek corridor), the temporary and permanent loss or degradation of foraging habitat would not be expected to cause indirect mortality to large numbers of bats, or to substantially reduce their habitat. Likewise, nonessential roosts are not critical for sustaining bat populations, and the permanent loss of some nonessential roosts would not be expected to cause indirect mortality to large numbers of bats, reduce their number, or restrict their range. Although these impacts would be **less than significant**, implementation of the mitigation measures listed below would help to further reduce impacts to special-status bats.

*Implement Mitigation Measure 3.5-1a (Minimize the Off-Site Construction Impact Footprint).*

Implementation of Mitigation Measures 3.5-1a would help to avoid and further minimize **less-than-significant** impacts on special-status bats by minimizing the off-site construction areas (to avoid suitable roost habitats such as trees and riparian habitat) where feasible.

**Impact 3.5-8: Potential Indirect Effects to Vernal Pool Crustacean Habitat.**

Three special-status crustaceans endemic to vernal pool habitats have the potential to occur in the off-site improvement areas: vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservatio*), and vernal pool tadpole shrimp (*Lepidurus packardii*). Fairy shrimp occur primarily in small, clear-water sandstone-depression vernal pools and grassed swales or basalt-flow depression vernal pools that fill with water during fall and winter rains, and dry up in the spring and summer. They typically hatch when the first rains of the season fill the vernal pools, and mature in about 41 days under typical winter conditions. Adult fairy shrimp live only for a single season, while there is water in the pools; and toward the end of their brief lifetime, females produce thick-shelled eggs or cysts. During the summer, these cysts become buried in the dried bottom mud of the vernal pools, and during the winter, they are frozen for varying lengths of time. These cysts hatch when the rains come again in the fall and winter. The Conservancy fairy shrimp is one of the rarest species of fairy shrimp in California and is known to occur only in several distinct populations, the closest of which is the Yolo Bypass Wildlife Area (USFWS 2017b).

Although there are no records of fairy shrimp occurrences within the project site or the off-site improvement areas, the CNDDDB (2020) database indicates that vernal pool fairy shrimp and vernal pool tadpole shrimp are present approximately 1 mile southeast and 2 miles southwest of the off-site improvement areas, respectively.

Suitable habitat for all three shrimp species is present within a vernal pool complex that is approximately 250 feet south of the 8-acre pond in the vicinity of the proposed off-site drainage improvements.

The vernal pool fairy shrimp, Conservancy fairy shrimp, and vernal pool tadpole shrimp are Covered Species under the SSHCP (County of Sacramento et al. 2018), and under the USFWS' *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005).

No direct impacts (i.e., fill) of the vernal pool complex would occur as a result of the proposed off-site drainage improvements. However, construction of the off-site improvements could result in indirect impacts from generation of fugitive dust, erosion and sedimentation, and/or pollution from accidental spills, as well as introduction of nonnative invasive plants that could reduce habitat quality for vernal pool crustaceans in the nearby vernal pool complex. This impact is considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).*

*Mitigation Measure 3.5-8: Avoid and Minimize Potentially-Occupied Habitat for Vernal Pool Fairy Shrimp and Conservancy Fairy Shrimp During Off-Site Construction Activities.*

- A qualified biologist shall monitor for impacts on potentially occupied vernal pool fairy shrimp and Conservancy fairy shrimp habitat during off-site construction activities to ensure that they are identified for avoidance on site plans and preserved and avoided during off-site construction activities.
- Vernal pool habitat shall be flagged and orange exclusionary fencing shall be erected prior to the start of off-site construction activities in the vicinity of the southern-most drainage ditch (along the UPRR tracks) and the 8-acre pond. The exclusionary fencing shall establish a 250-foot buffer from the vernal pool boundary.
- The project applicant shall obtain a Construction General Stormwater Permit from the Central Valley RWQCB, prepare a stormwater pollution prevention plan, and implement best management practices (BMPs) to reduce water quality effects during construction.
- USFWS consultation with USACE would occur during the CWA Section 404 permitting process that is required as mitigation for impacts on wetlands and other waters of the United States (see discussion under Impact 3.5-8, below).

*Implement Mitigation Measure 3.4-1a (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).*

### **Significance after Mitigation**

Implementation of Mitigation Measures 3.5-1a, 3.5-1d, 3.5-8, and 3.4-1a would reduce impacts on vernal pool crustaceans by because project applicants would be required to minimize the off-site disturbance areas; implement a revegetation and weed control plan; avoid impacts to vernal pools; and implement fugitive dust controls. With implementation of Mitigation Measures 3.5-1a, 3.5-1d, 3.5-8, and 3.4-1a, project-related construction would be



designed to minimize potential impacts on vernal pool crustaceans. Therefore, the impact is considered **less than significant with mitigation**.

#### Impact 3.5-9: Disturbance, Degradation, or Removal of Federally Protected Waters of the United States.

As discussed in the 2019 SOIA EIR, a total of ±0.707 acre of agriculture ditches and 0.257 acre of agricultural pond occur in the City-owned parcel. The ditches and pond are presumed to be nonjurisdictional because based on a review of aerial photographs and field investigation, the source of water in the City-owned parcel is a pump. Therefore, although these features drain to a ditch on Grant Line Road and eventually into Deer Creek, which is a jurisdictional waterway, the ditches and pond are primarily agricultural features sustained through groundwater pumping. USACE has determined that these on-site features do not constitute jurisdictional Waters of the U.S. under the CWA Section 404 (USACE).

The off-site improvement areas consist of several agricultural ditches, along with three ponds. All of these features are associated with active, ongoing agricultural operations including crop irrigation and stock watering. The water in these features is obtained from groundwater pumping. However, a wetland delineation has not been performed, and one or more of these features could be found to be a jurisdictional wetland. Furthermore, the off-site 8-acre and 15-acre ponds support freshwater emergent marsh, and a vernal pool complex is present near the 8-acre pond. A jurisdictional wetland delineation of the agricultural ditches and ponds in the off-site improvement areas has not yet been conducted. If aquatic features yet to be delineated are deemed jurisdictional by the USACE, construction activities could result in fill of waters of the United States. Waters that do not meet the criteria to qualify as waters of the U.S. and are disclaimed by the USACE could still be considered waters of the state subject to regulation by the Central Valley Regional Water Quality Control Board (RWQCB) under California's Porter-Cologne Act, because waters of the State are defined more broadly under California Water Code Section 13050(e) compared to waters of the U.S.

Deer Creek is a jurisdictional water of the United States. Channel improvements at the existing outfall from the 15-acre pond to Deer Creek may require grading or other improvements of the bed or bank of Deer Creek at this location, leading to fill of waters of the United States. In addition, increased flows to Deer Creek resulting from improvements to adjacent ponds and ditches would occur as a result of discharges of urban stormwater runoff from the project site once it is developed. Potential indirect effects to downstream waters include reduction in water quality caused by urban runoff, erosion, and siltation, and increased flow volumes/altered hydrology. For the reasons stated above, impacts related to disturbance, degradation, or removal of federally protected waters of the United States in the off-site improvement areas are considered **potentially significant**.

Construction-related direct and indirect impacts on riparian habitat at the proposed channel improvements where an existing outfall connects to Deer Creek south of the 15-acre pond, that would fall under the jurisdiction of Section 1600 of the California Fish and Game Code, would be **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).*

*Mitigation Measure 3.5-9a: Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State (2019 SOIA EIR Mitigation Measure 3.5-7).*

Before the start of construction activities both on- and off-site, the following measures shall be implemented to mitigate the potential loss of waters:

- Conduct a delineation of waters of the United States according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and Arid West Supplement (Environmental Laboratory 2008) or applicable guidance manual that is in place at the time of application for proposed development that could adversely affect waters of the State or United States. The delineation shall map and quantify the acreage of all aquatic habitats and shall be submitted to USACE for verification and jurisdictional determination.
- Off-site improvements shall be planned and designed to avoid waters of the United States, including wetlands, and waters of the state to the maximum extent technically feasible and appropriate. Avoidance shall be deemed technically feasible and appropriate if the habitat may be preserved while still obtaining the project purpose and objectives and if the preserved aquatic habitat could reasonably be expected to continue to provide the same habitat functions following project implementation.
- The function of all wetlands and other waters that would be removed as a result of implementing the project shall be replaced or restored on a “no-net-loss” basis. Wetland habitat will be restored or replaced at an acreage and location and by methods agreeable to USACE and the Central Valley RWQCB, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.
- Mitigation methods may consist of establishment of aquatic resources in upland habitats where they did not exist previously, reestablishment (restoration) of natural historic functions to a former aquatic resource, enhancement of an existing aquatic resource to heighten, intensify, or improve aquatic resource functions, or a combination thereof. The compensatory mitigation may be accomplished through purchase of credits from a USACE-approved mitigation bank, payment into a USACE-approved in-lieu fee fund, or through permittee-responsible on-site or off-site establishment, reestablishment, or enhancement, depending on availability of mitigation credits.
- If applicable, a USACE Section 404 Individual Permit and Central Valley RWQCB Section 401 water quality certification shall be obtained before any groundbreaking activity within 50 feet of waters of the United States or discharge of fill or dredge material into any water of the United States, or meet waste discharge requirements for impacts to waters of the state.
- A qualified biologist shall prepare a wetland mitigation plan to describe how the loss of aquatic functions for each project will be replaced. The mitigation plan will describe compensation ratios for acres filled, and mitigation sites, a monitoring protocol, annual performance standards and final success criteria for created or restored habitats, and corrective measures to be applied if performance standards are not met.
- Permittee-responsible mitigation habitat shall be monitored for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the success criteria identified in the approved mitigation plan have been met, whichever is longer.

- Water quality certification pursuant to Section 401 of the CWA, or waste discharge requirements (for waters of the state), will be required before issuance of a Section 404 permit. Before construction in any areas containing aquatic features that are waters of the United States, the project applicant(s) shall obtain water quality certification for the project. Any measures required as part of the issuance of water quality certification and/or waste discharge requirements (for waters of the state), shall be implemented. Project applicant(s) shall obtain a General Construction Stormwater Permit from the Central Valley RWQCB, prepare a stormwater pollution prevention plan, and implement best management practices (BMPs) to reduce water quality effects during construction.

*Mitigation Measure 3.5-9b: Comply with the Section 1600 Streambed Alteration Agreement*

- Before construction, the project applicant shall obtain a Section 1600 Streambed Alteration Agreement from CDFW for any activities proposed in or near Deer Creek and/or associated riparian vegetation that could potentially fall under the jurisdiction of CDFW. The project applicant shall implement all conditions in the permit, including any requirements for compensatory mitigation for loss of riparian habitat as part of the Section 1600 Streambed Alteration Agreement. Where feasible, the compensatory mitigation requirement may be combined with those for other mitigation measures such as that required for the USACE CWA Section 404 permit. To comply with Sacramento County General Plan policies related to compensation for the loss of riparian habitats, impacts on riparian habitat shall be mitigated by the preservation riparian habitat at a minimum 1:1 ratio, in perpetuity.
- If on-site restoration is selected as compensatory mitigation for impacts on riparian habitat, the project applicant shall prepare and implement Mitigation Measure 3.5-1d “Develop and Implement an Off-Site Revegetation and Weed Control Plan” to include reestablishment of riparian habitat, including riparian vegetation subject to CDFW jurisdiction, and/or enhancement of existing habitat, on a per-acre basis. To offset the temporary loss of riparian habitat during construction, the minimum mitigation ratio shall be no less than 1.5 acres of riparian habitat restored/created/enhanced for each acre of permanent or temporary impact. The revegetation and weed control plan shall include the following provisions for the restoration of affected riparian habitat:
  - Baseline data collection at reference sites in the project site to establish expected ranges and minimum thresholds for species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) for each sensitive habitat that would be affected.
  - An appropriate species planting palette for each sensitive habitat that would be affected.
  - Minimum planting densities designed to achieve minimum performance standards for survival cover and density, while maintaining the natural character of the vegetation community being restored/created.
  - Minimum performance standards for percent survival, species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) based on data collected from nearby reference sites and life history traits of the plants being restored (i.e., herbaceous versus woody, fast-growing primary colonizers versus slow-growing successional species).

- Compensation for the temporal loss of habitat resulting from the removal of trees. Any trees removed from riparian habitat shall be replaced with the same or similar species at a ratio of 3:1 (three [3] trees planted for every one [1] tree removed). Tree replacement may be carried out concurrently on riparian habitats that are also being restored/created/enhanced on a per-acre compensatory basis.

*Implement Mitigation Measure 3.4-1a: (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).*

### **Significance after Mitigation**

Implementation of Mitigation Measures 3.5-1a, 3.5-1d, 3.5-9a, 3.5-9b, and 3.4-1a would reduce potentially significant impacts on waters of the United States and waters of the state because they would require minimization of the project footprint, no-net-loss of function of aquatic and riparian habitat, and development and implement a BMP and water quality maintenance plan that conforms to applicable State and local regulations restricting surface water runoff to minimize adverse effects on water quality and indirect effects to downstream waters. With implementation of Mitigation Measures 3.5-1a, 3.5-9a, 3.5-9b, on-site and off-site improvements would be designed to minimize potential impacts. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant with mitigation**.

### **Impact 3.5-10: Interference with Wildlife Nursery Sites or Migratory Corridors.**

No native wildlife nursery sites have been identified in the Project site or within the off-site drainage improvements areas. The Project site consists almost entirely of agricultural land cover types that do not provide suitable breeding or nesting habitat for most species. Little natural vegetation and few trees or shrubs are available within the Project site to support nesting bird colonies, rookeries, or fawning areas, and there are no suitable trees or structures to support bat maternity roosts. No established migratory routes have been identified within the Project site and converting land in the Project site from agricultural to urban land uses would not cause any areas of natural habitat to become isolated. According to the California Essential Habitat Connectivity Project, the Project site is not located within a Natural Landscape Block or Essential Habitat Connectivity area (Spencer et al. 2010). The California Essential Habitat Connectivity Project provides a comprehensive, statewide assessment of large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas).

The off-site improvement areas contain sensitive natural communities including wetlands that could provide breeding and nesting habitat for a variety of special-status species (see Table 3.5-1). However, Mitigation Measures 3.5-1 through 3.5-9 provide the appropriate avoidance, minimization, and mitigation measures necessary to reduce impacts to special-status species and habitats to a less-than-significant level.

The SSHCP (County of Sacramento et al. 2018) describes Laguna Creek and the Cosumnes River/Deer Creek corridor as two key wildlife movement corridors in the SSHCP plan area that should be preserved to maintain movement and resident habitat for wildlife, preserve riparian habitat, and maintain hydrologic connections between preserves. The proposed Project would not remove any habitat within the Deer Creek corridor. At the conclusion of Project-related off-site improvements (i.e., widening and/or deepening) to the agricultural ditches that convey water to the Deer Creek outfalls along the northeastern property boundary and southeast of the 15-acre pond, these features would continue to serve as habitat and maintain hydrologic connections between

cropland/annual grassland and the Deer Creek corridor. Construction activities in the agricultural ditches and at the 15-acre pond would be short-term and temporary, and any work that would affect the bed, bank or channel of Deer Creek and/or associated riparian vegetation will be conducted in accordance with a Streambed Alteration Agreement issued by CDFW (See Mitigation Measure 3.5-9b).

The Project site and the off-site improvement areas are within the Pacific flyway, which is a major north-south route for migratory birds along western North America. As such, large numbers of migrating birds may move through the area seasonally and may congregate and forage in wetlands, grasslands, and agricultural fields during winter or use them as resting grounds during longer migrations from the Arctic to Central or South America. While migrating birds may use agricultural fields in the Project site and the area around the off-site improvement areas as winter resting (stop-over) and foraging habitat, loss of agricultural habitat from urban development of the Project site would not create a barrier to movement of migratory species. Loss of agricultural habitat on the Project site would not alter the character of existing habitat available to migrating birds along the Pacific flyway such that it would no longer function as a migratory corridor because abundant agricultural habitat of equal or better value would be available to migrating birds surrounding the project site. This agricultural habitat, along with the Cosumnes River and Preserve, Stone Lakes Wildlife Refuge, and the Woodbridge Ecological Reserve, would continue to support the needs of migratory birds and provide wildlife movement opportunities for other native resident or migratory wildlife species in the area.

Project development would not interfere substantially with the movement of any native resident or migratory wildlife species because the Project site does not currently provide an important connection between any areas of natural habitat that would otherwise be isolated, and converting land in the project site from agricultural to urban land uses would not cause any areas of natural habitat to become isolated. Furthermore, construction of the off-site improvements would be short-term and temporary, would not alter the Deer Creek migratory corridor, and would continue the existing hydrologic connections between the Deer Creek corridor and the cropland/annual grassland habitats to the west through the off-site agricultural ditches and ponds. Therefore, Project implementation would not have an adverse impact on wildlife movement or nursery sites, and this impact is considered **less than significant**.

#### Impact 3.5-11: Conflicts with Local Policies and Ordinances Protecting Biological Resources.

The Project site and the off-site improvement areas contain scattered native trees, including valley oaks, that would be considered trees of local importance under Section 19.12.040 of the City Code. In addition, as shown on Exhibits 3.5-1b and 3.5-1d, valley oak woodland habitat is present along Deer Creek where the conveyance channel from the 15-acre pond discharges to the creek, and at the eastern end of the northern-most drainage ditch. Both the conveyance ditch and the drainage ditch are proposed for widening and/or deepening.

Elk Grove General Plan Policy NR-2-1 acknowledges that trees can function as important natural habitat features and thus should be retained, to the extent possible. The large native oaks on- and off-site, as well as other large, nonnative, ornamental species in the eastern portion of the Project site, provide potential nest sites for raptors, including Swainson's hawk. Converting land within the Project site from agricultural to urban land uses, and construction of the off-site drainage improvements, could result in removal of trees protected under Chapter 19.12 of the Elk Grove Municipal Code ("Tree Preservation and Protection") and/or General Plan policy. The City's tree regulations and General Plan policies call for the preservation of large trees to the extent feasible; however, retaining trees on-site would still result in a loss of nesting habitat for Swainson's hawk and white-tailed kite

because these trees would be surrounded by urban land uses following development and would no longer be suitable for nesting by these species.

The off-site improvement areas consist of agricultural ditches and ponds. Removal of wetland or streamside habitat in off-site improvement areas could conflict with General Plan policies that call for the preservation of wetland and streamside habitats and habitat for special-status species (General Plan Policies NR-1-2, NR-1-5, and NR-1-7). In addition, General Plan Policy NR-1-3 recognizes open space lands of all types as important resources, which should be preserved in the region for a variety of uses, including for wildlife habitat. Because the Project site consists of agricultural open space that provides important habitat values for many species of wildlife, including the state-listed Swainson's hawk, loss of this on-site agricultural land to urban uses would conflict with this General Plan policy. In sum, there is a potential for conflict with the City's tree regulations and with General Plan policies through removal of large trees, aquatic habitat (canals and ditches, streamside habitat, and wetlands), and agricultural open space. Therefore, this impact is considered **potentially significant**.

*Implement Mitigation Measure 3.5-3c (Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program).*

*Implement Mitigation Measure 3.5-9a (Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State).*

*Implement Mitigation Measure 3.5-9b (Comply with the Section 1600 Streambed Alteration Agreement).*

*Implement Mitigation Measure 3.2-2 (Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance).*

### **Significance after Mitigation**

Implementation of Mitigation Measures 3.5-3c, 3.5-9a, 3.5-9b, and 3.2-2 would reduce potentially significant impacts related to conflicts with City ordinances and policies protecting biological resources because they would require avoidance of protected trees and aquatic and riparian habitats if technically feasible and would require compensation for loss of function of aquatic and riparian habitat and loss of agricultural habitat that provides habitat values for special-status species. With implementation of Mitigation Measures 3.5-3a, 3.5-9a, 3.5-9b, and 3.2-2, future development in the Project site and the off-site improvements area would be designed to minimize potential impacts. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant with mitigation**.

### **Impact 3.5-12: Conflicts with the Provisions of an Adopted Habitat Conservation Plan.**

The SSHCP, which was adopted in 2018, includes the Project site in its plan area; however, the City of Elk Gove is not a participant in the SSHCP.

As discussed in the 2019 SOIA EIR, the SSHCP identifies 67,618 acres of Urban Development Area (UDA), which corresponds with the County's USB, and 33,499 acres of planned impact within that UDA. The Project site is located within the UDA and therefore habitat loss within the Project site has been included in the SSHCP planned impact calculation. To offset the planned impacts that would occur within the UDA, the SSHCP Conservation Strategy calls for creation of an integrated preserve system that conserves the natural land covers, certain cropland, and irrigated pasture–grassland in the SSHCP plan area. The preserve system will preserve at

least 34,495 acres of existing habitat and reestablish or establish at least 1,787 acres of habitat for a total preserve system of 36,282 acres.

Mitigation Measures 3.5-1 through 3.5-9, including the option of mitigating through the City's Elk Grove Municipal Code Chapter 16.130 for Swainson's hawk impacts, are consistent with the avoidance, minimization, and mitigation measures for covered species described in the SSHCP. Therefore, development in the Project site and construction of the off-site drainage improvements would not conflict with the provisions of the SSHCP. Therefore, this impact is considered **less than significant**.

#### Impact 3.5-13: Loss of Riparian Habitat and Sensitive Natural Communities.

As shown in Exhibits 3.5-1a through 3.5-1d, riparian habitat and sensitive natural communities are present throughout the off-site improvement areas. Widening and/or deepening of existing off-site agricultural ditches and ponds could result in direct removal of sensitive natural communities or riparian habitats, as well as indirect effects from increased sedimentation and/or accidental spills during construction. Therefore, Project implementation could have a substantial adverse effect on riparian habitat and other sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS. Therefore, this impact is considered **potentially significant**.

*Implement Mitigation Measure 3.5-1a (Minimize the Temporary Off-Site Construction Impact Footprint).*

*Implement Mitigation Measure 3.5-1d (Implement an Off-Site Revegetation and Weed Control Plan).*

*Mitigation Measure 3.5-13: Avoid, Minimize, or Compensate for Loss of Riparian Habitat and Sensitive Natural Communities (2019 SOIA EIR Mitigation Measure 3.5-11).*

- Retain a qualified botanist to identify, map, and quantify riparian habitat and other sensitive natural communities in proposed off-site improvement areas before final project design is completed. Off-site improvements shall be planned and designed to avoid loss or substantial degradation of riparian habitat and other sensitive natural communities, if technically feasible and appropriate. Avoidance shall be deemed technically feasible and appropriate if the features may be preserved while still obtaining the project purpose and objectives and if the preserved habitat/community could reasonably be expected to provide comparable habitat functions following project implementation. The avoidance measures shall include relocating off-site improvement components, as necessary and where practicable alternatives are available, to prevent direct loss of riparian habitats and other sensitive natural communities.
- If riparian habitat or other sensitive natural communities present in off-site improvement areas cannot feasibly be avoided, the project applicant shall coordinate with CDFW to determine appropriate mitigation for removal of riparian habitat and sensitive natural communities resulting from project implementation. Mitigation measures may include restoration of affected habitat, habitat restoration, or preservation and enhancement of existing habitat/natural community in other locations. The compensation habitat shall be similar in composition and structure to the habitat/natural community to be removed and shall be at ratios adequate to offset the loss of habitat functions in the affected off-site improvement area.

*Implement Mitigation Measure 3.5-9b: (Comply with the Section 1600 Streambed Alteration Agreement)*

*Implement Mitigation Measure 3.4-1a: (Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices).*

***Significance after Mitigation***

Implementation of Mitigation Measures 3.5-1a, 3.5-1d, 3.5-9b, 3.5-13, and 3.4-1a would reduce potentially significant impacts related to riparian habitat and sensitive natural communities because they would require minimizing the off-site construction footprint, construction worker personnel training, implementing a revegetation and weed control plan, avoidance of sensitive riparian habitats if technically feasible, compensation for loss of riparian habitat and sensitive natural communities if they cannot be avoided, and control of fugitive dust during construction activities. With implementation of Mitigation Measures 3.5-1a, 3.5-1d, 3.5-9b, 3.5-13, and 3.4-1a, construction in the off-site improvement areas would be designed to minimize potential impacts. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant with mitigation**.



## **3.6 CULTURAL AND TRIBAL CULTURAL RESOURCES**

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. The Native American Heritage Commission (NAHC) provided a comment letter noting the requirements of CEQA related to cultural resources, the requirements of Assembly Bill (AB) 52 related to Tribal Cultural Resources, the tribal consultation requirements of AB 52 and Senate Bill 18, and NAHC recommendations related to tribal consultation and inclusion of mitigation measures (where necessary). The Wilton Rancheria submitted a comment letter requesting maps of the proposed Project (which were provided by the City to the commenter on August 18, 2020). The City reviewed and considered this information during preparation of this chapter.

### **3.6.1 ENVIRONMENTAL SETTING**

The environmental setting related to cultural resources has not changed since the 2019 SOIA EIR was prepared. However, since that time, the City has identified the need for additional off-site drainage improvements immediately adjacent to and extending south of the Project site. The same environmental setting that was presented in the 2019 SOIA EIR also applies to the proposed off-site improvement areas. A brief summary from the 2019 SOIA EIR Section 3.6, “Cultural Resources” and 2019 SOIA EIR Cultural Resources Appendix D, is presented below, along with the results of an updated records search and site visit.

Although the cultural and tribal cultural resources impact topics have areas of overlap and have been combined in order to avoid duplication and reduce page-length of the SEIR, it is important to understand that these are different types of resources. Separate significance thresholds have been used for cultural resources and tribal cultural resources; these thresholds, as listed in the CEQA Appendix G checklist, are presented below in Subsection 3.3, “Environmental Impacts and Mitigation Measures.”

Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include prehistoric, historic-era, and Tribal Cultural Resources (the latter as defined by AB 52, Statutes of 2014, in Public Resources Code Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-era physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical resources include standing buildings (e.g., houses, barns, outbuildings, cabins), intact structures (e.g., dams, bridges, wells), or other remains of humans’ alteration of the environment (foundation pads, remnants of rock walls).

Tribal Cultural Resources were added as a distinct resource subject to review under CEQA, effective January 1, 2015, under AB 52. This is a new category of resources under CEQA and includes site features, places, cultural landscapes, and sacred places or objects, which are of cultural value to a tribe. This new category of resources was added in order to recognize that tribes have unique knowledge and information about sensitive resources important to tribal communities.

#### **PREHISTORIC PERIOD**

The Project site and the off-site improvements areas are located in the traditional territory of the Plains Miwok, whose vast region included alluvial plains, Delta marshland, river channels, and upland ridges (Bennyhoff 1977).

Significant contact with European and Euroamerican immigrants occurred in the early 19th century as Spanish, Mexican, and American explorers arrived in the area. Plains Miwok populations were affected greatly by Spanish-era missionization, the rapid spread of diseases associated with large trapping companies, and the intensive settlement of the valley and foothills following the discovery of gold in 1848. Only four tribelets remained in their aboriginal territory by 1850, and, by 1880, the last tribelet that had resettled at what is today Elk Grove had also disappeared (Bennyhoff 1977). The closest recorded Plains Miwok ethnographic villages are Amuchamne and Shalachmushumne, approximately 0.7 mile and 0.8 mile, respectively, southeast of the Project site. These sites are within the Deer Creek/Cosumnes River floodplain, and are near the off-site improvement areas. The City of Elk Grove has previously identified prehistoric and historic Native American sites mostly located along rivers, creeks, and sloughs, and many if not all, have the potential to contain human remains (City of Elk Grove 2003).

Tribal Cultural Resources provide the backdrop to:

- ▶ religious understanding;
- ▶ traditional stories;
- ▶ knowledge of resources, such as varying landscapes, bodies of water, animals and plants; and
- ▶ self-identity.

Knowledge of place is central to the continuation and persistence of culture, even if former Native American occupants live removed from their traditional homeland. Consulting tribes view these interconnected sites and places as living entities; their associations and feeling persist and connect with descendant communities.

## **HISTORIC PERIOD**

The Project site and the off-site improvements areas are located outside the Elk Grove City limits, south of Grant Line Road, and west of the Cosumnes River. The Project site itself is within the City's Planning Area. The community of Elk Grove was established by 1850 as a stage stop along the Monterey Trail and developed as an agricultural center after the arrival of the Central Pacific Railroad in the 1870s.

The Project site and the off-site improvements areas are located within the former boundaries of the Rancho Omochumnes Mexican land grant and were historically used for farming and ranching; the area continues to have similar land uses today. Dominant commodities originally included cattle, sheep, wheat, and barley, but later diversified into row crops, hops, fruits, nuts, and grapes. Many of these large ranches maintained their original property boundaries until the mid-20th century when they began to sell off lands for residential development. Page & Turnbull (2012) previously identified the area between Grant Line Road and the Cosumnes River as recommended for additional survey efforts to identify historic ranches and farms to further Elk Grove's historic preservation efforts. A review of maps and historic aerial photographs identified four extant clusters of buildings and structures among the agricultural fields that represent historic-age home sites and ancillary buildings supporting agricultural and ranching operations from the 1860s to the 1950s when agriculture was the pillar of the Elk Grove economy (Page & Turnbull 2012). The following describes the four extant farmsteads on the Project site and the off-site improvements areas, generally from north to south.

The Mosher Ranch at 10161 Grant Line Road (APN 134-0190-002) within the Project site and a portion of the off-site improvement area is one of the original ranches established in the Elk Grove area and is still in operation today. Samuel Hoover established the ranch in the 1860s and the original two-story 1868 brick ranch house remains on the property (Page & Turnbull 2012).

A portion of the Mahon Ranch at 10171 Grant Line Road (APN 134-0190-003) is part of the Project site and the off-site improvement area. John Mahon established the ranch in 1882, and it became one of the largest hops producers in the Elk Grove area. A two-story Stick-style residence constructed in 1891 and a horse barn constructed in 1921 are extant on the property. Mahon Ranch is an Elk Grove heritage ranch and the Elk Grove Historical Society notes that it was the best remaining example of a historic ranch in the Elk Grove area (Page & Turnbull 2012). However, neither the Mosher or Mahon ranch properties have been formerly recorded or evaluated for eligibility to a local, State, or national registry and were not included in the results of the North Central Information Center records search.

The building cluster within the Project site at 10313 Grant Line Road (APN 134-0190-010) is accessed via a long tree-lined driveway and the main house and a barn were built on the site as of 1909, according to historic maps. The two-story house appears to be constructed in the Italianate style, which was popular in the late nineteenth century. Review of historic aerials show the house, several barns, and a silo in place in 1937. Between 1961 and 1971, it appears a second residence and additional outbuildings were constructed on the parcel. A large barn extant on the parcel in 1937 was demolished circa 2013 (University of California, Santa Barbara [UCSB] 2017; NETRonline 2016).

Lastly, in the southern portion of the Project site is a house and barn cluster at 10351 Grant Line Road (APN 134-0190-013). According to historic aerials, the Ranch style house was built between 1937 and 1952 and the barn at the north side of the house was in place before 1961. The large barn east of the house was built between 1981 and 1998 (UCSB 2017; NETRonline 2016).

A former farm complex dating to at least 1937 was previously located at the northwestern end of APN 134-0190-009-0000 near Grant Line Road; however, the farmstead has undergone demolition of its various historic-period components since 2010. The building cluster had included a residence, large barn, and several outbuildings and fenced areas; however, the original house was replaced with a mobile home by 1971 and the large barn and other outbuildings were demolished from 2010 to the present. Today, no built environment is extant, however, the remnant driveway off the east side of Grant Line Road is still visible and a cluster of large oak trees that surrounded the original house location are still present. The area outside of the former house location and remnant trees is under cultivation, but the former house location is not (UCSB 2017; NETRonline 2016).

## **CULTURAL RESOURCES STUDIES**

In addition to the previous studies summarized in the 2019 SOIA EIR, AECOM also requested an updated records search from the California Historical Resources Information System (CHRIS) North Central Information Center (NCIC) in Sacramento in August 2020. No additional resources were identified by the NCIC other than those already presented in the 2019 SOIA EIR and summarized above.

## **NATIVE AMERICAN CONSULTATION**

In addition to the Native American consultation performed for the 2019 SOIA EIR, the Native American Heritage Commission (NAHC) was contacted in August 2020 to obtain a CEQA tribal consultation list and to request a search of the Sacred Lands File related to the off-site improvement areas. In its response dated August 10, 2020, the NAHC stated that the Sacred Lands File did indicate the presence of Native American resources in the vicinity of the off-site improvement areas. The NAHC also listed six Native American organizations and individuals who may have knowledge of cultural resources in the off-site improvement areas: Buena Vista Rancheria of Me-Wuk

Indians, Ione Band of Miwok Indians, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Shingle Springs Band of Miwok Indians, United Auburn Indian Community of the Auburn Rancheria, and the Wilton Rancheria. The City sent letters to these parties on August 22, 2020 inviting consultation for the Project.

## **CULTURAL RESOURCE FIELD INVESTIGATIONS**

AECOM performed a site visit of the off-site improvement areas in August 2020. During the site visit, one historic (circa 1900, according to the landowner) hand-dug ditch is present that conveys water from the 15-acre pond to the outfall in Deer Creek. In this vicinity, a historic fence was also identified. However, both the ditch and the fence are still in use today as part of active, ongoing off-site agricultural operations by the landowner, and these operations will continue after the Project site is developed.

### **3.6.2 REGULATORY FRAMEWORK**

#### **CITY OF ELK GROVE GENERAL PLAN**

The City General Plan (City of Elk Grove 2019), contains the following policies related to cultural resources that are applicable to the proposed Project.

- ▶ **Policy HR-1-1:** Encourage the preservation and enhancement of existing historical and archaeological resources in the City.
- ▶ **Policy HR-1-2:** Strive to preserve historic buildings and resources through adaptive re-use.
- ▶ **Policy HR-2-1:** Protect and preserve prehistoric and historic archaeological resources throughout the City.
- ▶ **Policy HR-2-2:** Consult when appropriate with local Native American tribes, the Native American Heritage Commission, and any other appropriate organizations and individuals to minimize potential impacts to cultural and tribal resources.
- ▶ **Policy HR-2-3:** Identify and evaluate local archaeological resources for inclusion in the National Register of Historic Places.

### **3.6.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines and Public Resources Code Section 21074, the proposed Project would have a significant impact related to cultural and tribal cultural resources if it would:

- ▶ cause a substantial adverse change in the significance of a unique archaeological resource or a historical resource as defined in Section 21083.2 of the Public Resources Code and Section 15064.5 of the CEQA Guidelines, respectively;
- ▶ disturb any human remains, including those interred outside formal cemeteries; or
- ▶ cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geologically defined in terms of

the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- listed or eligible for listed in the California Register of Historical Resources, or in local register of historical resources as defined in Public Resources Code section 5020.1(k); or
- a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 15064.5 of the CEQA Guidelines defines “substantial adverse change” as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. The significance of a historical resource is materially impaired when a project results in demolition or material alteration in an adverse manner of those physical characteristics of a resource that:

- ▶ conveys its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR;
- ▶ accounts for its inclusion in a local register of historical resources pursuant to Public Resources Code Section 5020.1(k) or its identification in a historical resources survey meeting the requirements of Public Resources Code Section 5024.1(g), unless the public agency reviewing the effects of the proposed project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- ▶ conveys its historical significance and that justify its eligibility for inclusion in the CRHR, as determined by a lead agency for purposes of CEQA.

## **IMPACT ANALYSIS**

### **Impact 3.6-1: Substantial Adverse Change in the Significance of Known Historical Resources.**

Historical resources include any properties listed in, or found eligible for inclusion in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or those included in a local register of historical resources, as well as unique archaeological resources. The fact that a resource is not listed in, or determined to be eligible for listing in the NRHP, the CRHR, or not included in a local register of historical resources shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of CEQA. In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the California Register criteria prior to making a finding as to a proposed project’s impacts to historical resources (Public Resources Code Section 21084.1, CEQA Guidelines Section 15064.5[3]).

There are no known historical resources or unique archaeological resources that have been identified within the Project site. A historic hand-dug ditch and historic fence were identified during AECOM’s 2020 site visit to the off-site improvement areas, in the vicinity of the 15-acre pond. However, both of these features are currently being used as part of active, ongoing off-site agricultural operations by the landowner. Furthermore, use of these features will continue as part of ongoing off-site agricultural operations after the off-site drainage features are

improved. Therefore, Project-related drainage improvements would not have an adverse effect on these two features, and there would be **no impact**.

### Impact 3.6-2: Potential to Cause a Substantial Adverse Change in the Significance of an Unknown Historical Resource or Unique Archeological Resource.

The Project site has moderate sensitivity for archaeological resources, which increases to high sensitivity for prehistoric archaeological resources in the vicinity of the off-site drainage improvements areas near Deer Creek, where fluvial processes may have buried archaeological deposits. Although no evidence of prehistoric occupation or land use was identified during the archeological surface survey, the potential exists for the presence of buried soils and associated archaeological deposits. Furthermore, the recorded Plains Miwok ethnographic villages of Amuchamne and Shalachmushumne are located approximately 0.25–0.5 mile southeast of the off-site improvement areas. Therefore, the potential for encountering significant archaeological resources in the Project site and the off-site improvements areas is moderate to high.

As discussed in the 2019 SOIA EIR, because the potential for encountering potentially significant built-environment resources in the Project site is moderate to high, additional studies of built-environment resources will be conducted as part of future site-specific CEQA impact assessments and mitigated according to the parameters defined in this SEIR. The Project site contains four clusters of extant buildings and structures, including the Mosher and Mahon ranches, which were described by Page & Turnbull (2012) as early ranches in the area. The other two agricultural properties in the project site were developed by 1909 and 1952. None of these properties have been evaluated against CRHR or under the City of Elk Grove Historic Preservation Ordinance Landmark Designation Criteria (Chapter 7.00.050) and could potentially be identified as historical resource upon further evaluation. Although no built-environment historical resources are known to exist within the Project site or the off-site improvements areas, it is possible that historical resources—either previously unknown or whose significance was previously unknown—could be affected by Project-related construction. Unless properly evaluated and managed, this could result in a significant impact to one or more historic-age built environment historical resource(s). This impact is considered **potentially significant**.

#### Mitigation Measure 3.6-2a: Conduct a Cultural Resources Inventory for Archaeological and/or Historic Architectural Resources and Tribal Cultural Resources (2019 SOIA EIR Mitigation Measure 3.6-2a).

##### Archaeology

- Prior to the approval of development projects and off-site improvements, the City will require that a qualified cultural resources specialist conduct a survey and inventory for archaeological resources that would include field survey, review of updated information from the North Central Information Center and other applicable data repositories. Additional consultation with relevant tribal representatives may be appropriate, depending on the relative level of cultural sensitivity, as identified by traditionally and culturally affiliated California Native American tribes.
- Management recommendations may include, but are not limited to additional studies to evaluate identified sites or archaeological monitoring at locations determined by a qualified archaeologist in consultation with culturally affiliated California Native American tribes to be sensitive for subsurface cultural resource deposits related to the off-site improvements areas south and southeast of the Project site.

- All identified cultural resources will be recorded using the appropriate California Department of Parks and Recreation (DPR) cultural resources recordation forms. The results of the inventory efforts will be documented in a technical report and submitted to the City. Cultural resources will be evaluated for eligibility for inclusion in the CRHR and the Elk Grove Register of Historic Resources and evaluations will be conducted by individuals who meet the Secretary of the Interior’s professional qualification standards in archaeology. If the evaluation is negative (i.e., not historically significant), no further mitigation is required. If the property is found to be an historical resource, the project proponent shall be required to implement mitigation if the proposed project has a substantial adverse change to a historical resource, including physical damage, destruction, relocation, or alteration of the property that materially alters in an adverse manner those physical characteristics of the property that conveys its significant for inclusion in or eligibility for the CRHR or local register.

### Historic Architecture

- Prior to the approval of development projects and off-site drainage improvements, the City will require that a qualified cultural resources specialist conduct a survey and inventory for historic-age built environment resources. The inventory will include a field survey, review of updated information from the North Central Information Center and other applicable data repositories, and interested parties outreach. All identified resources will be recorded using the appropriate California Department of Parks and Recreation (DPR) cultural resources recordation forms. The results of the inventory efforts will be documented in a technical report and submitted to the City. Cultural resources will be evaluated for eligibility for inclusion in the CRHR and the Elk Grove Register of Historic Resources and evaluations will be conducted by individuals who meet the Secretary of the Interior’s professional qualification standards in history and/or architectural history. If the evaluation is negative (i.e., not historically significant), no further mitigation is required. If the property is found to be an historical resource, the project proponent shall be required to implement mitigation if the proposed project has a substantial adverse change to a historical resource, including physical damage, destruction, relocation, or alteration of the property that materially alters in an adverse manner those physical characteristics of the property that conveys its significant for inclusion in or eligibility for the CRHR or local register.

### Mitigation Measure 3.6-2b: Avoid Effects on Historical Resources (2019 SOIA EIR Mitigation Measure 3.6-2b).

#### Archaeology and Historic Architecture

If the survey and evaluation required in Mitigation Measure 3.6-2a determines that a cultural resources site is an historical resource for the purposes of CEQA, the development project(s) will be redesigned to avoid the historical site(s). The historic site(s) will be deeded to a nonprofit agency to be approved by the City for the maintenance of the site(s). If avoidance is determined to be infeasible by the City, the applicant will prepare a treatment plan to minimize adverse effects, relocate resources, if feasible, and conduct all required documentation (in addition to the items above) in accordance with appropriate standards:

- The development of a site-specific history and appropriate contextual information regarding the particular resource; in addition to archival research and comparative studies, this task could involve limited oral history collection.
- Accurate mapping of the noted resource(s), scaled to indicate size and proportion of the structure(s).

- Architectural description of affected buildings and structures.
- Photo documentation of the designated resources.
- Recordation of measured architectural drawings, in the case of specifically designated buildings of higher architectural merit.
- Any historically significant artifacts within buildings and the surrounding area shall be recorded and may be deposited with the appropriate museum or collection with the consent of their owners.
- Document the affected historical resource and integrate aspects of the historical resource into an interpretive display panel and/or signage for public exhibition concerning the history of the resource. The display and/or signage can be based on the photographs, measured architectural drawings, salvaged material, and site-specific contextual information

**Mitigation Measure 3.6-2c: Stop Work If Any Prehistoric or Historical Subsurface Cultural Resources Are Discovered, Consult a Qualified Archaeologist to Assess the Significance of the Find, and Implement Appropriate Measures, as Required (2019 SOIA EIR Mitigation Measure 3.6-2c).**

#### Archaeology

- If previously unknown archaeological cultural resources (i.e., prehistoric sites, historical sites, and isolated artifacts) are discovered during construction work, work shall be halted immediately within 50 feet of the discovery, the City shall be notified, and a professional archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards shall be retained to determine the significance of the discovery.
- If any elements of the on-site development or the off-site drainage improvements will impact an archaeological site, including those determined to be a Tribal Cultural Resource, and avoidance is not a feasible option, a qualified archaeologist, in consultation with traditionally and culturally affiliated California Native American tribes, shall evaluate the eligibility of the site for listing in the California Register of Historical Resources. If the archaeological site is found to be a historical resource as per CEQA Guidelines Section 15064.5 (a)(3), the qualified archaeologist shall recommend further mitigative treatment, which could include preservation in place or data recovery.
- If a site to be tested is prehistoric, the City will determine the need for tribal monitoring.
- If significant archaeological resources that meet the definition of historical or unique archaeological resources, including those determined by the City to be Tribal Cultural Resources, are identified in the project area, the preferred mitigation of impacts is preservation in place. If impacts cannot be avoided through project design, appropriate and feasible treatment measures are required, which may consist of, but are not limited to actions, such as data recovery excavations. If only part of a site will be impacted by the project or the off-site improvements, data recovery will only be necessary for that portion of the site. Data recovery will not be required if the implementing agency determines prior testing and studies have adequately recovered the scientifically consequential information from the resources. Studies and reports resulting from the data recovery shall be deposited with the North Central Information Center.
- The project proponent shall be required to implement any mitigation necessary for the protection of archaeological cultural resources, including Tribal Cultural Resources.



## **Significance after Mitigation**

### Archaeology

Implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c would reduce the potential impacts on unknown archaeological cultural resources. With implementation of the above mitigation measures, existing cultural resources regulations, and as conditions of approval for development within the Project site, the on- and off-site project development would be designed to identify previously unknown archaeological cultural resources and minimize potential impacts.

However, even with the implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c, it is possible that Project-related construction both on- and off-site could cause substantial adverse change if it would result in the physical demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings in such a way that it would adversely affect those physical characteristics that conveys its historical significance. Therefore, this impact is considered **significant and unavoidable**.

No archaeological cultural resources were identified in the City-owned parcel as a result of a CHRIS records search, tribal consultation, or field survey. Enforcement of mitigation measures, existing cultural resources regulations, City of Elk Grove policies, and conditions of approval for the City-owned property would reduce the potential impacts on unknown archaeological cultural resources to a **less-than-significant level with mitigation** on the City-owned parcel.

### Historic Architecture

No historic-period built environment cultural resources were identified in the City-owned parcel as a result of a CHRIS records search or field survey. Implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c, existing cultural resources regulations, and City of Elk Grove policies, and conditions of approval for development in the City-owned parcel would reduce the potential impacts on historic-period cultural resources to a **less-than-significant level with mitigation**.

Implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c would reduce the potential impacts on unknown historic-age built environment cultural resources. With enforcement of these mitigation measures, existing cultural resources regulations, and City of Elk Grove policies, and as conditions of approval for projects located outside the City-owned parcel would be designed to identify previously unknown historic-age built environment cultural resources and minimize potential impacts.

However, even with the implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c, it is possible that Project-related construction both on- and off-site could cause substantial adverse change if it would result in the physical demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings in such a way that it would adversely affect those physical characteristics that conveys its historical significance. Therefore, this impact is considered **significant and unavoidable**.

### **Impact 3.6-3: Substantial Adverse Change to a Tribal Cultural Resource.**

As a part of the 2019 SOIA EIR, AECOM requested the NAHC to conduct a Sacred Lands File search to determine the presence of known Tribal Cultural Resources. The Sacred Lands File search failed to indicate the presence of any known Tribal Cultural Resources. During the process of preparing the 2019 SOIA EIR, early

consultation with culturally and traditionally geographically affiliated Native American tribes identified by the NAHC was initiated on November 19, 2015. These groups and individuals were sent letters, emails, and follow-up phone calls inviting consultation and information about any cultural resources in the vicinity of the SOIA Area, including Tribal Cultural Resources. No Tribal Cultural Resources were identified.

As noted previously, the NAHC was contacted in August 2020 to obtain a CEQA tribal consultation list and to request a search of the Sacred Lands File. In its response from August 2020, the NAHC stated that the Sacred Lands File did indicate the presence of Native American resources in the vicinity of the off-site improvement area. The impact is considered **significant**.

Implement Mitigation Measure 3.6-2a (Conduct a Cultural Resources Inventory for Archaeological and/or Historic Architectural Resources and Tribal Cultural Resources).

Implement Mitigation Measure 3.6-2b (Avoid Effects on Historical Resources).

Mitigation Measure 3.6-2c (Stop Work If Any Prehistoric or Historical Subsurface Cultural Resources Are Discovered, Consult a Qualified Archaeologist to Assess the Significance of the Find, and Implement Appropriate Measures, as Required).

### ***Significance after Mitigation***

Implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c would help to protect tribal cultural resources, because these measures require preparation of site-specific archaeological surveys, proper treatment of materials encountered during construction activities, incorporation of measures to protect archaeological resources, and preservation/avoidance of archaeological resources as feasible. However, significant impacts to tribal cultural resources may still occur. No other feasible mitigation measures are available. Therefore, the impact of the proposed Project on tribal cultural resources is considered **significant and unavoidable**.

### **Impact 3.6-4: Disturbance of Human Remains.**

While no evidence for prehistoric or early historic interments was found in the Project site or the off-site improvement areas through background research and field surveys, this does not preclude the existence of buried subsurface human remains. Prehistoric archaeological sites including some that contain human remains have been identified in other areas of Sacramento County. The likelihood of inadvertently exposing currently unknown archaeological resources, including those containing human remains during future development in the Project site and the off-site improvement areas, cannot be dismissed. The inadvertent exposure of previously unidentified human remains, including those interred outside of formal cemeteries, would be a **potentially significant** impact.

California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Section 7050.5 and Section 7052 and California Public Resources Code Section 5097.

**Mitigation Measure 3.6-4: Halt Construction if Human Remains are Discovered and Implement Appropriate Actions (2019 SOIA EIR Mitigation Measure 3.6-4).**

- In accordance with California law described above, if human remains are uncovered during future ground-disturbing activities, the project applicant(s) and/or their contractors would be required to halt

potentially damaging excavation in the area of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner would be required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.9. Following the coroner's findings, the property owner, contractor or project proponent, an archaeologist, and the NAHC-designated Most Likely Descendant will determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.

- Upon the discovery of Native American remains, project applicant(s) and/or their contractors would be required to ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards and practices) is not damaged or disturbed by further development activity until consultation with the Most Likely Descendant has taken place. The Most Likely Descendant would have 48 hours to complete a site inspection and make recommendations after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. Public Resources Code Section 5097.9 suggests that the concerned parties may extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that could be employed:
  1. record the site with the NAHC and the appropriate Information Center,
  2. use an open-space or conservation zoning designation or easement, and
  3. record a document with the county in which the property is located.
- If the NAHC is unable to identify a Most Likely Descendant or the Most Likely Descendant fails to make a recommendation within 48 hours after being granted access to the site, the Native American human remains and associated grave goods would be reburied with appropriate dignity on the subject property in a location not subject to further subsurface disturbance.

### ***Significance after Mitigation***

Compliance with California Health and Safety Code, California Public Resources Code, and the applicable City General Plan policies would reduce potential impacts on previously undiscovered human remains. Prehistoric and historic Native American sites are generally located along rivers, creeks, and sloughs, and many if not all, have the potential to contain human remains (City of Elk Grove 2003). Implementing Mitigation Measure 3.6-4 would ensure that any human remains encountered during construction would be treated in an appropriate manner under CEQA and other applicable laws and regulations. If the discovery could potentially be human remains, compliance with Health and Safety Code Section 7050 et seq. and Public Resources Code Section 5097.9 et seq. would be required. Therefore, this impact would be **less than significant with mitigation**.

This page intentionally left blank.

## 3.7 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. However, no comments related to geology, soils, minerals, or paleontological resources were received.

### 3.7.1 ENVIRONMENTAL SETTING

As described in the 2019 SOIA EIR, active faults (i.e., faults that have exhibited evidence of movement during the last 11,700 years) are located approximately 30–40 miles west of the Project site and off-site improvement areas, along the western margin of the Central Valley and in the Coast Ranges (Jennings and Bryant 2010). The Foothills Fault System is approximately 23 miles east of the Project site and the off-site improvement areas, but faults in this system are not classified as active (Jennings and Bryant 2010). Therefore, strong seismic ground shaking is unlikely to occur. Because the Project site and the off-site improvements areas are relatively flat, seismically-induced landslides would not occur.

As shown in Exhibit 3.7-1, in addition to the soil types at the Project site that were identified in the 2019 SOIA EIR, the off-site drainage improvements would also be constructed in the following soil types: San Joaquin Silt Loam leveled 0–1% slopes, San Joaquin silt loam 3–8% slopes, San Joaquin-Durixeralfs complex 0–1% slopes, San Joaquin-Xerarents Complex leveled 0–2% slopes, and the Xerarents-San Joaquin complex 0–1% slopes (U.S. Natural Resources Conservation Service [NRCS] 2019). These soils are rated as very limited for excavation because they have a high clay content, a shallow depth to a cemented hardpan, and are unstable for excavation sidewalls (NRCS 2019).

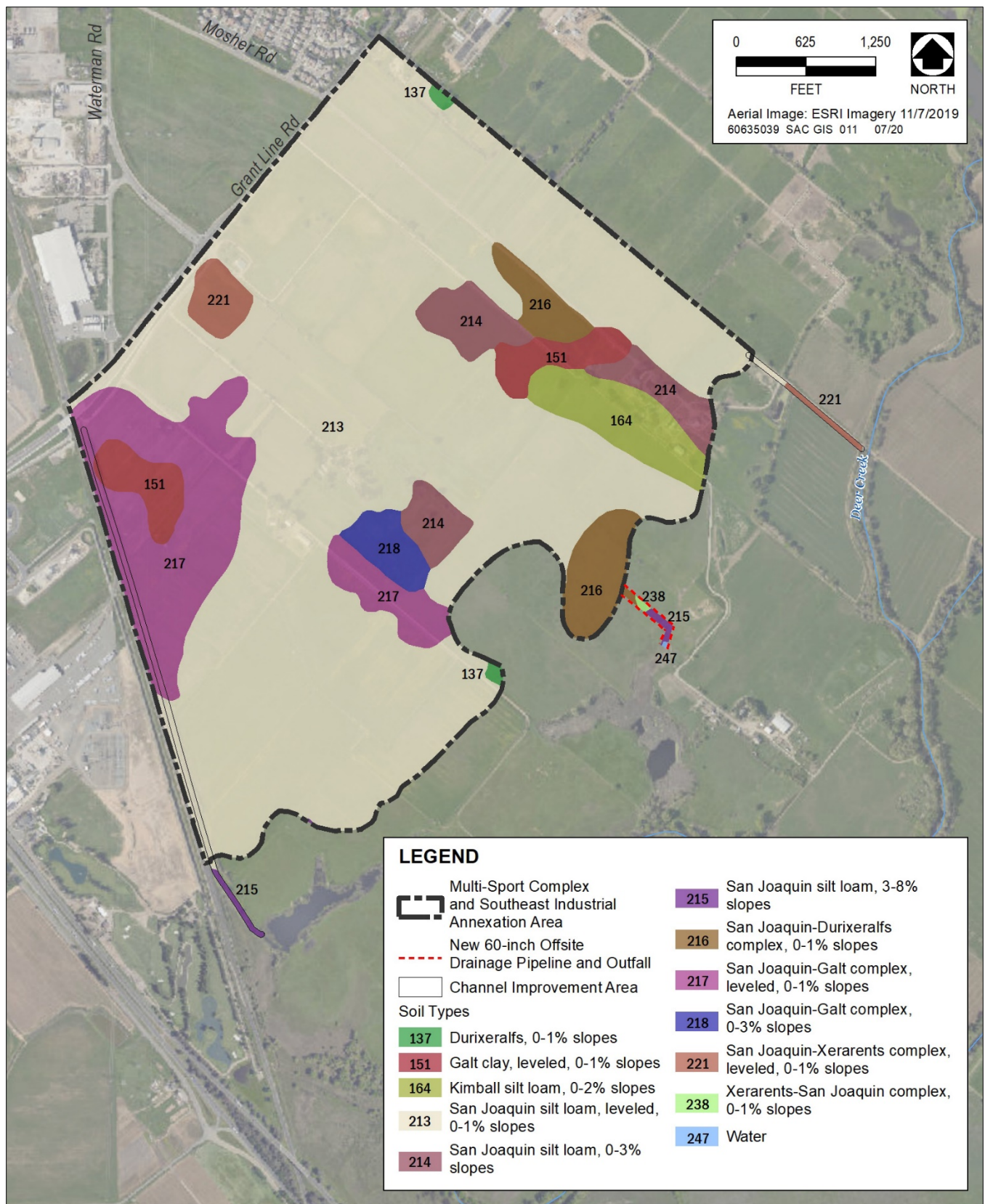
The Project site and the off-site improvements areas are not classified as containing regionally significant deposits of mineral resources (i.e., Mineral Resource Zone [MRZ] 2). Instead, these areas are classified as MRZ 3—areas containing mineral deposits, the significance of which cannot be evaluated from existing data (Dupras 1999:Plate 3). Furthermore, there are no natural gas or oil wells in the vicinity (California Geologic Energy Management Division [CalGEM] 2020).

The Project site and the off-site improvements areas are underlain by the Pleistocene-age Riverbank Formation (Wagner et al. 1981). An updated records search of the U.C. Berkeley Museum of Paleontology (UCMP) was performed by AECOM in July 2020; there are no recorded fossil localities within the Project site or the off-site improvements areas (UCMP 2020). As discussed in the 2019 SOIA EIR, the Riverbank Formation is considered paleontologically sensitive due to the number of vertebrate fossils that have been recovered therein throughout the Central Valley.

### 3.7.2 REGULATORY FRAMEWORK

#### CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS AND IMPROVEMENT STANDARDS MANUALS

The City's *Construction Specifications Manual* provides construction requirements that apply primarily to the provision of public safety and access to sidewalks and roadways during construction, including traffic controls, as well as construction standards related to utilities and trenching (City of Elk Grove 2020a).



Source: NRCS 2020

### Exhibit 3.7-1. Soil Types

The City's *Standard Specifications Manual* contains the requirements for improvement plans, and provides direction for design of streets, streetlights, sound barriers, traffic analyses, storm drainage, grading, stormwater quality protection, and traffic signals (City of Elk Grove 2020b).

## **CITY OF ELK GROVE GENERAL PLAN**

The City's General Plan (City of Elk Grove 2019), contains the following policy related to geology and soils that are applicable to the proposed Project. There are no mineral deposits or mineral extraction activities located within the Planning Area; thus, the City General Plan does not contain any policies to address mineral resources (City of Elk Grove 2019:7-25). There are no policies in the City's General Plan related to paleontological resources.

### **Services, Health, and Safety Element**

- ▶ **Policy ER-3-2:** Seek to ensure that new structures are protected from damage caused by geologic and/or soil conditions.

## **3.7.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to geology, soils, paleontological resources, or minerals if it would:

- ▶ directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction; or
  - landslides;
- ▶ result in substantial soil erosion or the loss of topsoil;
- ▶ be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; or
- ▶ be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property;
- ▶ have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water;

- ▶ directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- ▶ result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- ▶ result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

## Paleontological Resources

Based on Appendix G of the CEQA Guidelines, the proposed project would have significant impacts on paleontological resources if it would directly or indirectly destroy a unique paleontological resource or site. A “unique paleontological resource or site” is one that is considered significant under the following professional paleontological standards.

An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved, and it meets one of the following criteria:

- ▶ a type specimen (i.e., the individual from which a species or subspecies has been described);
- ▶ a member of a rare species;
- ▶ a species that is part of a diverse assemblage (i.e., a site where more than one fossil has been discovered) wherein other species are also identifiable, and important information regarding life history of individuals can be drawn;
- ▶ a skeletal element different from, or a specimen more complete than, those now available for its species; or
- ▶ a complete specimen (i.e., all or substantially all of the entire skeleton is present).

The value or importance of different fossil groups varies, depending on several factors: the age and depositional environment of the rock unit that contains the fossils; their rarity; the extent to which they have already been identified and documented; and the ability to recover similar materials under more controlled conditions (such as for a research project). Marine invertebrates generally are common, the fossil record is well developed and well documented, and they would generally not be considered a unique paleontological resource. Identifiable vertebrate marine and terrestrial fossils generally are considered scientifically important because they are relatively rare.

## ISSUES NOT DISCUSSED FURTHER

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

**Expose People or Structures to Hazards from Surface Fault Rupture**—The Project site and the off-site improvements are not located within or near an Alquist-Priolo Earthquake Fault Zone (California Geological Survey [CGS] 2020), and the nearest known faults are approximately 23 miles to the east within the Foothills



Fault System. Therefore, no impacts related to loss, injury, or death involving rupture of a known earthquake fault would occur, and this issue is not addressed further in this SEIR.

**Expose People or Structures to Landslides**—The Project site and the off-site improvements areas are characterized by flat topography. Therefore, landslides would not represent a hazard for the proposed Project and there would be no impact. This issue is not addressed further in this SEIR.

**Have Soil Unsuitable for Septic Systems**—The use of an on-site wastewater disposal system is not proposed as part of the Project; therefore, no impact related to the ability of soils to support the use of septic systems would occur. This issue is not addressed further in this SEIR.

**Loss of Known Regionally or Locally Important Minerals**—The Project site and the off-site improvements areas are not located within a regionally-designated area of known important mineral resources. Furthermore, the City’s General Plan states there are no mineral deposits or mineral extraction activities located within the Planning Area, and thus does not contain any designated mineral resource recovery areas. Finally, the off-site drainage pipeline would be extended into the unincorporated area of Sacramento County, and the *Sacramento County 2030 General Plan* indicates that the County has not designated any areas of locally important mineral resources in the vicinity of the Project site or off-site improvement areas (Sacramento County 2017:15). Thus, there would be no impact, and this issue is not addressed further in this SEIR.

## **IMPACT ANALYSIS**

### **Impact 3.7-1: Exposure to Strong Seismic Ground Shaking.**

The Sacramento Valley has historically experienced low levels of seismic activity. Known active faults that pose a hazard for strong seismic ground shaking are located along the margin between the western edge of the Central Valley and the Coast Ranges, and within the Coast Ranges themselves. These faults are located 30–40 miles west of Elk Grove. Faults in the Foothills Fault System, approximately 23 miles to the east, are not classified as active. The intensity of ground shaking depends on the distance from the earthquake epicenter to the site, the magnitude of the earthquake, and site soil conditions. Peak horizontal ground acceleration (PGA), which is a measure of the projected intensity of ground shaking from seismic events, can be estimated by probabilistic method using a computer model. The CGS Probabilistic Seismic Hazards Assessment Model (CGS 2008) indicates there is a 1-in-10 probability that an earthquake within 50 years would result in a PGA of approximately 0.189 at the Project site and 0.187 along the off-site drainage pipeline. These estimates indicate that a very low level of seismic shaking would be anticipated for the Project site and the off-site improvements areas.

Future projects within the Project site will be required by law to comply with seismic safety standards of the California Building Standards Code (CBC). The CBC requires an evaluation of seismic design that falls into Categories A through F (where F requires the most earthquake-resistant design) for structures designed for a project site. The CBC philosophy focuses on “collapse prevention,” meaning that structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. Based on the seismic design category, the CBC requires an analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also requires that measures to reduce damage from seismic effects be incorporated in structural design. Measures may include ground stabilization, selection of appropriate foundation type and depths, selection of

appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The City requires that all structures be designed in accordance with the CBC. In addition, roads and underground pipelines must be engineered and constructed according to the City's Construction Specifications, Improvement Standards, and Standard Drawings, which are designed to avoid risk to life and property related to seismic ground shaking. Compliance with existing regulations ensures that this impact would be **less than significant**.

#### Impact 3.7-2: Seismic-Related Ground Failure.

Seismically-induced liquefaction is a process by which water-saturated materials lose strength and may fail during strong ground shaking, when granular materials are transformed from a solid state into a liquefied state as a result of increased pore-water pressure. Structures on soil that undergoes liquefaction may settle or suffer major structural damage. Factors determining liquefaction potential are soil type, level and duration of ground motions, and depth to groundwater. Liquefaction is most likely to occur in low-lying areas where the substrate consists of poorly consolidated to unconsolidated water-saturated sediments, recent Holocene-age sediments, or deposits of artificial fill.

Active seismic sources are a relatively long distance away, and the Project site and the off-site improvement areas are underlain by the stable, Pleistocene-age Riverbank Formation. Furthermore, the depth to groundwater is approximately 60 feet below the ground surface (California Department of Water Resources 2018). These factors indicate that seismically-induced liquefaction at the Project site and the off-site improvements areas is unlikely. Finally, design and construction of development projects within the Project site would be conducted in accordance with the CBC, which identifies minimum requirements for preparing site-specific, design-level geotechnical reports characterizing the geologic conditions, defining seismic loads, evaluating the response of the foundation systems, and addressing potential seismic hazards, including liquefaction. Therefore, this impact would be **less than significant**.

#### Impact 3.7-3: Unstable Soils.

In addition to seismic activity, liquefaction can also be triggered by the presence of heavy equipment on unstable soils, particularly adjacent to and within watercourses, and within waterlogged soils away from watercourses that are underlain by a shallow hardpan. Lateral spreading is the horizontal movement or spreading of soil toward an open face, such as a streambank, the open side of fill embankments, or the sides of levees. Soil bearing capacity is the ability of soil to support structures; areas where soil bearing capacity is too low to support structures may experience subsidence and settlement.

A review of NRCS (2019) soil survey data indicates that the Durixeralfs, Galt clay, Kimball silt loam, and San Joaquin–Galt complex soils are rated as very limited for construction of buildings and roads because of low soil bearing strength, which in turn could result in hazards from subsidence and settlement. In addition, the soils in the off-site drainage pipeline area have a shallow depth to a cemented hardpan, which could result in liquefaction during the rainy season from the presence of heavy construction equipment. Lateral spreading could also occur adjacent to the ponds where drainage improvements are proposed. However, compliance with the CBC requirements to prepare geotechnical engineering reports that include specific recommendations for construction in unstable soils, as well as compliance with the City's *Improvement Standards Manual*, would ensure that foundations for buildings and parking lots, as well as underground pipelines, are designed appropriately based on site-specific conditions. Compliance with existing regulations ensures that this impact would be **less than significant**.

#### Impact 3.7-4: Soil Erosion or Loss of Topsoil.

During the construction process associated with future development and installation of utilities, earth-moving activities would expose soils to potential erosion from wind and water. Earthmoving activities during the winter months would expose soils to rain events, which could mobilize loose soil and result soil erosion. Subsequent soil transport during storm events could result in sedimentation both within and downstream of the Project site and the off-site improvements areas. Furthermore, earthmoving activities during the summer months could result in wind erosion. However, prior to the start of earthmoving activities, applicants must obtain a grading permit from the City, and must demonstrate that all appropriate measures to reduce soil erosion would be implemented.

Furthermore, future project applicants are required by law to comply with the provisions of the State Water Resources Control Board's (SWRCB) *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities* (Order 2009-009-DWQ as amended by Order 2012-0006-DWQ) (Construction General Permit). The Construction General Permit regulates stormwater discharges for construction activities under the Clean Water Act (CWA), and applies to all land-disturbing construction activities that would disturb 1 acre or more. Project applicants must submit a notice of intent to discharge to the Central Valley Regional Water Quality Control Board (RWQCB), and must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that includes site-specific Best Management Practices (BMPs) to minimize construction-related soil erosion. Construction techniques that could be implemented to reduce the potential for stormwater runoff and sediment transport may include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that could be implemented to reduce erosion may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers and re-seeding and mulching to revegetate disturbed areas. All NPDES permits also have inspection, monitoring, and reporting requirements.

In addition, compliance with the City's *Improvement Standards Manual* requires submittal of grading plans and implementing measures to protect stormwater quality. Compliance with existing regulations ensures that this impact would be **less than significant**.

#### Impact 3.7-5: Expansive Soils.

Expansive soils are composed largely of clays, which greatly increase in volume when saturated with water and shrink when dried (referred to as "shrink-swell" potential). Soils with a moderate to high expansion potential can result in cracked foundations, structural distortions, and warping of doors and windows. Underground pipelines can also be damaged. The Durixarolfs, Galt clay, and Kimball silt loam soils at the Project site have a high to moderate expansion potential (NRCS 2019). The soils along the off-site drainage pipeline have a low expansion potential (NRCS 2019). Compliance with the CBC requirements to prepare geotechnical engineering reports that include specific recommendations for construction in expansive soil, as well as compliance with the City's *Improvement Standards Manual*, would ensure that foundations for buildings and parking lots, as well as underground pipelines, are designed appropriately based on site-specific conditions. Therefore, this impact would be **less than significant**.

### Impact 3.7-6: Damage to Unknown Paleontological Resources.

The Project site and the off-site improvements areas are located in the Riverbank Formation. This formation is considered to be of high paleontological sensitivity, because numerous vertebrate fossil specimens have been recovered from this formation in various locations throughout the greater Sacramento area and the Sacramento and San Joaquin valleys (as described in detail in the 2019 SOIA EIR). Therefore, Project-related construction activities both on- and off-site could result in accidental damage to or destruction of unique paleontological resources, and this impact is considered **potentially significant**.

#### Mitigation Measure 3.7-6: Avoid Impacts to Unique Paleontological Resources (2019 SOIA EIR Mitigation Measure 3.7-6).

- Prior to the start of on- or off-site earthmoving activities that would disturb 1 acre of land or more within the Riverbank Formation, project applicants shall inform all construction personnel involved with earthmoving activities regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered.
- If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the City of Elk Grove.
- The project applicant shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan. The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum curation for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the City to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resource or resources were discovered.

### Significance after Mitigation

Implementation of Mitigation Measure 3.7-6 would reduce Project-related impacts on unique paleontological resources to a **less-than-significant** level because construction workers would be alerted to the possibility of encountering paleontological resources and, in the event that resources were discovered, fossil specimens would be recovered and recorded and would undergo appropriate curation.

### 3.8 GREENHOUSE GAS EMISSIONS

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) related to mitigation strategies to reduce the project’s emissions of greenhouse gases. The City reviewed and considered this information during preparation of this chapter.

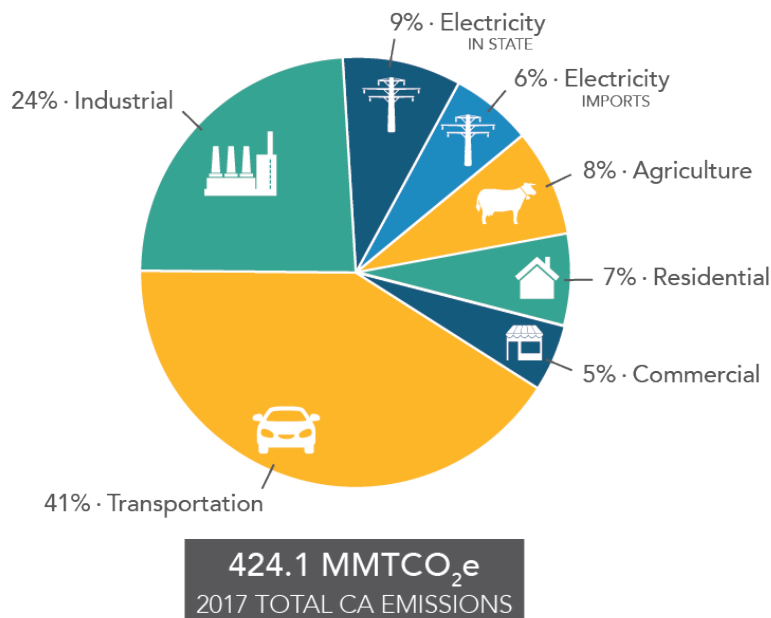
#### 3.8.1 ENVIRONMENTAL SETTING

The environmental setting for the proposed Project as it relates to greenhouse gases (GHGs) has not changed since the 2019 SOIA EIR was prepared.

GHGs typically persist in the atmosphere for extensive periods time, long enough to be dispersed throughout the globe and result in long-term global impacts. As such, the proposed Project will not, by itself, contribute significantly to climate change; however, cumulative emissions from many projects and plans all contribute to global GHG concentrations and the climate system. Accordingly, this section considers the cumulative contribution of implementation of the proposed project to the significant cumulative impact of climate change.

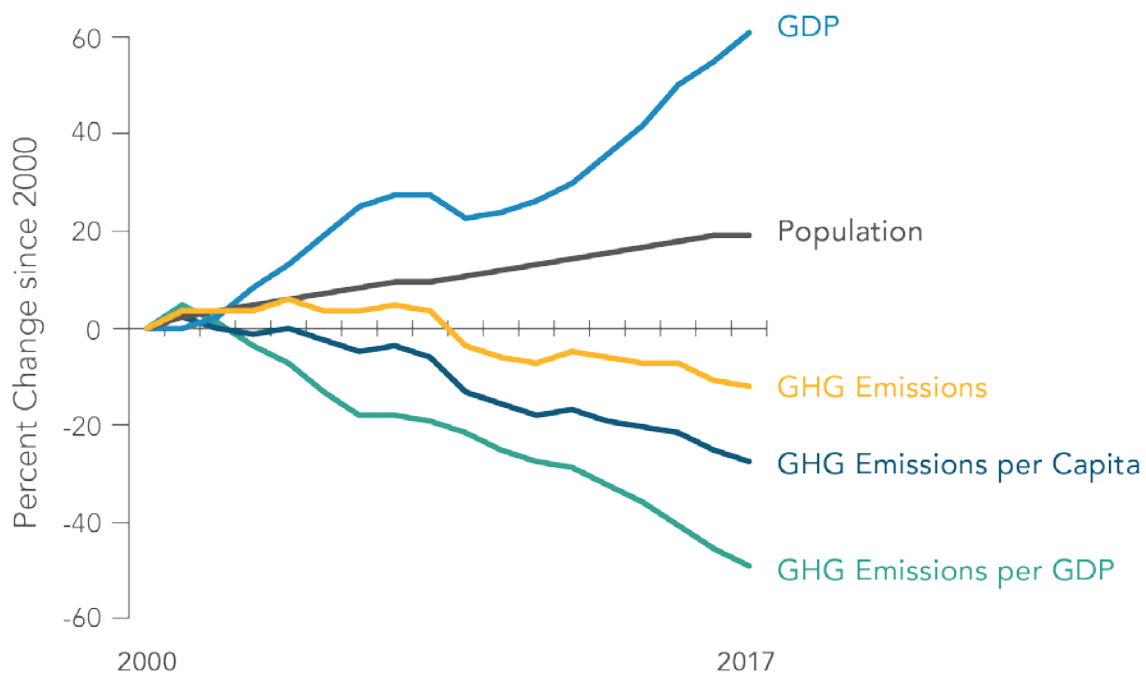
The California Air Resources Board (ARB) prepares an annual, statewide GHG emissions inventory, including an analysis of emissions by sector, or type of activity. As shown in Exhibit 3.8-1, California produced 424.1 million MT CO<sub>2</sub>e in 2017 (the latest available full year of reporting). Combustion of fossil fuel in the transportation sector was the single largest source of California’s GHG emissions in 2017, accounting for 41 percent of total GHG emissions. Transportation was followed by industry, which accounted for 24 percent, and then the electricity sector (including in-state and out-of-state sources) accounted for 9 percent of total GHG emissions (ARB 2019).

California has implemented several programs and regulatory measures to reduce GHG emissions. Exhibit 3.8-2 demonstrates California’s progress in achieving statewide GHG emissions reduction targets. Since 2007,



Source: ARB 2019

**Exhibit 3.8-1. California 2017 GHG Emissions Inventory by Sector**



Source: ARB 2019

### Exhibit 3.8-2. Trends in California GHG Emissions (Years 2000 to 2017)

California’s GHG emissions have been declining; GHG emissions have continued to decline even as population and gross domestic product have increased.

In 2009, a community-wide GHG emissions inventory was conducted for the City through a regional effort for Sacramento County and each jurisdiction within the county. The inventory estimated GHG emissions produced from activities in the year 2005, including transportation, waste, water, and energy-related activities. A community-wide GHG inventory update for the City of Elk Grove was completed as part of the City’s General Plan and CAP update process using data from 2013 (the most current available data at the time). The 2005 and 2013 community-wide inventories were conducted using the 2012 U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, commonly known as the U.S. Community Protocol. Since 2009, the City has revised the 2005 community-wide inventory twice: once during development of the City’s Climate Action Plan to adjust for new data and methods and a second time in 2015 for the General Plan Update to incorporate new data, GHG accounting methods, and up-to-date protocols. In 2017, as part of the City of Elk Grove’s General Plan update and Climate Action Plan (CAP) update process, a GHG inventory update was completed using the new baseline year of 2013. Additionally, the 2005 inventory was updated to use GWP values from the Intergovernmental Panel on Climate Change (IPCC) 5<sup>th</sup> Assessment Report to match the values used for the 2013 inventory. Revisions allow for a consistent comparison between the 2005 and 2013 inventories. The 2005 and 2013 inventories are summarized in Table 3.8-1.

<b>Table 3.8-1 City of Elk Grove GHG Emissions Inventory (2005 – 2013)</b>					
Sector	2005 MT CO <sub>2</sub> e	Percent of 2005 Total	2013 MT CO <sub>2</sub> e	Percent of 2013 Total	Percent Change 2005 to 2013
Residential buildings	225,190	27.9 %	231,400	25.3 %	+ 3 %
Non-residential buildings	103,170	12.8 %	129,860	14.2 %	+ 26 %
Transportation	348,370	43.1 %	430,340	47.0 %	+ 24 %
Off-road equipment	83,800	10.4 %	93,340	10.2 %	+ 11 %
Solid waste	36,380	4.5 %	23,720	2.6 %	- 35 %
Landfills	2,980	0.4 %	2,540	0.3 %	- 15 %
Water and wastewater	3,070	0.4 %	7,177	0.8 %	+ 134 %
Agriculture	5,450	0.7 %	1,020	0.1 %	- 81 %
<b>Total</b>	<b>808,410</b>	<b>100 %</b>	<b>919,407</b>	<b>100 %</b>	<b>+ 13 %</b>

Notes:  
<sup>1</sup> MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent;  
<sup>2</sup> Totals may not be the exact sum due to rounding.  
Source: City of Elk Grove 2019a

As with the state, as a whole on-road transportation is the largest source of GHG emissions in the City, contributing more than 43 percent of the total. For the City, the proportion of overall emissions attributable to the transportation sector increased between 2005 and 2013 from approximately 43 percent to approximately 47 percent.

### 3.8.2 REGULATORY FRAMEWORK

The regulatory framework surrounding GHG emissions, as it pertains to the proposed Project, is described in the 2019 SOIA EIR. The following highlights changes in the regulatory framework since the time the 2019 SOIA EIR was drafted.

#### ***Executive Order B-55-18 (2018)***

Executive Order B-55-18 acknowledges the environmental, community, and public health risks posed by future climate change. It further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. Based on the worldwide scientific agreement that carbon neutrality must be achieved by midcentury, Executive Order B-55-18 establishes a new state goal to achieve carbon neutrality as soon as possible and no later than 2045, and to achieve and maintain net negative emissions thereafter. The Executive Order charges the ARB with developing a framework for implementing and tracking progress towards these goals. Executive Order B-55-18 is only binding on state agencies.

#### ***California Code of Regulations (CCR) Title 20, Part 6***

The California Energy Commission (CEC) is responsible for implementing the CCR Title 24, Part 6, *Energy Efficiency Standards for Residential and Nonresidential Buildings*. The Title 24 standards are updated on a three-year basis and have been incrementally working toward the State’s 2020 goal of zero-net-energy use of all new homes. The most recent update was adopted in 2019 and went into effect on January 1, 2020. Implementation of

these standards will result in the average new home using zero-net-energy and nonresidential buildings using about 30 percent less energy than those built to the 2016 standards.

### **Senate Bill 100**

Senate Bill (SB) 100 was adopted in September of 2018 and requires that by December 1, 2045 that 100 percent of retail sales of electricity to be generated from renewable or zero-carbon emission sources. SB 100 supersedes the renewable energy requirements set by SB 350, SB 1078, SB 107, and SB X1-2. However, the interim renewable energy thresholds from the prior Bills of 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, will remain in effect.

### **Sacramento Area Council of Governments**

The Sacramento Area Council of Governments (SACOG) is designated by the State and federal governments as the Metropolitan Planning Organization (MPO) and is responsible for developing a regional Metropolitan Transportation Plan (MTP) and Sustainable Communities Strategy (SCS) in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin).

SACOG plays a central role in transportation infrastructure planning for the region, while also serving as a forum for the study, planning, and resolution of other planning issues facing the local member governments. The most recent MTP/SCS for the SACOG region was adopted in November 2019. The 2020 MTP/SCS lays out a plan that links land use, air quality, and transportation needs. The MTP/SCS includes strategies and policies to reduce greenhouse gas emissions from passenger vehicles to meet state targets established by ARB.

### **City of Elk Grove General Plan and Climate Action Plan**

On February 27, 2019, the City concurrently updated and adopted the General Plan and Climate Action Plan (CAP). The CAP is intended to carry out the General Plan goals and policies to reduce GHG emissions and address the impacts of climate change. The General Plan contains the following policies and actions that affect the generation of GHG emissions and may apply to the potential future development of the Project site are highlighted below.

#### ***Urban and Rural Development***

- ▶ **Policy LU-1-9:** Encourage employee intensive commercial and industrial uses to locate within walking distance of fixed transit stops. Encourage regional public transit to provide or increase coordinated services to areas with high concentrations of residents, workers, or visitors.
  
- ▶ **Policy LU-4-1:** Establish activity centers as community gathering places characterized by the following design element related actions.
  - Prioritize pedestrian and bicycle access.
  - Ensure local and regional transit connections are provided throughout each activity year.



## ***Economy and the Region***

- ▶ **Policy RC-1-5:** In addition to establishing a primary Major Employment Center, consider options to develop additional Major Employment Centers in portions of the City with enough available undeveloped land and potential sufficient transit access to support such a center.
- ▶ **Policy RC-3-1:** Integrate economic development and land use planning in Elk Grove with planning for regional transportation systems.
- ▶ **Policy RC-3-4:** Advocate for fixed-transit service in Elk Grove as part of a coordinated regional network designed and routed to serve Major Employment Centers, residential centers, shopping centers, and colleges and universities.

## ***Mobility***

- ▶ **Policy MOB-1-1:** Achieve State-mandated reductions in VMT by requiring land use and transportation projects to comply with the specific metrics and limits. These metrics and limits shall be used as thresholds of significance in evaluating projects subject to CEQA.
- ▶ **Policy MOB-1-4:** Consider all transportation modes and the overall mobility of these modes when evaluating transportation design and potential impacts during circulation planning.
- ▶ **Policy MOB-3-1:** Implement a balanced transportation system using a layered network approach to building Complete Streets that ensure the safety and mobility of all users, including pedestrians, cyclists, motorists, children, seniors, and people with disabilities.
- ▶ **Policy MOB-3-2:** Support strategies that reduce reliance on single-occupancy private vehicles and promote the viability of alternative modes of transport.
- ▶ **Policy MOB-3-7:** Develop a complete and connected network of sidewalks, crossings, paths, and bike lanes that are convenient and attractive, with a variety of routes in pedestrian-oriented area.
- ▶ **Policy MOB-3-15:** Utilize reduced parking requirements when and where appropriate to promote walkable neighborhoods and districts and to increase the use of transit and bicycles.
- ▶ **Policy MOB-3-16:** Establish parking maximums, where appropriate, to prevent undesirable amounts of motor vehicle traffic in areas where pedestrian, bike, and transit use are prioritized.
- ▶ **Policy MOB-3-17:** Ensure new multifamily and commercial developments provide bicycle parking and other bicycle support facilities appropriate for the users of the development.
- ▶ **Policy MOB-4-1:** Ensure that community and area plans, specific plans, and development projects promote pedestrian and bicycle movement via direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area. This may include convenient pedestrian and bicycle connections to public transportation.

- ▶ **Policy MOB-4-5:** Encourage employers to offer incentives to reduce the use of vehicles for commuting to work and increase commuting by active transportation modes. Incentives may include a cash allowance in lieu of a parking space and onsite facilities and amenities for employees such as bicycle storage, shower rooms, lockers, trees, and shaded seating areas.
- ▶ **Policy MOB-5-1:** Support a pattern of land uses and development projects that are conducive to the provision of a robust transit service.
- ▶ **Policy MOB-5-4:** Support mixed-use and high-density development applications close to existing and planned transit stops.
- ▶ **Policy MOB-5-6:** Provide the appropriate level of transit service in all areas of Elk Grove, through fixed-route service in urban areas, and complementary demand response service in rural areas, so that transit-dependent residents are not cut off from community services, events, and activities.
- ▶ **Policy MOB-5-7:** Maintain and enhance transit services throughout the City in a manner that ensures frequent, reliable, timely, cost-effective, and responsive service to meet the City’s needs. Enhance transit services where feasible to accommodate growth and transit needs as funding allows.
- ▶ **Policy MOB-5-8:** Support and use infrastructure improvements and technological advancements such as intelligent transportation management tools to facilitate the movement and security of goods through the City in an efficient manner.
- ▶ **Policy MOB-5-9:** Assist in the provision of support facilities for emerging technologies such as advanced fueling stations (e.g., electric and hydrogen) and smart roadway signaling/signage.
- ▶ **Policy MOB-5-10:** Work with a broad range of agencies to encourage and support programs that increase regional average vehicle occupancy. Examples include providing traveler information, shuttles, preferential parking for carpools/vanpools, transit pass subsidies, road and parking pricing, and other methods.
- ▶ **Policy MOB-5-11:** Encourage and create incentives for the use of environmentally friendly materials and innovative approaches in roadway designs that limit runoff and urban heat island effects. Examples include permeable pavement, bioswales, and recycled road base, asphalt, and concrete.

### ***Natural Resources***

- ▶ **Policy NR-2-2:** Maximize and maintain tree coverage on public lands and in open spaces.
- ▶ **Policy NR-2-4:** Maintain and enhance an urban forest by preserving and planting trees in appropriate densities and locations to maximize energy conservation and air quality benefits.
- ▶ **Policy NR-3-8:** Reduce the amount of water used by residential and nonresidential uses by requiring compliance with adopted water conservation measures.
- ▶ **Policy NR-3-9:** Promote the use of greywater systems and recycled water for irrigation purposes.
- ▶ **Policy NR-3-12:** Advocate for native and/or drought-tolerant landscaping in public and private project.

- ▶ **Policy NR-3-6:** Continue interagency partnerships to support water conservation.
- ▶ **Policy NR-4-1:** Require all new development projects which have the potential to result in substantial air quality impacts to incorporate design, and/or operational features that result in a reduction in emissions equal to 15 percent compared to an “unmitigated baseline project.” An unmitigated baseline project is a development project which is built and/or operated without the implementation of trip reduction, energy conservation, or similar features, including any such features which may be required by the Zoning Code or other applicable codes.
- ▶ **Policy NR-4-4:** Promote pedestrian/bicycle access and circulation to encourage residents to use alternative modes of transportation in order to minimize direct and indirect emissions of air contaminants.
- ▶ **Policy NR-4-5:** Emphasize demand management strategies that seek to reduce single-occupant vehicle use in order to achieve State and federal air quality plan objectives.
- ▶ **Policy NR-4-6:** Offer a public transit system that is an attractive alternative to the use of private motor vehicles.
- ▶ **Policy NR-4-8:** Require that development projects incorporate best management practices during construction activities to reduce emissions of criteria pollutants.
- ▶ **Policy NR-5-1:** By 2030 reduce community-wide greenhouse gas emissions to 4.1 metric tons of carbon dioxide equivalents (MT CO<sub>2</sub>e) per capita. By 2050 reduce community-wide greenhouse gas emissions to 1.4 MTCO<sub>2</sub>e per capita to meet the State’s 2050 greenhouse gas emissions reduction goals.
- ▶ **Policy NR-5-2:** Improve the health and sustainability of the community through improved regional air quality and reduction of greenhouse gas emissions that contribute to climate change.
- ▶ **Policy NR-5-3:** Support efforts by the Sacramento Metropolitan Air Quality Management District and the California Air Resources Board to decrease greenhouse gas emissions from stationary sources.
- ▶ **Policy NR-5-4:** Preserve, protect, and enhance, as appropriate, the community’s carbon sequestration resources to improve air quality and reduce net carbon emissions.
- ▶ **Policy NR-6-1:** Promote energy efficiency and conservation strategies to help residents and businesses save money and conserve valuable resources.
- ▶ **Policy NR-6-3:** Promote innovation in energy efficiency.
- ▶ **Policy NR-6-5:** Encourage renewable energy options that are affordable and benefit all community members.
- ▶ **Policy NR-6-6:** Encourage the use of solar energy systems in homes, commercial businesses, and City facilities as a form of renewable energy.
- ▶ **Policy NR-6-7:** Promote energy conservation measures in new development to reduce on-site emissions and seek to reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development. \

## Sustainable Development

- ▶ **Policy SD-2-1:** Incorporate green building techniques and best management practices in the site design, construction, and renovation of all public projects
- ▶ **Policy SD-2-2:** Support innovation and green building best management practices for all new private development

## City of Elk Grove Climate Action Plan

The City Council adopted its first Climate Action Plan (CAP) in 2013. The first update to the CAP was adopted in February 2019 and amended in December 2019. The CAP identifies sources of GHG emissions attributable to land uses and activities within City limits and identifies measures to reduce emissions through energy use, land use, solid waste, and transportation strategies. The CAP includes the following topics for emission reduction strategies: An Innovative and Efficient Built Environment; Resource Conservation; and Transportation Alternatives and Congestion Management. The amended 2019 CAP is structured to serve as a programmatic tiering document for the purposes of CEQA. For analysis of GHG emissions impacts under CEQA, projects can achieve streamlining pursuant to the provisions of Section 15183.5 by including all applicable GHG reduction measures in the CAP as a part of project location or design and/or as mitigation measures in the environmental document, thus demonstrating that the project would have a cumulatively less than significant impact on the environment

Table 3.8-2 presents GHG reduction measures from the City’s 2019 CAP.

<b>Table 3.8-2 City of Elk Grove Climate Action Plan Applicable GHG Reduction Measures</b>		
	<b>Reduction Measures</b>	<b>Policy Topic</b>
BE-4	Building Stock: Encourage or Require Green Building Practices in New Construction. Encourage new construction projects to comply with CALGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24 Part 6 Building Energy Efficiency Standards.	Built Environment
BE-5	Building Stock: Phase in Zero Net-Energy Standards in New Construction. Phase in zero net energy (ZNE) standards for new construction, beginning in 2020 for residential projects and 2030 for commercial projects. Specific phase-in requirements and ZNE compliance standards will be supported by updates in the triennial building code updates, beginning with the 2019 update.	Built Environment
BE-6	Building Stock: Electrification in New and Existing Residential Development. Encourage and incentivize new residential developments to include all electrical appliances and HVAC systems in the design of new projects. Support local utilities in implementing residential retrofit programs to help homeowners convert to all electrical appliances and HVAC systems. Explore the feasibility of phasing in minimum standards for all-electric developments.	Built Environment
BE-7	Building Stock: Solar Photovoltaics in New and Existing Residential and Commercial Development. Encourage and require installation of on-site solar photovoltaic (PV) in new single-family and low-rise multi-family developments. Promote installation of on-site PV systems in existing residential and commercial development.	Built Environment
BE-8	SMUD Greenergy and SolarShare Programs. Encourage participation in SMUD’s offsite renewable energy programs (i.e., Greenergy, SolarShares), which allow building renters and owners to opt into cleaner electricity sources.	Built Environment
RC-1	Waste Reduction. The City shall facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste generated.	Resource Conservation

<b>Table 3.8-2 City of Elk Grove Climate Action Plan Applicable GHG Reduction Measures</b>		
	<b>Reduction Measures</b>	<b>Policy Topic</b>
RC-2	Organic Waste Reduction. The City will target reduction of organic waste disposal, consistent with statewide goals, of 50 percent of 2014 levels by 2020 and 75 percent by 2025, using alternatives such as composting, anaerobic digestion, and biomass energy	Resource Conservation
TACM-1	Local Goods. Promote policies, programs, and services that support the local movement of goods in order to reduce the need for travel.	Transportation Alternatives & Congestion Management
TACM-2	Transit-Oriented Development. Support higher-density, compact development along transit by placing high-density, mixed-use sites near transit opportunities.	Transportation Alternatives & Congestion Management
TACM-3	Intracity Transportation Demand Management. The City shall continue to implement strategies and policies that reduce the demand for personal motor vehicle travel for intracity (local) trips.	Transportation Alternatives & Congestion Management
TACM-4	Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle, Pedestrian and Trails Master Plan and increased bicycle parking standards.	Transportation Alternatives & Congestion Management
TACM-6	Limit Vehicle Miles Traveled. Achieve a 15 percent reduction in daily VMT compared to existing conditions (2015) for all new development in the City, consistent with state mandated VMT reduction targets for land use and transportation projects.	Transportation Alternatives & Congestion Management
TACM-7	Traffic Calming Measures. Increase the number of streets and intersections that have traffic calming measures.	Transportation Alternatives & Congestion Management
TACM-8	Tier 4 Final Construction Equipment. Require all construction equipment used in Elk Grove to achieve EPA-rated Tier 4 Final diesel engine standards by 2030 and encourage the use of electrified equipment where feasible.	Transportation Alternatives & Congestion Management
TACM-9	EV Charging Requirements. Adopt an electric vehicle (EV) charging station ordinance that establishes minimum EV charging standards for all new residential and commercial development. Increase the number of EV charging stations at municipal facilities throughout the City.	Transportation Alternatives & Congestion Management

Source: City of Elk Grove 2019b

### **3.8.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **METHODOLOGY**

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute cumulatively to global climate change. It is unlikely that a single project will contribute significantly to climate change, but cumulative emissions from many projects could affect global GHG concentrations and the climate system. Therefore, impacts are analyzed within the context of the potential contribution to the cumulatively significant impact of climate change.

GHG emissions were estimated using similar methods as those described in Section 3.4 of this EIR, “Air Quality.” In addition to criteria air pollutants, CalEEMod Version 2016.3.2 and the Road Construction Emissions Model were also used to estimate GHG emissions associated with construction and operational activities. Detailed modeling inputs, assumptions, and calculations are available in Appendix E.

For construction, GHG emissions were estimated for off-road construction equipment, material delivery trucks, haul trucks, and construction worker vehicles. For operational activities, GHG emissions were estimated for activities associated with mobile, area, and energy sources, as well as solid waste disposal and water consumption. The specific timing of construction and operation of any individual use within the Project site is unknown, and subject to market conditions and other factors outside the control of the City. This EIR assumes a 20-year development period. Therefore, GHG emissions associated with operations of all future development

within the Project site were estimated for the full development of potential land uses within the Project site in the year 2040; this incorporated the fleet mix for the year 2040<sup>1</sup> to reflect the anticipated turnover of vehicles over the duration of the construction period and resultant increase in fuel efficiency and decrease in emissions from motor vehicles, but conservatively used the 2018 (most recent) carbon intensity factor for electricity and an adjusted energy intensity to account for implementation of the 2019 Title 24 standards without projecting future reductions in electricity carbon intensity or increases in building energy efficiency.

In order to provide a more comprehensive assessment of cumulative GHG emissions, construction-related GHG emissions that would result from construction of all assumed land uses and infrastructure improvements were summed and then amortized over a 25-year operational lifetime<sup>2</sup> and added to the operational emissions associated with these land uses. The annual operational emissions, along with the amortized construction emissions, were compared with applicable significance thresholds to determine cumulative significance.

## THRESHOLDS OF SIGNIFICANCE

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the CEQA Guidelines. The proposed Project would have a significant impact associated with the generation of GHG emissions and climate change if implementation of the proposed Project would:

- ▶ generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, or
- ▶ conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Assembly Bill (AB) 32, Executive Order B-30-15, SB 32, and Executive Order S-3-05 represent the framework for CEQA analysis of GHG emissions impacts in California. For development projects and plans, it is important to evaluate whether a subject project “incorporates efficiency and conservation measures sufficient to contribute its portion of the overall greenhouse gas reductions necessary” for the State to achieve its own mandates (*Center for Biological Diversity, et al. v. California Department of Fish And Wildlife, the Newhall Land And Farming Company*, California Supreme Court, Case No. 5217763). If a project or plan demonstrates that the rate of GHG emissions is efficient enough to provide its share of State emissions reduction targets, the impact is not cumulatively considerable (*Center for Biological Diversity, et al. v. California Department of Fish and Wildlife*, page 12; Crockett 2011).

As stated in Appendix E, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. For land development and construction projects, SMAQMD considers a project to exceed GHG emission thresholds<sup>3</sup> if:

---

<sup>1</sup> This varies from the methodology used for the estimate of maximum daily criteria air pollutants described in Section 3.4, “Air Quality,” of this EIR, which modeled operational emissions for the year 2022 to represent a conservative estimate of the maximum potential daily emissions.

<sup>2</sup> The 25-year operational lifetime is a conservative estimate of the operational life of a typical development project. Estimates derived from the State of California Executive Order D-16-00 and US Green Building Council’s, *The Costs and Financial Benefits of Green Building* (SMAQMD 2020).

<sup>3</sup> SMAQMD adopted an updated land development GHG threshold, including Best Management practices on April 23, 2020, via resolution 2020-009.

- ▶ the annual construction-related emissions exceed 1,100 MT CO<sub>2</sub>e/year; or
- ▶ the project fails to demonstrate consistency with the State Climate Change Scoping Plan by implementing the following best management practices (BMP), or equivalent on-site or off-site mitigation, as applicable:
  - All projects must implement Tier 1 BMPs (BPM 1 and 2):
    - BMP 1 – projects shall be designed and constructed without natural gas infrastructure;
    - BMP 2 – projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.
  - Projects that exceed 1,100 metric tons/year after implementation of Tier 1 BMPs must implement Tier 2 BMPs (BMP 3):
    - BMP 3 – residential projects shall achieve a 15 percent reduction in vehicle miles traveled per resident and office projects shall achieve a 15 percent reduction in vehicle miles traveled per worker compared to existing average vehicle miles traveled for the county, and retail projects shall achieve a no net increase in total vehicle miles traveled to show consistency with SB 743.

The City of Elk Grove has adopted GHG emissions targets that, if achieved, based on emissions reduction quantification under the updated CAP and analysis in the General Plan EIR, would enable the City to continue to reduce community-wide emissions in proportion to the State’s GHG reduction targets (City of Elk Grove 2019a, b).

The GHG emissions efficiency of a project or plan is the amount of emission per some unit of measurement. An efficiency target can be developed that mirrors statewide emissions reduction legislation and executive orders. To create an efficiency target, one would simply divide the statewide emissions target for a specified target year by the forecast population for the same year. This would yield an emissions “budget” for each California resident, and allow a community to assess whether or not its emissions rate is consistent with this emissions budget.

The City identified, and adopted, the following recommended per-capita GHG efficiency targets to reduce the City’s annual GHG emissions, consistent with the framework used to develop the State’s emissions reduction targets:

- ▶ 4.1 MT CO<sub>2</sub>e per capita by 2030.
- ▶ 1.4 MT CO<sub>2</sub>e per capita by 2050.

Similarly, a GHG efficiency target may also be expressed on a per-service population basis, in which service population is defined as the total number of residents plus employment. Using equivalent assumptions with regard to the locally relevant emissions sources accounted for by the City in establishing its per capita GHG efficiency threshold, the following GHG emissions per service population would be required to reduce emissions in proportion to the State’s GHG reduction targets:

- ▶ 2.8 MT CO<sub>2</sub>e per service population by 2030.
- ▶ 0.8 MT CO<sub>2</sub>e per service population by 2050.

For the purposes of analysis, GHG emissions efficiency targets for the year 2040 were extrapolated based upon the City's 2030 and 2050 targets, assuming a linear reduction in emissions over time to meet the 2050 target. The following GHG emissions efficiency threshold would apply to operations in the year 2040:

- ▶ 2.75 MT CO<sub>2</sub>e per capita in 2040.
- ▶ 1.81 MT CO<sub>2</sub>e per service population in 2040.

The current SMAQMD approach to GHG thresholds and operational BMPs was established after the adoption of the General Plan and CAP. Therefore, while these BMPs are not explicitly contained within the City's planning documents, they are relevant for consideration in an analysis of GHG-related impacts for projects within SMAQMD's jurisdiction and are considered to demonstrate consistency with the State Scoping Plan. Because the Project would accommodate a mix of land uses that is assumed to include residential, commercial, industrial, and open space, using a per-service-population GHG efficiency threshold for operational emissions is an appropriate quantitative metric of evaluation and, along with the SMAQMD thresholds, is presented in the analysis below to establish a determination of significance for the proposed Project.

Having established the State policy and regulatory framework for assessing cumulative significance of GHG emissions, and using both the air district points of reference and the GHG emissions efficiency threshold to demonstrate the required GHG emissions rate to achieve consistency with State legislation and Executive Orders, this SEIR answers the two checklist questions provided by CEQA Guidelines Appendix G in a single impact assessment. Whether or not the proposed Project would generate GHG emissions that would have a significant impact on the environment depends on whether the proposed Project would comply with the SMAQMD thresholds of significance and whether the rate of GHG emissions (per service population) from potential future development within the Project site would include a fair share of emissions reduction, consistent with the State's own reduction targets under AB 32, Executive Order B-30-15, SB 32 and Executive Order S-3-05.

## **IMPACT ANALYSIS**

### **Impact 3.8-1. Generation of Greenhouse Gas Emissions or Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs.**

GHG emissions attributable to construction and operations of future development within the Project site, as well as off-site improvements to support development of the Project site, are considered to result in a **cumulatively considerable** contribution to the significant cumulative impact of climate change.

The proposed Project will generate GHG emissions due to construction and operation of proposed on-site land uses and off-site improvements. Construction-related GHG emissions would be generated primarily from exhaust emissions associated with off-road construction equipment, construction worker commutes, and vendor and haul truck trips. Operational GHG emission sources would include energy consumption (i.e., electricity and natural gas), transportation, solid waste, and water and wastewater. GHG emissions generated by these sources were quantified using emission factors and methodologies described in Section 3.4, "Air Quality." As described in Section 3.4, "Air Quality," in order to estimate annual construction emissions for a plan-level analysis when specific land use development information is unknown, SMAQMD recommends a conservative assumption that 25 percent of the total plan or project is constructed in a single year. This assumption would provide conservative results and would overestimate annual emissions associated with possible future development within the Project site since it is very unlikely that 25 percent of this relatively large development area would actually be under



construction in any given year. In addition, the construction-related emissions estimates use the conservative assumption that construction would occur in the earliest possible year (2021). Because of this conservative assumption, actual emissions would be less than the estimates presented in this SEIR due to use of a more modern and cleaner burning (less emitting) construction equipment and vehicle fleet mix in future years.

Table 3.8-3 summarizes the maximum annual and total construction-related and annual operational emissions associated with development of the Project site and off-site improvements. In order to provide a more comprehensive assessment of cumulative GHG emissions, construction-related GHG emissions that would result from full buildout of the General Plan were summed and then amortized over an estimated 25-year operational lifetime and added to the operational emissions associated with these land uses.

<b>Table 3.8-3 Estimated GHG Emissions Associated with Development of the Project Site and Off-Site Improvement Areas</b>	
Emissions Source	GHG Emissions (MT CO <sub>2</sub> e)
<b>Construction GHG Emissions</b>	
Maximum Annual Construction Emissions	5,499
Total Potential Construction Emissions <sup>1</sup>	18,494
Amortized Construction-Related Emissions <sup>2</sup>	740
<b>Annual Operational GHG Emissions</b>	
Area	12
Energy	17,403
Mobile	64,757
Waste	4,016
Water	1,478
<b>Total Annual Operational Emissions</b>	<b>87,667</b>
<b>Total Annual Project Emissions, including Amortized Construction + Operational Emissions</b>	<b>88,406</b>
Total Residents Associated with Development of the Project Site	2,283
Total Employment Generated by Development of the Project Site	7,708
Total Service Population Associated with Proposed Project	9,990
<b>Emissions per Capita (MT CO<sub>2</sub>e/capita) at Full Buildout<sup>3,4</sup></b>	<b>38.7</b>
<b>Emissions per Service Population (MT CO<sub>2</sub>e/ service population) at Full Buildout<sup>3,4</sup></b>	<b>8.9</b>
Notes: GHG = greenhouse gas; MT CO <sub>2</sub> e = metric tons of carbon dioxide equivalents	
<sup>1</sup> Total construction emissions are estimated by multiplying the annual worst-case construction scenario for on-site development, which represents construction emissions associated with development of 25% of the total proposed land uses, by four, and then adding construction-related emissions of off-site development.	
<sup>2</sup> Total Potential Construction emissions are amortized over 25 years. The operational lifetime estimate is derived from the State of California Executive Order D-16-00 and US Green Building Council's October 2003 report on The Costs and Financial Benefits of Green Buildings (SMAQMD 2020).	
<sup>3</sup> Full buildout of all land uses within the Project site were modeled for the year 2040.	
<sup>4</sup> GHG efficiency-based metric is calculated using the sum of the amortized construction-related emissions and the annual operational emissions.	
Note: Totals do not add due to rounding.	
Source: Modeled by AECOM in 2020.	

Amortized annual construction emissions would be below the 1,100 MT CO<sub>2</sub>e/year threshold that is recommended by SMAQMD for construction related emissions. In addition, if construction were to occur at a steady pace over the anticipated 20-year construction duration and the total construction emissions were generated equally over each year, average annual GHG emissions would be approximately 925 MT CO<sub>2</sub>e per year, which would be less than the SMAQMD construction threshold for annual GHG emissions. However, if 25 percent of the assumed land uses within the Project site were constructed in a single year, as modeled in the maximum potential construction scenario, this would generate approximately 5,499 MT CO<sub>2</sub>e, which would exceed the SMAQMD construction threshold.

Future development of assumed land uses within the Project site would generate long-term operational emissions from day-to-day activities. As shown in Table 3.8-3, the sum of amortized construction and total annual operational emissions from the proposed Project would result in GHG emissions of 38.7 MT CO<sub>2</sub>e per capita and 8.9 MT CO<sub>2</sub>e per service population. This exceeds both the per capita and per service population emissions thresholds developed for this SEIR for 2040 of 2.75 MT CO<sub>2</sub>e and 1.81 MT CO<sub>2</sub>e, respectively.

As discussed in 3.8.2, “Regulatory Framework,” the City of Elk Grove updated its General Plan and CAP in 2019. The primary motivation for the City to adopt and regularly update the CAP is to “enable new development projects consistent with the CAP and General Plan to tier from the CAP’s environmental review process and minimize subsequent project-level analysis” (City of Elk Grove 2019b).

The City’s General Plan includes goals and policies related to sustainability and resource protection, including the reduction of GHG emissions consistent with State and local goals (General Plan Goal NR-5). The CAP details the strategies to reduce GHG emissions and provides specific actions and target indicators to achieve the intended reduction levels. The City estimates that implementation of the GHG reduction strategies of the CAP would enable the City to achieve the State-recommended GHG reduction targets for 2020 and 2030 and demonstrate initial progress towards meeting the State’s long-term 2050 goal.

The Project site was included as part of the East Study Area in the evaluation of the City of Elk Grove General Plan Update and CAP Update in 2019. The CAP GHG Reduction Measure TACM-6 and General Plan Policy MOB-1.1 are consistent with SMAQMD BMP-3, which identifies VMT reductions to ensure consistency with SB 743. However, SMAQMD BMP-1 and BMP-2, which require all projects to be designed without natural gas and meet CalGreen Tier 2 standards with electric vehicle ready parking spaces, can only be considered in the context of development proposals since these BMPs relate to design details.

SACOG did not include the Project site as an area that would develop during the planning horizon of the 2020 MTP/SCS. SACOG has developed population and employment projections that inform and are informed by land use and transportation planning throughout the region. According to these projections, the City would add 12,870 dwelling units and 15,750 new employees by 2040 without consideration of any development within the Project site (SACOG 2019). If the City is successful in attracting more development between present and 2040 than forecast by SACOG, this would vary from the planning assumptions used by SACOG to develop the MTP/SCS and assess the region’s progress toward ARB’s per-capita GHG reduction goals for passenger vehicles and light-duty trucks.

The City’s intent is for future projects in the East Study Area to facilitate development that would create a better balance between the types of local jobs available and the skills and interests of the local labor force (Project

Objective #5). If residents of Elk Grove are able to reduce their vehicle commute or use non-vehicular modes to reach employment, this could help to reduce the most important source of GHG emission: transportation.

The City will require future developments to incorporate applicable CAP reduction measures, including implementing strategies and policies to reduce the demand for personal motor vehicle travel for intracity (local) trips (Reduction Measure TACM 3); providing for safe and convenient pedestrian and bicycle travel (Reduction Measure TACM 4); achieving a 15-percent reduction in daily VMT compared to existing conditions (2015) for all new development (Reduction Measure TACM 6); and implementing minimum EV charging standards for all new residential and commercial development (Reduction Measure TACM 9).

While the application of the City's Project Objectives and CAP would reduce GHG emissions, since there are no land use plans or development proposals available for analysis at this time, it is not possible to quantify these reductions and compare the resulting emissions estimate to GHG emissions significance thresholds. Therefore, the impact is **cumulatively considerable**.

## Mitigation Measures

### Mitigation Measure 3.8-1a: Achieve GHG Emissions Rate Consistent with State Guidance (2019 SOIA EIR Mitigation Measure 3.8-1)

Prior to issuance of building permits, Project Building Plans shall demonstrate compliance with the following applicable measures included in the City's Climate Action Plan, to the satisfaction of the City of Elk Grove Planning Division:

- BE-4: The Project shall comply with 2016 CalGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24, Part 6, Building Energy Efficiency Standards. If building permits are issued subsequent to January 1, 2020, the Project shall provide a level of efficiency at least that of Tier 1 of the 2016 CalGreen Code, or baseline of the current CalGreen Code, whichever is more efficient.
- BE-5: Should any residential portion of the Project (including single-family and multi-family) be constructed after January 1, 2025, these units shall be constructed as Zero Net Energy units. The Project shall achieve a Total Energy Design Rating (Total EDR) and Energy Efficiency Design Rating (Efficiency EDR) of zero, consistent with the standards in Title 24, Part 6 of the California Code of Regulations, for all units permitted after January 1, 2025.
- BE-6: At least 10 percent of all residential units shall include all-electric appliances and HVAC systems, including, but not limited to, (A) a heat pump water heater with a minimum Uniform Energy Factor of 2.87, and (B) an induction cooktop/range for all cooking surfaces in the unit.
- TACM-8: A minimum of 25 percent of the off-road construction fleet used during construction of the Project shall include Environmental Protection Agency certified off-road Tier 4 diesel engines (or better).
- TACM-9: The Project shall, at a minimum, provide the following minimum electrical vehicle service equipment:

- EV-ready for all single-family units;
  - For multi-family units, 2.5 percent of parking stalls with EV charging equipment installed and 2.5 percent of parking stalls EV-ready; and
  - For retail uses, 3 percent of parking stalls with EV charging equipment installed and 3 percent of parking stalls EV-ready.
- Should the City adopt a higher standard prior to issuance of any applicable building permit, such higher standards shall apply.

**Mitigation Measure 3.8-1b: Implement the SMAQMD BMPs, or equivalent on-site or off-site mitigation, as applicable for land use operations**

The City of Elk Grove shall require, as a part of plans for development within the Project site, the implementation of the following SMAQMD BMPs, or BMPs as they may be revised in the future, or equivalent on-site or off-site mitigation, as applicable. If equivalent on-site or off-site mitigation is used in-lieu of the below measures, it must be demonstrated that the proposed measures would achieve an equivalent or greater reduction in the GHG emissions rate.

- All projects must implement Tier 1 BMPs (BPM 1 and 2):
  - BMP 1 – projects shall be designed and constructed without natural gas infrastructure;
  - BMP 2 – projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.
- Projects that exceed 1,100 metric tons/year after implementation of Tier 1 BMPs must implement Tier 2 BMPs (BMP 3):
  - BMP 3 – residential projects shall achieve a 15 percent reduction in vehicle miles traveled per resident and office projects shall achieve a 15 percent reduction in vehicle miles traveled per worker compared to existing average vehicle miles traveled for the county, and retail projects shall achieve a no net increase in total vehicle miles traveled to show consistency with SB 743.

**Significance after Mitigation**

Mitigation Measure 3.8-1a requires that future development within the Project site demonstrate consistency with the City’s CAP and other feasible reduction strategies needed to achieve a GHG emissions rate that is consistent with the State legislative framework. Achieving the performance standard established in this mitigation measure would allow the City to demonstrate that development within the Project site would be consistent with the State legislative framework that, in California, has been established for assessing the cumulative significance of GHG emissions impacts. Mitigation Measure 3.8-1b requires that future development within the Project site implement the SMAQMD BMPs, or equivalent on-site or off-site mitigation. Implementation of these measures would further reduce future operational GHG emissions over the lifetime of the proposed development. Table 3.8-4 presents what the GHG emissions rate of future land use operations would be assuming, at a minimum, the full

development of the Project site would achieve the VMT limits outlined in General Plan Policy MOB-1-1 and demonstrate consistency with SMAQMD BMP 3 and SB 743.

<b>Table 3.8-4 Estimated GHG Emissions Associated with Development of the Project Site with VMT Reductions Consistent with General Policy MOB-1-1</b>	
Emissions Source	GHG Emissions (MT CO <sub>2</sub> e)
<b>Construction GHG Emissions</b>	
Maximum Annual Construction Emissions	5,499
Total Potential Construction Emissions <sup>1</sup>	18,494
Amortized Construction-Related Emissions <sup>2</sup>	740
<b>Operational GHG Emissions</b>	
Area	12
Energy	17,403
Mobile	27,616
Waste	4,016
Water	1,478
<b>Total Annual Operational Emissions</b>	<b>50,526</b>
<b>Total Project Emissions, including Amortized Construction + Operational Emissions</b>	<b>51,266</b>
Total Residents Associated with Development of the Project Site	2,283
Total Employment Generated by Development of the Project Site	7,708
Total Service Population Associated with Proposed Project	9,990
<b>Emissions per Capita (MT CO<sub>2</sub>e/capita) at Full Buildout<sup>3,4</sup></b>	<b>22.5</b>
<b>Emissions per Service Population (MT CO<sub>2</sub>e/ service population) at Full Buildout<sup>3,4</sup></b>	<b>5.1</b>
Notes: GHG = greenhouse gas; MT CO <sub>2</sub> e = metric tons of carbon dioxide equivalents	
<sup>1</sup> Total construction emissions are estimated by multiplying the annual worst-case construction scenario for on-site development, which represents construction emissions associated with development of 25% of the total proposed land uses, by four, and adding construction-related emissions of off-site development.	
<sup>2</sup> Total Potential Construction emissions are amortized over 25 years. The operational lifetime estimate is derived from the State of California Executive Order D-16-00 and US Green Building Council's October 2003 report on The Costs and Financial Benefits of Green Buildings (SMAQMD 2020).	
<sup>3</sup> Full buildout of all land uses within the project site were modeled for the year 2040, and mitigation emissions assume VMT limits of General Plan Policy MOB-1-1 are achieved at full development of the project site.	
<sup>4</sup> GHG efficiency-based metric is calculated using the sum of the amortized construction-related emissions and the annual operational.	
Totals do not add due to rounding.	
Source: Modeled by AECOM in 2020	

As shown in Table 3.8-4, achievement of the VMT reduction targets would substantially reduce the GHG emissions rate of the Project's future operations and amortized construction emissions. The estimate in Table 3.8-4 includes only the benefit of VMT reductions and does not include benefits associated with an increase in the use of electric or other alternative fuel vehicles that could result from the implementation of City programs designed to increase electric vehicle use beyond the regional average fleet mix (such as CAP Reduction Measure TACM 9). However, meeting the City's VMT limits alone would not achieve the required GHG emissions reduction required to demonstrate consistency with the State's GHG emissions reductions target for 2030 or long-term goal for 2050. Additional emissions reductions would be achieved through the implementation of other energy-

reduction measures, such as the use of on-site solar photovoltaic systems to off-site building energy demand, implementation of new construction without natural gas infrastructure, increased resource conservation measures to reduce water demand and solid waste generation of future operations, and other feasible reduction measures. However, it is not possible at this time to guarantee the success of this mitigation measure in achieving an emissions rate that would be consistent with AB 32, SB 32, and S-3-05, particularly given the need to monitor a GHG reduction strategy and make revisions that take into account new regulatory guidance, technology, and economic changes that make emission reduction strategies that are not currently feasible become feasible in the future. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is **cumulatively considerable and unavoidable**.

## 3.9 HAZARDS, HAZARDOUS MATERIALS, AND WILDFIRE

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. However, no comments related to hazards, hazardous materials, or wildfire were received.

### 3.9.1 ENVIRONMENTAL SETTING

#### HAZARDOUS MATERIALS

A Phase I Environmental Site Assessment (ESA) for the City-owned parcel was prepared by Blackburn Consulting, Inc. (BCI 2014). A detailed discussion of the results of the ESA was provided in the 2019 SOIA EIR, and the existing conditions at the City-owned parcel, and throughout the rest of the Project site, have not changed since the 2019 SOIA EIR was prepared.

As discussed in the 2019 SOIA EIR, the Project site includes several residences and associated outbuildings, along with wells, septic systems, and small propane tanks. Due to the age of some of these structures, asbestos and lead-based paint may be present. A small warehouse present at the Project site has contained small quantities of properly stored chemicals. BCI identified an orchard on a portion of the City-owned parcel from a 1947 topographic map and 1937 aerial photograph. By 1984, the orchard had been cleared. Persistent pesticides such as dichlorodiphenyltrichloroethane (DDT) and lead arsenate were commonly used in fruit/nut orchards prior to 1972.

The off-site drainage improvement areas consist of existing agricultural drainage channels, and three ponds (approximately 0.5 acre, 8 acres, and 15 acres, respectively).

#### KNOWN HAZARDOUS MATERIALS SITES

In support of this SEIR, AECOM performed an updated search of publicly available databases maintained under Public Resources Code Section 65962.5 (i.e., the “Cortese List”) in 2020 to determine whether any known hazardous materials are present either in or within 0.25 mile of the Project site, in addition to those that were previously discussed in the 2019 SOIA EIR. The Hazardous Waste and Substances Site List (the “EnviroStor” database) is maintained by the California Department of Toxic Substances Control (DTSC) as part of the requirements of Public Resources Code Section 65962.5. The State Water Resources Control Board (SWRCB) maintains the GeoTracker database, an information management system for groundwater. The results of records searches from the EnviroStor and GeoTracker databases indicate there are no additional open or closed hazardous materials sites within 0.5 mile of the Project site or the off-site improvements areas that were not already discussed in the 2019 SOIA EIR (DTSC 2020, SWRCB 2020). No records of any toxic releases, hazardous waste, or other violations were found that would affect the Project site.

As discussed in the 2019 SOIA EIR, the Project site is not listed on any county, State, or federal government lists as a contaminated site. The off-site improvements areas are also not listed for any known contamination. There are no known contaminated municipal groundwater wells, active or inactive landfills, producing California Division of Oil and Gas petroleum wells, or registered underground storage tanks (USTs) located on, adjacent to, or within 0.5 mile of the Project site. No confirmed, State or federal “Superfund” sites were identified within 1 mile of the Project site or the off-site improvement areas.

Areas of Elk Grove north and west of the Project site along Grant Line Road and East Stockton Boulevard are zoned for commercial and industrial use. These areas include numerous warehouses, the City’s solid waste collection facility, and the regional Suburban Propane facility.

## **SCHOOLS**

The closest schools are Elk Grove High School and Markofer Elementary School, which are located approximately 1.5 miles northwest of the Project site.

## **AIRPORTS AND AIRSTRIPS**

The closest public-use airport is Franklin Field, approximately 6.75 miles southwest of the Project site. The nearest active, privately operated airstrip—Mustang Airport (on Arno Road north of Galt)—is located approximately 3.2 miles southeast of the Project site.

## **WILDLAND FIRE HAZARDS**

As described in the 2019 SOIA EIR, the Project site is located within a Local Responsibility Area (LRA) as designated by the California Department of Forestry and Fire Protection (CAL FIRE). LRAs include cities and unincorporated areas where fire protection is provided by local agencies (e.g., fire protection districts and counties). The Project site, off-site improvement areas, and the surrounding areas are within a Non-Very High Fire Hazard Severity Zone (CAL FIRE 2018).

### **3.9.2 REGULATORY FRAMEWORK**

#### **CITY OF ELK GROVE GENERAL PLAN**

The City’s General Plan (City of Elk Grove 2019), contains the following policies related to hazards, hazardous materials, and wildfire that are applicable to the proposed Project.

- ▶ **Policy EM-1-1:** Seek to maintain acceptable levels of risk of injury, death, and property damage resulting from reasonably foreseeable safety hazards.
- ▶ **Policy ER-1-1:** In considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City will consider the hazards posed by reasonably foreseeable events. Evaluation of such hazards will address the potential for events at facilities to create hazardous physical effects at off-site locations that could result in death, significant injury, or significant property damage. The potential hazardous physical effects of an event need not be considered if the occurrence of an event is not reasonably foreseeable as defined in Policy ER-1.2. Hazardous physical effect shall be determined in accordance with Policy ER-1.3.
- ▶ **Policy ER-1-2:** For the purpose of implementing Policy ER-1.1, the City considers an event to be “reasonably foreseeable” when the probability of the event occurring is as indicated in Table 8-1 (see Table 3.9-1 below).
- ▶ **Policy ER-1-3:** For the purpose of implementing Policy ER-1.1, use the Threshold of Exposure standards shown in Table 8-2 (see Table 3.9-2 below) to determine the potential “hazardous physical effect” from either:



Table 3.9-1 Acceptable Probability of Reasonably Foreseeable Risks to Individuals by Land Use	
Land Use	Probability of Occurrence Per Year
“Agriculture, Light Industrial, and Industrial” Uses involving continuous access and the presence of limited number of people but easy evacuation, e.g., open house, warehouses, manufacturing plants, etc.	Between 100 in 1 million and 10 in 1 million ( $10^{-4}$ to $10^{-5}$ )
“Commercial” Uses involving continuous access but of easy evacuation, e.g., commercial uses, offices.	Between 10 in 1 million and 1 in 1 million ( $10^{-5}$ to $10^{-6}$ )
“Residential” All other land uses without restriction including institutional uses, residential areas, etc.	1 in 1 million and less ( $10^{-6}$ )
Source: City of Elk Grove 2019:8-10	

- a) Placing a use near an existing hazardous facility which could expose the new use to hazardous physical effects, or
- b) Siting a hazardous facility that could expose other nearby uses to hazardous physical effects.

Reasonably foreseeable level of risk standards may be considered by the City when supported by substantial evidence.

- ▶ **Policy ER-1-4:** Work to identify and eliminate hazardous waste releases from both private companies and public agencies.
- ▶ **Policy ER-1-4a:** Industries which store and process hazardous or toxic materials shall provide a buffer zone between the installation and the property boundaries sufficient to protect public safety, the adequacy of which will be determined by the City of Elk Grove.
- ▶ **Policy ER-1-5:** Storage of hazardous materials and waste will be strictly regulated, consistent with state and federal law.
- ▶ **Policy ER-1-5a:** Future land uses that are anticipated to utilize hazardous materials or waste shall be required to provide adequate containment facilities to ensure that surface water and groundwater resources are protected from accidental releases. This shall include double-containment, levees to contain spills, and monitoring wells for underground storage tanks, as required by local, state and federal standards.
- ▶ **Policy ER-1-5b:** Prior to site improvements for properties that are suspected or known to contain hazardous materials and sites that are listed on or identified on any hazardous material/waste database search shall require that the site and surrounding area be reviewed, tested, and remediated for potential hazardous materials in accordance with all local, state, and federal regulations.
- ▶ **Policy ER-1-6:** Seek to ensure that all industrial facilities are constructed and operated in accordance with up-to-date safety and environmental protection standards.
- ▶ **Policy ER-1-7:** To the extent feasible, uses requiring substantial transport of hazardous materials should be located to direct such traffic away from the City’s residential and commercial areas.

Table 3.9-2 Policy Threshold of Exposure Criteria for Agricultural, Residential, and Non-Residential Land Uses				
Land Use	Maximum Acceptable Exposure			
	Overpressure	Airborne Toxic Substances	Radiant Heat	Shrapnel
Agriculture	3.4 psig <sup>(1)</sup>	Dose = ERPG-2 <sup>(2)</sup> ppm for 60 min Exposure time = 60 min For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = Dose/Exposure time Target concentration = (180 ppm-min)/60 min Target concentration = 3 ppm chlorine	Radiant dose = 200 kJ/ m <sup>2</sup> <sup>(3)</sup> Exposure time = 30 sec Target radiant energy = Radiant dose/Exposure time Target radiant energy = (200 kJ/m <sup>2</sup> )/30 sec Target radiant energy = 6.67 kW/m <sup>2</sup>	All uses shall be located such that the possibility of injury for an unprotected person due to shrapnel released by a reasonably foreseeable event <sup>(4)</sup> is less than 1/10 <sup>-6</sup> (1/1,000,000)
Residential (all density ranges) <sup>(5)</sup>	1.0 psig			
Office/ Commercial	1.0 psig			
Light industrial	1.25 psig	Dose = ERPG-2 ppm for 60 min Exposure time = 30 min For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = Dose/Exposure time Target concentration = (180 ppm-min)/30 min Target concentration = 6 ppm chlorine	Radiant dose = 200 kJ/m <sup>2</sup> Exposure time = 15 sec Target radiant energy = Radiant dose/Exposure time Target radiant energy = (200 kJ/m <sup>2</sup> )/15 sec Target radiant energy = 13.34 kW/m <sup>2</sup>	
Industrial	3.4 psig	Dose = ERPG-2 ppm for 60 min Exposure time = 15 min For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = Dose/Exposure time Target concentration = (180 ppm-min)/15 min Target concentration = 12 ppm chlorine		

Notes:

(1) psig: pounds per square inch gauge.

(2) ERPG-2: Emergency Response Planning Guidelines. The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action; ppm: parts per million.

(3) kJ/m<sup>2</sup>: kilojoules per square meter (a measure of radiant heat received); kW/m<sup>2</sup>: kilowatts per square meter; 1.0 kJ/m<sup>2</sup> = 1.0 kW/m<sup>2</sup> for 1 sec = 1 kW/ (m<sup>2</sup>-sec).

(4) As defined in Policy ER-1-2.

(5) Includes schools, parks, libraries, and other similar public gathering places regardless of their location.

Source: City of Elk Grove 2019:8-12

- ▶ **Policy ER-1-8:** Support continued coordination with the California Office of Emergency Services, the California Department of Toxic Substances Control, the California Highway Patrol, the Sacramento County Department of Environmental Health Services, the CCSD Fire Department, the Elk Grove Police Department, and other appropriate agencies in hazardous materials route planning and incident response.

### 3.9.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to hazards, hazardous materials, and wildfire if it would:

- ▶ create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment or through the routine transport, use, or disposal of hazardous materials;
- ▶ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- ▶ be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- ▶ for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- ▶ expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires;
- ▶ if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:
  - substantially impair an adopted emergency response plan or emergency evacuation plan;
  - due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
  - require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
  - expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes;

## ISSUES NOT DISCUSSED FURTHER

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

**Emit Hazardous Emissions or Handle Hazardous Materials, Substances, or Waste within One-Quarter Mile of a School**—The proposed Project would not emit hazardous air emissions or handle acutely hazardous materials within 0.25 mile of an existing or proposed school. The closest schools are Elk Grove High School and Markofer Elementary School, which are located approximately 1.5 miles northwest of the Project site. Thus, there would be no impact, and this issue is not addressed further in this SEIR.

**Result in Airport Safety Hazards**—The Project site and the off-site improvement area are not located within an airport land use plan or within 2 miles of any airport. The closest public-use airport is Franklin Field, approximately 6.75 miles southwest of the Project site. The nearest active, privately operated airstrip—Mustang Airport (on Arno Road north of Galt)—is located approximately 3.2 miles southeast of the Project site. Thus, there would be no impact, and this issue is not addressed further in this SEIR.

## IMPACT ANALYSIS

### Impact 3.9-1: Routine Transport, Use, or Disposal of Hazardous Materials.

Construction of future regional commercial, light and heavy industrial, and mixed uses at the Project site, as well as the off-site drainage improvements, would involve the routine storage, use, transport, and disposal of small quantities of hazardous materials such as fuels, oils and lubricants, paints and paint thinners, glues, and cleaning fluids (e.g., solvents). The Project site could be developed with home improvement, hardware, or auto parts stores. Medical uses may use or store pressurized oxygen tanks, medical waste, biohazardous materials, and/or radioactive materials. The Project site would also be developed with light manufacturing uses that could potentially use, store, or dispose of hazardous materials.

The California Highway Patrol (CHP) and Caltrans enforce regulations for transport of hazardous materials on local roadways, and DTSC regulates the use of these materials, as outlined in CCR Title 22. Project developers and their construction contractors would be required to comply with the California EPA's Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous materials management plans and inventories). The federal and State Departments of Transportation (through the Hazardous Materials Transportation Act) and other regulatory agencies provide standards designed to avoid releases, including provisions regarding securing materials and container design.

Facilities that would use hazardous materials would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases and protect the public health. Regulated activities would be managed by the Sacramento County Office of Emergency Services, the designated Certified Unified Program Agency (CUPA), and would be required to comply with CCR Title 8, "Industrial Relations," for workplace regulations addressing hazardous materials, as well as Title 26, "Toxics." Title 26, Division 6 contains requirements for CHP enforcement of hazardous materials storage and rapid-response cleanup in the event of a leak or spill. Compliance with these regulations would reduce the potential for accidental release of hazardous

materials during future construction and operation and to minimize both the frequency and the magnitude if such a release occurs.

In addition, the City of Elk Grove would enforce its General Plan policies and Municipal Code requirements through project conditions of approval. Therefore, this impact is considered **less than significant**.

#### **Impact 3.9-2: Potential Human Health Hazards from Exposure to Existing On-Site Hazardous Materials.**

There are no known areas of existing soil or groundwater contamination, either on- or off-site, that would pose a hazard for project-related construction or operation.

Older buildings on the Project site that would be demolished as part of the project could have asbestos, electrical equipment containing polychlorinated biphenyls (PCBs), fluorescent lights containing mercury vapors, and/or lead-based paints. Section 19827.5 of the California Health and Safety Code requires local agencies to comply with hazardous air pollutant regulations for asbestos. The City of Elk Grove would regulate asbestos through conditions of approval and Sacramento Metropolitan Air Quality Management District (SMAQMD) would be notified 10 days in advance of any proposed demolition or abatement work. Site-specific development within the Project site is required to comply with the California Health and Safety code for abatement of lead-based paint. Requirements for disposal and recycling of fluorescent light tubes containing mercury are specified in 22 CCR Section 66261.50; requirements for disposal of PCB-containing equipment are specified in 22 CCR Section 66261.24 and Part 761 of CFR Title 40.

Pasture, dry-farmed crops, and natural grasses, such as those historically and currently grown in and around the Project site, typically require little to no applications of environmentally persistent pesticides. However, orchards and orchard-cultivated soils in the Project area may have been contaminated through the repeated application of agricultural chemicals to fruit or nut trees. If evidence of soil or groundwater contamination exceeding ambient or background concentrations is discovered during project-related construction, work would cease until appropriate worker health and safety precautions, as specified by Title 8 of the California Code of Regulations (Section 5194) promulgated by the California Occupational Safety and Health Agency (Cal OSHA), are implemented. A qualified hazardous materials specialist would be notified for an evaluation and the appropriate regulatory agency would be contacted. If deemed necessary by the appropriate agency, remediation would be undertaken in accordance with existing federal, State, and local regulations/requirements and guideline established for the treatment of hazardous substances.

In addition, the City of Elk Grove would enforce its General Plan and Municipal Code through project conditions of approval, specifically General Plan Policy ER-1-5b states that if sites and surrounding area are suspected or known to contain hazardous materials, these areas will be reviewed, tested, and remediated for potential hazardous materials in accordance with all local, State, and federal regulations prior to site improvements.

For all of the reasons discussed above, this impact is considered **less than significant**.

It should be noted that, the prior 2019 EIR included the following Mitigation Measure 3.9-2. This mitigation measure remains applicable to the Project.

#### **Mitigation Measure 3.9-2: Hazardous Materials Identification and Remediation (2019 SOIA Mitigation Measure 3.9-2)**

For development proposed after 5 years have passed (after 2023), update the review of environmental risk databases for the presence of potential hazardous materials. This evaluation should consider the SOIA Area and any off-site improvement areas and if this assessment or other indicators point to the presence or likely presence of contamination, Phase I environmental site assessments and/or Phase II soil/groundwater testing and remediation shall be required before development. The sampling program developed as a part of the Phase II EA shall be conducted to determine the degree and location of contamination, if any, exists. If contamination is determined to exist, it will be fully remediated, by qualified personnel, in accordance with federal, State, and local regulations and guideline established for the treatment of hazardous substances. The designation of encountered contamination will be based on the chemicals present and chemical concentrations detected through laboratory analysis. Based on the analytical results, appropriate disposal of the material in accordance with EPA, Department of Toxic Substances Control, and Regional Water Quality Control Board guidelines shall be implemented. Any land disturbance near potential hazardous sites should occur only after the remediation and clean-up of the existing site is complete.

#### Impact 3.9-3: Upset and Accident Conditions.

The Project site is approximately 3,000 feet from the Suburban Propane facility. City General Plan Policy ER-1-2 defines the probability of reasonably foreseeable for different land uses (see Table 3.9-1) and General Plan Policy ER-1-3 states that placing a land use not consistent with the criteria defining reasonably foreseeable events would be a significant adverse impact. The policy defines agriculture, light industrial, and industrial as allowed land uses in areas where the probability of an accident is between  $10^{-4}$  and  $10^{-5}$  (between 10 and 100 in 1 million), and commercial uses as allowed uses when the probability of accident is between  $10^{-5}$  and  $10^{-6}$  (between 1 and 10 in 1 million). Residential and institutional uses are allowed in areas where the probability of an incident is less than  $10^{-6}$  (1 in 1 million).

Using the General Plan EIR's approach, only the extreme northwestern corner of the Project site falls within the  $10^{-6}$  contour indicating a 1-in-one-million risk, with much lower risks (as shown by the  $10^{-7}$  and  $10^{-8}$  contours) at greater distances for the rest of the Project site and the off-site improvement areas. The land uses evaluated under the proposed Project for this SEIR would be consistent with risk factors defined by the City General Plan.

Information about Suburban Propane is provided in detail in this SEIR to promote public disclosure. Per CEQA, this is not considered an adverse physical environmental effect because it is an existing condition (i.e., predating initial consideration of the proposed Project) unrelated to any of the CEQA significance thresholds for hazards and hazardous materials. However, since the proposed land uses evaluated in this SEIR would be consistent with risk factors defined as acceptable by the City General Plan, this impact is considered **less than significant**.

#### Impact 3.9-4: Interfere with Emergency Response or Evacuation Plans.

Sacramento County, along with other area agencies including the City of Elk Grove, have prepared the *Sacramento Countywide Local Hazard Mitigation Plan* (Foster Morrison Consulting 2016). In the event of an emergency that would require citizens to evacuate, including those citizens who live in the City of Elk Grove, the City (and possibly Sacramento County) would implement its emergency operations plan, evacuation plan, and mass care and shelter plan. Future streets included within the Project site will be required to comply with the City's and Cosumnes Community Service District (CCSD) Fire Department's design standards pertaining to emergency access.

Nearby roadways in the vicinity of the Project site, such as Waterman Road and Grant Line Road, could be affected intermittently during construction at the Project site resulting in decreased emergency response times. Construction activities for the off-site drainage improvements would have no effect on local roadways, since this work would occur a long distance from any paved roadway. However, construction activities at the Project site could result in temporary lane closures, increased truck traffic, and other roadway effects that could slow or stop emergency vehicles, temporarily increasing response times and impeding existing services. Potential reduction of emergency response services during construction of the proposed land uses at the Project site would be a **potentially significant** impact.

*Mitigation Measure 3.9-4: Implement Traffic Control Plans (2019 SOIA EIR Mitigation Measure 3.9-4).*

Implement traffic control plans for construction activities that may affect road rights-of-way during Project construction. The traffic control plans shall be designed to avoid traffic-related hazards and maintain emergency access during construction phases. The traffic control plan will illustrate the location of the proposed work area; provide a diagram showing the location of areas where the public right-of-way would be closed or obstructed and the placement of traffic control devices necessary to perform the work; show the proposed phases of traffic control; and identify the time periods when traffic control would be in effect and the time periods when work would prohibit access to private property from a public right-of-way. The plan may be modified in order to eliminate or avoid traffic conditions that are hazardous to the safety of the public. Traffic control plans should be submitted to the affected agencies, as appropriate, shall be submitted to the City for review and approval before approval of improvement plans, where future construction may cause impacts on traffic.

### **Significance after Mitigation**

Implementation of Mitigation Measure 3.9-4 would reduce Project impacts related to interference with emergency response or emergency evacuation plans to a **less-than-significant** level because a traffic control plan, designed to avoid traffic-related hazards and maintain emergency access during construction phases, would be prepared and submitted to the City for approval.

### **Impact 3.9-5: Risks from Wildfires.**

Areas at risk for extreme wildfires are designated by CAL FIRE as those lands where dense vegetation with severe burning potential prevails, as well as areas with limited access due to topography or lack of roads. The Project site, off-site improvement areas, and Project vicinity are not located in or near a State Responsibility Area; rather, they are located in a Local Responsibility Area (CAL FIRE 2018). Furthermore, the Project site, off-site improvement areas, and vicinity are classified as a non-very high fire hazard severity zone (CAL FIRE 2018), which is defined as an area not prone to intense, damaging wildfires.

Fire protection services would continue to be provided by the nearby CCSO (see Section 3.13, "Public Services and Recreation," for further discussion of the CCSO Fire Department). The proposed land use assumption changes to allow regional commercial and additional industrial development would not require additional fire department personnel or equipment as compared to what was previously analyzed in the 2019 SOIA EIR. Therefore, this impact is considered **less than significant**.

This page intentionally left blank.



## 3.10 HYDROLOGY AND WATER QUALITY

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento County Mosquito & Vector Control District requesting that the off-site drainage improvements be designed so as not to induce an increase in mosquito breeding. A comment letter submitted by the Sacramento County Farm Bureau also requested that the SEIR evaluate how the conversion of agricultural land to urban development would affect groundwater supply for continuing off-site agricultural uses in the Project vicinity. In addition, a comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo), stating that LAFCo “maintains an interest” in the Project’s impacts on water availability and stormwater management and flooding. A comment was also received by an individual expressing concern related to groundwater supply and the required Groundwater Sustainability Plan. The City reviewed and considered this information during preparation of this section.

Comments were also received by an individual requesting that the SEIR evaluate the effects of climate change on water availability. The California courts have stated that the required focus of an EIR is on the physical impacts of a project on the environment, not the impacts of the environment on a project. Therefore, the potential effects of climate change on water availability are not evaluated in this document. However, water supply planning efforts that are undertaken by a variety of agencies such as the City of Elk Grove, Sacramento County Water Agency, and the groundwater sustainability agencies that are currently jointly preparing the Groundwater Sustainability Plan for the South American Subbasin (see the subsection below entitled “Groundwater”), may consider climate change. The same individual also requested that the SEIR evaluate the financial cost to the community of improving water infrastructure and providing water to the proposed development. However, pursuant to the CEQA Guidelines Section 15131, “economic or social effects of a project shall not be treated as significant effects on the environment”, and therefore such impacts are not evaluated in this SEIR. Please see also Section 3.15, “Utilities and Service Systems,” for additional detailed information related to water supply planning and infrastructure.

### 3.10.1 ENVIRONMENTAL SETTING

The Project site and off-site improvement areas are located in the Sacramento River hydrologic basin, in the Lower Deer Creek Watershed. The watershed generally slopes from northeast to southwest with an average slope of about 0.10 percent. Rainfall in the vicinity of the Project site occurs primarily in the winter and early spring.

#### SURFACE WATER HYDROLOGY

The Project site does not contain any undisturbed natural stream corridors. The surface water resources nearest to the Project site are Deer Creek and the Cosumnes River, which are approximately 0.25 mile and 0.5 mile to the east, respectively.

For modeling purposes, three subwatersheds were designated at the Project site: Mosher, Mahon, and Grant Line. The Grant Line subwatershed extends off site to the north, across Grant Line Road and includes the area between the UPRR and Mosher Road, north to Kent Street. The Grant Line subwatershed also includes the Waterman 75 project, on the north side of Grant Line Road. All three subwatersheds discharge to Deer Creek at different locations, through a series of ditches and by overland runoff. Three unnamed ponds located off the Project site to the east and south (approximately 0.75 acres, 15 acres, and 8 acres, respectively) collect much of this runoff

before discharging to Deer Creek. Runoff from Grant Line Road is conveyed in a piped storm drain system to a ditch on the south side of the road, where flows are conveyed to the west, parallel to Grant Line Road. This roadside ditch conveys runoff to another ditch that runs south, parallel to the UPRR, along the southwestern border of the Project site. This ditch adjacent to the UPRR ultimately drains to an approximately 8-acre pond off the Project site to the south. A short reach of open channel conveys runoff from the 8-acre pond to Deer Creek (West Yost Associates 2020).

Within the Project site, past agricultural practices have modified the natural stormwater runoff patterns such that an unusually small amount of peak runoff is ultimately discharged to Deer Creek to the south. These practices included field leveling and the reuse of captured stormwater within a system of ditches, culverts, and irrigation-type sump ponds (including the three off-site ponds listed above). Pumps within the sump ponds are used for irrigating fields through general field flooding practices, resulting in increased infiltration within the fields and reduced runoff (West Yost Associates 2020).

The Waterman 75 Project is a 95-acre mixed use development project proposed for the area north of the Waterman Road/Grant Line Road intersection. As noted by West Yost (2020), a previous drainage study for the Waterman 75 Project established the size and alignment of a future pipeline that will convey stormwater runoff from Waterman 75 to Deer Creek. The pipeline was planned for a 48-inch diameter along the future extension of Waterman Road southeast along the border of the City-owned parcel within the Project site, and an easement for this drainage pipeline was obtained along this path through the Project site to the existing off-site 15-acre pond.

## **SURFACE WATER QUALITY**

Section 303(d) of the federal Clean Water Act requires each state to periodically prepare a list of all surface waters in the state for which beneficial uses of the water (e.g., drinking, recreation, aquatic habitat, and agricultural use) are impaired by pollutants. Beneficial uses for waters in the project region are contained in the *Water Quality Control Plan for the Sacramento-San Joaquin River Basins* (Basin Plan), adopted by the Central Valley Regional Water Quality Control Board (RWQCB) in 2018, which also provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River basins, including the Delta.

Section 303(d) of the CWA also requires states to identify waters where the permit standards, any other enforceable limits, or adopted water quality standards are still unattained. The law requires states to develop Total Maximum Daily Loads (TMDLs) to improve the water quality of impaired water bodies. TMDLs are the quantities of pollutants that can be safely assimilated by a water body without violating water quality standards. TMDLs are developed for impaired water bodies to maintain beneficial uses, achieve water quality objectives, and reduce the potential for future water quality degradation. National Pollutant Discharge Elimination System (NPDES) permits for water discharges (for both construction and operation) must take into account the pollutants for which a water body is listed as impaired.

Deer Creek discharges to the Cosumnes River. The Cosumnes River is listed as an impaired water body on the California Clean Water Act Section 303(d) list (State Water Resources Control Board 2017). The Cosumnes River is listed for toxicity, and TMDL criteria are still being developed. Because a portion of the City-owned parcel was historically used as an orchard, residual pesticides and herbicides could be present in the soil, and therefore could also be present in the runoff conveyed by the agricultural drainage ditches.

## **FLOODING**

According to the current Federal Emergency Management Agency (FEMA 2012) Flood Insurance Rate Maps (FIRMs), those portions of the Project site that would pre-zoned and annexed as part of the proposed Project are not located in a 100-year flood hazard zone (see Exhibit 3.10-1). A small area of the Project site, designated for future parks and open space uses, is located in a 100-year flood hazard zone (Zone AE). The off-site drainage channel improvements, the off-site 60-inch underground drainage pipeline, and the off-site 15-acre and 8-acre ponds are also within the mapped 100-year flood hazard zone (Zone AE) (see Exhibit 3.10-1).

Additional small areas of land in the southern portion of the Project site are within the 200-year flood zone designated as part of the Central Valley Flood Protection Plan (CVFPP) and updated by subsequent floodplain studies commissioned by the City of Elk Grove for local creek systems that have a watershed area of at least 10 square miles (City of Elk Grove 2019a). The 200-year flood zone includes a portion of the area proposed for heavy industrial land uses. In addition, the extreme southeastern edge of the area where future mixed-use development could occur is also within the City-mapped 200-year flood zone (see Exhibit 3.10-1).

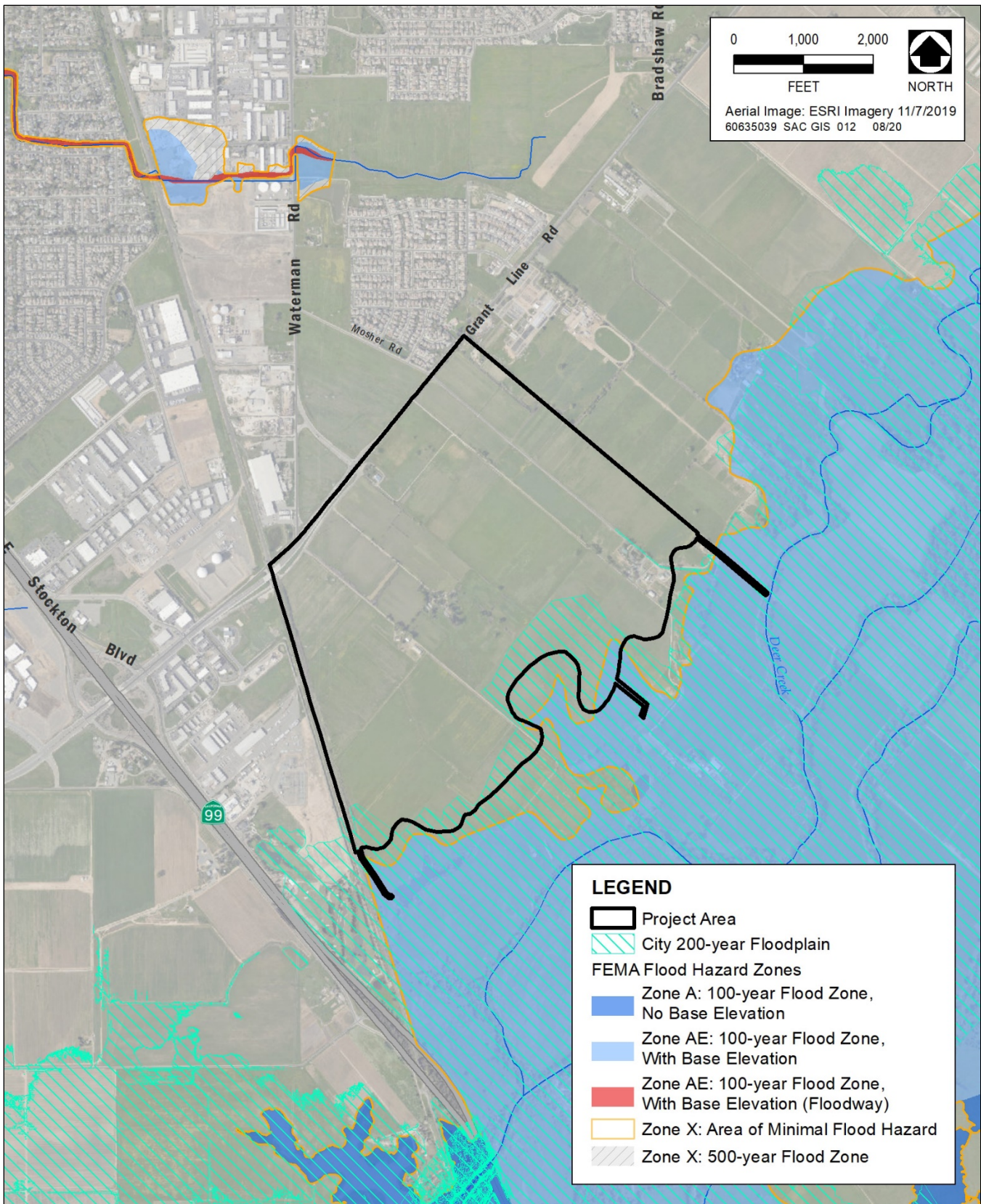
The off-site ponds that would receive Project site drainage range from approximately 0.5 acres to 15 acres in size. Given the long distance of the Project site to active seismic sources (see Section 3.7, “Geology, Soils, Minerals, and Paleontological Resources”), a seismic seiche at any of these ponds is unlikely. Since the Project site is approximately 150 miles from the Pacific Ocean, tsunamis would not represent a hazard at the Project site.

## **GROUNDWATER**

The Project site is located within the Sacramento Valley Groundwater Basin, South American Subbasin (Basin ID 5-21.65) (identified locally in some water supply documents as the Central Basin, which has similar boundaries). The active river and stream channels where extensive sand and gravel deposits exist, particularly along the American, Cosumnes, and Sacramento River channels, are the primary source of recharge for the aquifer system (Sacramento Central Groundwater Authority 2012).

The California Department of Water Resources (DWR) has determined that the South American Subbasin is a high priority basin; however, is not in a condition of critical overdraft (DWR 2019). The Sacramento Central Groundwater Authority submitted an Alternative Groundwater Sustainability Plan (Alternative GSP) in 2016 (Sacramento Central Groundwater Authority 2016), which consisted of Sacramento Central Groundwater Authority’s Central Sacramento County Groundwater Management Plan that was originally prepared in 2006. However, DWR has since required that a standard GSP be prepared. There are six Groundwater Sustainability Agencies (GSAs) within the South American Subbasin: Sacramento County, Northern Delta, Omochumne-Hartnell Water District, Reclamation District 551, Sacramento Central Groundwater Authority, and the Sloughouse Resource Conservation District. Under a collective Memorandum of Understanding entered into in 2020, the GSAs will be preparing a GSP by January 31, 2022 (as required by DWR under the Sustainable Groundwater Management Act) (South American Groundwater Subbasin 2020).

As described in the 2019 SOIA EIR, the Sacramento Central Groundwater Authority’s Alternative GSP analyzed the change in groundwater storage in the Central Basin from 2005 to 2015. The difference in total annual average change in storage over the 2005 to 2015 timeframe was calculated to be approximately 4,000 acre-feet per year (afy). This equates to four to five large municipal wells in the subbasin and is representative of a basin in



Sources: City of Elk Grove 2019a, FEMA 2012

**Exhibit 3.10-1. Flood Zones**

equilibrium where natural recharge from deep percolation, hydraulically connected rivers, and boundary subsurface inflows are keeping up with active pumping and changes in hydrology. Over the 10-year period, the basin continued to recover at its deepest points and the Sacramento Central Groundwater Authority is now focused on working with outside agencies to keep water from leaving the basin, and improving basin conditions where and when possible (Sacramento Central Groundwater Authority 2016). Groundwater storage in the recharge area underlying Elk Grove and surrounding areas is continuing to increase as a result of recharge from the construction of large conjunctive use and surface water infrastructure facilities, increased use of recycled water, and water conservation. The increase in storage in this portion of the subbasin has filled the long-term cone of depression and has eroded the ridge of higher groundwater separating it from the Cosumnes Subbasin (Sacramento Central Groundwater Authority 2016).

## **GROUNDWATER EXTRACTION AND SUSTAINABLE YIELD**

The Water Forum Agreement set the long-term average annual extraction of groundwater (i.e., sustainable yield) from the Central Basin at 273,000 afy. As shown in Table 3.10-1, groundwater extraction has been within the Water Forum Agreement's sustainable yield from 2005 to 2015. The least amount of groundwater extraction over this period occurred in 2011 (202,379 afy) and the most occurred in 2008 (256,954 afy). The average groundwater extraction during the drought years (2011–2015) was approximately 219,000 afy (Sacramento Central Groundwater Authority 2016) (Table 3.10-1). Irrigation and domestic water demand at the Project site is currently met with private on-site wells.

### **3.10.2 REGULATORY FRAMEWORK**

#### **CITY OF ELK GROVE GENERAL PLAN**

The City's General Plan (City of Elk Grove 2019b), contains the following policies related to hydrology and water quality that are applicable to the proposed Project.

#### **Natural Resources**

- ▶ **Policy NR 3-1:** Ensure that the quality of water resources (e.g., groundwater, surface water) is protected to the extent possible.
- ▶ **Policy NR 3-12:** Advocate for native and/or drought-tolerant landscaping in public and private projects.
- ▶ **Policy NR-3-12a:** Require the planting of native and/or drought-tolerant landscaping in landscaped medians and parkway strips to reduce water use and maintenance costs.
- ▶ **Policy NR 3-2:** Integrate sustainable stormwater management techniques in site design to reduce stormwater runoff and control erosion during and after construction. Where feasible, require on-site natural systems such as vegetated bioswales, green roofs, and rain gardens in the treatment of stormwater to encourage infiltration, detention, retention, groundwater recharge, and/or water reuse on-site. Roads and structures shall be designed, built and landscaped so as to minimize erosion during and after construction. Post-development peak storm water run-off discharge rates and velocities shall be designed to prevent or reduce downstream erosion, and to protect stream habitat.

<b>Table 3.10-1 Central Basin Groundwater Extraction, 2005-2015</b>											
	Water User					Groundwater Extraction (afy)					
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 <sup>2</sup>
Urban	78,070	80,277	79,780	84,498	81,287	73,680	68,679	66,478	64,547	54,610	54,111
Agriculture <sup>1</sup>	167,062	166,148	165,234	164,320	163,406	162,494	116,500	134,600	152,400	133,900	140,000
Rural	7,852	7,946	8,041	8,136	8,231	8,326	17,200	23,400	22,900	23,100	23,000
<b>Total</b>	<b>252,984</b>	<b>254,321</b>	<b>253,055</b>	<b>256,954</b>	<b>252,924</b>	<b>244,498</b>	<b>202,379</b>	<b>224,478</b>	<b>239,847</b>	<b>211,610</b>	<b>217,111</b>

Notes: afy = acre-feet per year.

<sup>1</sup> Improved agricultural water supply requirement estimates using State DWR's Integrated Water Flow Model (IWFM) Demand Calculator occurred in 2011.

<sup>2</sup> Agriculture and Rural extractions for calendar year 2015 were not available and is based on the nominal average of previous 3 years.

Source: Sacramento Central Groundwater Authority 2016

- ▶ **Policy NR 3-3:** Implement the City’s National Pollutant Discharge Elimination System permit through the review and approval of development projects and other activities regulated by the permit.
- ▶ **Policy NR 3-7:** Continue to eliminate water use inefficiencies and maintain ongoing communication with water suppliers to ensure sustainable supply.
- ▶ **Policy NR 3-8:** Reduce the amount of water used by residential and nonresidential uses by requiring compliance with adopted water conservation measures.
- ▶ **Policy NR 3-9:** Promote the use of greywater systems and recycled water for irrigation purposes.

### **Services, Health, and Safety**

- ▶ **Policy ER-2-1:** Oppose the construction of flood management facilities that would alter or reduce flows in the Cosumnes River and support retention of the Cosumnes River floodplain in non-urban uses consistent with location in an area subject to flooding
- ▶ **Policy ER 2-2:** Require that all new projects not result in new or increased flooding impacts on adjoining parcels or on upstream and downstream areas.
- ▶ **Policy ER 2-5:** Give priority to the designation of appropriate land uses in areas subject to flooding to reduce risks to life and property. Construction of new flood management projects shall have a lower priority, unless land use controls (such as limiting new development in flood-prone areas) are not sufficient to reduce hazards to life and property to acceptable levels.
- ▶ **Policy ER 2-6:** Development shall not be permitted on land subject to flooding during a 100-year event, based on the most recent floodplain mapping prepared by FEMA or updated mapping acceptable to the City of Elk Grove. Potential development in areas subject to flooding may be clustered onto portions of a site which are not subject to flooding, consistent with other policies of this General Plan.
- ▶ **Policy ER 2-7:** A buildable area outside the 100-year floodplain must be present on every residential lot sufficient to accommodate a residence and associated structures. Fill may be placed to create a buildable area only if approved by the City and in accordance with all other applicable policies and regulations. The use of fill in the 100-year floodplain to create buildable area is strongly discouraged and shall be subject to review to determine potential impacts on wildlife, habitat, and flooding on other parcels.
- ▶ **Policy ER-2-11:** Vehicular access to the buildable area of all parcels must be at or above the 10-year flood elevation.
- ▶ **Policy ER-2-12:** Creation of lots whose access will be inundated by flows resulting from a 10-year or greater storm shall not be allowed. Bridges or similar structures may be used to provide access over creeks or inundated areas, subject to applicable local, State, and federal regulations.
- ▶ **Policy ER-2-17:** Require all new urban development projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing comprehensive drainage plans.

- ▶ **Policy ER-2-18:** Drainage facilities should be properly maintained to ensure their proper operation during storms.
- ▶ **Policy ER 6-6:** Work with the Sacramento County Water Agency, Elk Grove Water Agency, and other water utilities to support programs and conservation activities intended to help water customers voluntarily conserve approximately 10 percent over time.
- ▶ **Policy ER 6-7:** Enforce the City’s water-efficient landscape ordinance that is as strict as or stricter than the State Water Resources Control Board regulations affecting local water agencies, and ensure future state updates are incorporated in some form to the City’s ordinance. Provide opportunity for and encourage public reporting of violations.
- ▶ **Policy ER 6-8:** Continue to participate in the Sacramento Stormwater Quality Partnership to educate and inform the public about urban runoff pollution, work with industries and businesses to encourage pollution prevention, require construction activities to reduce erosion and pollution, and require developing projects to include pollution controls that will continue to operate after construction is complete.

## Land Use

- ▶ **Policy LU-3-26:** Require annexation proposals to demonstrate compliance with all of the following criteria:
  - Criteria 1. The annexation proposal is consistent with the applicable Land Use Program and Study Area organizing principles.
  - Criteria 2. The annexation proposal is consistent with the City’s multimodal transportation goals, including integration of alternative transportation facilities as applicable.
  - Criteria 3. The annexation proposal provides for the planned, orderly, efficient development of the City within near-term time frames, recognizing opportunities or limitations to achieving substantially the same project within the existing City consistent with the General Plan. Options to achieve this criteria include, but are not limited to, a market demand/feasibility analysis.
  - Criteria 4. The annexation proposal is consistent with and furthers the Community Vision, as shown by demonstrating one or more of the following:
    - How the proposal furthers regional goals as expressed through the Sacramento Region Blueprint and the MTP/SCS.
    - How the proposal facilitates development of a regional attractor (e.g., Major Employment Center) or use that implements one or more of the General Plan Supporting Principles.
    - How the proposal furthers General Plan goals or objectives.
    - How the proposal provides key infrastructure or facilities needed to maintain or improve community service levels.



- Criteria 5. The annexation proposal does not reduce safety, utility, and infrastructure service levels within the City limits to less than the acceptable service standards or work level standards adopted by the City or the applicable service agency.
- Criteria 6. The annexation proposal identifies the source of future water supply for areas proposed for new development, in compliance with the Sustainable Groundwater Management Act.

### 3.10.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to hydrology and water quality if it would:

- ▶ violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- ▶ substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - i) result in substantial erosion or siltation on- or off-site;
  - ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - iv) impede or redirect flood flows;
- ▶ in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- ▶ conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

#### ISSUES NOT DISCUSSED FURTHER

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

**Release of Pollutants from Seiche or Tsunami Hazards**—The off-site ponds that would receive Project site drainage are approximately 0.5 acre, 8 acres, and 15 acres in size, respectively. Given the long distance of the Project site to active seismic sources (see Section 3.7, “Geology, Soils, Minerals, and Paleontological Resources”), a seismic seiche at any of these ponds is unlikely. Since the Project site is approximately 150 miles

from the Pacific Ocean, tsunamis would not represent a hazard at the Project site. Thus, there would be no impact and these issues are not discussed further in this SEIR.

## **IMPACT ANALYSIS**

### **Impact 3.10-1: Violate Water Quality Standards or Waste Discharge Requirements.**

Although the Project site and the off-site improvement areas are generally level, the potential exists for erosion to occur during construction activities, particularly during the rainy season. Construction activities such as vegetation removal, grading, staging, trenching, and excavation for foundations and utilities, would expose soils to erosive forces and could transport sediment into local drainages, thereby increasing turbidity, degrading water quality, and resulting in siltation to local waterways. Intense rainfall and associated stormwater runoff could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, these soil materials could cause sedimentation of downstream surface waterbodies. The construction process may also result in accidental release of other pollutants to surface waters. Groundwater quality can be affected either by direct contact during construction-related earthmoving activities, or by indirect contact as a result of percolation of stormwater. Future development within the Project site would also result in changes to land use, natural vegetation, and an increase in impervious surface, and would introduce new sources of water pollutants, thereby producing “urban runoff.” Pollutants contained within urban runoff may include but are not limited to sediment, oxygen-demanding substances (e.g., organic matter), nutrients (primarily nitrogen and phosphorus), heavy metals, bacteria, oil and grease, and toxic chemicals, all of which can degrade receiving water quality. Earthmoving activities that could encounter groundwater are issued Waste Discharge Requirements (WDRs) by the Central Valley RWQCB through the project-specific permitting process; the WDRs contain provisions that are specifically intended to protect groundwater quality. Protection of surface water and groundwater quality from stormwater runoff and percolation is accomplished through implementation of a SWPPP with associated BMPs, and the City’s Municipal Separate Storm Sewer System (MS4) permit (discussed below).

Proposed projects that disturb more than 1 acre are required by law to comply with the provisions of the SWRCB’s NPDES General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities (Order 2009-009-DWQ as amended by Order 2012-0006-DWQ) (Construction General Permit). The Construction General Permit requires preparation of a SWPPP and implementation of associated BMPs that are specifically designed to reduce construction-related erosion. The Construction General Plan also requires preparation of a spill prevention plan. Construction techniques that could be implemented to reduce the potential for stormwater runoff may include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that could be implemented to reduce erosion may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers, and re-seeding and mulching to revegetate disturbed areas.

The City encourages developers and engineers to use the water quality treatment principles in the *California Stormwater Quality Association (CASQA) Construction Best Management Practice Handbook* (CASQA 2019), which provides guidelines for planning, implementing, and maintaining effective, site-specific control measures to improve water quality and reduce adverse hydrologic effects, including hydromodification, from stormwater and non-stormwater discharges.

Site-specific development within the Project site would be required to adhere to City of Elk Grove NPDES permit requirements and City of Elk Grove Municipal Code requirements related to Stormwater Management and

Discharge Control (Chapter 15.12, “Stormwater Management and Discharge Control”). In addition, future development applications would be required to comply with Chapter 16.44, “Land Grading and Erosion Control,” of the Elk Grove Municipal Code. Chapter 16.44 requires submittal of grading plans that include elevations, location, extent and slope of all proposed grading; the location of any disposal areas, fills or other special features to be included in the work; the quantity of material to be excavated, the quantity of material to be filled, whether such excavation or fill is permanent or temporary, and the amount of such material to be imported to or exported from the site; a delineation of the area to be cleared and grubbed; a statement of the estimated starting date, grading completion date, and when site improvements will be completed; the location, implementation schedule, and maintenance schedule of all erosion control measures and sediment control measures to be implemented or constructed prior to, during or after the proposed activity; a description of measures designed to control dust and stabilize the construction site road and entrance; and a description of the location and methods of storage and disposal of construction materials. The plans must be consistent with the Citywide drainage strategy and would be reviewed by the Public Works Department before design review.

The City is part of the Sacramento Stormwater Quality Partnership, which manages stormwater pollutants through its NPDES/WDR permit to discharge stormwater from municipal separate storm sewer systems (MS4 Permit) issued by the Central Valley RWQCB in 2008. The MS4 permit requires the City to address post-construction stormwater runoff from new development and redevelopment projects by requiring both source and treatment control BMPs. The MS4 permit is implemented through Elk Grove Municipal Code Chapter 15.12, “Stormwater Management and Discharge Control,” which requires submittal of drainage plans that identify existing flows, measures to reduce potential hydrologic impacts, proposed drainage facilities, and plans to accommodate increased flows and connections to the City’s existing drainage facilities. Commercial facilities require appropriate NPDES permits/WDRs, and implementation of BMPs consistent with the CASQA *Industrial/Commercial BMP Handbook* (2014) or its equivalent, including annual reporting of any structural control measures and treatment systems. These measures to protect water quality are intended to support the City’s compliance with the *Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins* (Central Valley RWQCB 2018).

The City of Elk Grove’s Storm Drainage Master Plan (City of Elk Grove 2011) requires that low impact development (LID) must be incorporated into future development projects in the City, based on the requirements of the City’s NPDES stormwater permit. LID emphasizes the use of on-site natural features integrated with engineered hydrologic controls distributed throughout a watershed that promote infiltration, filtration, storage, and evaporation of runoff close to the source in order to manage stormwater (City of Elk Grove 2011). The Storm Drainage Master Plan recommends that all runoff from developed areas should be directed into detention basins: “The detention basins, in conjunction with LID, will provide all the necessary stormwater quality treatment and flood flow mitigation for the developing areas within the watershed” (City of Elk Grove 2011:15-11).

Finally, as noted in Section 3.9, “Hazards, Hazardous Materials, and Wildfire,” a portion of the City-owned parcel formerly contained an orchard. Certain organochlorine pesticides, which have been associated with orchards prior to 1972, can remain persistent in soils and there is the potential for these chemicals to be transported during construction to drainage ways in stormwater runoff resulting in impacts to water quality. However, as discussed in detail in Impact 3.9-2, if evidence of soil or groundwater contamination exceeding ambient or background concentrations is discovered during Project -related construction, work would cease, a qualified hazardous materials specialist would be notified for an evaluation, and the appropriate regulatory agency would be contacted. If deemed necessary by the appropriate agency, remediation would be undertaken in accordance with

existing federal, State, and local regulations/requirements and guideline established for the treatment of hazardous substances. In addition, compliance with the City's requirements related to water quality and wastewater discharge would ensure that stormwater would be captured and treated as necessary according to the Sacramento Stormwater Quality Partnership's MS4 permit, City's Storm Drainage Master Plan (City of Elk Grove 2011), and City Municipal Code requirements.

For all of the reasons stated above, as with the 2019 SOIA EIR (Impact 3.10-2), this impact is considered **less than significant**. In addition, the mitigation measure below will be imposed to further reduce the potential for an impact.

## Mitigation Measures

Mitigation Measure 3.10-1: Implement Mitigation Measure 3.9-2 (2019 SOIA EIR Mitigation Measure 3.9-2)

Impact 3.10-2: Substantially Decrease Groundwater Supplies or Interfere with Groundwater Recharge.

The development of urban uses at the Project site would change the demands for water supply, which would be provided by the Sacramento County Water Agency's (SCWA) Zone 40. An amendment to the Zone 40 Water Supply Master Plan (Brown and Caldwell 2020) has been prepared, which considers the provision of water service to the proposed urban development at the Project site. In general, municipal water supply demands are less than agricultural water supply demands; therefore, water demands for development at the Project site (i.e., 1,383 acre-feet per year) is less than the current estimated water demand required for agricultural irrigation (1,982 acre-feet per year). The use of the existing on-site groundwater wells for agricultural irrigation and rural residential use would be discontinued when the project site is developed.

As shown in Table 3.15-2 in Section 3.15, "Utilities and Service Systems," SCWA would have surface water and groundwater supplies that exceed demands within Zone 40 from 2020 to 2040 in all water years. The majority of SCWA's water supply comes from groundwater wells (75 percent), with remaining supply met by surface water supplies from the American and Sacramento Rivers. SCWA pumps groundwater from the South American Subbasin of the Sacramento Valley Groundwater Basin. SCWA anticipates that, at buildout of its service area, and assuming that appropriative water and Central Valley Project (CVP) contract water continue to be available, surface water will account for approximately 70 percent of water supplies during average and wet years and account for approximately 30 percent of water supplies in the driest years, thereby resulting in a long-term average of approximately 60 percent of water demands being met by surface water supplies (Brown and Caldwell 2020). Therefore, water supply would be available to meet the water supply demands of future development within the Project site.

Although an Alternative GSP was submitted to DWR in 2016 under the Sustainable Groundwater Management Act, DWR has since required that a standard GSP be prepared for the South American Subbasin. The GSP is in process under a Memorandum of Understanding entered into by the six GSAs within the South American Subbasin and is planned for completion in January of 2022. The South American Subbasin is not in a condition of critical overdraft. The Sacramento Central Groundwater Authority determined that, from 2005 to 2015, groundwater levels in the South American Subbasin continued to recover at the subbasin's deepest points and management is now focused on working with outside agencies to keep water from leaving the basin, and improving basin conditions where and when possible (Sacramento Central Groundwater Authority 2016). Further, groundwater storage in the recharge area underlying Elk Grove and surrounding areas is continuing to increase as

a result of increased use of surface water in the South American Subbasin, the fallowing of previously irrigated agricultural lands transitioning into new urban development, recharge from the construction of large conjunctive use and surface water infrastructure facilities, increased use of recycled water, and water conservation. The increase in storage in this portion of the subbasin has filled the previous long-term cone of depression and has eroded the ridge of higher groundwater separating it from the Cosumnes Subbasin (Sacramento Central Groundwater Authority 2016).

As a signatory to the Water Forum Agreement, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (273,000 acre-feet) (Brown and Caldwell 2011). As shown in Table 3.10-1, groundwater extraction was within the Water Forum Agreement’s sustainable yield from 2005 to 2015. Since (1) an amendment to the Zone 40 Water Supply Master Plan has been prepared, determining that it can supply water for the proposed project (as required by 2019 SOIA EIR Mitigation Measure 3.15-1); (2) the Sacramento Central Groundwater Authority’s Alternative GSP found that the basin could be sustainably managed to include existing and proposed supply; and (3) water supply for the proposed Project is included as part of the City’s 2019 General Plan for future projects and therefore would be included as part of the GSP that is in process for the South American Subbasin, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

The *Water Master Plan* fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR that requires the City of Elk Grove to prepare a Plan for Services that depicts the locations and appropriate sizes of all on-site water system facilities to accommodate the amount of development identified for the annexation territory. The amended WSMP fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR that requires evaluation of SCWA’s off-site water supply infrastructure to serve the Project site. Furthermore, compliance with City General Plan policies and standards identified above would also ensure implementation of Mitigation Measure 3.15-1 of the 2019 SOIA EIR.

### Impact 3.10-3: Alteration of Drainage Patterns Resulting in Substantially Increased Erosion, Siltation, Downstream Flooding, or Increased Stormwater Runoff Volumes.

The Elk Grove Municipal Code Chapter 15.12, “Stormwater Management and Discharge Control,” requires submittal of drainage plans that identify existing flows, potential hydrologic impacts, proposed drainage facilities, and plans to accommodate increased flows and connections to the City’s existing drainage facilities. West Yost Associates (West Yost 2020) has prepared a site-specific Drainage Master Plan for the Project site that includes the land uses analyzed in this SEIR. The Drainage Master Plan was developed with consideration of stormwater management systems designed to take maximum advantage of the natural hydrological processes of the existing landscape, including the following goals:

- ▶ Stormwater management systems should be designed so that potential impacts to the flow, volume, and quality of downstream discharges to Deer Creek will be minimized.
- ▶ The drainage plan must conform to applicable local, State, and federal laws and regulations, including the Sacramento Region Stormwater Quality Design Manual (Sacramento Stormwater Quality Partnership 2018), as well as the Sacramento City/County Drainage Manual Volume 2, Hydrology (Sacramento County and City of Sacramento 1996).
- ▶ The drainage system should avoid the use of hydraulic pumping systems and extensive mass grading efforts.

Due to a lack of soils with high infiltration capacity in the area, detention basins were chosen to provide flood control, water quality treatment, and reduce hydromodification effects. The detention basins were sized in conformance with City standards. Additionally, West Yost modeled and sized major storm drain system trunk lines, identified suitable outfall locations to Deer Creek, and evaluated and recommended (as necessary), adjustments to the configuration and capacity of existing drainage ditches and culverts. Only the major trunk line piping systems were sized for buildout conditions since future detailed storm drain system designs will accompany submittals for each planned phase of development once detailed site layouts are available.

A hydraulic analysis of the major existing conveyance facilities within the Project area, including ditches, culverts, and agricultural-related storage ponds, was performed using the XPSWMM model. Project-related hydrologic modeling complied with the requirements in the Sacramento City/County Drainage Manual, Volume 2, Hydrology.

The three larger subwatersheds in the Project area (Grant Line, Mahon, and Mosher) were further divided into 24 subsheds for purposes of the stormwater drainage modeling and design. All subsheds would drain directly into one of seven on-site detention basins that are proposed at key locations within the Project site (see Exhibit 2-6, “On-Site Drainage Facilities”) to provide runoff storage volume that would reduce the potential for increases in peak flood flows and to provide flow duration control to reduce hydromodification effects and water quality concerns. Underground drainage pipelines within the Project site would convey post- Project runoff from small to moderate storms to the detention basins. During large rainfall events, excess flow would be conveyed overland through streets and open space. However, all overland flow at the Project site would be directed into the on-site detention basins. In accordance with the Sacramento Region Stormwater Quality Design Manual, the proposed detention basins have been configured with 4:1 side slopes, a basin length that is three times the width, and a depth between 4 and 8 feet where possible. The basins have been designed to provide 1 foot of freeboard during the 100-year, 24-hour storm event. All detention basins were sized to incorporate hydromodification requirements as required by the Sacramento City/County Drainage Manual.

Stormwater quality treatment would be provided in detention basins using the dry extended detention approach with a 48-hour drawdown. The specific requirements for the water quality treatment facilities were determined from the Sacramento Region Stormwater Quality Design Manual. The Sacramento Area Hydrology Model (SAHM) was used to determine the requirements for hydromodification mitigation. The major drainage facilities both on and off the Project site were sized as required for the 2-, 10-, and 100-year storm events. The water quality storage volumes in the detention basins would be released over 48 hours in compliance with the requirements of the Sacramento Region Stormwater Quality Design Manual. The water quality flows would be released through an orifice constructed in a riser at the detention basin outlet. Because the stored water would be released over a 48-hour period, the detention basins would not create areas of new mosquito breeding habitat.

Stormwater flows from the Project site would be discharged to Deer Creek at three different locations, as shown on Exhibit 2-7, “Off-Site Drainage Facilities” (in Chapter 2, “Project Description”).

As noted previously, a 48-inch underground drainage pipeline is planned to traverse the Project site in a northwest-southeast direction along the boundary of the City-owned parcel, and discharge to an existing approximately 15-acre off-site pond, in order to convey stormwater drainage from the Waterman 75 project north of Grant Line Road. Runoff from the City-owned parcel currently drains to the south. Due to requirements for the grade of the Waterman 75 pipeline and the elevation of the City-owned parcel, it is not possible for stormwater

runoff from the City-owned parcel to be conveyed across the path of the future Waterman 75 pipeline. Therefore, stormwater runoff from the City parcel would also drain to the Waterman 75 pipeline. To accommodate this, the drainage pipeline would need to be increased from its originally planned size of 48 inches to 60 inches. In addition, the planned improvements to the outfall at the off-site pond would require an elevation change in order to allow for gravity flow. The following modifications at the 15-acre off-site pond would be required:

- ▶ **Modify the pond inlet.** Modify the pond's inlet to accommodate additional flows, as necessary.
- ▶ **Reconfigure the pond outlet.** The outfall from the pond should be configured to be at or below the elevation of the 60-inch outfall pipe, which is currently estimated to be about an elevation of 40.4 feet above mean sea level.
- ▶ **Lower the pond elevation.** The pond stores water for use by the property owner so if the change to the outfall results in a lower outlet, the rest of the pond will need to be lowered to maintain a large enough pool for the current agricultural operations in addition to stormwater drainage from the Project site and the Waterman 75 project.
- ▶ **Modify the conveyance channel.** Widen the existing conveyance channel from the pond outlet to the existing Deer Creek outfall.

Because the pond is used by the landowner for agricultural water storage, detailed survey data would be needed during the design phase to determine exactly how the existing 15-acre pond would need to be reconfigured. It should be noted the lowering the bottom elevation of the pond to allow an increased volume of water storage would not increase the amount of existing mosquito breeding habitat, because the surface acreage of the pond would not change.

An existing drainage channel that runs along the northeastern Project site boundary would be deepened by approximately 1.5 feet both on and off the Project site to the southeast, in order to convey some of the Project site stormwater flows. This channel discharges into an existing 0.5-acre pond. From the pond, flows drain back into an existing channel to Deer Creek.

Finally, an existing drainage ditch that runs along the southwestern Project site boundary adjacent to the UPRR would be widened to a 3-foot trapezoidal channel, with 3:1 side slopes and a 14-foot bottom width. The improved drainage channel would convey a portion of the Project site's stormwater runoff to an existing off-site approximately 8-acre pond. A short reach of open channel conveys runoff from the 8-acre pond to Deer Creek, and this channel would not need to be modified.

The volume of Project -related flood flows that would be discharged to Deer Creek at each of the above three outfalls (see Exhibit 2-7, "Off-Site Drainage Facilities") was established based on typical peak flow rates determined using the Sacramento Method. Because the selected allowable discharge rates would be higher than the existing peak flows discharged to Deer Creek, an analysis was performed to ensure that no significant negative impacts would occur in Deer Creek. The resulting maximum increase in water surface rise in Deer Creek was calculated to be 0.02 feet, which is insignificant based on Sacramento County's floodplain ordinance (which considers a significant increase to be greater than 0.10 feet). The analysis also found that tailwater water surface elevations at the proposed Deer Creek outfalls would not be affected. West Yost has confirmed in written correspondence from the Sacramento County local floodplain administrator that the proposed increases to peak

flows from the Project site are acceptable. Therefore, the proposed detention basins provide adequate flood control performance.

Based on the results of site-specific drainage modeling and design (West Yost 2020), in compliance with the Elk Grove Municipal Code Chapter 15.12, the proposed Project would not result in substantially increased erosion, siltation, downstream flooding, and the proposed drainage facilities have been appropriately sized to detain stormwater runoff volumes such that increased flooding would not occur and provide for water quality treatment and reduce hydromodification. The site-specific drainage modeling and design when implemented complies with the 2019 SOIA EIR Mitigation Measure 3.10-4. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

#### Impact 3.10-4: Impede Flood Flows or Risk Release of Pollutants from Inundation in a Flood Hazard Zone.

As shown in Exhibit 3.10-1, although those portions of the Project site that are currently proposed for rezoning and annexation are located outside of the FEMA 100-year floodplain, a small area along the southeast boundary of the Project site in the area designed for parks/open space uses is located within the 100-year floodplain (within a later annexation phase). In addition, portions of the heavy industrial area, and the eastern boundary of the future mixed-use area, are within a mapped 200-year floodplain. Chapter 23.42.040 of the City's Municipal Code, "Flood Combining District," indicates that development in a 200-year floodplain is not allowed unless certain findings are made. However, development in areas with flood depths less than 3 feet is exempt from the finding requirement, as allowed under Senate Bill 5. West Yost performed an analysis of the 200-year floodplain in the Project area and determined that no portions of the Project site that are within the mapped 200-year floodplain limits would experience depths of flooding greater than 1 foot. Therefore, Urban Level of Flood Protection requirements are not applicable to the Project site (West Yost 2020).

Elk Grove Municipal Code 16.50 (Flood Damage Prevention) addresses requirements for construction within floodplains. Specifically, this chapter requires the issuance of a Floodplain Development Permit for any development within a special flood hazard area and requires specific construction methods be followed. Generally, habitable structures, such as homes and offices, are prohibited in special flood hazard areas. Non-habitable accessory structures, including but not limited to garages, small accessory structures, and utilities, may be constructed subject to the design requirements listed in Municipal Code Section 16.50.060.

None of the areas proposed for Light Industrial (LI), Heavy Industrial (HI), or Regional Commercial (RC) are within the 100-Year Floodplain. For the area proposed for Parks and Open Space (P/OS), if there are any structures proposed, structures within the 100-year floodplains could impede or redirect flood flows. Therefore, this impact is considered **potentially significant**.

#### Mitigation Measure 3.10-4a: Ensure Structures are Outside of the 100-Year Floodplain (2019 SOIA EIR Mitigation Measure 3.10-5)

The City of Elk Grove shall verify that no habitable structures or structures that negatively obstruct the flow of water are proposed within the 100-year floodplain. Further, all development shall comply with applicable provisions of Elk Grove Municipal Code Section 16.50 (Flood Damage Prevention).



**Mitigation Measure 3.10-4b: Prevent Storage of Construction Materials and Equipment in a Flood Zone During the Rainy Season.**

The City shall note on the construction plans and require as a condition of grading permits that construction materials and equipment shall not be stored in a 100- or 200-year floodplain between October 1 and April 31 of any year during construction.

**Significance after Mitigation**

As with the 2019 SOIA EIR, implementation of Mitigation Measures 3.10-4a and 3.10-4b would reduce impacts associated with structures that impede or redirect flood flows and reduce the risk of release of pollutants from flood inundation to a **less-than-significant** level because the City of Elk Grove would ensure that habitable structures or structures that negatively obstruct the flow of water would be located outside of the 100-year floodplain, and that construction equipment and materials would not be stored in floodplains during the rainy season. This is consistent with the 2019 SOIA EIR, Impact 3.10-5.

**Impact 3.10-5: Conflict with a Water Quality Control Plan or Sustainable Groundwater Management Plan.**

For the reasons described in Impacts 3.10-1 and 3.10-2, above, the proposed Project would not conflict with or obstruct implementation of the *Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins* (Central Valley RWQCB 2018) or the *South American Subbasin Alternative Groundwater Sustainability Plan* (Sacramento Central Groundwater Authority 2016). Therefore, this impact would be **less than significant**.

This page intentionally left blank.

### **3.11 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES**

The City conducted a review of comments on the Notice of Preparation (NOP) prior to preparation of this SEIR. A comment letter was received from the Sacramento Local Agency Formation Commission (LAFCo) indicating it is unclear as to whether the City intends the SEIR to serve as the environmental document for use by LAFCo, as a responsible agency, in its consideration of future annexation requests or if subsequent environmental documents would be prepared for individual development projects as they are proposed and reviewed by the City. In addition, a comment letter was submitted by the Sacramento County Farm Bureau expressing concern related to leap-frog development. The City reviewed and considered this information during preparation of this section.

#### **3.11.1 ENVIRONMENTAL SETTING**

The environmental setting for this section is essentially unchanged since the 2019 SOIA EIR was drafted. The following environmental setting provides current (2020) land use, population, housing, employment, environmental justice, and unincorporated disadvantaged communities conditions that have changed since the 2019 SOIA EIR was drafted.

##### **EXISTING AND ADJACENT LAND USES**

As identified in the 2019 SOIA EIR, most of the Project site is devoted to agriculture (i.e., row crops and pasture). The Project site also includes three existing home sites, five residences, and multiple barns and sheds.

##### **Future Land Uses in the Vicinity of the Project Site**

The City's General Plan identifies the Project site within the approximately 1,772-acre East Study Area. The East Study Area is southeast of Grant Line Road, running along the City boundary between existing five-acre developments along Equestrian Drive and the railroad tracks to the southwest. Employment uses are anticipated to function as an extension adjoining industrial development to the north and northwest, and according to the General Plan, the employment uses envisioned for the East Study Area will focus on industrial, office, and regional retail uses. In the central and northeastern portions of the East Study Area, uses will transition to residential neighborhoods that are compatible with existing neighborhoods to the north of Grant Line Road, as well as with the rural and agricultural areas located to the northeast and southeast. Opportunities for community-oriented commercial uses exist at major intersections along Grant Line Road at Bradshaw Road and Elk Grove Boulevard (City of Elk Grove 2019).

##### **POPULATION**

The City of Elk Grove's total population increased from 72,665 at its incorporation in 2000 to 176,154 in 2020, an increase of 142 percent during this 20-year period (California Department of Finance [DOF] 2020); however, this also included the annexation of Laguna West in 2004. The City estimates that Elk Grove's population will increase to 332,250 persons at buildout of its General Plan, including buildout of its study areas (City of Elk Grove 2019).

## **HOUSING**

According to the DOF, the total number of housing units in the City of Elk Grove was 55,438 in 2020, with an average household size of 3.27 persons per unit, compared to 2.79 in unincorporated Sacramento County (DOF 2020). The larger percentage of single-family homes in Elk Grove versus countywide could be a factor in Elk Grove's larger average household size.

SACOG estimates that total number of housing units in the City of Elk Grove will be 65,660 by 2035, 66,570 by 2040, and 102,850 at buildout (SACOG 2019). This includes the estimated number of housing units that could be constructed as part of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, Sterling Meadows, and the Triangle Special Planning Area (SACOG 2019). SACOG's future housing projections do not include development of the City's study areas (SACOG 2019). The estimated number of housing units at buildout of City's General Plan, which includes estimates of the total number of housing units that could be generated from future development of its study areas, would be 102,865 (City of Elk Grove 2019).

The 2020 MTP/SCS designates the Project site as "Lands Not Identified for Development" in the MTP/SCS planning period (SACOG 2019). Therefore, the Project site is not included in SACOG's future housing projections.

## **EMPLOYMENT**

The largest industry sector in terms of local employment is education, health care, and social assistance, making up approximately 26 percent of the jobs in the city of Elk Grove, followed by public administration (15 percent), and the retail trade (10 percent) (U.S. Census Bureau 2018).

The average commute time for workers commuting to employment centers both inside and outside the City was approximately 33.5 minutes (U.S. Census Bureau 2018). Approximately 89 percent of those workers drove or carpooled to work in a car, truck, or van and approximately 5 percent walked, bicycled, or rode public transit (U.S. Census Bureau 2018).

Based on the current employment totals and projections, SACOG estimates that Elk Grove would have approximately 57,640 jobs by 2035, 60,070 jobs by 2040, and 122,160 at buildout (SACOG 2019). This includes the estimated number of jobs that could be generated as part of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, and the Triangle Special Planning Area (SACOG 2019). The Project site is not included in SACOG's employment projections.

The City estimates the number of new jobs at buildout of the City's General Plan, which includes estimates of the total number of jobs that could be generated from future development of its study areas, would be 122,155 (City of Elk Grove 2019).

## **Unemployment**

The estimated labor force in the City in 2019 was 83,100 residents, of which 80,500 were employed (EDD [California Employment Development Department] 2020a). The City's unemployment rate was 3.1 percent in 2019 (EDD 2016b). This unemployment rate is lower than Sacramento County. Sacramento County's unemployment rate in 2019 was 3.7 percent (EDD 2020a). The unemployment rate does not include individuals

16 years or over who have stopped looking for work or who are underemployed. The coronavirus pandemic has affected unemployment rates and participation rates nationwide. The latest estimate for the Elk Grove Census Designated Place is 11.5 percent from July 2020, but is identified by the Employment Development Department as being preliminary and not seasonally adjusted (EDD 2020b).

## **JOBS/HOUSING BALANCE**

SACOG estimated that, by 2035, continued development of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, and the Triangle Special Plan, as well as other planned development (not including the Project site, which was not anticipated in the MTP/SCS) could increase the City's jobs to 57,640 and housing units to 65,660, for a jobs-to-housing unit ratio of 0.88 by 2035. By 2040, SACOG estimated that jobs could increase to 60,070 and housing units to 66,570 for a ratio of 0.90 (SACOG 2019).

The City's policy is to designate sufficient land in employment-generating categories to provide opportunities for Elk Grove's working population and jobs in categories matching resident's employment levels (Policy LU-1-8 of the General Plan). The City General Plan estimates that buildout of the City would accommodate 48,102 new housing units and generate 77,339 new jobs, resulting in a total of 102,865 housing units and 122,155 jobs (City of Elk Grove 2018, 2019).<sup>1</sup> These totals include existing housing units and jobs plus new housing units and jobs generated by future development within the City limits and its study areas. Based on these data, the City estimates that buildout of the General Plan's land uses would give the City a jobs-to-housing ratio of 1.21. This ratio is essentially the same as SACOG's planned regional average of 1.2 jobs to housing ratio by 2040 (SACOG 2019).

As stated previously, the Project site is within the East Study Area. The City estimates that the East Study Area could accommodate 4,806 housing units and generate 3,875 new jobs, resulting in a jobs-to-housing ratio of 0.81 (City of Elk Grove 2019).

## **DISADVANTAGED UNINCORPORATED COMMUNITIES**

Senate Bill (SB) 244 defines a "disadvantaged unincorporated community" as any area with 10 or more dwelling units that either is within a city sphere of influence, is an island within a city boundary, or is geographically isolated and has existed for more than 50 years, and that has a median household income of less than 80 percent of the statewide annual median. As shown in Exhibit 3.11-1, no disadvantaged unincorporated communities are contiguous with the Project site.

### **3.11.2 REGULATORY FRAMEWORK**

#### **ENVIRONMENTAL JUSTICE**

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 provides the authority and procedures for the initiation, conduct, and completion of changes of organization and reorganization of cities and districts. The act specifies the factors that a local agency formation commission is required to consider in the review of a proposal for a change of organization or reorganization, including, among other factors, the extent to which the proposal will promote environmental justice. Environmental justice, for purposes of this law the meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to those same

---

<sup>1</sup> There is no buildout date anticipated for the General Plan (City of Elk Grove 2018). Future employment-generating land uses will be determined by market conditions (City of Elk Grove 2019).

actions, to ensure a healthy environment for all people such that the effects of pollution are not disproportionately borne by any particular populations or communities.

## **METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY**

On November 18, 2019, the Sacramento Area Council of Governments (SACOG ) approved the *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy* (2020 MTP/SCS), which is a regional transportation plan and land use strategy designed to build more vibrant places, accommodate changes in transportation and transportation funding, and build a safe and reliable multi-modal transportation system, including a focus on:

- ▶ Increased housing and transportation options;
- ▶ Inwardly focused growth and improved economic viability of rural areas;
- ▶ Minimized direct and indirect transportation impacts on the environment;
- ▶ A transportation system that delivers cost-effective results and is feasible to construct and maintain;
- ▶ Effective connections between people and jobs;
- ▶ Improved opportunities for businesses and citizens to easily access goods, jobs, services, and housing; and
- ▶ Real, viable choices for methods of travel.

The 2020 MTP/SCS includes a land use strategy to improve mobility and reduce travel demand from passenger vehicles by prioritizing compact and transit-oriented development, reducing the growth in vehicle miles traveled and associated greenhouse gas emissions. The 2020 MTP/SCS also includes projections for the location of growth within the region, between jurisdictions and among housing place types (i.e., infill and greenfield development). In the 2020 MTP/SCS, SACOG categorized the urbanized land within its jurisdiction into four Community Types according to land use and density/intensity: Center and Corridor Communities, Established Communities, Developing Communities, and Rural Residential Communities.

The 2020 MTP/SCS identifies the Project site as Lands Not Identified for Development (SACOG 2019). These areas of the region are not expected to develop to urban levels during the MTP/SCS planning period (in this case, through 2040). The MTP/SCS is not a land use plan – the land use assumptions are used to develop land use scenarios to examine in conjunction with different transportation investment strategies and outcomes related to transportation, air quality, and greenhouse gas emissions rates.

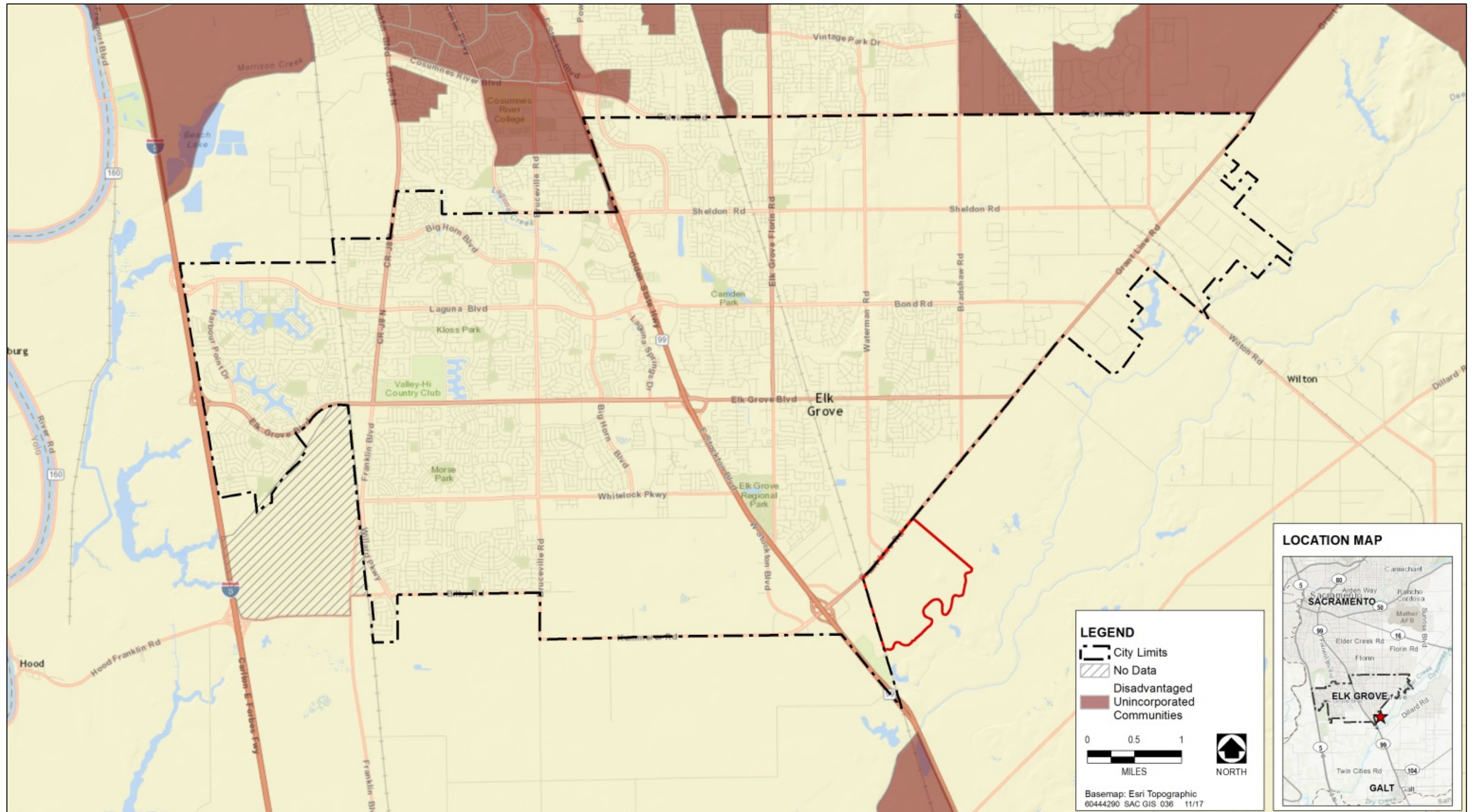
## **Elk Grove General Plan**

The City’s General Plan (City of Elk Grove 2019), contains the following policies related to land use, population, housing, and employment that are applicable to the proposed Project.

### ***Urban and Rural Development***

#### **Development Pattern**

- ▶ **Policy LU-1-2:** Foster development patterns that will achieve a complete community in Elk Grove, particularly with respect to increasing jobs and economic development and increasing the City’s jobs-to-employed resident ratio while recognizing the importance of housing and a resident workforce.



Sources: 2010 Census, adapted by AECOM in 2016

**Exhibit 3.11-1 Disadvantaged Unincorporated Communities**

This page intentionally left blank



## Employment Land Uses

- ▶ **Policy LU-1-8:** Seek to designate sufficient land in all employment-generating categories to provide opportunities for Elk Grove’s working population and jobs in categories matching resident’s employment level.

## Study Area Organizing Principles

- ▶ **Policy LU-3-1:** Ensure that future development in the Study Areas is consistent with the City’s Vision and Supporting Principles by implementing the Study Area organizing principles provided herein.

The City envisions that future development within the Study Areas will occur within a broader organizing framework of land use principles (referred to as organizing principles). Development shall occur within one or more of the following three districts.

1. Activity District, which focuses on higher densities and intensities of retail, services, employment and residential uses.
  2. Residential Neighborhood District, where residential development, with neighborhood-serving retail and parks and schools, occurs.
  3. Open Space/Conservation District, which includes large urban parks, open spaces, and agriculture-related uses.
- ▶ **Policy LU-3-2:** Employment land uses in Activity Districts should meet the following guidelines:
    - Regional Commercial and Employment Center uses should be located along major arterial roadways and generally within one-quarter mile of major intersections.
    - Community Commercial uses larger than 15 acres should be located along collector and arterial roadways, and adjacent to Mixed Use, Medium Density Residential, or High Density Residential uses.
    - Regional Commercial and Community Commercial uses should be sited within walking distance (generally one-half mile) of planned or existing transit stops.
    - Uses that may generate very high service populations (employees and/or customers) should be located within one-quarter mile of planned or existing transit stops.
    - Heavy Industrial and Light Industrial uses should be buffered from Residential uses by Public Service, Open Space, or Commercial uses.

## East Study Area Development Pattern

- ▶ **Policy LU-3-13:** Ensure that the land use plans submitted for properties in the East Study Area are consistent with the Land Use Diagram (Figure 4-6) and program standards (Table 4-2).

## ***Economy and the Region***

### Business Diversity

- ▶ **Policy ED-1-1:** Allow for a variety of sizes and types of commercial development in order to attract a diverse range of job opportunities and types.

### Business Attraction and Expansion

- ▶ **Policy ED-1-3:** Encourage the full and efficient use of vacant and underutilized parcels in appropriately designated areas to support the development and expansion of targeted commercial uses.

### Local Employment Opportunities

- ▶ **Policy ED-2-1:** Continue to improve Elk Grove's jobs/housing ratio by expanding local employment opportunities, with an emphasis on attracting jobs in sectors and industries that are well matched for the skills of the local workforce.
- ▶ **Policy ED-2-2:** Maximize the use of nonresidential land for employment-generating and revenue-generating uses.
- ▶ **Policy ED-2-3:** Support efforts to provide residents with training opportunities, in particular helping residents acquire new skills needed for employment opportunities in coordination with targeted industries.

## **3.11.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, impacts resulting from the implementation of the proposed Project would be considered significant if the Project would:

- ▶ physically divide an established community;
- ▶ cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- ▶ induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) or
- ▶ displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

### **ISSUES NOT DISCUSSED FURTHER**

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

- ▶ **Physically Divide an Established Community**—The Project site is adjacent to the City of Elk Grove. A residential neighborhood consisting of single-family residences is located north of Mosher Road and northeast of the Project site, opposite Grant Line Road. The proposed Project does not include any linear features, such as new roadways, that could divide this existing community. There are no additional established communities that could be divided by future development. Therefore, this issue is not evaluated further in this document.
- ▶ **Displace Substantial Numbers of People or Existing Housing**—The Project site also includes three existing home sites and five residences. These residences are not formally or informally known as a community. Therefore, the proposed Project would not displace substantial numbers of people or existing housing that would necessitate the construction of replacement housing elsewhere and this issue is not evaluated further in this EIR.

## IMPACT ANALYSIS

### Impact 3.11-1: Consistency with Adopted Sacramento County and Elk Grove General Plan Policies and Land Use Designations.

Currently, the Project site is located in unincorporated Sacramento County and this area was added to the City of Elk Grove’s SOI in May of 2019. However, the City would have no direct land use authority over the area unless and until annexation to the City is approved by the Sacramento LAFCo. Because the Project site is located within the unincorporated area of Sacramento County and outside the legal City limit boundaries of Elk Grove, Sacramento County maintains the authority to designate allowable land uses and approve development on the site. Following LAFCo’s approval of the annexation, Sacramento County would relinquish land use planning authority to the City, and the Sacramento County General Plan would no longer apply to the annexed areas. As discussed in the 2019 SOIA EIR, the Project was compared to the Sacramento County General Plan to determine the consistency of the Project with existing County General Plan policies and land use designations because the City does not have the current land use control. As described in the 2019 SOIA EIR, specific impacts and Project consistency issues associated with other resource and issue areas are addressed in each technical section of this SEIR, as appropriate. These technical sections provide a detailed analysis of other relevant physical environmental effects that could result from implementation of the proposed Project (as revised for this SEIR) and identify mitigation measures, as necessary, to reduce impacts. Implementation of the revised Project would not conflict with adopted County General Plan policies, land use designations, or zoning that would generate any adverse physical impacts beyond those addressed in detail in the environmental sections of this SEIR.

Land use designations for the Project site except the Mosher property (Assessor’s Parcel Number [APN] 134-0190-002) were included in the City’s 2019 General Plan update for planning purposes. The City is now proposing a change in the General Plan land use designations and pre-zoning for the Project site compared to the array of uses assumed in the 2019 SOIA EIR for the Project site. The approximately 100-acre City-owned parcel would be designated for Light Industrial uses.<sup>2</sup> The Project site would have a reduction in the land area of Parks and Open Space, an increase in both Light Industrial and Heavy Industrial uses, a reduction in the amount of mixed General Commercial and Commercial Office uses, and a new use, Regional Commercial, proposed for 20

<sup>2</sup> The 2019 SOIA EIR included detailed analysis related to the development and operation of a multi-sport complex on the approximately 100-acre City-owned parcel. A multi-sport complex could still be developed through the City’s conditional use permit process.

acres of land (see Exhibit 2-2 and Table 2-1 in Chapter 2).<sup>3</sup> The proposed Project is consistent with the City's policies to designate sufficient land in employment-generating categories to provide a diverse range of employment opportunities for Elk Grove's working population (City General Plan Policies LU-1-2, LU-1-8, ED-1-1, ED-2-2, and ED-1-3).

The City's General Plan identifies the Project site within the approximately 1,772-acre East Study Area. The Project's proposed land use would be consistent with the program standards for the East Study Area described in General Plan Policy LU-3-13. Project objectives would support the City General Plan's planning objectives for the East Study Area described in City General Plan Policy LU-3-2. The proposed Project would:

- ▶ Provide for development consistent with the General Plan Study Area Organizing Principles and the East Study Area Land Use District Program Standards.
- ▶ Create a mix of employment activities in the southwestern portion of the East Study Area that transitions to residential neighborhoods toward the northeast.
- ▶ Focus employment uses within the East Study Area on industrial, office, and regional retail uses.

As with County policies, consistency issues between implementation of the proposed Project and the City General Plan are related to land use regulations, which are, in part, based on avoiding or otherwise restricting uses that would adversely impact resources of the development site or adjacent land uses. Specific impacts and Project consistency issues associated with other resource topics are addressed in each technical section of this SEIR, as appropriate. These technical sections provide a detailed analysis of other relevant physical environmental effects that could result from implementation of the proposed Project and identify mitigation measures, as necessary, to reduce impacts. There are no inconsistencies between the proposed Project and the City's General Plan or other plans or policies that would result in a significant environmental impact not already addressed in this SEIR. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

#### Impact 3.11-2: Consistency with LAFCo Policies, Standards, and Procedures.

California Government Code Section 56668 sets forth criteria for evaluation of annexation projects. This statute establishes factors that LAFCo agencies must use in reviewing annexation proposals. Any future urban development within the Project site would require annexation by the City. This SEIR includes a discussion of relevant LAFCo policies, standards, and procedures throughout each of the topic-specific sections and a very detailed discussion in the 2019 SOIA EIR.

As noted previously, the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 provides the authority and procedures for the initiation, conduct, and completion of changes of organization and reorganization of cities and districts. The act specifies the factors that a local agency formation commission is required to consider in the review of a proposal for a change of organization or reorganization, including, among other factors, the extent to which the proposal will promote environmental justice. Environmental justice, for purposes of this law, is the meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to those same actions, to ensure a healthy environment for all people such that the effects of pollution are

---

<sup>3</sup> The Project evaluated in this SEIR does not include pre-zoning of the parcels that are identified as Mixed Use (APN 134-0190-002) or Parks/Open Space (APN 134-0190-003).

not disproportionately borne by any particular populations or communities. This SEIR provides detailed analysis related to air pollutant emissions, including substantial pollutant concentrations that could impact sensitive receptors. Please see Section 3.4 for more detail. The area designated Heavy Industrial (HI) is in the southeastern portion of the Project site in order to avoid adverse effects related to future uses for sensitive receptors in the vicinity of the Project site.

As described in the City's General Plan, environmental justice is addressed in Chapter 3, Planning Framework; Chapter 4, Urban and Rural Development; Chapter 8, Services, Health, and Safety; Chapter 9 Community and Area Plans; Chapter 10, Implementation Strategy; and Chapter 12, Technical Information. Cities and counties are required to address environmental justice concerns of designated disadvantaged communities in the general plan. Disadvantaged communities are those identified as low income and that are disproportionately affected by environmental pollution, stressors, and social vulnerabilities that can lead to negative health effects, exposure, or environmental degradation. According to the City, there are no designated disadvantaged communities in the Elk Grove Planning Area, but it is nevertheless important that the City continually consider the effects of planning and land use decisions on the lives of residents and ensure that no area or population is disproportionately affected City of Elk Grove 2019, page 8-53 and 12-47).

LAFCo approved a SOIA for the Project site to add this area to the City of Elk Grove's SOI in May of 2019. The area that was included in the approved SOI amendment will not change as a result of the revised land use designations now proposed by the City. As described in detail in the 2019 SOIA EIR, the proposed Project would be consistent with LAFCo policies that were adopted to avoid or mitigate for an environmental effect. Thus, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

While this SEIR addresses all matters related to policy consistency that relate to potential adverse environmental effects, policy consistency for other topics that are within the purview of LAFCo are subject to LAFCo's review and determinations.

### Impact 3.11-3: Induce Substantial Unplanned Population Growth.

The City's intent for the proposed Project is to facilitate development that would create a better balance between the types of local jobs available and the skills and interests of the local labor force. The proposed Project supports the City's policies to improve Elk Grove's jobs-to-housing ratio by expanding local employment opportunities, with an emphasis on attracting jobs in sectors and industries that are well matched for the skills of the local workforce (Policies LU-1-2 and ED-2-1 of the City General Plan).

Assumed industrial and commercial land uses within the Project site could generate approximately 7,788 new jobs in the City at full buildout. In addition, future development of mixed uses on the Project site could add an assumed 713 housing units, or 2,304 residents for a total service population (population plus employment) of 10,092. As stated previously, the Project site is within the East Study Area. The City estimated as a part of the General Plan that the East Study Area could accommodate 4,806 housing units that would accommodate a population of 15,523 persons and employment-generating uses could result in 3,875 new jobs for a total service population of 19,398 (City of Elk Grove 2019). The total service population anticipated under the proposed Project (10,092) is less than the total assumed under the City's General Plan (19,398), but the employment estimate is substantially higher and the residential population substantially lower.

SACOG estimated that, by 2035, continued development of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, and the Triangle Special Plan, as well as other planned development (not including the Project site, which was not anticipated in the MTP/SCS) could increase the City's jobs to 57,640 by 2035 and 60,070 by 2040 (SACOG 2019). Because development of the Project site is not included in SACOG's future employment projections, the jobs generated by the proposed Project (7,788 jobs) are not accounted for in SACOG's employment projections for the City. The SACOG projections are market-based growth estimates that project the amount and location of likely growth in the region based on a variety of socioeconomic factors that are updated every four years, and are defined by a horizon year.

If the proposed Project's level of job growth is realized during the City General Plan planning horizon and MTP/SCS 2040 horizon, it is possible that development of employment-generating land uses in other areas of the City or County would occur at a slower pace. The regional demographic and economic forecasts for SACOG use Board-adopted regional-level projections, which serve as control totals for the entire region (SACOG 2020). If residential or employment growth is higher for a particular jurisdiction, using the control totals, this would mean that residential or employment growth would need to be proportionally reduced in one or more areas.

As detailed in the 2019 SOIA EIR, the SEIR analyzes comprehensively the potential impacts associated with future development within the Project site, which conservatively assumes that the entire Project site could be subject to development. This includes any impacts related to the demographic and economic assumptions included in MTP/SCS for the Project site and for Elk Grove as a whole. The MTP/SCS is a regional plan intended to direct transportation planning and funding. However, it is also intended to address mobile source criteria air pollutant emissions and greenhouse gas emissions. This SEIR analyzes air pollutant and greenhouse gas emissions in a regional and statewide cumulative context, consistent with the MTP/SCS. This SEIR imposes mitigation that would, like the MTP/SCS, require future projects within the Project site to reduce mobile source air pollutant emissions and greenhouse gas emissions, finding significant impacts for these topics (see Section 3.4, "Air Quality," Section 3.8, "Greenhouse Gas Emissions," and Chapter 6, "Other CEQA Considerations," of this SEIR).

Physical impacts associated with development of the Project site, such as traffic, greenhouse gas emission, air quality degradation, and noise generation and impacts related to increased demand for public services and utilities, are evaluated throughout this SEIR because the Proposed project's future land uses are considered to be part of buildout of the Project site. Mitigation presented throughout this SEIR addresses environmental impacts associated with future development of the Project site. There is no significant impact that is not addressed comprehensively throughout this SEIR. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

#### Impact 3.11-4: Conversion of Open Space.

Future development within the SOIA Area, including the multi-sport park complex project, may lead to the conversion of open space resources, as defined by Sacramento LAFCo, to urban uses.

LAFCo includes unimproved lands devoted to agricultural lands within its definition of open space. It is assumed that the Project would result in urbanization of the Project site. Therefore, the Project may indirectly create pressure to submit additional applications for annexation. In addition, the development of the multi-sport park complex would be urbanization of open space. The potential adverse physical environmental effects associated

with this conversion of open space are addressed completely in the balance of this SEIR. This impact is considered **significant**.

### **Mitigation Measures**

Mitigation Measure 3.11-4: Implement Mitigation Measure 3.3-1 (Preserve Agricultural Land).

### **Significance after Mitigation**

While conservation easements placed elsewhere in the region could partially offset the direct conversion of open space attributable to future development that could occur within the Project site, this approach would not create new farmland to replace open space that could be lost. This impact is **significant and unavoidable**.

This page intentionally left blank.



## 3.12 NOISE AND VIBRATION

### 3.12.1 ENVIRONMENTAL SETTING

The environmental setting – including acoustical fundamentals and the existing setting related to noise and vibration – has not substantially changed since the 2019 SOIA EIR was drafted. A brief summary is provided below.

Existing major sources of noise in the Project area consist primarily of the Union Pacific Railroad (UPRR) (adjacent to the southern Project site boundary) and nearby roadways (primarily SR 99 and Grant Line Road).

The Project site consists of agricultural land, and is surrounded by agricultural land on the northeast, east, and southeast sides. Vacant land (which is planned for development as part of the Waterman 75 project) is present north of Grant Line Road across the street from most of the Project site. Industrial development is present on the northwest side of Grant Line Road and west of the Project site (west of the UPRR tracks).

Existing sensitive receptors include residential development that is present north of Grant Line Road across from the proposed mixed-use portion of the Project site. There is a rural home site (with several residences) on the Mosher property (which is proposed for future mixed uses), and there are 2–3 rural homesites in the central and southwestern portions of the Project site. The rural residential site on the Mosher property is immediately adjacent to the proposed off-site improvements associated with the northern-most agricultural ditch. Another off-site rural residence is also located approximately 250 feet east of the off-site 15-acre pond where drainage improvements are proposed. The Emerald Lakes Golf Course (on the southeast side of the UPRR tracks) is approximately 215 feet (at the closest point) southeast of the proposed off-site improvements to the agricultural drainage ditch along the UPRR tracks.

The primary source of existing groundborne vibration in the vicinity of the Project site and the off-site improvements is the UPRR.

Following drafting of the 2019 SOIA EIR, the City and Southeast Connector Joint Powers Authority have consulted on a precise roadway plan for the future widening of Grant Line Road to four lanes between Bond Road and Calvine Road. The precise plan will prepare a preliminary level design in accordance with the City of Elk Grove General Plan, Rural Roads Improvement Standards, and Southeast Connector JPA Design Guidelines. At the conclusion of the study period, the City Council will approve a document that can be used by property owners to plan their own site improvements, as well as to guide future design efforts by the City and the Southeast Connector Joint Powers Authority.

### 3.12.2 REGULATORY FRAMEWORK

#### City of Elk Grove General Plan

Since the 2019 SOIA EIR was drafted, the City adopted an updated General Plan (City of Elk Grove 2019). Noise-related policies and actions are highlighted below.

- ▶ **Policy LU-1-7:** Encourage disclosure of potential land use compatibility issues including but not limited to noise, dust, and odors, in order to provide potential purchasers with complete information to make informed decisions about purchasing property.

- ▶ **Policy LU-3-4:** Residential land uses in Activity Districts should meet the following guidelines:
  - High Density Residential uses shall be located within one-quarter mile of major intersections and planned or existing transit stops.
  - Housing should be buffered via building designs or other features from uses that produce loud noises that frequently exceed 65 decibels.
- ▶ **Policy AG-1-6:** Limit the siting of projects with land uses that might result in conflicts near existing agriculture due to noise, air quality, or odors.
- ▶ **Policy MOB 6-3:** Work with the UPRR to minimize the impact of train noise on adjacent sensitive land uses through the continued implementation of Quiet Zones.

#### Policies: Noise Sources and Land Use Compatibility

- ▶ **Policy N-1-1:** New development of the uses listed in Table 8-3 shall conform with the noise levels contained in the table. All indoor and outdoor areas shall be located, constructed, and/or shielded from noise sources in order to achieve compliance with the City's noise standards.
- ▶ **Policy N-1-2:** Where noise mitigation measures are required to achieve the standards of Tables 8-3 and 8-4, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.

#### Policies: Sensitive Land Uses

- ▶ **Policy N-1-4:** Protect noise-sensitive land uses, identified in Table 8-3, from noise impacts.
- ▶ **Policy N-1-5:** Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 8-3 or the performance standards of Table 8-4, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.
- ▶ **Policy N-1-6:** Where proposed nonresidential land uses are likely to produce noise levels exceeding the performance standards of Table 8-4 at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.
- ▶ **Policy N-1-7:** The standards outlined in Table 8-4 shall not apply to transportation- and City infrastructure-related construction activities as long as construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends and federally recognized holidays. Work may occur beyond these time frames for construction safety or because of existing congestion that makes completing the work during these time frames infeasible.
- ▶ **Policy N-1-8:** For development projects that are subject to discretionary review, the City may require applicants to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on those uses.
- ▶ **Policy N-1-9:** For projects involving the use of major vibration-generating equipment (e.g., pile drivers, vibratory rollers) that could generate groundborne vibration levels in excess of 0.2 in/sec peak particle

velocity (ppv), the City may require a project-specific vibration impact assessment to analyze potential groundborne vibrational impacts and may require measures to reduce ground vibration levels.

- ▶ **Policy N-1-10:** For new development involving noise-sensitive receptors that could be exposed to high levels of ground vibration levels generated by freight or transit rail, the City may require a project-specific vibration impact assessment to analyze potential groundborne vibrational impacts and may require measures to reduce ground vibrational levels.

#### Policies: Noise Reduction Strategies

- ▶ **Policy N-2-1:** Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 8-4 as measured immediately within the property line of lands designated for noise-sensitive uses.
- ▶ **Policy N-2-2:** The following criteria shall be used as CEQA significance thresholds for transportation and stationary noise sources:
  - Where existing ambient noise levels are less than 60 decibel (dB) day-night average sound level ( $L_{dn}$ ) at the outdoor activity areas of noise-sensitive uses, a +5 dB  $L_{dn}$  increase in noise levels shall be considered significant; and
  - Where existing ambient noise levels range between 60 and 65 dB  $L_{dn}$  at the outdoor activity areas of noise-sensitive uses, a +3 dB  $L_{dn}$  increase in noise levels shall be considered significant; and
  - Where existing ambient noise levels are greater than 65 dB  $L_{dn}$  at the outdoor activity areas of noise-sensitive uses, a +1.5 dB  $L_{dn}$  increase in noise levels shall be considered significant. Public roadway improvements to alleviate traffic congestion and safety hazards shall utilize Federal Highway Administration (FHWA) noise standards to allow a reasonable dollar threshold per dwelling to be used in the evaluation and abatement of impacts.
  - The standards outlined in Table 8-4 shall not apply to public projects to alleviate traffic congestion and safety hazards.
- ▶ **Policy N-2-3:** Emphasize methods other than installation of sound walls in front yard areas to reduce noise to acceptable levels in residential areas that were originally constructed without sound walls.
- ▶ **Policy N-2-4:** Where sound walls or noise barriers are constructed, strongly encourage and consider requiring a combination of berms and walls to reduce the apparent height of the wall and produce a more aesthetically appealing streetscape.

Table 8-3 from the General Plan establishes the maximum allowable noise exposure levels from transportation noise for different land uses, including:

- ▶ Residential: 60 dB  $L_{dn}$  outdoor and 45 dB  $L_{dn}$  interior
- ▶ Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (the passing of a single train, as opposed to relatively steady noise sources as roadways): 60 dB  $L_{dn}$  outdoor and 40 dB  $L_{dn}$  interior
- ▶ Transient lodging: 60 dB  $L_{dn}$  outdoor and 45 dB  $L_{dn}$  interior

- ▶ Hospitals, Nursing Homes: 60 dB  $L_{dn}$  outdoor and 45 dB  $L_{dn}$  interior
- ▶ Theaters, Auditoriums, Music Halls: 35 dB equivalent sound level ( $L_{eq}$ ) interior
- ▶ Churches, Meeting Halls: 60 dB  $L_{dn}$  outdoor and 40 dB  $L_{eq}$  interior
- ▶ Office Buildings: 45 dB  $L_{eq}$  interior
- ▶ Schools, Libraries, Museums: 45 dB  $L_{eq}$  interior

Table 8-4 from the General Plan establishes the maximum allowable noise exposure levels for new projects affected by or including non-transportation noise sources:

- ▶ Performance Standards for Typical Stationary Noise Sources: Daytime, 55 dB  $L_{eq}$ ; Nighttime, 45 dB  $L_{eq}$
- ▶ Performance Standards for Stationary Noise Sources Which Are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music: Daytime, 50 dB  $L_{eq}$ ; Nighttime, 40 dB  $L_{eq}$

### **3.12.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **METHODOLOGY**

The methodology used for this SEIR analysis is the same as used in the original 2019 SOIA EIR.

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, a noise impact is considered significant if implementation of the proposed Project would result in any of the following:

- ▶ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- ▶ Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- ▶ A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project;
- ▶ A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;
- ▶ For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, would the project expose people residing or working in the project area to excessive noise levels; or
- ▶ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

#### **ISSUES NOT DISCUSSED FURTHER**

The following issues were dismissed from further detailed analysis in the 2019 SOIA EIR because it was determined that no impact would occur; for the reasons explained below, these issues would also result in no impact for the proposed Project as evaluated in this SEIR.

- ▶ **Excessive Noise from an Airport**—Future development would not expose people to excessive noise levels from an airport or private airstrip. Because the Project site and the off-site improvements would not be located in an area exposed to excessive aircraft-generated noise levels (e.g., not within the 60 dB  $L_{dn}$ /community noise equivalent level (CNEL) contour of any airport), there would be no impact related to aircraft noise, and therefore this issue is not discussed further in this SEIR.

## IMPACT ANALYSIS

### Impact 3.12-1: Temporary, Short-Term Exposure of Sensitive Receptors to Construction Noise.

As detailed in the 2019 SOIA EIR, construction within the Project site and off-site improvement areas would require construction activities, including grading, excavation, and installation of infrastructure; and on-site building erection, paving, and landscaping. The highest construction noise levels are typically generated during grading and excavation and lower noise levels typically occur during building construction.

Typical hourly average construction-generated noise levels are about 80 dBA to 85 dBA, measured at a distance of 50 feet from the site during busy construction periods. It is unlikely, but possible that pile-driving could be required for future development. Pile driving could produce very high noise levels of approximately 105 dB at 50 feet. Noise from localized point sources (such as construction sites) typically decreases by 6 dB to 7.5 dB with each doubling of distance from source to receptor. The existing intervening ground type at the Project site is currently soft and attenuates noise due to absorption; therefore, an attenuation rate of 7.5 dB per doubling of distance was assumed and accounted for in construction operation noise level predictions.

Project-generated noise levels could exceed daytime and nighttime noise standards of 55 dB  $L_{eq}$  and 50 dB  $L_{eq}$ , respectively, at possible future on-site sensitive receptors. Construction of the off-site drainage improvements would require clearing of vegetation, excavating, trenching, installing pipeline, and grading, which could expose existing off-site sensitive receptors to equipment noise levels that exceed the applicable noise standards and/or result in a substantial temporary increase in ambient noise levels.

Residences and businesses located adjacent to areas of construction activity would be exposed to future construction noise from on-site and off-site construction activity. In addition, recreationists in the southeastern portion of the Emerald Lake Golf Course would be exposed to noise from off-site construction activity associated with improvements to the agricultural drainage ditch adjacent to the UPRR tracks. This is considered a **significant impact**.

#### Mitigation Measure 3.12-1: Implement Noise-Reducing Construction Practices (2019 SOIA EIR Mitigation Measure 3.12-1).

During both on- and off-site Project-related construction, the following measures shall be implemented to reduce construction noise impacts.

- Noise-generating construction in areas that could affect noise-sensitive land uses shall be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. and 6 p.m. on Saturdays and Sundays.
- Noisy construction equipment and equipment staging areas shall be located as far as possible from nearby noise-sensitive land uses.

- All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment-engine shrouds shall be closed during equipment operation.
- All motorized construction equipment shall be shut down when not in use to prevent idling.
- Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site).
- Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) when noise sensitive receptors are located within 250 feet of construction activities.
- Written notification of construction activities shall be provided to all noise-sensitive receptors located within 850 feet of construction activities. The notification shall include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, for the Project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall also be included in the notification.
- To the extent feasible and necessary to reduce construction noise levels consistent with applicable policies, acoustic barriers (e.g., noise curtains, sound barriers) shall be constructed to reduce construction-generated noise levels at affected noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and on-site construction equipment.
- When future noise sensitive uses are within close proximity to prolonged construction noise, noise-attenuating buffers such as structures, truck trailers, or soil piles shall be located between noise sources and future residences, as feasible, to shield sensitive receptors from construction noise.

### **Significance after Mitigation**

With implementation of Mitigation Measure 3.12-1, on-site and off-site impacts from temporary, short-term exposure of sensitive receptors to increased equipment noise would be reduced because construction would be limited to daytime hours, for which associated noise levels are considered exempt from the provisions of applicable standards established by the City of Elk Grove and the County of Sacramento. Furthermore, as noted in the City's General Plan, "Elk Grove is committed to implementing 'Best Management Practices' for all development and construction in Elk Grove to help reduce noise sources and exposure to noise." These best practices are specifically spelled out in Mitigation Measure 3.12-1 for the proposed Project. For example, when installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dB (EPA 1971). However, it is not possible to demonstrate that implementing Mitigation Measure 3.12-1 would avoid significant construction noise impacts in every case. There is no additional feasible mitigation. Therefore, as with the 2019 SOIA EIR, the impact is considered **significant and unavoidable**.

**Impact 3.12-2: Temporary, Short-Term Exposure of Sensitive Receptors to Increased Traffic Noise Levels from Project Construction.**

As detailed in the 2019 SOIA EIR, on- and off-site construction would result in an increase of traffic volumes due to the addition of construction-generated traffic. Personnel, materials, and equipment would be transported along the local roadway network, thus increasing traffic volumes of affected roadway segments. Construction traffic noise was analyzed in the 2019 SOIA EIR using a very conservative scenario assuming construction-related traffic volume of 500 vehicles daily. Modeling results indicate that Project-generated construction-related traffic increases would result in a 0- to 1-dBA increase in short-term traffic noise levels.

Therefore, implementation of the proposed Project would not result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity associated with construction traffic. As a result, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

**Impact 3.12-3: Temporary, Short-Term Exposure of Sensitive Receptors to Potential Groundborne Noise and Vibration from Project Construction.**

As detailed in the 2019 SOIA EIR, construction activities associated with future development in the Project site and the off-site improvement areas would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used, the location of construction activities relative to sensitive receptors, the operations/activities involved, and the construction material of buildings used for affected vibration-sensitive receptors. There are vibration-sensitive uses and structures within the Project site and adjacent to the off-site improvement areas. There are older structures on the Mosher property, in a building cluster south of the City-owned parcel at 10313 Grant Line Road, and in a house and barn cluster in the southern portion of the Project site at 10351 Grant Line Road. Construction could occur within 25 feet of these properties.

Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The type and density of soil can also affect the transmission of energy. Table 3.12-1 provides vibration levels for typical construction equipment.

<b>Table 3.12-1 Typical Vibration Levels for Construction Equipment</b>			
Equipment		PPV at 25 Feet (in/sec)	Approximate L <sub>v</sub> at 25 Feet
Pile Driver (Impact)	Upper Range	1.518	112
	Typical	0.644	104
Pile Driver (Sonic)	Upper Range	0.734	105
	Typical	0.170	93
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Truck		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58
Notes: in/sec = inches per second; L <sub>v</sub> = the velocity level in decibels referenced to 1 microinch per second and based on the root mean square velocity amplitude; PPV = peak particle velocity			
<sup>1</sup> For normal residential buildings and for buildings more susceptible to structural damage, respectively.			
Sources: FTA 2006: 12-12			

Construction vibration would occur during construction, during equipment operation, and during the transport of construction equipment and materials. Required construction equipment could include loaded trucks and bulldozers and, although very unlikely, could possibly include pile drivers. According to the FTA, vibration levels associated with the use of such equipment would be approximately 0.076 in/sec PPV and 86 vibration decibel (VdB) for trucks, 1.518 in/sec PPV and 112 VdB for upper range impact pile driver, 0.089 in/sec PPV and 87 VdB (referenced to 1  $\mu$ in/sec and based on the root mean square velocity amplitude) at 25 feet, as shown in Table 3.12-1.

With respect to human annoyance for residential uses, using FTA's recommended procedure for applying a propagation adjustment to these reference levels, predicted vibration levels of typical construction activities (assuming large bulldozer as the highest vibration generating equipment) would not exceed 80 VdB (FTA's maximum-acceptable vibration standard with respect to human annoyance for residential uses) beyond 45 feet of normal vibration-sensitive receptors. There are no off-site vibration-sensitive uses within 45 feet of the edge of the Project site that would be affected by vibration. However, there would be vibration-sensitive uses within 45 feet of Project-related construction activities within the Project site and potentially adjacent to off-site drainage improvement areas that would be affected by vibration. Although very unlikely, construction activities with the use of a pile driver, vibration levels would not exceed 80 VdB (FTA's maximum-acceptable vibration standard with respect to human annoyance for residential uses) within 285 feet of normal vibration-sensitive receptors. There are vibration-sensitive receptors within 285 feet of Project-related construction activities within the Project site and off-site drainage improvement areas that would be affected by vibration.

With respect to normal buildings damage, using FTA's recommended procedure for applying a propagation adjustment to these reference levels, predicted vibration levels of typical construction activities would not exceed 0.2 in/sec PPV (Caltrans' recommended standard with respect to the prevention of structural damage for normal buildings) beyond 70 feet of normal vibration-sensitive receptors (California Department of Transportation 2009, 2013). Although very unlikely, construction activities could include the use of a pile driver, in which case vibration levels would not exceed 0.2 in/sec PPV beyond 100 feet of historic, older, or potentially sensitive vibration sensitive receptors. There are off-site vibration-sensitive uses within 70 to 100 feet of the Project site that would be affected.

With respect to potential damage to existing older buildings, predicted vibration levels of typical construction activities (assuming a large bulldozer as the highest vibration-generating equipment) would not exceed 0.08 in/sec PPV (Caltrans' recommended standard with respect to the prevention of structural damage for historic buildings) beyond 30 feet of historic structures. There are older buildings that could be within 30 feet of Project-related construction activities within the Project site that would be affected by vibration. Although very unlikely, construction activities could include the use of a pile driver, in which case vibration levels would not exceed 0.08 in/sec PPV beyond 180 feet of historic, older, or potentially sensitive structures.

Vibration-sensitive receptors are located in the vicinity of the off-site drainage improvement areas. Typical construction equipment, loaded trucks, jackhammers, bulldozers, generates vibration levels that decrease quickly over distance. Although very unlikely, if pile driving is required, this generates significantly more vibration energy and requires more distance for it to decrease the vibration levels.

Temporary, short-term vibration levels from construction of off-site improvements could exceed FTA's maximum-acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. If construction activities were to occur during more noise-sensitive



hours, vibration from construction sources could annoy and/or disrupt the sleep of occupants of existing and proposed residences and expose persons to excessive groundborne vibration or groundborne noise levels.

Therefore, temporary, construction-related vibration levels could expose sensitive receptors and buildings to levels that exceed applicable standards. Thus, this impact is considered **potentially significant**.

**Mitigation Measure 3.12-3: Reduce Groundborne Noise and Vibration Levels at Sensitive Receptors and Buildings (2019 SOIA EIR Mitigation Measure 3.12-3).**

During construction of on-site and off-site improvements, the following measures shall be implemented to reduce groundborne noise and vibration within 60 feet of existing non-historical structures and within 25 feet of historic, older, or potentially sensitive structures:

- Route heavily loaded trucks away from residential streets where residences are within 60 feet of the edge of the roadway.
- Operate earthmoving equipment on the construction lot as far away from noise- and vibration-sensitive uses as feasible.
- Phase earthmoving and other construction activities that would affect the ground surface so as not to occur in the same time period.
- Large bulldozers and other construction equipment that would produce vibration levels at or above 86 VdB shall not be operated within 50 feet of adjacent, occupied residences. Small bulldozers shall be used instead of large bulldozers in these areas, if construction activities are required. For any other equipment types that would produce vibration levels at or above 86 VdB, smaller versions or different types of equipment shall be substituted for construction areas within 50 feet of adjacent, occupied residences.
- Construction activities shall not occur on weekends or federal holidays and shall not occur on weekdays between the hours of 7 p.m. of 1 day and 7 a.m. of the following day.

In addition, the following measures shall be implemented to reduce groundborne noise and vibration for pile driving within 200 feet of any vibration-sensitive receptor, if required by the City:

- A disturbance coordinator shall be designated, and this person's contact information shall be posted in a location near the project site that it is clearly visible to the nearby receivers most likely to be disturbed. The director would manage complaints and concerns resulting from activities that cause vibrations. The severity of the vibration concern should be assessed by the disturbance coordinator, and if necessary, evaluated by a professional with construction vibration expertise.
- The existing condition of all buildings within a 180-foot radius within the proposed pile driving activities shall be recorded in the form of a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by construction activities.
- Vibration monitoring shall be conducted before and during pile driving operations. Every attempt shall be made to limit construction generated vibration levels in accordance with Caltrans

recommendations during pile driving and impact activities in the vicinity of the historic, older, or potentially sensitive structures.

- Pile driving required within a 285-foot radius of sensitive receptors or within 180 feet of a historic, older, or potentially sensitive structure should use alternative installation methods, where possible (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers).

### Significance after Mitigation

Implementation of Mitigation Measure 3.12-3 would substantially reduce the effects of groundborne noise and vibration on sensitive receptors because the use of large construction equipment would be restricted in the vicinity of sensitive receptors, a preconstruction survey of buildings potentially subject to vibration damage would be conducted, and vibration monitoring would be conducted in the vicinity of pile-driving activities. The activities would also be temporary. However, it is not possible to determine at this time whether this mitigation would avoid all potentially significant impacts. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is considered **significant and unavoidable**.

#### Impact 3.12-4: Long-Term Traffic Noise Levels at Existing Noise-Sensitive Receivers.

Development of the land uses proposed at the Project site would result in an increase in long-term operational traffic volumes on the local roadway network, which would generate additional noise in the Project area. To assess the impact of operational Project-generated traffic noise increases, traffic noise levels were calculated for roadway segments in the Project study area using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise levels were modeled under existing conditions. Average daily traffic (ADT) volumes and the distribution thereof were obtained from the traffic study prepared to support the 2019 SOIA EIR with updates related to the anticipated mix of trucks associated with development of the Project site (Fehr & Peers 2017, 2020). Refer to Appendix F of this SEIR for modeling inputs and results.

Table 3.12-2 summarizes the modeled traffic noise levels at 100 feet from the centerline of affected roadway segments. Modeled increases that would be considered substantial (i.e., an increase of 3 dBA or more), in comparison to existing no Project conditions are indicated in bold. Modeled roadway noise levels assume no natural or artificial shielding between the roadway and the receptor.

As shown in Table 3.12-2, the modeling conducted shows that full buildout of the Project site would result in traffic noise level increases ranging from + 2 dBA to + 6 dBA  $L_{dn}$ , compared to noise levels without full buildout of the Project site.<sup>1</sup> The Project would increase noise levels by at least 3 dB along several roadway segments. There are no existing noise-sensitive uses located along Grant Line Road between SR 99 SB Ramps and SR 99 NB Ramps, Grant Line Road between East Stockton Boulevard and Waterman Road, and Waterman Road between Mosher Road and Grant Line Road. However, there are noise sensitive land uses located along the other segments. Therefore, as also identified for the 2019 SOIA EIR, full buildout of the Project site would result in a substantial permanent increase in ambient noise levels (an increase of 3 dBA or greater). This is a **significant** impact.

---

<sup>1</sup> Project-related traffic noise increase under future plus project conditions would slightly vary from those under existing plus Project conditions, because adjustment in traffic rerouting to Southeast Connector was taken into account under cumulative plus Project.

Roadway	Segment Location	L <sub>dn</sub> at 100 Feet, dB			
		No Project	Plus Project	Net Change	Significant Impact?
Bradshaw Road	From Elk Grove Boulevard to Grant Line Road	63	67	4	No
Grant Line Road	From SR 99 SB Ramps to SR 99 NB Ramps	68	73	5	No**
Grant Line Road	From SR 99 NB Ramps to East Stockton Boulevard	70	75	5	Yes
Grant Line Road	From East Stockton Boulevard to Waterman Road	68	74	6	No**
Grant Line Road	From Waterman Road to Mosher Road	67	71	4	Yes
Grant Line Road	From Mosher Road to Bradshaw Road	67	71	4	Yes
Grant Line Road	From Bradshaw Road to Elk Grove Boulevard	64	68	4	Yes
Kammerer Road	From Lent Ranch Parkway to Promenade Parkway	65	68	3	Yes
Kammerer Road	From Promenade Parkway to SR 99 SB Ramps	67	70	3	Yes
Mosher Road	From Waterman Road to Grant Line Road	58	67	5	Yes
Waterman Road	From Mosher Road to Grant Line Road	63	68	5	No**
SR 99	From Dillard Road to Grant Line Road	77	79	2	No
SR 99	From Grant Line Road to Elk Grove Boulevard	76	79	3	Yes

Notes: dB = A-weighted decibels; L<sub>dn</sub> = day-night average noise level, SB = Southbound, NB=Northbound.  
 \* Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.  
 \*\* No noise-sensitive uses within 100 feet of the segment.  
 Source: Data modeled by AECOM 2020

As described in the Tiered Initial Study with Mitigated Negative Declaration for the Capital Southeast Connector – B2 project, future vehicular travel along Grant Line Road would increase noise levels as experienced by sensitive receptors along this corridor (Capital SouthEast Connector Joint Powers Authority 2017). This environmental document provides estimates of existing conditions, future conditions with no mitigation, and future conditions with construction of a sound wall and use of rubberized asphalt for 84 receptors located north of Grant Line Road in the vicinity of the Project site, showing less-than-significant impacts related to transportation noise. The noise mitigation for the Capital Southeast Connector – B2 project would provide benefits for noise sensitive uses in the vicinity of the Project site and located along roadways that would be affected by Project traffic. Table 17 from this Initial Study identifies existing noise conditions, noise levels in 2035 without the road widening project, and noise levels in 2035 with the road widening project, as well as project noise levels with mitigation applied for 84 receptors along the Grant Line Road corridor between Waterman Road on the west and Bradshaw Road on the east (two receptors are just east of Bradshaw Road). For future conditions with the road widening project, noise levels range from 57 to 71 dBA L<sup>dn</sup>. With mitigation that will include soundwalls and rubberized asphalt, future noise levels would range from 53 to 65 dBA L<sup>dn</sup>. For all but one noise receptor location (NM-3, 9876 Grant Line Road), mitigation would reduce future plus project noise levels to below future without project conditions. For NM-3, mitigation would result in a noise level of 59 dBA L<sup>dn</sup> under future plus project with mitigation conditions compared to a noise level of 57 dBA L<sup>dn</sup> for future without project conditions. As detailed in this Initial Study, mitigation is imposed in the form of both soundwalls and the use of rubberized asphalt or open grade pavement, which would result in less-than-significant impacts for each of the sensitive receptors located north of the Grant Line Road corridor.

Elk Grove Policy MOB-1-1 establishes vehicle miles traveled (VMT) limits for the City's Planning Area, including locations for new growth, such as the East Study Area. The implementation of this policy would reduce travel demand by incorporating density mixing of uses, pedestrian and bike infrastructure, and transit services. Reducing travel demand would reduce traffic volumes and therefore traffic noise levels. Based on direction included in the General Plan, development in the Project site would be designed to minimize potential impacts. However, it is not possible to determine at this time whether this program would avoid all potentially significant impacts. Significant traffic noise impacts at existing and future noise-sensitive areas can be difficult to feasibly mitigate. Some areas may have side of the road with noise barriers that increase noise levels experienced on the other side of the roadway. New noise barriers may have limited effectiveness for traffic noise mitigation, since openings are often required for pedestrian, bicycle, vehicle, and emergency access and visual access for safety. Quiet pavement may be infeasible due to cost. It may not be feasible to reduce traffic noise impacts to a less-than-significant level at all existing and future noise-sensitive land uses along Mosher Road between Waterman Road and Grant Line Road. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is considered **significant and unavoidable**.

#### Impact 3.12-5: Land Use Compatibility of On-Site Sensitive Receptors with Future Transportation Noise Levels.

As discussed in the 2019 SOIA EIR, proposed uses near the UPRR tracks are not noise sensitive and this impact is **less than significant**.

As detailed in the 2019 SOIA EIR, noise from future vehicle traffic would also affect future on-site noise-sensitive receptors. Noise-sensitive receptors located within future 60 dB  $L_{dn}$  noise contours would be exposed to noise levels exceeding the City of Elk Grove General Plan Noise Element standard of 60 dB  $L_{dn}$  for residential uses affected by transportation noise sources. Future residential development within the Project site could occur in areas where traffic noise could exceed the City's standard in the mixed-use area adjacent to Grant Line Road. Furthermore, it is possible that there could be high-volume roadways in the mixed-use area that are designed to funnel most traffic onto such roadways, rather than a dispersed transportation network that avoids high volumes on any single roadway. However, it is uncertain as to whether there would be residential development in the mixed-use area and how far from high-volume roadways (including Grant Line Road) this residential development would be located. The same is true in other locations within the Project site – although the predominantly planned uses are not noise sensitive (industrial and commercial), it is possible that there could be ancillary uses, such as day care, that would be noise sensitive. Therefore, impacts related to land use-noise compatibility are considered **potentially significant**.

#### Mitigation Measure 3.12-5: Improve Land Use Compatibility to Reduce Exposure of On-Site Sensitive Receptors to Traffic Noise (2019 SOIA EIR Mitigation Measure 3.12-5).

Consistent with General Plan Noise Policies N-1-1, N-1-2, N-2-1, N-2-2, N-2-3, and N-2-4, or these policies as they may be updated in the future, feasible strategies to improve land use/transportation noise compatibility will be incorporated into the design of projects, including, but not limited to the following strategies, as feasible:

- incorporate site planning strategies to reduce noise levels within compliance of applicable noise standards, such as building orientation, which can take advantage of shielding provided by the intervening building façade at the outdoor activity area;

- consider setback distances from the noise source. Increasing the setback distance would achieve a natural attenuation of traffic noise levels due to excess ground attenuation and additional noise propagation over distance;
- use of increased noise-attenuation measures for second- and third-story facades in building construction (e.g., dual-pane, sound-rated windows; exterior wall insulation);
- install low-noise pavement, such as open-grade asphalt or rubberized asphalt.

### Significance after Mitigation

Implementation of Mitigation Measure 3.12-5 would reduce the significant interior and exterior noise level impacts at affected receptors. However, it is not possible at this time to determine the effectiveness of mitigation with certainty, as there are no development applications or site plans. Significant traffic noise impacts at future noise-sensitive areas can be difficult to feasibly mitigate. Some areas may have noise barriers that increase noise levels experienced on the other side of the roadway. New noise barriers may have limited effectiveness for traffic noise mitigation since openings are often required for pedestrian, bicycle, vehicle, and emergency access and visual access for safety. Quiet pavement may be infeasible due to cost. It may not be feasible to reduce traffic noise impacts to a less-than-significant level at all noise-sensitive land uses. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is considered **significant and unavoidable**.

#### Impact 3.12-6: Land Use Compatibility of On-Site Sensitive Receptors with or Generation of Non-Transportation Noise Levels in Excess of Local Standards.

Proposed development within the Project site could involve residential uses in the mixed-use area; commercial, office, and industrial uses are proposed over most of the Project site, along with open space and recreation. Institutional and public facilities (e.g., electrical substations, and schools) could also be developed. Future development of noise-sensitive uses (e.g., residential dwellings, schools, hospitals, parks, hotels, places of worship, libraries) could occur in areas that either are currently exposed to or would be exposed to future noise from non-transportation noise sources that could exceed the 55 dB  $L_{eq}$  daytime and 45 dB  $L_{eq}$  nighttime.

The long-term operation of proposed land uses at the Project site could result in non-transportation operational noise from, but not limited to, the following potential sources:

- ▶ landscape and building maintenance activities (e.g., hand tools, power tools, lawn and garden equipment);
- ▶ mechanical equipment (e.g., pumps, generators heating, ventilation, and cooling systems);
- ▶ garbage collection;
- ▶ parking lots;
- ▶ commercial, office, and industrial activities;
- ▶ other residential, school, and recreation activities and events; and
- ▶ agricultural activities.

For a detailed description of stationary and area noise sources, please refer to pages 3.12-53 through 3.12-55 of the 2019 SOIA EIR.

The impact to future on-site receptors from stationary and area noise sources is considered **significant**.

**Mitigation Measure 3.12-6: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Non-Transportation Source-Generated Noise (2019 SOIA EIR Mitigation Measure 3.12-6).**

The City of Elk Grove shall require discretionary projects to reduce potential exposure of on-site sensitive receptors to non-transportation source noise.

To reduce potential long-term exposure of on-site sensitive receptors to noise generated by project-related non-transportation noise sources, the City shall evaluate individual facilities, subdivisions, and other project elements for compliance with the City Noise Ordinance and policies contained in the City's General Plan at the time that tentative subdivision maps and improvements plans are submitted. All project elements shall comply with City noise standards. The project applicants for all project phases shall implement the following measures to assure maximum reduction of project interior and exterior noise levels from operational activities.

- The proposed land uses shall be designed so that on-site mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units, compressors, and generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located as far as possible from or shielded from nearby noise-sensitive land uses.
- Residential air conditioning units shall be located a minimum of 10 feet from adjacent residential dwellings, including outdoor entertainment and relaxation areas, or shall be shielded to reduce operational noise levels at adjacent dwellings or designed to meet City noise standards. Shielding may include the use of fences or partial equipment enclosures. To provide effectiveness, fences or barriers shall be continuous or solid, with no gaps, and shall block the line of sight to windows of neighboring dwellings.
- To the extent feasible, residential land uses located within 500 feet of and within the direct line of sight of major noise-generating commercial uses (e.g., loading docks and equipment/vehicle storage repair facilities,) shall be shielded from the line of sight of these facilities by construction of a noise barrier. To provide effectiveness, noise barriers shall be continuous or solid, with no gaps, and shall block the line of sight to windows of neighboring dwellings.
- Dual-pane, noise-rated windows; mechanical air systems; exterior wall insulation; and other noise-reducing building materials shall be used.
- Routine testing and preventive maintenance of emergency electrical generators shall be conducted during the less sensitive daytime hours (i.e., 7:00 a.m. to 6:00 p.m.). All electrical generators shall be equipped with noise control (e.g., muffler) devices in accordance with manufacturers' specifications.
- Prior to issuance of occupancy permits, project applicants shall provide buyer-renter notification for any noise sensitive uses located within 200 feet on ongoing operations of agricultural equipment at adjacent agricultural land uses.

In addition, the City shall seek to reduce potential long-term exposure of sensitive receptors to noise generated by project-related non-transportation noise sources from public activities on school grounds, in neighborhood and community parks, and in open-space areas. Specifically, the City shall encourage the

controlling agencies (i.e., schools and park and recreation districts) to implement measures to reduce project-generated interior and exterior noise levels to within acceptable levels, including but not limited to the following:

- On-site landscape maintenance equipment shall be equipped with properly operating exhaust mufflers and engine shrouds, in accordance with manufacturers' specifications.
- For maintenance areas located within 500 feet of noise-sensitive land uses, the operation of on-site landscape maintenance equipment shall be limited to the least noise-sensitive periods of the day, between the hours of 7 a.m. and 7 p.m.
- Outdoor use of amplified sound systems within 500 feet of noise-sensitive land uses shall be permitted only between 7 a.m. and 10 p.m. Sunday through Thursday, and between 7 a.m. and 11 p.m. on Friday and Saturday.

### **Significance after Mitigation**

Compliance with the City Noise regulations and implementation of additional mitigation measures for the control of non-transportation source noise as identified above in Mitigation Measure 3.12-6 would reduce non-transportation source noise levels at on-site sensitive receptors. Restricting noise-generating activities to daytime hours as outlined in the City's Noise Control regulations and requiring stationary equipment to achieve property line noise limits would reduce the potential for noise impacts at sensitive receptors. Achievable noise reductions from fences or barriers can vary, but typically range from approximately 5 to 10 dBA, depending on construction characteristics, height, and location. With implementation of Mitigation Measure 3.12-6, future development in the Project site would be designed to minimize potential impacts. However, it is not possible to determine at this time whether this mitigation would avoid all potentially significant impacts. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is considered **significant and unavoidable**.

This page intentionally left blank.



### **3.13 PUBLIC SERVICES AND RECREATION**

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was received from the Sacramento Local Agency Formation Commission (LAFCo) regarding the provision and adequacy of public services. The City reviewed and considered this information during preparation of this section.

#### **3.13.1 ENVIRONMENTAL SETTING**

As reported in the 2019 SOIA EIR, the public services would be provided to the Project site by Sacramento County, the City of Elk Grove, the Cosumnes Community Service District (CCSD), the Sacramento County Sheriff's Department, the City of Elk Grove's Police Department, the California Highway Patrol (CHP), and the Elk Grove Unified School District (EGUSD).

The following environmental setting presents a brief summary of public services and recreation information contained in the 2019 SOIA EIR and provides current (2020) conditions that have changed since the 2019 SOIA EIR was prepared.

#### **FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES**

The CCSD Fire Department currently provides fire protection, fire prevention, and emergency medical services to the Project site. Fire stations that would serve the Project site include Station 71 at 8760 Elk Grove Boulevard, approximately 2.25 miles northwest of the Project site, and Station 73 at 9607 Bond Road, approximately 2 miles north of the Project site. Three new fire stations are planned in the vicinity of the Project site, one in the Laguna Ridge Specific Plan Area (Station 77), west of the Project site (on Poppy Ridge Road just east of Big Horn Road); one within the Sterling Meadows project (Station 78) west of the Project site (along Lotz Parkway near Kammerer Road); and one near the intersection of Bradshaw Road and Grant Line Road (Station 79) that will be built as the need arises (City of Elk Grove 2018).

#### **POLICE PROTECTION**

##### **Sacramento County Sheriff's Department**

The Project site is currently served by the Sacramento County Sheriff's Department, which provides specialized law enforcement services to the County and local police protection to both the incorporated and unincorporated areas. The closest station to the Project site is located at 7000 65<sup>th</sup> Street in Sacramento, approximately 9 miles northwest of the Project site. The Sacramento County Sheriff's Department would continue to provide law enforcement services to unincorporated portions of the Project site until annexation into the City occurs.

##### **City of Elk Grove Police Department**

The Elk Grove Police Department also provides certain law enforcement services to the Project site through a mutual aid agreement and would be the primary provider, following annexation. The Police Department has a force of 146 sworn officers and 108 civilian employees (Elk Grove Police Department 2019). This is equivalent to a staffing ratio of 0.80 sworn officers per 1,000 residents (City of Elk Grove Police Department 2019, California Department of Finance 2020). The Police Department operates out of one police station, located at 8400 Laguna

Palms Way, part of the City Hall complex, approximately 3.25 miles northwest of the Project site. During 2019, Police Department’s actual average Priority One response time was 4.9 minutes.

### California Highway Patrol

The CHP provides traffic regulation enforcement, emergency management, and vice assistance on State highways, all federal interstate highways, and other major roadways in unincorporated Sacramento County. The Project site is located within the CHP Valley Division, which is comprised of 20 area offices, one commercial vehicle enforcement facility, and four communications centers.

### SCHOOLS

As noted in the 2019 SOIA EIR, the EGUSD provides K–12 education to the City of Elk Grove and the Project site. As shown on the maps of EGUSD school attendance boundaries, the Project site is served by Elk Grove Elementary School, Joseph Kerr Middle School, and Elk Grove High School (EGUSD 2020). Table 3.13-1 identifies the 2019-2020 school-year enrollments for these schools. All three schools are currently operating below design capacity.

School Name	Grade	Enrollment	Design Capacity	Estimated Remaining Capacity
Elk Grove Elementary School	K–6	820	880	60
Joseph Kerr Middle School	7–8	907	1,519	612
Elk Grove High School	9–12	1,849	2,659	810

Source: California Department of Education 2020, EGUSD 2016

### EGUSD Funding

In order to construct new schools to mitigate growth from new residential, commercial, and industrial development, EGUSD’s local share comes from developer school impact fees. Based on its facilities needs assessment, EGUSD demonstrated the need to levy Level II developer fees that are higher than the statutory fee. As of June 2020, EGUSD’s fees were \$6.34 per square foot for residential construction and \$0.66 for commercial construction (City of Sacramento Community Development Department 2020).

### PARKS

#### Cosumnes Community Services District

The CCSD Parks and Recreation Department provides parks and recreation facilities for residents of an area of roughly 157 square miles, including the City limits of Elk Grove, plus unincorporated areas of Sacramento County. The CCSD Parks and Recreation Master Plan estimates that CCSD provides 5.26 acres of parkland per 1,000 residents in 2017, which exceeds the City and CCSD parkland standards of a minimum of 5 acres of developed parkland per 1,000 residents (CCSD Parks and Recreation 2018). The CCSD anticipates 36 new parks will be developed over the 10-year planning period of the Master Plan, and that CCSD will continue to meet or exceed the 5 acres per 1,000 residents parkland standard as development occurs and parkland is dedicated (CCSD Parks and Recreation 2018).

The closest CCSD park facilities are Berens Park, approximately 500 feet northwest of the Project site, and the Emerald Lakes Golf Course, directly to the east of the Project site. Elk Grove Regional Park is approximately 2 miles north of the Project site. No parks and recreation services are currently provided for or planned within the Project site (CCSD 2018).

### **City of Elk Grove**

The City of Elk Grove and CCSD have an agreement for joint development and operation of all future parks in the Laguna Ridge Specific Plan, the Southeast Policy Area, and future master planned areas of the City. In addition, the City solely owns and maintains the 56-acre Civic Center Community Park located south of Elk Grove Boulevard and east of Big Horn Boulevard. Referred to as District56, the site includes an Aquatics Center, Community Center, and (currently under construction) a Preserve that will include a network of trails, benches, picnic tables, wetland area overlooks, open meadow, outdoor exercise equipment, and play equipment(City of Elk Grove 2020a). District56 is also planned to include a library and performing arts center.

## **3.13.2 REGULATORY FRAMEWORK**

### **City of Elk Grove General Plan**

The City's General Plan (City of Elk Grove 2019) contains the following policies related to public services and recreation that are applicable to the proposed Project.

#### ***Urban and Rural Development***

##### Service Levels

- ▶ **Policy LU-3-33:** Ensure infrastructure and facilities are planned and designed to meet projected future demands.

#### ***Community and Resource Protection***

##### Park Facilities

- ▶ **Policy PT-1-3:** Require the provision of park land at a minimum of 5 acres per 1,000 residents, consistent with the Quimby Act.
- ▶ **Policy PT-1-5:** Funding for maintenance of parks and/or trails shall be assured to the City's satisfaction prior to approval of any Final Subdivision Map which contains or contributes to the need for public parks and facilities.

#### ***Services, Health, and Safety***

##### Disaster and Emergency Risk Reduction

- ▶ **Policy ER-4-1:** Cooperate with the Cosumnes Community Services District (CCSD) Fire Department to reduce fire hazards, assist in fire suppression, and promote fire safety in Elk Grove.
  - **Standard ER-4-1.a:** Require, where appropriate, on-site fire suppression systems for all new commercial and industrial development to reduce the dependence on fire department equipment and personnel.

## Disaster and Emergency Response and Public Safety

- ▶ **Policy SAF-1-1:** Regularly monitor and review the level of police staffing provided in Elk Grove and ensure that sufficient staffing and resources are available to serve local needs.
- ▶ **Policy SAF-1-2:** Encourage the use of Crime Prevention Through Environmental Design (CPTED) principles in the design of projects and buildings, as well as parks and trails.

## Urban Infrastructure

- ▶ **Policy INF-1-2:** Require that water flow and pressure be provided at sufficient levels to meet domestic, commercial, industrial, and firefighting needs.

## Community Infrastructure and Facilities

- ▶ **Policy CIF 4-1:** While recognizing that public school siting and development are not within the jurisdiction of the City to control, the City strongly encourages the school district to consider the following school siting criteria:
  - Traffic impacts on nearby roadways should be addressed and mitigated to meet City standards for roadway performance targets.
  - Schools should not be located on main roadway corridors characterized by high speeds (>35 miles/hr).
  - Schools should serve as a focal point of neighborhood activity and be interrelated with congregation facilities, parks, greenways and off-street paths whenever possible.
  - Almost all residences should be within walking distance of a school (1 mile or less) and all residences should be located within 2 miles of a school whenever possible.
  - New schools should be located adjacent to neighborhood and community parks whenever possible and designed to promote joint use of appropriate facilities.
  - New schools should link with trails, bikeways, and pedestrian paths wherever possible.
- ▶ **Policy CIF-4-3:** Support legislative efforts to secure additional State funding for school construction and ensure maintenance of local district priorities for funds in the State school bond program.

## Infrastructure Financing and Phasing

- ▶ **Policy IFP-1-6:** Fee programs and/or other finance mechanisms shall be reviewed regularly to ensure that sufficient funding will be available to construct all required facilities.
- ▶ **Policy IFP-1-7:** New development shall fund its fair share portion of impacts to all public facilities and infrastructure as provided for in State law.

- ▶ **Policy IFP-1-10:** Except when prohibited by state law, the City will endeavor to ensure that sufficient capacity in all public services and facilities will be available on time to maintain desired service levels and avoid capacity shortages, traffic congestion, or other negative effects on safety and quality of life.

### **3.13.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to public services and recreation if it would:

- ▶ result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, or parks;
- ▶ increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- ▶ include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

#### **IMPACT ANALYSIS**

##### **Impact 3.13-1: Increased Demand for Fire Protection and Emergency Medical Services.**

CCSD will provide fire protection, fire prevention, life safety, and emergency medical services to the Project site. Future development of the Project site includes the potential for construction of approximately 5.6 million square feet of light and heavy industrial uses and 252,650 square feet of regional commercial uses. In addition, future development of mixed uses on the Project site could add an assumed 713 dwelling units with 2,304 residents (or employment uses that would require similar levels of infrastructure and services as 713 dwelling units). Project applicants for future projects would be required to incorporate California Fire Code, California Health and Safety Code, and federal Occupational Health and Safety Administration (OSHA) requirements into the project design to address access and finished surfaces for firefighting equipment; fire hydrant placement and sufficiency of fire hydrants; and fire flow availability. Furthermore, City General Plan Policy ER-4-1 requires cooperation with the CCSD Fire Department to reduce fire hazards and City General Plan Standard ER-4-1.a requires installation of on-site fire suppression systems for all new commercial and industrial development. CCSD requires project applicants to submit project plans for review and approval to ensure California Fire Code and City standards are incorporated into project designs prior to the issuance of building permits

The CCSD Fire Department receives its funding through property taxes, fees for service, and grant funding. New development projects are required to pay fire protection development fees to fund additional facilities and equipment. These funds would help to pay for all costs associated with the development of a new fire station, if needed. A Community Facilities District has also been established to assist in the long-term mitigation of growth impacts. Annexation into the Community Facilities District or lump sum payment to offset growth impacts is required of property owners of new development through a balloting process. Fee programs and finance

mechanisms are regularly evaluated and updated, consistent with Elk Grove General Plan Policy IFP-1-6, to ensure that adequate service levels are maintained.

Future development of commercial, industrial, and mixed uses is assumed to occur over an approximately 20-year period. The CCSD Fire Department may need to build one or more of the three pre-designated new fire stations (i.e., Station 77, Station 78, or Station 79) and need to hire additional firefighters, prevention, and emergency medical personnel to accommodate the increased demand for services from development of the Project site and planned development in the Laguna Ridge Specific Plan Area, Sterling Meadows, and the Southeast Policy Area. The construction and operation of new off-site facilities and expansion of existing off-site facilities by CCSD could also be required to maintain service ratios. As the recognized primary service provider for fire protection, prevention, and emergency medical and rescue services, the CCSD and the City will be encouraged to work together closely to identify fire station locations, equipment, and personnel needs to support any increased demands on the CCSD. CCSD would conduct project-level CEQA or NEPA analysis, if necessary, to analyze specific impacts and identify any required mitigation measures for construction and operation of new fire stations to serve the project site. It is speculative to attempt to predict at this time the extent to which this would create any indirect impact that is distinct from the analysis of direct Project impacts.

Incorporation of California Fire Code, California Health and Safety Code, and OSHA requirements, as well as compliance with the City's General Plan policies, would reduce the dependence on fire department equipment and personnel by reducing fire hazards, assisting in fire suppression, and promoting fire safety in Elk Grove. As with the 2019 SOIA EIR, this impact is considered **less than significant**.

#### Impact 3.13-2: Increased Demand for Law Enforcement Services.

After annexation of the Project site, the Elk Grove Police Department will provide law enforcement services to proposed land uses. Future development could include construction of approximately 5.6 million square feet of light and heavy industrial uses and 252,650 square feet of regional commercial uses, as well as mixed uses that could potentially include residential development. City General Plan Policy SAF-1-2 encourages the use of CPTED principles in new development to reduce the potential for crime and ensure safety measures are incorporated into project designs.<sup>1</sup>

New staff, equipment, and facilities that would be necessary to provide additional law enforcement services would be funded by property taxes, development impact fees, and potentially other mechanisms. The purpose of the fees is to mitigate the impacts caused by development. As of January 2020, the City assesses a fee of \$1,162 per single-family dwelling (for fewer than 3 units, including duplexes); \$848 per multi-family dwelling unit, single-family, age-restricted housing, and multi-family age restricted housing; \$0.09 per square foot of shopping center and commercial uses; and \$0.20 per square foot of industrial uses (City of Elk Grove 2020b). This would help to ensure sufficient police protection facilities if there is development in the future within the Project site.

Future development would not affect the Police Department response times or other performance objectives because project applicants for future projects would pay development impact fees to ensure police protection personnel and equipment is provided to meet increased demand for police protection services. The Police

---

<sup>1</sup> CPTED principles consist of 1) natural surveillance by placing "eyes on the street"; 2) natural access and control through the use of doors, fences, shrubs, and other physical elements to prevent unauthorized persons access; 3) territorial enforcement by defining clear boundaries between public and private areas; and 4) maintenance and management.

Department currently has a staffing ratio of 0.80 officers per 1,000 residents (City of Elk Grove Police Department 2019, California Department of Finance 2020). The area of the Project site identified for development of mixed uses could generate up to 2,304 persons, resulting in the need for an estimated two (rounded up) officers. The addition of two new officers would not result in the need for additional police protection facilities. Therefore, as with the 2019 SOIA EIR, there would be no significant adverse physical environmental effect associated with construction and operation of new facilities and this impact is considered **less than significant**.

### Impact 3.13-3: Increased Demand for Schools.

As with the 2019 SOIA EIR, the area of the Project site identified for development of mixed uses could generate school-aged children. Using EGUSD's 2020 student generation rates for residential development, the potential development of 713 dwelling units would generate approximately 183 new elementary school students (grades K–6), 51 middle school students (grades 7–8), and 57 high school students (grades 9–12).<sup>2</sup> Based on EGUSD's 2020 student generation rates for industrial and commercial development, the potential development of approximately 5.6 million square feet of light and heavy industrial development and approximately 253,000 square feet of regional commercial development could generate approximately 574 new elementary school, middle school, and high school students (grades K-12).<sup>3</sup>

The Project site is currently in the Elk Grove Elementary School, Joseph Kerr Middle School, and Elk Grove High School district boundaries but it should be noted that school attendance boundaries may change, so other schools may eventually provide school services. As described above, all three schools are currently operating below their design capacity. However, these schools will be used to house future students from the approved Laguna Ridge Specific Plan (7,400 homes), Sterling Meadows (1,184 homes), and the Southeast Policy Area (4,000 homes) (EGUSD 2016).

It is anticipated that Elk Grove Elementary School will exceed its design capacity by 2021 and Joseph Kerr Middle School and Elk Grove High School will exceed design capacity by 2025 and may not have capacity to accommodate the students who would reside in the Project site (EGUSD 2016). The EGUSD's School Facilities Needs Analysis indicates that the Laguna Ridge South Elementary School, which would be located along Poppy Ridge Road, approximately 2.5 miles west of the Project site, and Crooked Creek Estates Elementary School, which would be located on Wyman Drive approximately 0.5 mile north of the Project site, are anticipated to be designed and constructed in the next 5 to 6 years (ODELL Planning and Research 2020). While additional schools are under construction, it may be necessary to bus students to school facilities with available capacity. Transportation of future students to schools with additional capacity could result in indirect impacts related to transportation, such as air pollutant emissions, greenhouse gas emissions, and transportation noise – impacts that are analyzed in this SEIR based on assumptions for land use change within the Project site.

City General Plan Policy IFP-1-7 requires new development to fund its fair share portion of its impacts to all public facilities as provided for in State law. In addition, the City supports State legislative efforts to secure additional State funding for school construction and ensure maintenance of local district priorities for funds in the

---

<sup>2</sup> For the purposes of this analysis, it is assumed that all land designated for mixed use would consist of multifamily units. The EGUSD estimates a student yield of 0.2572 elementary school students (grades K-5), 0.0710 middle school student (grades 6-8), and 0.0806 high school (grades 9-12) per multifamily units.

<sup>3</sup> The EGUSD estimates a student yield 0.093 students per 1,000 square feet of light and heavy industrial development ( $5,635,967/1,000 \times 0.093 = 524$  students) and 0.196 students per 1,000 square feet of regional commercial development ( $252,648/1,000 \times 0.196 = 50$  students).

State school bond program (City General Plan Policy CIF-4-3). Pursuant to SB 50, project applicants would be required to pay all applicable State-mandated school impact fees to EGUSD. As of June 2020, EGUSD's fees were \$6.34 per square foot for residential construction and \$0.66 for commercial construction, although these fees may increase by the time development is proposed (City of Sacramento Community Development Department 2020). The EGUSD would determine the assessable square footage that would be subject to the fee at the time of development. The California Legislature has declared that payment of the applicable school impact fee is deemed to be full and adequate mitigation under CEQA for impacts on school facilities (California Government Code Section 65996). As with the 2019 SOIA EIR, this impact is considered **less than significant**.

#### Impact 3.13-4: Increased Demand for Parks and Recreation Facilities.

As with the 2019 SOIA EIR, the potential future development of mixed uses on the Project site could add dwelling units, which would lead to increased demand for parks and recreation facilities. An assumed 713 housing units, or 2,304 residents to the CCSD service area that would increase the demand for parks and recreation facilities. City and CCSD parkland standards require a minimum of 5 acres of developed parkland per 1,000 residents. This amount of residential development would require the development of an estimated 11.5 acres of parkland, using standards maintained by the City and CCSD. Any new residential development would be required to dedicate park and recreation facilities or pay applicable impact fees, per California Government Code Section 66477 (Quimby Act), the City of Elk Grove Municipal Code Chapter 22.40, and City General Plan Policy PT-1-3, or contribute to other fair share funding mechanisms required by the City as stated in General Plan Policy PT-1-5. These impact fees could fund the development of a new park or the maintenance of existing parks. As with the 2019 SOIA EIR, this impact is considered **less than significant**.



## 3.14 TRANSPORTATION

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the California Department of Transportation (Caltrans) asking for revised analysis of vehicular travel demand (vehicle miles traveled or VMT), queueing analysis for the Grant Line Road interchange, and trip generation. The comments were used to inform the analysis presented in the SEIR.

The following scenarios were analyzed in a traffic study prepared to support the 2019 SOIA EIR and have been updated, as appropriate, for this SEIR (Fehr & Peers 2017):

- ▶ **Existing Conditions** – represents the baseline condition upon which Project impacts are measured.
- ▶ **Existing Plus Project Conditions (full buildout of the SOIA Area, including the multi-sports park complex project)** – reflects changes in traffic and circulation conditions associated with implementation of the proposed Project.
- ▶ **Cumulative No-Project Conditions** – reflects the future 2035 without implementation of the proposed Project.
- ▶ **Cumulative plus Project Conditions (full buildout of the SOIA Area, including the multi-sports park complex project)** – reflects changes in future 2035 traffic and circulation associated with implementation of the proposed Project.
- ▶ **Cumulative plus Project Conditions (full buildout of the SOIA Area, including the multi-sports park complex project, practice, tournament, stage events, league events, and county fair)** – reflects changes in future 2035 traffic with full buildout of the SOIA Area, including the multi-sports park complex project and associated special events.

Both cumulative and project-level transportation effects are addressed in this section.

### 3.14.1 ENVIRONMENTAL SETTING

The environmental setting for this SEIR is essentially the same as that provided in detail in the 2019 SOIA EIR.

### 3.14.2 REGULATORY FRAMEWORK

#### STATE PLANS, POLICIES, LAWS, AND REGULATIONS

##### Vehicle Miles Traveled (VMT)

The 2019 SOIA EIR included a discussion of the regulatory framework related to VMT. Since the time the 2019 SOIA EIR was drafted, regulatory changes to the CEQA Guidelines that implement SB 743 were approved on December 28, 2018 and statewide implementation began July 1, 2020. On February 27, 2019, the City adopted a new General Plan, which included provisions for the implementation of SB 743 and established thresholds for VMT. See additional discussion below.

Caltrans published the Vehicle Miles Traveled-Focused Transportation Impact Study Guide in May of 2020. This guidance document replaces the Guide for the Preparation of Traffic Impact Studies for use with local land use projects. The Transportation Impact Study Guide provides Caltrans' perspective on the review of a land use project or plan's transportation analysis relative to VMT. The Guide identifies projects that are presumed to have a less-than-significant effect, such as certain projects in Transit Priority Areas, projects in low VMT areas, affordable housing projects, local-serving retail, and small projects. The Guide describes how Caltrans may view analysis that is consistent with the Governor's Office of Planning and Research Technical Advisory, as well as the approach to comments Caltrans may take where lead agencies have developed their own approach for evaluating VMT effects.

## **REGIONAL AND LOCAL PLANS, POLICIES, LAWS AND REGULATIONS**

### **SACOG Metropolitan Transportation Plan**

Since the drafting of the 2019 SOIA EIR, the Sacramento Area Council of Governments (SACOG) updated the Metropolitan Transportation Plan Sustainable Communities Strategy (MTP/SCS). On November 18, 2019, the Sacramento Area Council of Governments (SACOG) approved the *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*, which is a regional transportation plan and land use strategy designed to build more vibrant places, accommodate changes in transportation and transportation funding, and build a safe and reliable multi-modal transportation system. The 2020 MTP/SCS includes a land use strategy to improve mobility and reduce travel demand from passenger vehicles by prioritizing compact and transit-oriented development. The MTP provides a 20-year transportation vision and corresponding list of projects. The MTP identifies short-term projects (7-year horizon) in more detail. SACOG is also responsible for the oversight and distribution of most federal and State transportation funding sources.

### **City of Elk Grove**

Since the 2019 SOIA EIR was drafted, the City adopted a General Plan (on February 27, 2019 with amendments through December of 2019). The General Plan includes goals and policies to guide both present and future development within the City's jurisdiction. The City of Elk Grove's General Plan policies regarding transportation that may apply to potential future development in the Project site are provided below (some policies and standards may not apply directly to the proposed Project, but rather are relevant for the cumulative context).

- ▶ **Policy MOB-1-1:** Achieve State-mandated reductions in VMT by requiring land use and transportation projects to comply with the following metrics and limits. These metrics and limits shall be used as thresholds of significance in evaluating projects subject to CEQA. Projects that do not achieve the daily VMT limits outlined below shall be subject to all feasible mitigation measures necessary to reduce the VMT for, or induced by, the project to the applicable limits. If the VMT for or induced by the project cannot be reduced consistent with the performance metrics outlined below, the City may consider approval of the project, subject to a statement of overriding considerations and mitigation of transportation impacts to the extent feasible, provided some other stated form of public objective including specific economic, legal, social, technological or other considerations is achieved by the project.
  - (a) New Development – Any new land use plans, amendments to such plans, and other discretionary development proposals (referred to as “development projects”) are required to demonstrate a 15 percent

reduction in VMT from existing (2015) conditions. To demonstrate this reduction, conformance with the following land use and cumulative VMT limits is required:

- (i) Land Use – Development projects shall demonstrate that the VMT produced by the project at buildout is equal to or less than the VMT limit of the project’s General Plan land use designation, as shown in Table 6-1, which incorporates the 15 percent reduction from 2015 conditions.
- (ii) Cumulative for Development Projects in the Existing City-Development projects within the existing (2017) City limits shall demonstrate that cumulative VMT within the City including the project would be equal to or less than the established Citywide cumulative limit of 6,367,833 VMT (total daily VMT).
- (iii) Cumulative for Development Projects in Study Areas – Development projects located in Study Areas shall demonstrate that cumulative VMT within the applicable Study Area would be equal to or less than the established limit shown in Table 6-2.

Table 6-2 from the General Plan establishes the VMT limit for the total East Study Area (which includes the Project site and other lands to the northeast) as 420,612 VMT per day.

- ▶ **Policy MOB-3-1:** Implement a balanced transportation system using a layered network approach to building complete streets that ensure the safety and mobility of all users, including pedestrians, cyclists, motorists, children, seniors, and people with disabilities.
- ▶ **Policy MOB-3-2:** Support strategies that reduce reliance on single-occupancy private vehicles and promote the viability of alternative modes of transport.
  - **Standard MOB-3-2.a:** Require new development to install conduits for future installation of electric vehicle charging equipment.
- ▶ **Policy MOB-3-3:** Whenever capital improvements that alter street design are being performed within the public right-of-way, retrofit the right-of-way to enhance multimodal access to the most practical extent possible.
- ▶ **Policy MOB-3-4:** As new roads are constructed, assess how the needs of all users can be integrated into the street design based on the local context and functional classification.
- ▶ **Policy MOB-3-5:** Strive to balance needs for personal travel, goods movement, parking, social activities, business activities, and ease of maintenance when planning, operating, maintaining, and expanding the roadway network.
- ▶ **Policy MOB-3-6:** Execute complete streets design in accordance with neighborhood context and consistent with specific guidance in community plans or area plans, as applicable.
- ▶ **Policy MOB-3-7:** Develop a complete and connected network of sidewalks, crossings, paths, and bike lanes that are convenient and attractive, with a variety of routes in pedestrian-oriented areas.

- ▶ **Policy MOB-3-8:** Provide a thorough and well-designed wayfinding signage system to help users of all modes of travel navigate the City in an efficient manner.
- ▶ **Policy MOB-3-9:** As funds become available, provide for the operation and maintenance of facilities for bicycle and pedestrian networks proportionate to the travel percentage milestone goals for each mode of transportation in the Bicycle, Pedestrian, and Trails Master Plan.
- ▶ **Policy MOB-3-10:** Design and plan roadways such that the safety of the most vulnerable user is considered first using best practices and industry design standards.
- ▶ **Policy MOB-3-11:** Consider the safety of schoolchildren as a priority over vehicular movement on all streets within the context of the surrounding area, regardless of street classifications. Efforts shall specifically include tightening corner-turning radii to reduce vehicle speeds at intersections, reducing pedestrian crossing distances, calming motorist traffic speeds near pedestrian crossings, and installing at-grade pedestrian crossings to increase pedestrian visibility.
- ▶ **Policy MOB-3-12:** Provide for safe and convenient paths and crossings along major streets within the context of the surrounding area, taking into account the needs of the disabled, youth, and the elderly.
- ▶ **Policy MOB-3-13:** Continue to design streets and approve development applications in a manner that reduces high traffic flows and parking demand in residential neighborhoods.
- ▶ **Policy MOB-3-14:** Regulate the provision and management of parking on private property to align with parking demand, with consideration for access to shared parking opportunities.
- ▶ **Policy MOB-3-15:** Utilize reduced parking requirements when and where appropriate to promote walkable neighborhoods and districts and to increase the use of transit and bicycles.
- ▶ **Policy MOB-3-16:** Establish parking maximums, where appropriate, to prevent undesirable amounts of motor vehicle traffic in areas where pedestrian, bike, and transit use are prioritized.
- ▶ **Policy MOB-3-17:** Ensure new multifamily and commercial developments provide bicycle parking and other bicycle support facilities appropriate for the users of the development.
- ▶ **Policy MOB-4-1:** Ensure that community and area plans, specific plans, and development projects promote context-sensitive pedestrian and bicycle movement via direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area. This may include convenient pedestrian and bicycle connections to public transportation.
- ▶ **Policy MOB-4-2:** Provide on-site facilities and amenities for active transportation users at public facilities, including bicycle parking and/or storage and shaded seating areas.
- ▶ **Policy MOB-4-3:** Prioritize infrastructure improvements that benefit bicycle and pedestrian safety and convenience over vehicle efficiency improvements within and near community facilities, activity centers, and other pedestrian-oriented areas.

- ▶ **Policy MOB-4-4:** Employ the recommendations and guidelines in the Bicycle, Pedestrian, and Trails Master Plan when planning and designing bicycle, pedestrian, and trail facilities and infrastructure, including updates to the Capital Improvement Program.
- ▶ **Policy MOB-4-5:** Encourage employers to offer incentives to reduce the use of vehicles for commuting to work and increase commuting by active transportation modes. Incentives may include a cash allowance in lieu of a parking space and on-site facilities and amenities for employees such as bicycle storage, shower rooms, lockers, trees, and shaded seating areas.
- ▶ **Policy MOB-5-1:** Support a pattern of land uses and development projects that are conducive to the provision of a robust transit service. Consider amendments to the land use plan, as appropriate, that increase the density and intensity of development along the City’s fixed transit alignment and other major transit corridors.
- ▶ **Policy MOB-5-2:** Advocate for the City’s preferred fixed transit alignment for light rail or bus rapid transit from north of the city to the Southeast Policy Area and ensure proposed projects are complementary to such an alignment.
- ▶ **Policy MOB-5-3:** Consult with the Sacramento Regional Transit District when identifying and designing complete streets improvements near likely light rail alignment corridors in order to prioritize access to and use of transit to sites along that corridor.
- ▶ **Policy MOB-5-4:** Support mixed-use and high-density development applications close to existing and planned transit stops.
- ▶ **Policy MOB-5-5:** Promote strong corridor connections to and between activity centers that are safe and attractive for all modes.
- ▶ **Policy MOB-5-6:** The City shall work to incorporate transit facilities into new private development and City project designs including incorporation of transit infrastructure (e.g. electricity and fiber-optic cable), alignments for transit route extensions, new station locations, bus stops, and transit patron waiting area amenities (e.g. benches and real-time traveler information screens).
- ▶ **Policy MOB-5-7:** Provide the appropriate level of transit service in all areas of Elk Grove, through fixed-route service in urban areas, and complementary demand response service in rural areas, so that transit-dependent residents are not cut off from community services, events, and activities.
- ▶ **Policy MOB-5-8:** Maintain and enhance transit services throughout the City in a manner that ensures frequent, reliable, timely, cost-effective, and responsive service to meet the City’s needs. Enhance transit services where feasible to accommodate growth and transit needs as funding allows.
- ▶ **Policy MOB-5-9:** Continue working with community partners to expand public transit service that benefits Elk Grove workers, residents, students, and visitors. Examples of expanded transit service include increased service frequency, establishing additional routes and stops, and creating dedicated transit lanes.
- ▶ **Policy MOB-5-10:** Encourage the extension of bus rapid transit and/or light rail service to existing and planned employment centers by requiring a dedication of right-of-way. Advocate and plan for light rail

alignment and transit stop locations that best serve the needs of the community and fit within the planned mobility system.

- ▶ **Policy MOB-5-11:** Encourage commuter rail transportation by providing for a potential train station location for Amtrak and/or other rail service providers along the Union Pacific Railroad's Sacramento Subdivision line.
- ▶ **Policy MOB-5-12:** The City will work towards the enhancement and improvement of transit service with the objective of creating major transit corridors with frequent service (i.e. less than 30-minute headways) and street segments where transit is prioritized.
- ▶ **Policy MOB-5-13:** Consider the implementation of traffic signal priority, queue jumps, and exclusive transit lanes to reduce transit passenger delay and improve transit speed, reliability and operating efficiency.

### **City of Elk Grove Climate Action Plan**

Since the 2019 SOIA EIR was drafted, the City updated its Climate Action Plan (CAP) February 2019 and amended in December 2019. The CAP identifies sources of GHG emissions attributable to land uses and activities within City limits and identifies measures to reduce emissions through energy use, land use, solid waste, and transportation strategies. As noted in Section 3.8 of this SEIR, Greenhouse Gas Emissions, since transportation is the top source of GHG emissions in Elk Grove, the CAP includes a focus on reducing emissions related to transportation, including the following Reduction Measures, which will apply to future development projects proposed within the Project site that use the CAP for analysis of GHG emissions effects:

- ▶ **TACM 2:** Transit-Oriented Development. Support higher-density, compact development along transit by placing high-density, mixed-use sites near transit opportunities.
- ▶ **TACM 3:** Intracity Transportation Demand Management. The City shall continue to implement strategies and policies that reduce the demand for personal motor vehicle travel for intracity (local) trips.
- ▶ **TACM 4:** Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle, Pedestrian and Trails Master Plan and increased bicycle parking standards.
- ▶ **TACM 6:** Limit Vehicle Miles Traveled. Achieve a 15 percent reduction in daily VMT compared to existing conditions (2015) for all new development in the City, consistent with state mandated VMT reduction targets for land use and transportation projects.
- ▶ **TACM 7:** Traffic Calming Measures. Increase the number of streets and intersections that have traffic calming measures.
- ▶ **TACM 9:** EV Charging Requirements. Adopt an electric vehicle (EV) charging station ordinance that establishes minimum EV charging standards for all new residential and commercial development. Increase the number of EV charging stations at municipal facilities throughout the City.

## City of Elk Grove

On February 27, 2019, the City adopted a new General Plan, which included provisions for the implementation of SB 743 and established thresholds for VMT. The City updated the Transportation Analysis Guidelines in December of 2019. The Transportation Analysis Guidelines assist the City, other agencies, developers and property owners, and transportation and environmental professionals with assessing the potential transportation-related effects of proposed projects and plans. The Transportation Analysis Guidelines establish protocols for impact assessment and include guidance for General Plan consistency analysis and analysis under CEQA.

### 3.14.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### METHODOLOGY

The 2019 SOIA detailed the methodology for transportation impact analysis, including the then-applicable approach to identifying foreseeable and possible impacts to roadway, transit, and bicycle/pedestrian facilities, including both an analysis of vehicular travel demand (vehicle miles traveled or VMT) and related to possible future traffic congestion (expressed in terms of level of service or LOS). This SEIR describes an updated analysis for VMT associated with the revised Project, as developed by Fehr & Peers (Fehr & Peers 2020).

The 2019 SOIA EIR, as well as the Transportation Master Plan for the revised Project identify on- and off-site vehicular transportation improvements, the impacts of which are analyzed in this SEIR. In addition to the on- and off-site transportation improvements recommended in the 2019 SOIA EIR and Transportation Master Plan, Fehr & Peers recommends widening Grant Line Road to eight through lanes at the Waterman Road/Grant Line Road intersection with buildout of the proposed Project, including the following, which are changes to the 2019 SOIA EIR's Mitigation Measure 3.14-1:

- ▶ Three left-turn lanes, one through lane, and one right-turn lane on the northbound approach;
- ▶ Two left-turn lanes, one through lane, and one right-turn lane on the southbound approach;
- ▶ Two left-turn lanes, four through lanes, and two right-turn lanes on the eastbound approach; and
- ▶ Two left-turn lanes, four through lanes, and one right-turn lane on the westbound approach.

#### Vehicle Miles Traveled

As discussed in the traffic study prepared to support the 2019 SOIA EIR (Fehr & Peers 2017) and the traffic analysis conducted to support this SEIR (Fehr & Peers 2020), the City uses total daily VMT and VMT per service population as the basis for VMT analysis.

Fehr & Peers completed a VMT analysis of the revised Project to determine if the revised Project complies with City of Elk Grove General Plan Policy adopted to reduce VMT and achieve State-mandated reductions in VMT (Policy MOB-1-1). A separate Transportation Master Plan has been prepared to identify on-site circulation infrastructure required to support the revised Project (Wood Rodgers 2020).

Fehr & Peers used the following steps to estimate trip generation and VMT:

- ▶ **Estimated Building Area** – Estimated building area using floor-to-area ratios applied in the analysis of the 2019 SOIA EIR.
- ▶ **Trip Generation** – Used trip rates published in the Institute of Transportation Engineers (ITE) 10<sup>th</sup> Edition Trip Generation Manual to estimate typical weekday, AM peak hour, and PM peak-hour trip generation for the original project analyzed in the 2019 SOIA EIR and the revised Project analyzed in this SEIR.
- ▶ **Vehicle Mix (Cars, Light Trucks, Heavy Vehicles)** – Estimated the mix of cars, light trucks, and heavy vehicles associated with the proposed industrial land uses, based on trip generation data collected at a warehouse facility in Patterson CA.
- ▶ **Service Population** – Estimated employment for the original 2019 project and the revised Project using per acre employment densities used in the analysis of the 2019 SOIA EIR. Estimated population based using an average of 3.23 persons per household for single-family residential land use (i.e., Mixed Mosher Use), based on Table 3.2 of Planning Framework chapter of the City’s General Plan.
- ▶ **VMT Per Service Population** – Calculated VMT per service population by land use category using a modified version of SACOG’s SACSIM regional travel demand forecasting model.
- ▶ **Automobile VMT** – Estimated automobile VMT, consistent with CEQA Section 15064.3 and the Governor’s Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA. Multiplied daily trip generation for cars and light trucks (i.e., automobiles) by the applicable VMT per service population by land use. Estimated automobile VMT for soccer fields by multiplying daily trip generation for cars and light trucks by and an average trip length of five miles.

### State Route 99 Off-Ramp Vehicle Queueing

As a part of the updates to the transportation analysis conducted to support this SEIR, Fehr & Peers has compared potential queuing under cumulative plus project conditions to the available storage on SR 99 northbound and southbound off-ramps using the Synchro 8 software, concluding that vehicle queues would not exceed available storage:

- ▶ **Northbound SR 99 off-ramp.** Available storage (feet): 1,500. 95<sup>th</sup> percentile vehicle queue: 775.
- ▶ **Southbound SR 99 off-ramp.** Available storage (feet): 1,600. 95<sup>th</sup> percentile vehicle queue: 1,075.

### THRESHOLDS OF SIGNIFICANCE

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, transportation impacts resulting from the implementation of the proposed Project would be considered significant if the Project would:

- ▶ Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- ▶ Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);



- ▶ Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- ▶ Result in inadequate emergency access.

## IMPACT ANALYSIS

### Impact 3.14-1. Conflict with an applicable transportation plan, ordinance, policy, or congestion management program.

Future annexation and development activities within the proposed Project site would be required to comply with applicable transportation plans, ordinances, and policies establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel. The City’s review of proposed development projects includes review and conditioning related to all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Future projects will be required to comply with Policies MOB-3-1, 3-3, 3-4, 3-8, 3-10, 3-11, 3-12, 4-1, 4-3, and 5-5 which require the development of transportation systems that support all modes and users and establish priority for non-vehicular transportation modes. Policy MOB-3-9 requires funding for bicycle and pedestrian networks to achieve the City’s mode split goals. Policies MOB-3-15 and 3-16 seek to reduce excess parking in order to promote walkable neighborhoods and commercial districts. Policies MOB-3-17 and 4-2 require parking and other amenities for active transportation users in multi-family and commercial developments. Policies MOB-5-1, 5-2, 5-3, 5-4, 5-6, 5-7, 5-8, 5-9, 5-10, 5-11, 5-12, and 5-13 establish the City’s intent to establish land use and development patterns that support transit service and to expand and improve transit service.

The City’s existing Bicycle and Pedestrian Master Plan includes proposed facilities on Kammerer Road and Grant Line Road and is being updated as of the writing of this document. The Master Plan did not consider development of the East Study Area, and therefore additional facilities will be included for the Project site as a part of the Master Plan Update. The City will require compliance with the updated Master Plan as a part of future development proposals within the Project site. Facilities planned within the Project area are described in the Transportation Master Plan (see Appendix G).

The City will review and condition future development projects, as necessary, to comply with these and other relevant policies, transportation plans, improvement standards, and other requirements. As with the 2019 SOIA EIR,, the impact is **less than significant**. See below under Impact 3.14-2 for analysis of VMT effects.

### Impact 3.14-2. Conflict or inconsistency with CEQA Guidelines section 15064.3, subdivision (b).

As detailed in the 2019 SOIA EIR, SB 743 directed OPR to prepare guidance for analyzing the impact of travel demand, which is expressed using the metric of VMT. OPR prepared a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR’s recommendations regarding VMT analysis, potential significance thresholds, approaches to analysis for different types of projects (land use versus transportation projects, for example), and potential mitigation strategies (OPR 2017).

The City of Elk Grove approved Transportation Analysis Guidelines for transportation analysis studies and reports. The Transportation Analysis Guidelines includes guidance for transportation analysis as it pertains to the

City General Plan VMT policy (i.e., General Plan Policy MOB-1-1) for CEQA analysis, along with screening methods, analysis methodology, significance criteria, impact assessment, and mitigation strategies. Fehr & Peers has prepared the VMT analysis for the revised Project using the City's guidelines.

The revised Project would generate approximately 8,200 fewer trips per day and a total of 209,581 daily VMT for passenger vehicles, which is a reduction of approximately 22,185 daily VMT compared to the original project analyzed in the 2019 SOIA EIR. Fehr & Peers also estimated the VMT associated with each of the assumed land uses in the Project site to compare with the City's VMT limits, resulting in:

- ▶ Heavy Industrial (HI): 64,483
- ▶ Light Industrial (LI): 80,275
- ▶ Mixed Use: 28,343
- ▶ Regional Commercial (RC): 36,480
- ▶ Total 209,581

Pursuant to the City's Transportation Analysis Guidelines, passenger vehicle daily VMT for the Project has been compared with the City's VMT limits by land use designation (General Plan Table 6-1), yielding:

- ▶ Heavy Industrial (HI): 28.5 VMT per service population; General Plan VMT limit is 39.5 VMT per service population
- ▶ Light Industrial (LI): 23.5 VMT per service population; General Plan VMT limit is 24.5 VMT per service population
- ▶ Mixed Use: 12.3 VMT per service population; General Plan VMT limit for Residential Mixed Use is 21.2 VMT per service population
- ▶ Regional Commercial (RC): 60.8 VMT per service population; General Plan VMT limit for Residential Mixed Use is 44.3 VMT per service population

The total VMT limit for the East Study Area is 420,612 (see General Plan Table 6-2), and the total VMT estimated for the Project site would be 52 percent less than this total limit. The City estimated as a part of the General Plan that the East Study Area could accommodate a total service population of approximately 19,398 (City of Elk Grove 2019). The total service population anticipated under the proposed Project is 10,092, which represents approximately 52 percent of the total service population estimated by the City for the East Study Area. Based on Fehr & Peers' VMT estimate, the revised Project represents approximately 47 percent of the total VMT limit for the East Study Area, but 52 percent of the total service population, and therefore, the assumed mix of uses within the Project site would generate VMT at a rate that would allow the East Study Area as a whole to remain within the City's VMT limits.

When development projects are proposed and land use and transportation plans are developed, the City will apply Policy MOB-1-1 to proposed projects to achieve the General Plan VMT limits. The City will require compliance with policies, such as Policies MOB-3-1, 3-3, 3-4, 3-8, 3-10, 3-11, 3-12, 4-1, 4-3, and 5-5, which require the

development of transportation systems that support all modes and users and establish priority for non-vehicular transportation modes, and Policies MOB-3-15 and 3-16, which seek to reduce excess parking in order to promote walkable neighborhoods and commercial districts. The City will apply Policies MOB-5-1, 5-2, 5-3, 5-4, 5-6, 5-7, 5-8, 5-9, 5-10, 5-11, 5-12, and 5-13, which establish the City's intent to establish land use and development patterns that support transit service and to expand and improve transit service.

If necessary for future projects to achieve the City's VMT limits, the City will require VMT reduction strategies, including those identified in the City's Transportation Analysis Guidelines, such as:

- ▶ Land use-related components such as project density, location, and efficiency related to other housing and jobs; and diversity of uses within the project. Also includes access and proximity to destinations, transit stations, and active transportation infrastructure.
- ▶ Establishing or connecting to a pedestrian/bike network; traffic calming within and in proximity to the project; car sharing programs; shuttle programs.
- ▶ Improvements to the transit system including reach expansion, service frequency, types of transit, access to stations, station safety and quality, parking (park-and-ride) and bike access (to transit itself and parking), last-mile connections.
- ▶ For residential: transit fare subsidies, education/training of alternatives, rideshare programs, shuttle programs, bike share programs For employer sites: transit fare subsidies, parking cash-outs, paid parking, alternative work schedules/telecommute, education/training of alternatives, rideshare programs, shuttle programs, bike share programs, end of trip facilities
- ▶ A fee is levied that is used to provide non-vehicular transportation services that connect project residents to areas of employment or vice versa. This service may be provided by the project applicant in cooperation with major employers.
- ▶ Addition of Class 1, Class 2, or Class 4 bicycle facilities.
- ▶ Addition of sidewalks or other pedestrian improvements.
- ▶ Incorporation of transit-related improvements.

The City will also require future projects that use the City's Climate Action Plan to streamline GHG emissions impact analysis to apply reduction strategies, including those focused on supporting high-density development near transit, providing safe and convenient non-vehicular transportation options, and reducing VMT by at least 15 percent.

Development projects will also be required to implement Mitigation Measure 3.4-2, which requires strategies to reduce operational ozone precursors. Since transportation is by far the most important source of ozone precursors, Mitigation Measure 3.4-2 will be required to focus on reducing vehicular travel demand in order to reduce ozone precursors.

Development projects will also be required to implement Mitigation Measure 3.8-1a, which requires strategies to reduce operational greenhouse gas emissions. Since transportation is by far the most important source of

greenhouse gas emissions, Mitigation Measure 3.8-1a will be required to focus on reducing vehicular travel demand in order to reduce greenhouse gas emissions.

As with the 2019 SOIA EIR, since the City will require compliance with the VMT limits, and since the City uses compliance with the VMT limits as an indication of a less than significant impact related to VMT, as with the 2019 SOIA EIR, the impact is **less than significant**.

VMT can be an indicator of potential adverse physical environmental effects. Please refer also to Section 3.4 of this EIR, “Air Quality,” which comprehensively analyzes and provides feasible mitigation for air pollutant emissions; Section 3.8, “Greenhouse Gas Emissions,” comprehensively analyzes and provides feasible mitigation for GHG emissions; and Section 3.12, “Noise and Vibration,” which comprehensively analyzes and provides feasible mitigation for noise and vibration impacts. Please also see the discussion of transportation energy use in Section 3.16 of this EIR, “Energy.”

#### Impact 3.14-3. Hazards due to a design feature.

This impact is related to site-specific design features and potential incompatible uses. Potential hazardous design features that may occur to provide access to future development include sharp curves, dangerous intersections, or shared turn lanes. Future development projects and future transportation improvements within the Project site, as well as off-site improvements required to serve the Project site will be required to comply with the City’s improvement standards, which are designed to avoid design hazards. Policy RC-3-3 from the City’s General Plan indicates that the City shall coordinate and participate with the City of Sacramento, Sacramento County and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations. This may include joint transportation planning efforts, roadway construction and funding. Any future roadway improvements required within the Elk Grove City limits or Project site would be constructed to American Association of State Highway and Transportation Officials, Caltrans, Sacramento County, and City of Elk Grove roadway standards, as applicable, and would therefore not result in potential traffic related hazards. Therefore, as with the 2019 SOIA EIR, the impact would be **less than significant**.

#### Impact 3.11-4. Inadequate emergency access.

This impact is related to site-specific design features and emergency access. Emergency access impacts would be evaluated at a project level by the City at the time of future development application submittal. The City’s General Plan Policy MOB-7-1a requires that roadways are designed consistent with the City’s required pavement widths, which accommodate all multi-modal users and emergency vehicles. The Transportation Master Plan describes how circulation and access would be provided throughout the Project site via Arterial Streets and Collector Streets. Additional local access streets will be required as a part of future development project applications. Compliance with Policy RC-3-3, which indicates that the City will coordinate and participate with the City of Sacramento, Sacramento County, and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations, would ensure that continuous and adequate emergency access would occur throughout the Project site. Therefore, as with the 2019 SOIA EIR, the impact would be **less than significant**.

### 3.15 UTILITIES AND SERVICE SYSTEMS

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo), stating that LAFCo “maintains an interest” in the project’s impacts on water availability. The City reviewed and considered this information during preparation of this section.

A letter from the Sacramento Metropolitan Utility District (SMUD) expressing interest in impacts of the Project related to overhead and or underground transmission and distribution line easements; utility line routing; electrical load needs/requirements; energy efficiency; climate change; cumulative impacts related to the need for increased electrical delivery; the potential need to relocate and or remove any SMUD infrastructure.

Comments were also received by an individual requesting that the SEIR evaluate the effects of climate change on water availability. The California courts have stated that the required focus of an EIR is on the physical impacts of a project on the environment, not the impacts of the environment on a project. Therefore, the potential effects of climate change on water availability are not evaluated in this document. However, water supply planning efforts that are undertaken by a variety of agencies such as the City of Elk Grove, Sacramento County Water Agency, and the groundwater sustainability agencies that are currently jointly preparing the Groundwater Sustainability Plan for the South American Subbasin (see the Section 3.10, “Hydrology and Water Quality”) may consider climate change. The same individual also requested that the SEIR evaluate the financial cost to the community of improving water infrastructure and providing water to the proposed development. However, pursuant to the CEQA Guidelines Section 15131, “economic or social effects of a project shall not be treated as significant effects on the environment”, and therefore such impacts are not evaluated in this SEIR.

#### 3.15.1 ENVIRONMENTAL SETTING

As reported in the 2019 SOIA EIR, utilities and service systems would be provided to future development by the Sacramento County Water Agency (SCWA), the Sacramento Area Sewer District (SASD) (formerly known as County Sanitation District-1), and Sacramento Regional County Sanitation District ~~(SRCSD)~~ 5-9

(Regional San)

Since the 2019 SOIA EIR was approved, additional detailed water supply and wastewater studies have been conducted relative to the infrastructure that would be required to serve the Project site. Additional information related to on-site and off-site infrastructure needs is summarized below.

#### WATER SUPPLY

Currently, there are no public water supply facilities within the Project site. The majority of the Project site is located within the “overlap service area” of the Omochumne-Hartnell Water District (OHWD) and the SCWA, with the exception of 17 acre and 48 acres that are located exclusively in the OHWD and SCWA service areas, respectively.

Domestic water supplies are currently provided by private groundwater wells and most agricultural water supplies are provided by OHWD’s irrigation wells. The water use for the Project site was estimated using average annual water demand factors and the acreage of crop types within the SOIA Area (Johnson and Cody 2015, Jensen pers. comm., 2018). As shown in Table 3.15-1, the total annual water usage for agricultural crops on the SOIA Area is approximately 1,981.5 acre-feet per year (afy).

<b>Table 3.15-1 Estimate of Crop Water Usage within the SOIA Area</b>				
Crop Type	Average Annual Water Use per Acre <sup>1</sup>		Estimated Acres within SOIA Area <sup>2</sup>	Total Annual Water Usage (afy)
	Acre-Feet	Gallons		
Oats	1.4	456,192	118	165.2
Pasture	4.1	1,335,990	443	1,816.3
<b>Total</b>	<b>3.8</b>	<b>1,792,182</b>	<b>561</b>	<b>1,981.5</b>

Notes: afy = acre-feet per year  
Average acre-feet applied per acre values used from Johnson and Cody 2015. For oats, the value for grains was used (i.e., barley, oats, and rye).  
Acreage of crop types was provided by the Sacramento County Agricultural Department.  
Source: Average Annual Water Use per Acre from Johnson and Cody 2015; Jensen, pers. comm., 2018

### **Water Supply Sources for SCWA Zone 40**

Future development of the Project site would require adequate treated water service. As noted in the 2019 SOIA EIR, areas inside Zone 40 are served conjunctively with groundwater (pumped from the South American Sub-basin of the Sacramento Valley Groundwater Basin, which is identified locally as the Central Basin), surface water, and recycled water. SCWA’s conjunctive use program is a coordinated approach to manage surface water and groundwater supplies to maximize the yield of available water resources. In wet and normal water years, SCWA would divert surface water from the American and Sacramento Rivers, consistent with the entitlement contracts described below and shown in Table 3.15-2. The underlying groundwater basin would be replenished in wet years as a result of this reliance on surface water. In dry water years, SCWA’s surface water could be reduced based on recommended dry-year cutback volumes outlined in the Water Forum Agreement—those volumes that purveyors have agreed not to divert from the American River during dry years. During dry years, SCWA would increase groundwater pumping so that it could continue to meet the water demand of its customers.

#### **Surface-Water Supplies**

SCWA surface-water supplies are obtained from the following sources (Brown and Caldwell 2020):

- ▶ Central Valley Project Water (Public Law 101-514 [“Fazio water”]) – SCWA executed a Central Valley Project (CVP) water-service contract pursuant to Public Law 101-514 (referred to as “Fazio water”) that provides a permanent water supply of 22,000 afy, with 15,000 afy allocated to SCWA and 7,000 afy allocated to the City of Folsom.
- ▶ SMUD 1 Assignment – 15,000 afy of SMUD’s CVP contract water has been assigned to the SCWA under the terms of an agreement with SMUD. The long-term availability of SMUD 1 water is 13,000 afy.
- ▶ SMUD Assignment 2 – 15,000 afy of SMUD’s CVP contract water has been assigned to the SCWA under the terms of an agreement with SMUD. The long-term availability of SMUD 2 water is 13,000 afy.
- ▶ Appropriative Water Supplies – the State Water Resources Control Board (SWRCB) appropriates water from the American River to SCWA under Permit 21209. The amount of appropriated water available for use could range up to 71,000 afy in wet years, primarily during winter months.

- ▶ City of Sacramento’s American River Place of Use Agreement – The City of Sacramento provides wholesale American River water to SCWA for use in a portion of the SCWA 2030 Study Area that lies within the City of Sacramento’s American River POU. The estimated long-term average volume of water that would be used by SCWA within this Place of Use Agreement would be approximately 9,300 afy.
- ▶ Other Water Supplies – Other water supplies are water transfers that would be obtained from various water users that hold surface water rights on the Sacramento River and the American River upstream of SCWA’s point of diversion. To obtain these supplies, SCWA would enter into purchase and transfer agreements with other entities that hold surface water rights. SCWA’s estimated long-term average use of these water supplies would be approximately 9,600 afy.

Table 3.15-2 summarizes SCWA’s surface water supplies for the normal water years, single-dry water years, and multiple dry-years assuming no constraint on supply capacity. The long-term average supply values presented in Table 3.15-2 assume that the supplies are all fully utilized with no infrastructure capacity constraints for all of the water year types (Brown and Caldwell 2020).

<b>Table 3.15-2 Summary of Zone 40 Surface Water Supplies</b>	
Water Supply Source	Contract Water Right Transfer Amount (afy)
Central Valley Water Project (Fazio water, SMUD 1, and SMUD 2)	45,000
Appropriative Water (SWRCB Permit 21209)	71,000
City of Sacramento Place of Use Agreement	9,300
Other Water Supplies <sup>2</sup>	9,600
<b>Total</b>	<b>134,900</b>
Notes: afy = acre-feet per year	
<sup>1</sup> Other water supplies are water transfers that would be obtained from various water users that hold surface water rights on the Sacramento River and the American River upstream of SCWA's point of diversion.	
Source: Brown and Caldwell 2020	

### Recycled Water

Recycled water is currently provided to SCWA by SRCSD. This water is used within the Zone 40 service area to offset demand by parks and for other nonpotable uses. Recycled water use would increase to a total of 3,300 afy when the recycled water system is completed in the East Franklin and Laguna Ridge areas. Recycled water supply is assumed to be available at 100 percent of full supply in wet, average, dry, and driest years. (Brown and Caldwell 2020). Extension of recycled water to the Project area is not planned.

### Groundwater Supplies

Approximately 75 percent of SCWA’s water supply comes from groundwater wells. SCWA pumps groundwater from the South American Sub-basin of the Sacramento Valley Groundwater Basin (identified locally as the Central Basin). This groundwater basin is not adjudicated. As a signatory to the Water Forum Agreement, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin (273,000 acre-feet) (Brown and Caldwell 2020). See Section 3.10, “Hydrology and Water Quality,” for further discussion of groundwater conditions in the Central Basin.

SCWA has a remediated groundwater supply of 8,900 afy in accordance with the terms and conditions in the agreement entitled “Agreement between Sacramento County, SCWA, and Aerojet-General Corporation With

Respect To Transfer of GET Water” dated May 18, 2010. The timing and amount of remediated groundwater available is subject to change as a result of on-going negotiations with water purveyors affected by groundwater contamination and with Aerojet/Boeing, as their remediation plans may change as directed by various regulatory agencies (Brown and Caldwell 2020).

## **SCWA Zone 40 Water Supplies and Demands**

SCWA has amended its Water Supply Master Plan (WSMP) to address the sufficiency of water supplies to meet the demand of the proposed Project (Brown and Caldwell 2020). In addition, the amended WSMP updates substantial portions of the 2005 WSMP, including Zone 40 buildout land use acreages, unit water demand factors, recent historical demographics and water demands, projected water demands, growth rate projections, projected water supply availability, and groundwater supply descriptions, and presents new information, including existing water facilities descriptions; buildout population, connections, and dwelling units by service area; water demand factors expressed as demand per dwelling unit and per type of customer; projected maximum day and annual use of surface water and groundwater for dry and wet/average years; and an evaluation of storage and pump station capacity (Brown and Caldwell 2020).

Water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted, as necessary, to meet the demands as part of its conjunctive use water supply program. Table 3.15-3 identifies surface water and groundwater supply and demand within SCWA Zone 40 from 2020 to 2040 in normal, single dry, and multiple dry years excluding the proposed Project. As shown in Table 3.15-3, SCWA would have water supplies that exceed demands in all water years.

## **WATER SUPPLY INFRASTRUCTURE**

SCWA will deliver water supplies to the Project site through existing 24-inch and 16-inch transmission pipelines located in Grant Line Road. The 24-inch transmission main originates west of the Project site and extends easterly within Grant Line Road to the intersection of Waterman Road. From Waterman Road, the transmission main continues easterly as a 16-inch-diameter transmission main. There are two proposed points of connection to the existing transmission main in Grant Line Road: one at the intersection of Waterman Road, and one at the intersection of Mosher Road. Exhibit 2-4 in Chapter 2, “Project Description,” shows the proposed points of connection with existing off-site SCWA facilities.

The maximum day, peak hour, and fire flow demands for the proposed Project would be primarily supplied from the Elk Grove Groundwater Water Treatment Plant (GWTP) and to some extent from the East Park GWTP (Brown and Caldwell 2020). The Elk Grove GWTP and storage tanks are located west of Waterman Road and north of Grant Line Road and the East Park GWTP is located east of Waterman Road and north of Elk Grove Boulevard (Brown and Caldwell 2020). The WSMP amendment determined other planned SCWA water system improvements required to serve the Project site would consist of an additional 16-inch transmission pipeline along Grant Line Road that would provide additional water supply from the future the Bond Road GWTP (Brown and Caldwell 2020).



Water Year	Source	Projected Demands (afy)				
		2020	2025	2030	2035	2040
Normal Year	<b>Supply</b>					
	Surface water <sup>2</sup>	134,900	134,900	134,900	134,900	134,900
	Groundwater	40,000	40,000	40,000	40,000	40,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)	140,000	131,600	122,700	113,700	104,600	
Single-Dry Year	<b>Supply</b>					
	Surface water <sup>2</sup>	25,600	22,700	24,200	26,400	28,800
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>106,200</b>	<b>103,300</b>	<b>104,800</b>	<b>107,000</b>	<b>109,400</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)	60,700	49,400	42,000	35,200	28,500	
Multiple-Dry Year 1	<b>Supply</b>					
	Surface water <sup>2</sup>	134,900	134,900	134,900	134,900	134,900
	Groundwater	40,000	40,000	40,000	40,000	40,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,550
	<b>Total Supply</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>	<b>185,500</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)	140,000	131,600	122,700	113,700	104,600	
Multiple-Dry Year 2	<b>Supply</b>					
	Surface water <sup>2</sup>	33,600	29,300	31,500	34,700	38,400
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>114,200</b>	<b>109,900</b>	<b>112,100</b>	<b>115,300</b>	<b>119,000</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)	68,700	56,000	49,300	43,500	38,100	
Multiple-Dry Year 3	<b>Supply</b>					
	Surface water <sup>2</sup>	25,600	22,700	24,200	26,400	28,800
	Groundwater	70,000	70,000	70,000	70,000	70,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater	8,900	8,900	8,900	8,900	8,900
	<b>Total Supply</b>	<b>106,200</b>	<b>103,300</b>	<b>104,800</b>	<b>107,000</b>	<b>109,400</b>
	<b>Total Demand</b>	<b>45,500</b>	<b>53,900</b>	<b>62,800</b>	<b>71,800</b>	<b>80,900</b>
Difference (Supply minus Demand)	60,700	49,400	42,000	35,200	28,500	

21,600Notes: afy = acre-feet per year

<sup>1</sup> Water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted as necessary to meet the demands as part of its conjunctive use water supply program.

Surface water supplies consist of Central Valley Project water (Fazio, SMUD 1, and SMUD 2), appropriative water, City of Sacramento Place of Use water, and other supplies.

Source: Brown and Caldwell 2020; Data compiled by AECOM 2020

## WASTEWATER COLLECTION, AND CONVEYANCE, TREATMENT FACILITIES

The Project site is not currently served by a municipal wastewater service provider. Rather, wastewater service is currently provided by on-site septic systems. Future development within the Project site will require municipal wastewater collection and treatment services through extension of SASD and SRCSD infrastructure.

### Sacramento Area Sewer District

SASD provides local wastewater collection and conveyance services and infrastructure throughout the Sacramento region. There are two existing points of connection to the existing SASD system immediately adjacent to the Project site (see Exhibit 2-5 in Chapter 2):

- ▶ A 12-inch pipeline is on the north side of Grant Line Road near the end of Waterman Court. The 12-inch pipeline extends west for approximately 550-feet before becoming a 15-inch pipeline. The 15-inch pipeline continues west in Grant Line Road for approximately 2,300 feet before tying into a 27-inch trunk line just east of State Route 99.
- ▶ An 18-inch pipeline is stubbed beneath the Union Pacific Railroad along the western border of the Project site approximately 2,000 feet south of Grant Line Road. The 18-inch pipeline travels below the railroad easement for approximately 110 feet where it then becomes a 21-inch pipeline near East Stockton Boulevard.

### Sacramento Regional County Sanitation District

SRCSD is responsible for collection by interceptors (sanitary sewers that are designed to carry flows in excess of 10 million gallons per day [mgd]) and for wastewater treatment in Sacramento County. This District owns, operates, and is responsible for the collection, trunk, and interceptor sewer systems throughout Sacramento County, as well as the Sacramento Regional Wastewater Treatment Plant (SRWTP) located west of Elk Grove.

SRCSD has completed an Interceptor Sequencing Study that will aid in planning and implementing regional conveyance projects and assisting contributing agencies in coordination of collection system facilities. The southeastern portion of the Project site is within the SRCSD service area and the on-site and off-site wastewater facilities to serve the Project site have been planned for in the SRCSD Interceptor Sequencing Study. The Interceptor Sequencing Study identifies the southeastern portion of the Project site as located within the SRCSD service area. The remainder of the Project site is outside of the SRCSD service area but within the SRCSD SOI.

### Sacramento Regional Wastewater Treatment Plant

Wastewater flows collected from SRCSD interceptors are ultimately transported into the SRWTP. The SRWTP is located west of Elk Grove and is owned and managed by SRCSD. Currently, the SRWTP has a National Pollutant Discharge Elimination System (NPDES) permit issued by the Central Valley Regional Water Quality Control Board (RWQCB) for discharge of up to 181 mgd average dry-weather flow of treated effluent into the Sacramento River. The SRWTP has the potential for expansion to 218 mgd. As of 2019, the SRWTP receives and treats an average of 115 mgd each day and the SRWTP discharge constituents are below permitted discharge limits specified in the NPDES permit (SRCSD 2019).

## Recycle Water

The SRCSD currently owns and operates a 5-mgd Water Reclamation Facility (WRF) that has been producing Title 22 tertiary recycled water since 2003. The WRF is located within the SRWTP property. The SRCSD uses a portion of the recycled water at the SRWTP and the remainder is wholesaled to SCWA. SCWA retails the recycled water, primarily for landscape use, to select customers in the City in the Laguna West area. SRCSD is planning for increased delivery of recycled water to other areas of the City, including the East Franklin, Laguna Ridge, and the Southeast Policy Area, as well as potential agricultural customers south of the City. However, SRCSD does not have any planned facilities that could provide recycled water to the Project site or vicinity. Additionally, the SRCSD is not a water purveyor and potential use of recycled water in the Project site must be coordinated between the key stakeholders (e.g., land use jurisdictions, water purveyors, users, and the recycled water producers).

## SOLID WASTE

The Integrated Waste Department manages the City of Elk Grove's residential solid waste franchise and plans, coordinates, promotes and implements citywide solid waste reduction, recycling, composting, and public education activities. In 2018, the City disposed of a total of 103,973 tons of solid waste (CalRecycle 2018).

Residential solid waste services in Elk Grove are provided by Republic Services (formally known as Allied Waste) under an exclusive franchise agreement. Commercial solid waste is collected by private franchised haulers and disposed of at various facilities, most of which have more than 70 percent capacity remaining, including Altamont Landfill & Resource Recovery, Recology Hay Road, Bakersfield Metropolitan Sanitary Landfill, Foothill Sanitary Landfill, Forward Landfill, Inc., Keller Canyon Landfill, L and D Landfill, North County Landfill, Potrero Hills Landfill, and Sacramento County Landfill (Kiefer) (City of Elk Grove 2020).

### 3.15.2 REGULATORY FRAMEWORK

#### California Green Building Standards Code

The standards included in the 2019 California Green Building Standards Code (CALGreen Code) (Title 24, Part 11 of the California Code of Regulations) became effective on January 1, 2020. The CALGreen Code was developed to enhance the design and construction of buildings, and the use of sustainable construction practices, through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality (California Building Standards Commission 2019). The most significant efficiency improvements to the residential standards in the 2019 CALGreen Code include improvements for attics, walls, water heating, and lighting and standards for residential plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) to reduce indoor demand for potable water.

Chapters 4 and 5 of the 2019 CALGreen Code requires residential and nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance, whichever is more stringent. Both chapters require all residential and nonresidential construction contractors to reduce construction waste and demolition debris by 65 percent. Code requirements include preparing a construction waste management plan that identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials will be sorted on-site or mixed; and identifying diversion facilities where the materials

collected will be taken. The code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both. In addition, the 2019 CALGreen Code requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

## **City of Elk Grove General Plan**

The City's General Plan (City of Elk Grove 2019) contains the following policies related to utilities and service systems that are applicable to the proposed Project.

### ***Services, Health, and Safety***

#### Urban Infrastructure

- ▶ **Policy INF-1-1:** Water supply and delivery systems shall be available in time to meet the demand created by new development.
  - **Standard INF-1-1a:** The following shall be required for all subdivisions to the extent permitted by State law:
    - Proposed water supply and delivery systems shall be available at the time of tentative map approval to the satisfaction of the City. The water agency providing service to the project may use several alternative methods of supply and/or delivery, provided that each is capable individually of delivering water to the project.
    - The agency providing water service to the subdivision shall demonstrate prior to the City's approval of the Final Map that sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects in the same service area, and other projects that have received commitments for water service.
    - Off-site and on-site water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the approval of the Final Map or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
    - Off-site and on-site water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.
- ▶ **Policy INF-2-1:** Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development.
  - **Standard INF-2-1a:** The following shall be required for all development projects, excluding subdivisions:
    - Sewer/wastewater treatment capacity shall be available at the time of project approval.

- All required sewer/wastewater infrastructure for the project shall be in place at the time of project approval, or shall be assured through the use of bonds or other sureties to the City’s satisfaction.
- **Standard INF-2-1b:** The following shall be required for all subdivisions to the extent permitted by State law:
  - Sewage/wastewater treatment capacity shall be available at the time of tentative map approval.
  - The agency providing sewer service to the subdivision shall demonstrate prior to the approval of the Final Map by the City that sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects using the same conveyance lines, and projects which have received sewage treatment capacity commitments.
  - Onsite and offsite sewage conveyance systems required to serve the subdivision shall be in place prior to the approval of the Final Map, or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
  - Sewage conveyance systems within the subdivision shall be in place and connected to the sewage disposal system prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

#### Community Infrastructure and Facilities

- ▶ **Policy CIF-1-1:** Facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste sent to landfill from Elk Grove.
- ▶ **Policy CIF-1-2:** Reduce municipal waste through recycling programs and employee education.
- ▶ **Policy CIF-1-3:** Encourage businesses to emphasize resource efficiency and environmental responsibility and to minimize pollution and waste in their daily operations.

#### Infrastructure Financing and Phasing

- ▶ **Policy IFP-1-3:** Require secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications, or other appropriate mechanisms in order to provide for the completion of required major public facilities at their full planned widths or capacities consistent with this General Plan and any applicable service master plan. For the purposes of this policy, “major” facilities shall include the following:
  - All wells, water transmission lines, treatment facilities, and storage tanks needed to serve the project.
  - All sewer trunk and interceptor lines and treatment plants or treatment plant capacity
- ▶ **Policy IFP-1-4:** Use financial capacity to secure financing for major facilities as identified in Policy IFP-1-3 if necessary, including, but not limited to:
  - Issuing bonds
  - Using City funds directly, with repayment from future development fees

- Fee programs
  - Developer financing
- ▶ **Policy IFP-1-6:** Fee programs and/or other finance mechanisms shall be reviewed regularly to ensure that sufficient funding will be available to construct all required facilities.
  - ▶ **Policy IFP-1-7:** New development shall fund its fair share portion of impacts to all public facilities and infrastructure as provided for in State law.
  - ▶ **Policy IFP-1-8:** Infrastructure improvements must be financed and/or constructed concurrent with or prior to completion of new development.
    - **Standard IFP-1-8a:** Establish concurrency measures to ensure infrastructure adequately serves future development:
      - Coordinate public facility and service capacity with the demands of new development.
      - Require that the provision of public facilities and service to new development does not cause a reduction in established service levels for existing residents.
      - Ensure that new infrastructure will meet the required level of service standards set by the City’s General Plan and Municipal Code.
  - ▶ **Policy IFP-1-10:** Except when prohibited by state law, the City will endeavor to ensure that sufficient capacity in all public services and facilities will be available on time to maintain desired service levels and avoid capacity shortages, traffic congestion, or other negative effects on safety and quality of life.

### 3.15.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact related to utilities and service systems if it would:

- ▶ require or result in the relocation or construction of new or expanded water, wastewater treatment facilities, or storm water drainage, electrical power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects;
- ▶ not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- ▶ result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
- ▶ generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals; or

- ▶ not comply with federal, State, or local management and reduction statutes and regulations related to solid waste.

## **IMPACT ANALYSIS**

### **Impact 3.15-1: Require or Result in the Relocation of or the Construction of New or Expanded Utilities and Service Systems Facilities, the Construction of Which Could Cause Significant Environmental Effects.**

The proposed Project would require the construction of new or expanded electrical, natural gas, water, and wastewater facilities. The following discussion identifies future on-site and off-site utilities and service systems required to serve the proposed Project and the potential for construction of new or expanded systems to cause significant environmental effects. Impacts related to stormwater management facilities are addressed in Section 3.10, “Hydrology and Water Quality.”

#### **Electrical and Natural Gas**

The City of Elk Grove is served by Sacramento Municipal Utility District’s (SMUD’s) aboveground and underground electric transmission and distribution lines. The Project site would include extension of electricity services by SMUD, and electricity could be served from the 69-kilovolt line on Grant Line Road. Additional facilities, such as substation/s, transformers, and distribution equipment could be required to serve future uses. SMUD’s power line would be connected to a utility transformer and metering/distribution equipment in the site’s service yard and the City would connect service feeders that would extend throughout the site. SMUD would require 12.5-foot overhead/underground public utility easements along all streets and a 25-foot easement along Grant Line Road for the existing 69kV line. There is an existing 12kV overhead line along Waterman Road and Grant Line Road; an existing and proposed 12kV line along Mosher Road; a proposed second 69kV circuit along Grant Line Road on an existing pole line; and proposed 12kV underground lines along Grant Line Road and Waterman Road. As required by the City’s General Plan Policy IFP-1-8, infrastructure required to serve new development shall be constructed concurrent with, or prior to such development.

Pacific Gas and Electric Company (PG&E) currently provides natural gas service within the City of Elk Grove; however, the natural gas lines do not currently serve the Project site according to the Gas Transmission Pipeline Systems Map (PG&E 2017). The existing grid network of gas lines would have to be extended to serve the increased demand for natural gas generated by development on the Project site.

Extension of off-site electrical and natural gas infrastructure are the responsibility of SMUD and PG&E, respectively. SMUD and PG&E would conduct project-level CEQA or National Environmental Policy Act (NEPA) analysis, if necessary, to analyze specific impacts and identify any required mitigation measures for construction and operation of new off-site facilities to serve the Project site.

On-site electrical transmission infrastructure and natural gas lines would be installed underground and would generally follow the alignment of the internal roadway network.

The 2019 SOIA EIR included the following Mitigation Measure, which remains applicable to the Project:

## Mitigation Measures

Mitigation Measure 3.15-1: Prepare Utility Service Plans that Demonstrate Adequate Electrical and Natural Gas Supplies and Infrastructure are Available before the Annexation of Territory within the SOIA (2019 SOIA EIR Mitigation Measure 3.16-2)

The City of Elk Grove shall require utility service plans that identify the projected electrical and natural gas demands and that appropriate infrastructure sizing and locations to serve future development will be provided within the annexation territory. The utility service plans shall demonstrate that SMUD will have adequate electrical supplies and infrastructure and PG&E will have adequate natural gas supplies and infrastructure available for the amount of future development proposed within the annexation territory. If SMUD or PG&E must construct or expand facilities, environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of mitigation measures. Such measures should include those necessary to avoid or reduce environmental impacts associated with, but not limited to, air quality, noise, traffic, biological resources, cultural resources, GHG emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.

## Water System Facilities

Future development within the Project site would receive domestic water service through construction of on-site water distribution system that connects to existing off-site SCWA infrastructure. An *Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Water Master Plan* (Water Master Plan) was prepared to identify on-site backbone water distribution system to meet the proposed Project's water demand and fire flow requirements (Wood Rogers 2020a). The on-site water distribution infrastructure layout has been designed to comply with SCWA requirements and would consist of a 16-inch transmission main that extends north from Waterman Road along western boundary of the City-owned parcel and 8-inch, 12-inch, and 14-inch transmission pipelines constructed within road rights-of-way. The on-site water distribution system would connect to SCWA's existing 16-inch and 24-inch transmission pipelines located in Grant Line Road at two proposed points of connection: one at the intersection of Waterman Road, and one at the intersection of Mosher Road (see Exhibit 2-4 in Chapter 2). Impact 3.15-2 identifies the proposed Project's water demand and addresses the availability of SCWA water supplies to serve the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years. See Appendix B for a detailed discussion of proposed water distribution systems improvements.

The City outlines specific requirements to ensure water systems are available to meet demands created by new development. These requirements include preparing an infrastructure plan that identifies backbone infrastructure necessary to serve proposed development (Policy LU-3-27 of the City General Plan) and demonstrating on-site and off-site water supply infrastructure provides sufficient capacity to serve proposed development (Policy INF-1-1 and Standard INF-1-1a of the City General Plan). New development is required to contribute its fair share portion for funding new infrastructure facilities (Policies IFP-1-3 and IFP-1-7 of the City General Plan). In addition, infrastructure improvements would be financed and/or constructed concurrent with or prior to the completion of new development (Policy IFP-1-8 and Standard IFP-1-8a of the City General Plan).

The Water Master Plan fulfills the requirements identified in Mitigation Measure 3.15-1a of the 2019 SOIA EIR that requires the City of Elk Grove to prepare a Plan for Services that that depicts the locations and appropriate



sizes of all on-site water system facilities to accommodate the amount of development identified for the annexation territory. The amended WSMP fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR that requires evaluation of SCWA's off-site water supply infrastructure to serve the Project site. Furthermore, compliance with City General Plan policies and standards identified above would also ensure implementation of Mitigation Measure 3.15-1 of the 2019 SOIA EIR.

The amended WSMP evaluated the capacity for SCWA's existing off-site water supply infrastructure to serve the Project site. The WSMP determined that the existing Grant Line Road transmission main and Elk Grove GWTP and East Park GWTP have capacity to meet the demands of the proposed Project (Brown and Caldwell 2020). Although not required to serve the Project site, an additional 16-inch transmission pipeline along Grant Line Road would provide additional water supply capacity to the Project site from the future the Bond Road GWTP (Brown and Caldwell 2020). The proposed Grant Line Road transmission main and Bond Road GWTP are proposed for construction as part of SCWA's Phase 3 capital improvement plan (Brown and Caldwell 2020). The WSMP estimates Phase 3 capital improvements would be implemented beyond 2036.

The 2019 SOIA EIR also included Mitigation Measure 3.15-1b, which provided for the City to coordinate with SCWA on the use of non-potable water supplies in the Project area to ensure there are no cross connection or contamination issues. No non-potable water supplies are planned in the Project; therefore, this mitigation measure has been fulfilled.

## **Wastewater Collection and Conveyance Facilities**

Future development within the Project site would receive municipal wastewater service through construction of on-site wastewater collection and conveyance facilities that connect to existing off-site SASD infrastructure with capacity to serve the Project site.

*An Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Level II Sewer Study (Level II Sewer Study)* was prepared in accordance with SASD's design standards and minimum sewer study requirements to identify on-site backbone wastewater collection and conveyance facilities to serve the Project site (Wood Rogers 2020). The on-site wastewater collection and conveyance system would consist of 8-inch, 12-inch, and 13-inch gravity sewers constructed within road rights-of-way that would convey wastewater flows to a 12-inch pipeline on the north side of Grant Line Road or to an 18-inch pipeline stubbed beneath the Union Pacific Railroad on the western border of the Project site (see Exhibit 2-5 in Chapter 2). SASD conducted an analysis and confirmed that the existing off-site conveyance system has adequate capacity to accommodate peak wet-weather flows generated by the project site at full build-out (Wood Rogers 2020b). Impact 3.15-3 addresses the adequacy of the SRWTP to treat the proposed Project's wastewater flows in addition to SRWTP's existing commitments. See Appendix C for a detailed discussion of proposed wastewater collection and conveyance improvements.

The City outlines specific requirements to ensure wastewater facilities are available to meet demands created by new development. These requirements include preparing an infrastructure plan that identifies backbone infrastructure necessary to serve proposed development (Policy LU-3-27 of the City General Plan) and demonstrating on-site and off-site wastewater infrastructure provides sufficient capacity to serve proposed development (Policy INF-2-1 and Standards INF-2-1a and INF-2-1b of the City General Plan). New development is required to contribute its fair share portion for funding new infrastructure facilities (Policies IFP-1-3 and IFP-1-7 of the City General Plan). In addition, infrastructure improvements would be financed and/or constructed

concurrent with or prior to the completion of new development (Policy IFP-1-8 and Standard IFP-1-8a of the City General Plan).

The Level II Sewer Study fulfills the requirements identified in Mitigation Measure 3.15-2 of the 2019 SOIA EIR, which required the City of Elk Grove to prepare a Plan for Services that depicts the locations and appropriate sizes of wastewater collection and conveyance facilities and demonstrates that SASD wastewater collection and conveyance facilities will have sufficient capacity to accommodate the amount of development identified for the annexation territory. Compliance with City General Plan policies and standards identified above would also ensure implementation of Mitigation Measure 3.15-2 of the 2019 SOIA EIR.

## Conclusion

Environmental impacts related to constructing the infrastructure to serve the future development are analyzed throughout the various environmental topic specific sections of this EIR. The placement of these utilities has been considered in the other sections of this EIR, such as Section 3.4 of this EIR, “Air Quality,” Section 3.5, “Biological Resources,” Section 3.6, “Cultural and Tribal Cultural Resources,” and other sections that specifically analyze the potential for future development. Where necessary, these sections include mitigation measures that would reduce or avoid the impacts of developing infrastructure on the physical environment. There is no additional significant impact related to construction of new or expanded utilities and service systems within the Project site beyond which is comprehensively analyzed throughout this EIR. Therefore, as with the 2019 SOIA EIR, this impact is considered **less than significant**.

Impacts resulting from off-site infrastructure improvements could include, but are not limited to, short-term impacts on air quality and greenhouse gas emissions associated with construction, potential impacts on special-status plants and wildlife or sensitive habitats; potential disturbance of known or unknown cultural or paleontological resources; short-term increases in erosion and stormwater runoff; and short-term increases in construction noise levels.

### Impact 3.15-2: Increased Demand for Water Supplies.

Water supply for the Project site would be provided by the SCWA’s Zone 40. The Water Supply Master Plan calculated water demands for the proposed Project. In determining the demand assumptions to use for the proposed Project, a number of factors have been considered, including the proposed rezoning and the range of land uses (e.g., warehousing and distribution, manufacturing, retail, office) that are assumed, as well as the potential for a sports complex use for the City-owned property (which could occur through the City’s conditional use permit process). Generally, parks and sports facilities are the most intensive water user of those permitted uses within the industrial land use designation. Therefore, in order to analyze the most conservative scenario, the Water Master Plan assumed the City-owned property would be developed as a sports complex.

SCWA’s Zone 40 water-demand factors were applied to the acreage for each future land use designation that generates water use within the Project site (Wood Rogers 2020a, Brown and Caldwell 2020). As shown on

Table 3.15-4, the estimated water demand assuming development of the sports complex, commercial, industrial, and mixed uses has been conservatively estimated as 1,383 afy.<sup>1,2</sup>

Land Use Category	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Mixed Use	2.15	118.9	256
Regional Commercial	2.02	57.9	117
Light Industrial	2.02	74.4	150
Heavy Industrial	2.02	143.2	289
Parks and Open Space	2.80	169.0	473
Right of Way	0.18	8.2	1.5
<b>Subtotal</b>	--	<b>571.5</b>	<b>1,287</b>
Water System Losses (7.5%)	--	--	97
<b>Total Demand</b>	--	--	<b>1,383</b>

Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year.  
 Source: Brown and Caldwell 2020, Wood Rogers 2020a, adapted by AECOM in 2020

The amended WSMP indicates that water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted, as necessary, to meet the demands as part of its conjunctive use water supply program. As shown in Table 3.15-3, SCWA would have water supplies that exceed demands within Zone 40 from 2020 to 2040 in all water years, excluding the proposed Project’s water supply demand.

As discussed above, SCWA has amended its WSMP to include service for the proposed Project (Brown and Caldwell 2020). The water supply demands for the proposed Project (1,383 afy) were added to water demand projections contained in the amended WSMP and shown in Table 3.15-3. As shown in Tables 8-12, 8-13, and 8-14 of the amended WSMP, water supply is projected to be sufficient to meet demands of the proposed Project and existing and planned development in Zone 40 in normal, single-dry, and multiple dry years (Appendix B).

The City outlines specific requirements to ensure water supplies are available to meet demands created by new development. These requirements include demonstrating water supplies are available to accommodate new development plus existing development, and other approved projects in the same service area, and other projects that have received commitments for water service (Policy INF-1-1 and Standard INF-1-1a of the City General Plan).

The amended WSMP fulfills the requirements identified in Mitigation Measure 3.15-1 of the 2019 SOIA EIR, which requires demonstration that SCWA water supplies are adequate to serve the amount of future development identified in the annexation territory in addition to existing and planned development under normal, single-dry, and multiple-dry years. Furthermore, compliance with City General Plan policies and standards identified above

<sup>1</sup> This water supply demand does not reflect 2019 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requirements to reduce indoor demand for potable water by 20 percent and to reduce landscape water usage by 50 percent or water conservation measures that may be implemented by future development.

<sup>2</sup> The water supply demand for development of the City-owned property with industrial land uses is estimated as 1,333 afy (Brown and Caldwell).

would also ensure implementation of Mitigation Measure 3.15-1 of the 2019 SOIA EIR. Therefore, as with the 2019 SOIA EIR, the impact is considered **less than significant**.

**Impact 3.15-3: Increased Demand for Wastewater Treatment Facilities.**

Buildout of the proposed Project would result in new residential, commercial, and industrial development and parks and open space that would generate additional wastewater that increases demand for wastewater treatment at the SRWTP. The Level II Sewer Study assumes sewage conveyance for an estimated total of 3,429 Equivalent Single-Family Dwelling Units (ESDs), based on the SASD standard assumption of 6 ESDs per acre and 1,860 gallon per day (gpd) per acre. The Level II Sewer Study conservatively includes gross acreages and does not deduct for areas that would be in future public road rights-of-way (note, existing right-of-way for Grant Line Road has been deducted). As shown on Table 3.15-5, buildout of the proposed Project would generate an estimated 1.05 mgd of average dry-weather flow and, as calculated in the Level II Sewer Study, 2.74 mgd of peak wet-weather flow (Wood Rogers 2020b).

Land Use	Acreage	Flow Rate (gallon per day per acre)	Average Dry Weather Flow (mgd)
Mixed Use	118.9	1,860	0.12
Regional Commercial	20.0	1,860	0.22
Light Industrial	216.2	1,860	0.40
Heavy Industrial	143.2	1,860	0.27
Parks and Open Space	65.1	1,860	0.04
Right of Way	8.2	0	0
<b>Total</b>	<b>571.5</b>	<b>--</b>	<b>1.05</b>

Notes:  
mgd = million gallons per day  
Source: Wood Rogers 2020b

The SRWTP has a design capacity of 181 mgd with the potential to expand to 218 mgd. As of 2019, the SRWTP receives and treats an average of 115 mgd each day. When proposed Project -related wastewater flows (1.05 mgd) are combined with the current average dry-weather flows (115 mgd), implementation of the proposed Project would not result in an increase in wastewater flows that exceed the current disposal capacity of 181 mgd average dry-weather flow. The SRCSD anticipates conservation measures implemented throughout the service area would result in the existing 181 mgd average dry-weather flow capacity to be adequate for at least 40 more years (SRCSD 2014:6-2). Therefore, the SRWTP would have adequate capacity to treat wastewater flows generated by future development within the Project site in addition its existing commitments. As with the 2019 SOIA EIR, this impact is considered a **less than significant**.

**Impact 3.15-4: Increased Generation of Solid Waste and Compliance with Solid Waste Statutes and Regulations.**

Future development within the Project site could result in site clearing and the generation of various construction-period wastes, including scrap lumber, scrap finishing materials, various scrap metals, and other recyclable and nonrecyclable construction-related wastes. The 2019 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requires all construction contractors to reduce construction waste and demolition debris by

65 percent. Code requirements include preparing a construction waste management plan that identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials will be sorted on-site or mixed; and identifying diversion facilities where the materials collected will be taken. The Code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both (California Building Standards Commission 2019). In addition, the 2016 CALGreen Code requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

The City provides recycling programs, such as curbside recycling of paper, plastics, and bottles, to reduce the volume of solid waste transported to landfills. City General Plan Policy CIF-1-3 encourages business to minimize waste in their daily operations. In addition, the Space Allocation and Enclosure Design Guidelines for Trash and Recycling (City Municipal Code Title 30, Chapter 30.90) reduces wastes by requiring businesses and multi-family residential uses to provide integrated collection areas with recycling components.

Residential solid waste in the City of Elk Grove is collected and hauled by Republic Services. Waste generated by proposed nonresidential uses could be hauled by any of a number of permitted haulers as selected by the individual developer, and wastes would be hauled to a variety of permitted landfills. Solid waste is collected by private franchised haulers and disposed of at various facilities, most of which have more than 70 percent capacity remaining, including Altamont Landfill & Resource Recovery, Recology Hay Road, Bakersfield Metropolitan Sanitary Landfill, Foothill Sanitary Landfill, Forward Landfill, Inc., Keller Canyon Landfill, L and D Landfill, North County Landfill, Potrero Hills Landfill, and Sacramento County Landfill (Kiefer) (City of Elk Grove 2020). The area of the Project site identified for development of mixed uses could generate approximately 3.8 tpd of solid waste.<sup>2</sup> Future development of commercial and industrial uses could generate approximately 58.8 tpd of solid waste.<sup>3</sup> Combined, these landfills have a large volume of landfill capacity (150 million cubic yards) available to serve future development. The closure dates of the Kiefer Landfill and L and D Landfill are anticipated to be approximately January 1, 2064 and January 1, 2031, respectively.

Future development would comply with all federal, State, and local solid waste statutes and regulations, including Compliance with the CalGreen Code; the City's the Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance; Space Allocation and Enclosure Design Guidelines; Assembly Bill 1826 (mandatory commercial organics recycling); and other City recycling programs. The Kiefer Landfill, L and D Landfill, and Yolo County Central Landfill have sufficient landfill capacity available to accommodate solid-waste disposal needs for future development within the Project site. Therefore, as with the 2019 SOIA EIR, impacts related to sufficient landfill capacity and compliance with applicable statutes and regulations related to solid waste are considered **less than significant**.

---

<sup>2</sup> Based on CalRecycle's estimated 2018 annual per capita disposal rate of 3.3 pounds per resident per day, the estimated total population for the proposed project (2,304 persons) would generate approximately 7,600 pound per day of solid waste, which equates to 3.8 tpd (CalRecycle 2020).

<sup>3</sup> Based on CalRecycle's estimated 2018 annual per capita disposal rate of 15.1 pounds per employee per day and an estimated 7,788 employees for the proposed project, approximately 117,600 pound per day of solid waste would be generated per day, which equates to 58.8 tpd (CalRecycle 2020).

This page intentionally left blank.

## 3.16 ENERGY

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. However, no comments related to energy were received.

### 3.16.1 ENVIRONMENTAL SETTING

The environmental setting for the proposed Project as it relates to energy has not substantively changed since the 2019 SOIA EIR was prepared.

Electric services in the City of Elk Grove are provided by the Sacramento Municipal Utility District (SMUD). Electricity is generated through a combination of nuclear power plants; natural gas-fired power plants; renewable energy sources, such as wind, solar, geothermal, and small hydroelectric facilities; and additional energy purchased from other energy suppliers. SMUD receives power through varied sources, including hydropower, natural-gas-fired generators, renewable energy from solar and wind power, and power purchased on the wholesale market (which may include one or more of the other sources listed above). In 2018, the SMUD power mix was comprised of 20 percent eligible renewable resources, such as biomass, solar, wind, geothermal, and small hydroelectric power plants that generate 30 megawatts (MW) or less of electricity; 26 percent from large hydroelectric; 54 percent from natural gas; and less than one percent from other unspecified power sources (i.e., electricity that is not traceable to specific generation sources by any auditable contract) (SMUD 2019a).<sup>1</sup> The proportion of SMUD-delivered electricity generated from eligible renewable energy sources is anticipated to increase over the next three decades to comply with the SB 100 goals described below in Section 3.16.2.

In 2018, PG&E delivered approximately 44,794 million therms (MM therms) of natural gas throughout its service area (CEC 2020a). Of this total, the County of Sacramento received 305 MM therms, which accounted for 6 percent of the total natural gas deliveries within the PG&E service area (CEC 2020b). Transportation is, by far, the largest energy consuming sector in California, accounting for more approximately 40 percent of all energy use in the state (U.S. Energy Information Administration 2020a) and, therefore, fuel use and travel demand are very important for consideration in an assessment of energy efficiency.

Gasoline and diesel fuel constitute 83 and 17 percent of petroleum-based fuels sold in California, respectively. In 2018, sales of diesel fuel to California end users was approximately 1,187,100 gallons per day (gpd) and sales of gasoline to California end users was approximately 455,900 gpd (CEC 2019a, 2019b). While gasoline and diesel fuel remain the primary fuels used for transportation in California, the types of transportation fuel have diversified in California and elsewhere. Various statewide regulations and plans (e.g. Low Carbon Fuel Standard, AB 32 Scoping Plan) encourage the use of a variety of alternatives are used to reduce demand for petroleum-based fuel. Depending on the vehicle capability, conventional gasoline and diesel are increasingly being replaced by alternative transportation fuels including biodiesel, electricity, ethanol, hydrogen, natural gas, and other synthetic fuels. California has a growing number of alternative fuel vehicles through the joint efforts of the California Energy Commission (CEC), ARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. By the end of 2018, California drivers owned almost 500,000 electric and plug-in hybrid vehicles. In 2019, nearly one-fourth of the nation's electric vehicle charging stations were in California

---

<sup>1</sup> Renewable energy sources for the purposes of California's renewable portfolio standard of 33 percent renewable energy generation by 2020 include biomass, solar, wind, geothermal, and small hydroelectric power plants that generate 30 MW or less of electricity.

(U.S. Energy Information Administration 2020b). As of August 2020, the City of Elk Grove contained 20 public and 2 private alternative fueling stations (Alternative Fuels Data Center 2020).

### **3.16.2 REGULATORY FRAMEWORK**

The regulatory framework for energy supply and efficiency, as it pertains to the proposed Project, is described in the 2019 SOIA EIR. The following highlights changes in the regulatory framework since the preparation of the 2019 SOIA EIR.

#### **FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES**

##### **Energy Policy and Conservation Act and CAFÉ Standards**

The Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles sold in the United States. The National Highway Traffic and Safety Administration (NHTSA) is responsible for establishing vehicle standards and revising existing standards. The Corporate Average Fuel Economy (CAFE) program was created to determine vehicle manufacturers' compliance with the fuel economy standards. The United States Environmental Protection Agency (EPA) administers the testing program that generates the fuel economy data.

On August 2, 2018, the National Highway Traffic Safety Administration and EPA proposed the Safer Affordable Fuel Efficient Vehicles Rule (SAFE Rule). On September 27, 2019, the EPA and the National Highway Traffic Safety Administration published the "SAFE Vehicles Rule Part One: One National Program" (84 Fed. Reg. 51310). The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. Part 2 of the regulations, which, if implemented, would address fuel efficiency standards for light-duty vehicles model years 2021 through 2026, have not been drafted as of the writing of this document.

#### **STATE LAWS, REGULATIONS, PLANS, AND POLICIES**

##### **California Energy Commission Plans and Programs**

The CEC is the state's primary energy policy, planning, and energy efficiency standards regulatory agency. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. The CEC has five major responsibilities: (1) forecasting future energy needs and keeping historical energy data, (2) licensing thermal power plants 50 MW or larger, (3) promoting energy efficiency through appliance and building standards, (4) developing energy technologies and supporting renewable energy, and (5) planning for and directing the state response to an energy emergency.

Last updated in 2008, the State of California Energy Action Plan establishes goals and specific actions to ensure adequate, reliable, and reasonably priced electrical power and natural gas supplies, initiatives for increasing supply and reducing demand, in the context of global climate change (CEC 2008).

The CEC conducts assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery, and distribution. The CEC adopts the Integrated Energy Policy Report (IEPR) every two years and an update every other year. The 2019 IEPR, adopted February 2020, is the most recent report and provides a



summary of energy issues, outlining strategies and recommendations to further California’s goal of ensuring reliable, affordable, and environmentally responsible energy sources (CEC 2020c).

## **California Public Utilities Commission**

The CPUC has authority to set electric rates, regulate natural gas utility service, protect consumers, promote energy efficiency, and ensure electric system reliability. The CPUC has established rules for the planning and construction of new transmission facilities, distribution facilities, and substations. Utility companies are required to obtain permits to construct certain power line facilities or substations. The CPUC also has jurisdiction over the siting of natural gas transmission lines.

The CPUC regulates distributed generation policies and programs for both customers and utilities. This includes incentive programs (e.g., California Solar Initiative) and net energy metering policies. Net energy metering allows customers to receive a financial credit for power generated by their on-site system and fed back to the utility. The CPUC is involved with utilities through a variety of energy procurement programs, including the Renewable Portfolio Standard program.

The CPUC Long Term Energy Efficiency Strategic Plan, which is the roadmap to achieving maximum energy savings in California through 2020, was originally adopted in 2008 and subsequently updated in 2011 to include a lighting chapter (CPUC 2011). Action plans provide a framework for implementing each chapter of the Strategic Plan. Consistent with California’s energy policy and electricity “loading order”, the Energy Efficiency Strategic Plan indicates that energy efficiency is the highest priority resource in meeting California’s energy needs. The CPUC also adopted energy goals for all new residential construction in California to be zero net energy (ZNE) by 2020. The ZNE goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need (CEC 2015b). In addition to the ZNE goals for residential buildings by 2020, the CPUC has adopted goals that all new commercial construction in California will be ZNE by 2030 and 50 percent of existing commercial buildings will be retrofit to ZNE by 2030.

## **Renewable Portfolio Standard**

State legislation has established increasingly stringent renewable portfolio standard (RPS) requirements for California’s utility companies. RPS-eligible energy sources include wind, solar, geothermal, biomass, and small-scale hydro projects.

SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Executive Order S-14-08 expanded the state’s Renewable Portfolio Standard to 33 percent renewable power by 2020. Executive Order S-21-09 directs ARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. The 33 percent-by-2020 goal and requirements were codified in April 2011 with SB X1-2. This new Renewable Portfolio Standard applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 (2015) increased the renewable-source requirement to 50 percent by 2030, which was further increased under SB 100 in 2018 to 60 percent by 2030 and requiring all the State’s electricity to come from carbon-free resources by 2045.

These requirements reduce the carbon content of electricity generation associated with both existing and new development, including that within the Project site.

### **California Code or Regulations, Title 20 and 24**

New buildings constructed in California must comply with the standards contained in California Code of Regulations (CCR) Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards.

Title 20 standards range from power plant procedures and siting to energy efficiency standards for appliances, ensuring reliable energy sources are provided and diversified through energy efficiency and renewable energy resources. California's 2009 Appliance Efficiency Regulations (20 CCR 1601–1608) were adopted by the CEC on December 3, 2008, and approved by the California Office of Administrative Law on July 10, 2009. The regulations include standards for both federally regulated appliances and non-federally regulated appliances.

Title 24 requires the design of building shells and building components to conserve energy. The Energy Conservation Standards for new residential and nonresidential buildings were established by the CEC in June 1977 and were most recently revised in 2019 (Title 24, Part 6 of the California Code of Regulations [Title 24]). Title 24 governs energy consumed by commercial and residential buildings in California. This includes the HVAC system; water heating; and some fixed lighting. Non-building energy use, or “plug-in” energy use, is not covered by Title 24. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. California's Building Energy Efficiency Standards are updated on an approximate 3-year cycle. The most recent update was in 2019 and took effect July 1, 2020. One of the improvements included within the 2019 Building Energy Efficiency Standards is the requirements that certain residential developments, including some single-family and low-rise residential development, include on-site solar energy systems capable of producing 100 percent of the electricity demand of the residences. With implementation of solar photovoltaic systems with new residential development, homes built under the 2019 standards will use approximately 53 percent less energy than those under the 2016 standards. Nonresidential buildings are anticipated to consume 30 percent less energy as compared to nonresidential buildings constructed under the 2016 California Energy Code, primarily through prescriptive requirements for high-efficiency lighting (CEC 2018). The Energy Code is enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary related to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in the California Energy Code. The City has adopted these energy efficiency standards and the City's Climate Action Plan requires compliance with the Tier 1 set of energy efficiency standards in the California Green Building Standards Code (CALGreen).

CALGreen (24 CCR Part 11) is intended to enhance the design and construction of buildings through the use of building concepts that benefit the environment and public health and encourage sustainability in construction and operations of a building. The provisions of the code apply to the planning, design, construction, use and occupancy of all newly constructed buildings and structures throughout California. Some key provisions of the code include, but are not limited to, requirements related to the installation of electric vehicle charging infrastructure in residential and nonresidential developments, establishment of maximum fixture water use rates to reduce indoor water use consumption, diversion of 65 percent of construction and demolition waste from landfills, and mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, and flooring.

## **Executive Order B-18-12**

Executive Order B-18-12 orders all new State buildings and major renovations beginning design after 2025 be constructed as Zero Net Energy facilities. The Executive Order sets an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. It directs State agencies to take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing State-owned building area by 2025.

## **LOCAL LAWS, REGULATIONS, PLANS, AND POLICIES**

### **City of Elk Grove General Plan**

The City of Elk Grove General Plan (adopted 2019) includes policies that promote energy conservation and reduction strategies.

#### ***Urban and Rural Development***

- ▶ **Policy LU-1-9:** Encourage employee intensive commercial and industrial uses to locate within walking distance of fixed transit stops. Encourage regional public transit to provide or increase coordinated services to areas with high concentrations of residents, workers, or visitors.
- ▶ **Policy LU-4-1:** Establish activity centers as community gathering places characterized by the following design element related actions.
  - Prioritize pedestrian and bicycle access.
  - Ensure local and regional transit connections are provided throughout each activity year.

#### ***Economy and the Region***

- ▶ **Policy RC-1-5:** In addition to establishing a primary Major Employment Center, consider options to develop additional Major Employment Centers in portions of the City with enough available undeveloped land and potential sufficient transit access to support such a center.
- ▶ **Policy RC-3-1:** Integrate economic development and land use planning in Elk Grove with planning for regional transportation systems.
- ▶ **Policy RC-3-4:** Advocate for fixed-transit service in Elk Grove as part of a coordinated regional network designed and routed to serve Major Employment Centers, residential centers, shopping centers, and colleges and universities.

#### ***Mobility***

- ▶ **Policy MOB-1-1:** Achieve State-mandated reductions in VMT by requiring land use and transportation projects to comply with the specific metrics and limits. These metrics and limits shall be used as thresholds of significance in evaluating projects subject to CEQA.
- ▶ **Policy MOB-1-4:** Consider all transportation modes and the overall mobility of these modes when evaluating transportation design and potential impacts during circulation planning.

- ▶ **Policy MOB-3-1:** Implement a balanced transportation system using a layered network approach to building Complete Streets that ensure the safety and mobility of all users, including pedestrians, cyclists, motorists, children, seniors, and people with disabilities.
- ▶ **Policy MOB-3-2:** Support strategies that reduce reliance on single-occupancy private vehicles and promote the viability of alternative modes of transport.
- ▶ **Policy MOB-3-7:** Develop a complete and connected network of sidewalks, crossings, paths, and bike lanes that are convenient and attractive, with a variety of routes in pedestrian-oriented area.
- ▶ **Policy MOB-3-15:** Utilize reduced parking requirements when and where appropriate to promote walkable neighborhoods and districts and to increase the use of transit and bicycles.
- ▶ **Policy MOB-3-16:** Establish parking maximums, where appropriate, to prevent undesirable amounts of motor vehicle traffic in areas where pedestrian, bike, and transit use are prioritized.
- ▶ **Policy MOB-3-17:** Ensure new multifamily and commercial developments provide bicycle parking and other bicycle support facilities appropriate for the users of the development.
- ▶ **Policy MOB-4-1:** Ensure that community and area plans, specific plans, and development projects promote pedestrian and bicycle movement via direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area. This may include convenient pedestrian and bicycle connections to public transportation.
- ▶ **Policy MOB-4-5:** Encourage employers to offer incentives to reduce the use of vehicles for commuting to work and increase commuting by active transportation modes. Incentives may include a cash allowance in lieu of a parking space and onsite facilities and amenities for employees such as bicycle storage, shower rooms, lockers, trees, and shaded seating areas.
- ▶ **Policy MOB-5-1:** Support a pattern of land uses and development projects that are conducive to the provision of a robust transit service.
- ▶ **Policy MOB-5-4:** Support mixed-use and high-density development applications close to existing and planned transit stops.
- ▶ **Policy MOB-5-6:** Provide the appropriate level of transit service in all areas of Elk Grove, through fixed-route service in urban areas, and complementary demand response service in rural areas, so that transit-dependent residents are not cut off from community services, events, and activities.
- ▶ **Policy MOB-5-7:** Maintain and enhance transit services throughout the City in a manner that ensures frequent, reliable, timely, cost-effective, and responsive service to meet the City's needs. Enhance transit services where feasible to accommodate growth and transit needs as funding allows.
- ▶ **Policy MOB-5-8:** Support and use infrastructure improvements and technological advancements such as intelligent transportation management tools to facilitate the movement and security of goods through the City in an efficient manner.

- ▶ **Policy MOB-5-9:** Assist in the provision of support facilities for emerging technologies such as advanced fueling stations (e.g., electric and hydrogen) and smart roadway signaling/signage.
- ▶ **Policy MOB-5-10:** Work with a broad range of agencies to encourage and support programs that increase regional average vehicle occupancy. Examples include providing traveler information, shuttles, preferential parking for carpools/vanpools, transit pass subsidies, road and parking pricing, and other methods.
- ▶ **Policy MOB-5-11:** Encourage and create incentives for the use of environmentally friendly materials and innovative approaches in roadway designs that limit runoff and urban heat island effects. Examples include permeable pavement, bioswales, and recycled road base, asphalt, and concrete.

### ***Natural Resources***

- ▶ **Policy NR-2-2:** Maximize and maintain tree coverage on public lands and in open spaces.
- ▶ **Policy NR-2-4:** Maintain and enhance an urban forest by preserving and planting trees in appropriate densities and locations to maximize energy conservation and air quality benefits.
- ▶ **Policy NR-3-8:** Reduce the amount of water used by residential and nonresidential uses by requiring compliance with adopted water conservation measures.
- ▶ **Policy NR-3-9:** Promote the use of greywater systems and recycled water for irrigation purposes.
- ▶ **Policy NR-3-12:** Advocate for native and/or drought-tolerant landscaping in public and private project.
- ▶ **Policy NR-3-6:** Continue interagency partnerships to support water conservation.
- ▶ **Policy NR-4-1:** Require all new development projects which have the potential to result in substantial air quality impacts to incorporate design, and/or operational features that result in a reduction in emissions equal to 15 percent compared to an “unmitigated baseline project.” An unmitigated baseline project is a development project which is built and/or operated without the implementation of trip reduction, energy conservation, or similar features, including any such features which may be required by the Zoning Code or other applicable codes.
- ▶ **Policy NR-4-4:** Promote pedestrian/bicycle access and circulation to encourage residents to use alternative modes of transportation in order to minimize direct and indirect emissions of air contaminants.
- ▶ **Policy NR-4-5:** Emphasize demand management strategies that seek to reduce single-occupant vehicle use in order to achieve State and federal air quality plan objectives.
- ▶ **Policy NR-4-6:** Offer a public transit system that is an attractive alternative to the use of private motor vehicles.
- ▶ **Policy NR-4-8:** Require that development projects incorporate best management practices during construction activities to reduce emissions of criteria pollutants.
- ▶ **Policy NR-5-1:** By 2030 reduce community-wide greenhouse gas emissions to 4.1 metric tons of carbon dioxide equivalents (MT CO<sub>2</sub>e) per capita. By 2050 reduce community-wide greenhouse gas emissions to 1.4 MTCO<sub>2</sub>e per capita to meet the State’s 2050 greenhouse gas emissions reduction goals.

- ▶ **Policy NR-5-2:** Improve the health and sustainability of the community through improved regional air quality and reduction of greenhouse gas emissions that contribute to climate change.
- ▶ **Policy NR-5-3:** Support efforts by the Sacramento Metropolitan Air Quality Management District and the California Air Resources Board to decrease greenhouse gas emissions from stationary sources.
- ▶ **Policy NR-5-4:** Preserve, protect, and enhance, as appropriate, the community’s carbon sequestration resources to improve air quality and reduce net carbon emissions.
- ▶ **Policy NR-6-1:** Promote energy efficiency and conservation strategies to help residents and businesses save money and conserve valuable resources.
- ▶ **Policy NR-6-3:** Promote innovation in energy efficiency.
- ▶ **Policy NR-6-5:** Encourage renewable energy options that are affordable and benefit all community members.
- ▶ **Policy NR-6-6:** Encourage the use of solar energy systems in homes, commercial businesses, and City facilities as a form of renewable energy.
- ▶ **Policy NR-6-7:** Promote energy conservation measures in new development to reduce on-site emissions and seek to reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development. \

### ***Sustainable Development***

- ▶ **Policy SD-2-1:** Incorporate green building techniques and best management practices in the site design, construction, and renovation of all public projects
- ▶ **Policy SD-2-2:** Support innovation and green building best management practices for all new private development

### **City of Elk Grove Climate Action Plan**

The City of Elk Grove adopted its first Climate Action Plan (CAP) in 2013. The CAP and General Plan were since updated in 2019, and the CAP was most recently amended in late 2019 to ensure consistency with the final 2019 Title 24 California Building Standards Code, specifically with regard to solar photovoltaic requirements and electric vehicle charging infrastructure standards for new development.

The CAP identifies sources of GHG emissions within the City boundary and identifies measures to reduce emissions, including measures that would also reduce energy use. The CAP includes the following policy topics that serve as the framework of specific supporting measures, action items, and target indicators for implementation of the CAP: An innovative and Efficient Built Environment, Resource Conservation, and Transportation Alternatives and Congestion Management. Table 3.16-1 presents applicable energy-related measures.

<b>Table 3.16-1 City of Elk Grove Climate Action Plan Applicable Energy Reduction Measures</b>		
<b>Reduction Measures</b>		<b>Policy Topic</b>
BE-1	Building Stock: Promote Energy Conservation. Promote energy conservation by residents and businesses in existing structures in coordination with other agencies and local energy providers, including SMUD and PG&E.	Built Environment
BE-4	Building Stock: Encourage or Require Green Building Practices in New Construction. Encourage new construction projects to comply with CALGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24 Part 6 Building Energy Efficiency Standards.	Built Environment
BE-5	Building Stock: Phase in Zero Net-Energy Standards in New Construction. Phase in zero net energy (ZNE) standards for new construction, beginning in 2020 for residential projects and 2030 for commercial projects. Specific phase-in requirements and ZNE compliance standards will be supported by updates in the triennial building code updates, beginning with the 2019 update.	Built Environment
BE-6	Building Stock: New Construction. Adopt CALGreen Tier 1 standards to require all new construction to achieve a 15 percent improvement over minimum Title 24 CALGreen Energy requirements.	Built Environment
BE-7	Building Stock: Solar Photovoltaics in New and Existing Residential and Commercial Development. Encourage and require installation of on-site solar photovoltaic (PV) in new single-family and low-rise multi-family developments. Promote installation of on-site PV systems in existing residential and commercial development.	Built Environment
BE-8	SMUD Greenergy and SolarShare Programs. Encourage participation in SMUD's offsite renewable energy programs (i.e., Greenergy, SolarShares), which allow building renters and owners to opt into cleaner electricity sources.	Built Environment
RC-1	Waste Reduction. The City shall facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste generated.	Resource Conservation
RC-2	Organic Waste Reduction. The City will target reduction of organic waste disposal, consistent with statewide goals, of 50 percent of 2014 levels by 2020 and 75 percent by 2025, using alternatives such as composting, anaerobic digestion, and biomass energy	Resource Conservation
TACM-1	Local Goods. Promote policies, programs, and services that support the local movement of goods in order to reduce the need for travel.	Transportation Alternatives & Congestion Management
TACM-2	Transit-Oriented Development. Support higher-density, compact development along transit by placing high-density, mixed-use sites near transit opportunities.	Transportation Alternatives & Congestion Management
TACM-3	Intracity Transportation Demand Management. The City shall continue to implement strategies and policies that reduce the demand for personal motor vehicle travel for intracity (local) trips.	Transportation Alternatives & Congestion Management
TACM-4	Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle, Pedestrian and Trails Master Plan and increased bicycle parking standards.	Transportation Alternatives & Congestion Management
TACM-6	Limit Vehicle Miles Traveled. Achieve a 15 percent reduction in daily VMT compared to existing conditions (2015) for all new development in the City, consistent with state mandated VMT reduction targets for land use and transportation projects.	Transportation Alternatives & Congestion Management
TACM-7	Traffic Calming Measures. Increase the number of streets and intersections that have traffic calming measures.	Transportation Alternatives & Congestion Management
TACM-8	Tier 4 Final Construction Equipment. Require all construction equipment used in Elk Grove to achieve EPA-rated Tier 4 Final diesel engine standards by 2030 and encourage the use of electrified equipment where feasible.	Transportation Alternatives & Congestion Management
TACM-9	EV Charging Requirements. Adopt an electric vehicle (EV) charging station ordinance that establishes minimum EV charging standards for all new residential and commercial development. Increase the number of EV charging stations at municipal facilities throughout the City.	Transportation Alternatives & Congestion Management

### **3.16.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **METHODOLOGY**

Energy impacts were analyzed by assessing energy usage associated with construction and operation of development within the Project site. Future energy demand was calculated consistent with the criteria air pollutant and GHG emissions modeling, conducted using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 and the SMAQMD Road Construction Emissions Model, Version 9.0.0 (see Section 3.4, “Air Quality,” and 3.8, “Greenhouse Gas Emissions,” for further discussion of modeling details). Detailed project inputs, assumptions, and calculations are provided in Appendix E.

#### **THRESHOLDS OF SIGNIFICANCE**

Based on Appendix G of the CEQA Guidelines, an energy impact is considered significant if the proposed Project would:

- ▶ Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, during project construction or operation; or
- ▶ Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

For a discussion of impacts related to the relocation or construction of new or expanded electrical power and natural gas facilities, see Section 3.15, “Utilities.”

#### **IMPACT ANALYSIS**

Impact 3.16-1: Result in the Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources.

##### **Construction-Related Energy Consumption**

Construction associated with future development of the Project site, including on- and off-site improvements, would result in consumption of energy in the form of electricity, natural gas, and fossil fuels (e.g., gasoline and diesel fuel) for the duration of the construction. The primary energy demands during construction would be associated with refueling construction vehicles and equipment and would be short-term in nature. Energy in the form of fuel and electricity would be consumed during this period by construction vehicles and equipment operating on-site, trucks delivering equipment and supplies to the site, and construction workers driving to and from the site.

Tables 3.16-2 and 3.16-3 present the fuel consumption anticipated to occur as a result of Project-related construction activities. Table 3.16-2 presents the maximum annual fuel consumption for the most intense construction-year scenario (assuming 25 percent of the assumed land uses within the Project site along with all off-site improvements are constructed within a single year). Table 3.16-3 presents the total and average annual fuel consumption that would occur over the anticipated 20-year construction period for full development of the Project site. Refer to Appendix E for detailed model inputs, assumptions and calculations.



<b>Table 3.16-2 Construction Fuel Consumption, Maximum Annual Construction-Year</b>				
Phase	Source	MT CO <sub>2</sub> e/ Year <sup>a</sup>	Predominant Fuel Type	Gallons/Year
Demolition	Off-Road Equipment	445.12	Diesel	43,811
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	12.27	Gasoline	1,380
Site Preparation	Off-Road Equipment	438.18	Diesel	43,128
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	14.72	Gasoline	1,656
Grading	Off-Road Equipment	714.16	Diesel	70,292
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	16.35	Gasoline	1,840
Building Construction	Off-Road Equipment	302.94	Diesel	29,817
	Hauling	0.00	Diesel	-
	Vendors	1136.36	Diesel	111,847
	Workers	786.62	Gasoline	88,513
Paving	Off-Road Equipment	262.41	Diesel	25,828
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	12.27	Gasoline	1,380
Architectural Coating	Off-Road Equipment	262.41	Diesel	25,828
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	12.27	Gasoline	1,380
<b>Total Gallons</b>			<b>Diesel</b>	<b>350,550</b>
			<b>Gasoline</b>	<b>96,150</b>
Notes: CO <sub>2</sub> = carbon dioxide; CO <sub>2</sub> e = carbon dioxide equivalent; MT = metric tons Sources: <sup>a</sup> Modeled by AECOM in 2020				

<b>Table 3.16-3 Construction Fuel Consumption, Total and Average Annual</b>				
Phase	Source	MT CO <sub>2</sub> e/ Year <sup>a</sup>	Fuel Type	Gallons/Year
Demolition	Off-Road Equipment	1780.48	Diesel	175,244
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	49.06	Gasoline	5,521
Site Preparation	Off-Road Equipment	1752.72	Diesel	172,511
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	58.87	Gasoline	6,625
Grading	Off-Road Equipment	2856.65	Diesel	281,166
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	65.42	Gasoline	7,361
Building Construction	Off-Road Equipment	1211.78	Diesel	119,270
	Hauling	0.00	Diesel	-
	Vendors	4545.45	Diesel	447,387
	Workers	3146.47	Gasoline	354,053
Paving	Off-Road Equipment	1049.64	Diesel	103,311
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	49.06	Gasoline	5,521
Architectural Coating	Off-Road Equipment	1049.64	Diesel	103,311
	Hauling	0.00	Diesel	-
	Vendors	0.00	Diesel	-
	Workers	49.06	Gasoline	5,521
<b>Total Gallons</b>			<b>Diesel</b>	<b>1,402,201</b>
			<b>Gasoline</b>	<b>384,600</b>
<b>Average Annual (over the 20-year construction period)</b>			<b>Diesel</b>	<b>70,110</b>
			<b>Gasoline</b>	<b>19,230</b>
Notes: CO <sub>2</sub> = carbon dioxide; CO <sub>2</sub> e = carbon dioxide equivalent; MT = metric tons Sources: <sup>a</sup> Modeled by AECOM in 2020				

Energy consumption would vary depending on the type of construction activities. For example, although it is unlikely, to conservatively estimate maximum potential fuel demands, it is assumed that a year of maximum-potential development could include construction of up to 25 percent of assumed land uses within the Project site and all off-site improvements in a single year. Under this scenario, and as shown in Table 3.16-2, approximately 350,550 gallons of diesel and 96,150 gallons of gasoline would be consumed in a single year. Because of these conservative assumptions, actual maximum annual construction-related fuel consumption could be less than those estimated, and more likely reflective of the average annual fuel consumption shown in Table 3.16-3. Considering a more steady rate of development over an anticipated 20-year development period, average annual fuel consumption would be approximately 70,110 gallons of diesel and 19,230 gallons of gasoline per year, for a total of 1,402,201 gallons of diesel and 384,600 gallons of gasoline over the 20-year construction period.<sup>2</sup> In addition, estimates for both maximum annual and average annual fuel consumption assume construction in the earliest possible year (2021). If construction is delayed or occurs over a longer period, fuel use could be reduced because of a more modern and fuel efficient construction equipment and vehicle fleet mix, increased use of alternative fuels, and a less intensive and overlapping construction schedule.

Fuel consumed during construction would be temporary in nature and would not represent a significant demand on available fuel, beyond normal construction fuel usage. There are no known Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the City. The City and future applicants would be required to demonstrate consistency with policies and actions in the City of Elk Grove's General Plan that are intended to promote efficient energy use. This would include Policy NR-4-8 and related standards, which requires development projects within the City incorporate best management practices during construction activities, including the implementation of the SMAQMD Basic Construction Emission Control Practices for all projects. The SMAQMD Basic Construction Emission Control Practices require equipment idling time be minimized to a maximum of 5 minutes, current certificates of compliance for ARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1], and that all construction equipment be maintained in proper working condition according to manufacturer's specifications and be checked by a certified mechanic to demonstrate it is running in proper condition before it is operated. These actions would help to ensure on-site equipment is operating with maximum fuel efficiency.

However, because the details of future development projects are not currently known, it is possible that construction within the Project site could involve substantial energy demand. This impact is conservatively assumed to be **significant**.

### **Building Operational Energy Consumption**

Operation of land uses and infrastructure in the Project site would consume energy for multiple purposes, including, but not limited to, building heating and cooling, refrigeration, lighting, electronics, office equipment and commercial machinery. Table 3.16-4 provides a summary of the potential electrical and natural gas demands by land use. Electrical and natural gas demand would be approximately 87,164,490 kWh/year and 170,611,820 thousand British thermal units (kBtu)/year, respectively.

---

<sup>2</sup> These calculations are based on the CalEEMod emissions estimates for proposed construction activities and application of U.S. Energy Information Administration CO<sub>2</sub> emissions coefficients (U.S. Energy Information Administration 2018) to estimate fuel consumption for each phase of construction activities.

Location	Electrical Demand (kWh/year)	Natural Gas Demand (kBtu/year)
Commercial	2,778,550	1,067,870
Heavy Industrial	31,844,400	64,745,800
Light Industrial	46,826,200	95,206,700
Mixed Use	5,715,340	9,591,450
<b>Total</b>	<b>87,164,490</b>	<b>170,611,820</b>
Notes: kWh = kilowatt-hours; kBtu = thousand British thermal unit		
Source: AECOM 2020		

SMUD would provide electricity and would continue to prioritize renewable energy and aims to provide dependable renewable resources for 60 percent of its load by 2030, excluding additional renewable energy acquired for certain customer programs (SMUD 2019b).

The SMUD power mix is comprised of approximately 20 percent eligible renewable resources, such as biomass, solar, wind, geothermal, and small hydroelectric power plants, as well as an additional 26 percent from large hydroelectric sources, ensuring that electricity consumption in the Project site relies heavily on renewable sources. SMUD provides several customer programs geared toward energy efficiency and access to renewable energy and the SMUD Integrated Resource Plan, which outlines its roadmap for reducing GHG emissions and meeting State RPS requirements, accounts for these programs' impacts on total demand and peak demand for electricity and also anticipates an increased focus on energy efficiency and electrification in the coming years (SMUD 2019b). Some of the SMUD customer programs that would be applicable to development within the Project site include, but are not limited to, incentives for builders and design teams to construct all-electric new homes; the installation of electric vehicle chargers for some commercial and residential customers; the SolarShares program in which customers participate in a community solar product for their electricity; the Greenergy program in which participants can opt-in to receive a blend of renewables from a power content label that is their own; and incentives for the installation of energy-efficient equipment, controls, and processes at commercial and industrial customers' facilities.

Development in the Project site would be constructed to meet currently-applicable energy efficiency standards at the time of construction. In accordance with California Code of Regulations Title 20 and Title 24, development within the Project site would be required to comply with the building energy requirements and California Building Standards Code, including CALGreen. This includes meeting energy standards for water and space heating and cooling equipment, insulation for doors, pipes, walls, and ceilings, and appliances, use of high-efficiency lighting, implementation of solar photovoltaic systems to off-set a designated portion of on-site electricity demands, and other requirements. Improvements would also be eligible for rebates and other incentives from both the electric and gas providers for the Project site for the use of energy-efficient appliances and systems, which would further reduce the overall operational energy consumption associated with development in the Project site.

Development of the Project site would be required to demonstrate consistency with policies and actions in the City of Elk Grove's General Plan and reduction measures in the City's CAP that are intended to promote more efficient use of energy. This would include reduction measures BE-4, BE-5, BE-6, BE-7, and BE-8, which are intended to increase building energy efficiency and promote generation of renewable energy. Reduction

Future developments within the Project site would be subject to adherence with the most recent CALGreen Code and the Building Energy Efficiency Standards, including the more stringent Tier 1 standards required per the City's Climate Action Plan (CAP). This will, would ensure that future development would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. The City's CAP would require approximately 10 percent of any future residential units to be all-electric; thus, such units would not involve any natural gas demand. Compliance with these code and policy requirements would reduce potential energy demand. The CalGreen Code, was developed to enhance the design and construction of buildings and sustainable construction practices through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. The CEC projects that the 2019 Building Energy Efficiency Standards will reduce energy demand of new residential construction by 53 percent and that of new nonresidential development by 30 percent as compared to comparable buildings constructed under the 2016 California Energy Code, and more so for older buildings (CEC 2018). Implementing these provisions would increase energy efficiency.

All new development will be required to comply with code requirements that would reduce total energy consumption, improve energy efficiency, and reduce peak and base demand for electricity and other forms of energy. However, because there are no development proposals within the Project site, it is not currently possible to demonstrate how, or to what degree the City's CAP reduction measures would apply to the Project, or what energy reductions would result from the application of such CAP reduction measures.

The City will require future developments to incorporate applicable CAP reduction measures, including implementing measures to exceed State mandated energy standards (Reduction Measures BE-4); phase in zero net-energy standards in new construction (Reduction Measure BE-5); electrification of and implementation of solar photovoltaic systems in new development (Reduction Measure BE-6 and BE-7); and encouraging future development to participate in SMUD's offsite renewable energy programs (Reduction Measure BE-8).

While the application of the City's Project Objectives and CAP would reduce operational energy demand, since there are no land use plans or development proposals available for analysis at this time, it is not possible to ensure the extent to which these measures could be implemented or quantify the potential reductions. Therefore, the impact is considered **significant**.

### **Operational Transportation-Related Energy Consumption**

As noted previously, transportation is the largest energy consuming sector in California, and therefore, travel demand is a critical consideration in assessing energy efficiency.

Using the land use scenario developed for the purpose of analysis in this EIR, possible future development in the Project site could generate an approximate average daily VMT of 651,225 which would generate an estimated annual fuel use of 5,796,158 gallons of gasoline and 1,862,106 gallons of diesel fuel per year, or an average annual energy demand of 981,668 MMBtu.<sup>3,4</sup>

---

<sup>3</sup> This analysis assumes diesel (heat content) is 5.825 MMBtu/barrel, that for vehicular gasoline there are 5.218 MMBtu/barrel, that there are 42 gallons/barrel, that there are 10 therms/MMBtu, and an annualization factor of 347 days/year. These assumptions are consistent with guidance provided in the Climate Registry - 2017 Climate Registry Default Emission Factors: Table 13.1 (Available at: <http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf>).

<sup>4</sup> Trip summary information modeled in CalEEMod can be reviewed in Appendix E of this EIR.

Development of the Project site would generate job opportunities for Elk Grove residents that are currently commuting, and potentially shorten commute trips. Actual travel demand will depend on the density and development intensity of development, mixing of land uses, the relationship between land uses in the Project site and adjacent areas, the level of pedestrian, bicycle, and transit infrastructure, parking standards, the relative affordability of housing, and other factors that are not currently known. The Project site was included as part of the East Study Area in the evaluation of the City's 2019 Update to its General Plan and CAP. Whether future residents would commute to jobs outside the city or county is unknown, but residents would likely be influenced by commute times, the price of fuel, and other social and economic factors. Future development within the Project site would be required to demonstrate consistency with policies and actions in the City of Elk Grove's General Plan and reduction measures in the City's CAP that are intended to promote more efficient use of energy. This would include reduction measures TACM-1 through 9, which are intended to reduce VMT attributable to development in Elk Grove. The CAP Reduction Measure TACM-6 and General Plan Policy MOB-1.1 identify VMT reductions to ensure consistency with SB 743, reducing overall VMT associated with the proposed Project. However, because there are no land use plans or development proposals within the Project site, it is not currently possible to demonstrate how, or to what degree the City's CAP reduction measures would apply to the Project, or what energy efficiency benefits would result from the application of such CAP reduction measures. Implementing these provisions would increase transportation-related energy efficiency. However, possible future development within the proposed Project site could substantially increase transportation-related energy consumption. The impact is considered **significant**.

Please refer also to Section 3.4 of this EIR, "Air Quality," which comprehensively analyzes and provides feasible mitigation for air pollutant emissions; Section 3.8, "Greenhouse Gas Emissions," comprehensively analyzes and provides feasible mitigation for GHG emissions; and Section 3.12, "Noise and Vibration," which comprehensively analyzes and provides feasible mitigation for noise and vibration impacts.

## **Mitigation Measures**

Mitigation Measure 3.16-1a: Implement Mitigation Measures 3.4-2, 3.8-1a and 3.8-1b (2019 SOIA EIR Mitigation Measure 3.16-1a)

Mitigation Measure 3.16-1b: Incorporate Energy Conservation Strategies (2019 SOIA EIR Mitigation Measure 3.16-1b)

Incorporate strategies for direct energy conservation, as well as strategies that indirectly conserve energy into the design and construction of new development, including, but not limited to:

- use recycled building materials that minimize energy-intensive generation and shipping/transport of new materials;
- install energy-efficient lighting, including a lighting control system with dimmer switches to minimize the energy expended for unused fields;
- install water-efficient landscaping and irrigation systems to minimize the energy consumption associated with water supply systems;

- design energy-efficient buildings, including complying with California Energy Commission Title 24 requirements for energy-efficient roofing and insulation; and
- conserve existing trees and plant new trees to provide shade and minimize watering requirements.

### **Significance after Mitigation**

Future development in the Project site would increase energy demand. However, the City would require, as part of plans for development within the Project site, compliance with the policies and actions of the City’s General Plan and CAP. Additionally, projects will also need to incorporate energy efficient design elements and energy conservation measures included in the City’s General Plan, including those related to reducing VMT, as well as ongoing cooperation with SMUD and local agencies to support renewable energy production, in addition to the implementation of State building and energy efficiency standards.

Development within the Project site would be subject to policies and standards designed to improve energy efficiency and avoid inefficient, excessive, and unnecessary consumption of energy due in construction and operations. Mitigation Measure 3.4-2 would require reductions in ozone precursors from operational emissions sources, which would include implementation of City General Plan policies MOB-1-1, MOB-3-1, MOB-3-2, MOB-3-7, MOB-3-15, MOB-3-16, MOB-4-1, MOB-4-5, NR-4-1, NR-4-4, NR-6-5, and NR-6-7 (or equivalent measures as may be amended). Implementation of these measures would have the co-benefit of reduced operational energy demand. Mitigation Measures 3.8-1a and 3.8-1b would require implementation of GHG emission reduction strategies, including those from the City’s most recent CAP and the SMAQMD Best Management Practices for greenhouse gas emissions reduction. These GHG emission reduction measures would also reduce energy use. The City will require future developments to incorporate applicable CAP reduction measures, including implementing strategies and policies to improve the energy efficiency of new buildings, both residential and nonresidential, through building design and construction that meets or exceeds the State Building Energy Efficiency Standards (BE-4) and phases in zero net-energy standards for new construction (BE-5), incorporates electrification of and the use of solar photovoltaic systems on new residential construction (BE-6 and BE-7), participation in SMUD’s renewable energy programs (BE-8), and waste reduction strategies (RC-1 and 2), as applicable to new development. Incorporation of applicable CAP reduction measures in plans for development will also the demand for personal motor vehicle travel for intracity (local) trips (Reduction Measure TACM 3); providing for safe and convenient pedestrian and bicycle travel (Reduction Measure TACM 4); and achieving a 15-percent reduction in daily VMT compared to existing conditions (2015) for all new development (Reduction Measure TACM 6) . Mitigation Measure 3.16-1b would reduce energy demand and improve energy conservation by reducing energy associated with transportation of building materials, lighting, irrigation, and heating and cooling.

Energy efficiency is a possible indicator of environmental impacts. The actual adverse physical environmental effects associated with energy use and the efficiency of energy use detailed throughout this EIR in the environmental topic-specific sections. For example, use of energy for transportation leads to air pollutant emissions, the impacts of which are addressed in Sections 3.4 and 3.8 of this EIR. There is no significant impact associated with energy efficiency that is not addressed in the environmental topic-specific sections of this EIR. However, Development in the Project site would increase demand for energy resources, including fossil fuels, electricity, and natural gas. A large body of existing regulations would have the effect of improving energy efficiency of new construction and transportation-related energy demand, thereby reducing energy demand and

potential adverse environmental effects associated with energy use. However, the location and intensity of future development is not known at this time, and given the scale of possible development that could be proposed within the Project site in the future, it is possible that future development could cause the inefficient, wasteful, or unnecessary consumption of energy. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is **significant and unavoidable**.

**Impact 3.16-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**

As described above in the discussion of Impact 3.16-1, implementation of the proposed Project would result in the development of new land uses that would induce new demand for electricity and natural gas, as well as induce additional VMT that would result in the consumption of fossil fuels. However, design and construction of buildings would be required to comply with the most recently adopted California Building Energy Efficiency Standards Code and California Green Building Standards Code (CalGreen), and Mitigation Measure 3.8-1a requires future development projects to comply with 2016 CalGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24. Future developments within the Project site would be subject to adherence with the most recent CALGreen Code and the Building Energy Efficiency Standards, including the more stringent Tier 1 standards required per the City's CAP. This would ensure that future development would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. The City's CAP would require approximately 10 percent of any future residential units to be all-electric; thus, such units would not involve any natural gas demand. The City's General Plan and CAP encourage energy efficient design standards and transportation systems, promote energy efficiency in new construction that meet or exceed State Building Energy Efficiency Standards, promote energy efficiency and conservation programs associated with utilities, and require compliance with federal, State, and local energy-related regulations, all of which are consistent with the aforementioned plans and policies to promote renewable energy and energy efficiency. Finally, the City's intent is for future projects in the East Study Area to facilitate development that would create a better balance between the types of local jobs available and the skills and interests of the local labor force (Project Objective #5). If residents of Elk Grove are able to reduce their vehicle commute or use non-vehicular modes to reach employment, this could help to reduce the significant energy consuming sector of transportation. Implementation of the proposed Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, as with the 2019 SOIA EIR, this impact is **less than significant**.



## 4 CUMULATIVE IMPACTS

This section provides an analysis of the cumulative impacts of the proposed Project considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the CEQA Guidelines.

Cumulative impacts are defined in CEQA Guidelines Section 15355 as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time” (CEQA Guidelines Section 15355[b]).

Consistent with CEQA Guidelines Section 15130(a), the discussion of cumulative impacts in this SEIR focuses on significant and potentially significant cumulative impacts. CEQA Guidelines Section 15130(b), in part, provides the following:

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

### 4.1 APPROACH

The CEQA Guidelines Section 15130(b)(1) identifies two basic methods for establishing the cumulative environment in which the Project is to be considered: the use of a list of past, present, and probable future projects; or the use of adopted projections from a General Plan, other regional planning document, or a certified EIR for such a planning document. For this SEIR, both the plan and the list approach have been combined.

As with the original 2019 SOIA EIR, past, present, and probable future plans and projects that are considered in this cumulative analysis are described by the Sacramento Area Council of Governments (SACOG) in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The land use scenario included in the MTP/SCA for the Sacramento region includes anticipated past development and future development through 2040 (SACOG 2020). SACOG estimates that Elk Grove will grow by a total of 12,860 housing units between the baseline year for the MTP/SCS (2016) and 2040. This is a 24-percent increase. The MTP/SCS identifies a 35-percent increase in employment in Elk Grove by 2040 (15,750 new jobs). In addition, the City separately commissioned a study of employment trends in Elk Grove (City of Elk Grove 2016). According to this study, in 2013, Elk Grove had approximately 44,806 jobs, which would be a jobs-to-housing ratio of approximately 0.86, using California Department of Finance (DOF) estimates of dwelling units in 2013 (DOF 2017).

Because the Project site is located in unincorporated Sacramento County, the land uses included in the Sacramento County General Plan, which was adopted in 2011 and updated in 2017, are also considered in this

cumulative analysis. The land use assumptions embodied in the Sacramento County General Plan include not only new development, but also existing development and development currently in entitlement review by the County (Sacramento County 2017).

Past, present, and probable future plans and projects that are considered in this cumulative analysis also include buildout of the City of Elk Grove's General Plan (updated in 2019), and future development outside of the City limits, including the Kammerer Road/Highway 99 SOIA and Bilby Ridge SOIA (City of Elk Grove 2019a).

## **4.2 CUMULATIVE IMPACT ANALYSIS**

The following sections contain a discussion of the cumulative effects anticipated from Project implementation along with the related projects for each of the environmental topic areas evaluated in this SEIR.

The cumulative analysis conforms with Section 15130 of the CEQA Guidelines, which specifies that the “discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided of the effects attributable to the project alone.”

### **4.2.1 AESTHETICS**

The geographic scope for the aesthetics cumulative impact analysis includes the immediate, publicly accessible area, including the area along Grant Line Road, as well as areas that could be affected by site lighting. The geographical setting for lighting impacts includes the area directly affected by site lighting, as well as the areas of southern Elk Grove affected by major area lighting sources, including commercial developments on State Route 99 (SR 99) and Elk Grove Boulevard, including the Elk Grove Auto Mall and Suburban Propane, which are well lit at night.

### **VISUAL CHARACTER AND QUALITY**

As the southern areas of Elk Grove are developed (e.g., Southeast Policy Area [SEPA], Lent Ranch Marketplace, Kammerer Road SOIA, Bilby Ridge SOIA, Laguna Ridge Specific Plan, Sterling Meadows, the Wilton Rancheria Resort project), these projects all contribute to a cumulative impact on the scenic character visible along the southern edge of the City. The Lent Ranch Marketplace (Elk Grove Promenade) was approved and construction began but was halted due to economic conditions. The Sterling Meadows development is under construction. The proposed Kammerer Road/Highway 99 SOIA is located west of SR 99 and represents the potential for future development south of Kammerer Road. Other projects affecting this view include the Florin Vineyard Community Plan in Sacramento County and the Sunrise-Douglas Community Plan in Rancho Cordova. Furthermore, development is occurring on 3,585 acres in Folsom south of Highway 50. Many of these projects occur along the planned Capital Southeast Connector project, a 35-mile parkway that would span from I-5 to Highway 50. All these projects would affect the visual character and quality of the area south of Grant Line Road. As described in Chapter 3, “Environmental Impact Analysis,” of this SEIR, this includes views of Elk Grove's traditional agricultural areas with croplands, pastures, oaks, and distant views of the Cosumnes River/Deer Creek floodplain and related riparian vegetation. These views are available along the southern edges of Elk Grove, including along Grant Line Road. Further to the northeast, views from Grant Line Road include vineyards, grasslands, and the Sierra Nevada foothills.

The potential for cumulative impacts on visual character was evaluated in the City's General Plan EIR (Impact 5.1.4), which determined that further conversion of the region's rural landscape to urban development would result in a significant cumulative impact (City of Elk Grove 2018). The General Plan evaluation included the developments of Waterman 75 and Laguna Ridge, as well as the SEPA and other developments (including the proposed parks/open space and commercial and industrial land uses at the Project site).

The Project site is in a transitional zone between developed areas of Elk Grove and agricultural uses in Sacramento County east of SR 99 and south of Grant Line Road. Views to the south of Grant Line Road, including the Project site, are of moderate visual quality and the area's visual character is representative of Elk Grove's agricultural heritage. The aesthetic and visual quality of the Project site has been affected by past projects, including commercial uses along Grant Line Road, industrial uses along the UPRR tracks, including Suburban Propane, and residential developments to the north. There are several residential developments to the south of Grant Line Road near the Project site, along with a plant nursery and the now-closed Sunrise Sky ranch Airport.

Proposed development at the Project site would have frontage on Grant Line Road and would introduce structural elements into the landscape that would detract from the visual qualities of the existing agricultural open space. Foreground views of the project's entrance, landscaping, and signage would be available as motorists approach the intersection of Grant Line Road and Waterman Road and drive northeast. There are no public views of the off-site improvements except for the northern end of the drainage ditch that is adjacent to the Union Pacific Railroad (UPRR) tracks. This ditch is proposed for widening and deepening, but would have a visually similar appearance from Grant Line Road as compared to existing conditions. Public views toward the proposed on-site development from Grant Line Road would change substantially and this impact would be a significant cumulative impact.

These impacts would occur in an area that provides expansive background views of farmland, the Deer Creek and Cosumnes River floodplain, and the foothills, including from the UPRR overpass. Views of the proposed commercial and industrial development would be prominent and could detract from views. However, views of the foothills are primarily to the northeast down the Grant Line corridor, and these views would not be impeded. However, because of the overall area's agricultural heritage, the Project's incremental contribution to cumulative impacts on the area's visual character would be **cumulatively considerable**. All the projects in Elk Grove (and other Sacramento County communities) would be required to comply with conditions of approval, zoning regulations, and design guidelines for road frontage and landscaping. However, these measures would not reduce the Project's impacts on views of this pastoral landscape and this impact would be **cumulatively significant and unavoidable**.

## **LOSS OF TREES OF LOCAL IMPORTANCE**

Development in the City could lead to the removal of trees of local importance, as defined in the Elk Grove Municipal Code, Title 19, "Trees," Chapter 19.12, "Tree Preservation and Protection." However, the City requires mitigation for these trees. Mitigation would provide 1 new inch diameter at breast height (dbh) of tree for each inch dbh lost (1:1 ratio). Developers must prepare a mitigation plan to provide on-site or off-site replacement, payment of an in-lieu fee, preservation of existing trees, or on-site or off-site relocation. Thus, there is no significant cumulative impact.

Future project applicants would be required to implement Mitigation Measure 3.2-2, which requires establishment of a tree mitigation plan that including planting replacement trees to compensate for the removal of trees of local

importance, as defined in the Elk Grove Municipal Code, Title 19, “Trees,” Chapter 19.12, “Tree Preservation and Protection.” Therefore, the proposed Project would result in a **less-than-significant cumulative impact**.

## **LIGHTING AND GLARE**

The cumulative effects of recent and proposed projects, including Lent Ranch, Sterling Meadows, the Southeast Policy Area, the Grant Line Road widening, and other SOIAs to the west, combined with past projects such as the Auto Mall, Highway 99, and area park and high school stadium lighting, would result in significant cumulative impact from nighttime lighting that would intermittently (during evening use and events) reduce the darkness of the night sky. The potential for cumulative impacts on nighttime lighting and glare was evaluated in the City’s General Plan EIR (Impact 5.1.5), which determined that introduction of new sources of nighttime lighting and glare would result in a significant cumulative impact (City of Elk Grove 2018). The General Plan evaluation included the developments of Laguna Ridge, as well as the SEPA and other developments (including the proposed parks/open space [with a multi-sports park stadium] and commercial and industrial land uses at the Project site).

Under the proposed Project evaluated in this SEIR, nighttime lighting would be limited to security lighting for internal streets, commercial and industrial buildings, parking lots, and residences developed in the mixed-use area. The off-site drainage improvements would not require nighttime lighting.

To minimize on-site lighting effects, project applicant(s) would be required to comply with Title 23 of the Elk Grove Municipal Code, which contains standards for lighting that address shielding of light fixtures, photometric calculations to determine the allowed level of illumination, and fixture height. Furthermore, the City’s Design Guidelines encourage shielded and downward-pointing lighting. The citywide Design Guidelines include provisions for outdoor light fixtures to be directed/shielded downward. Development projects at the project site would be required to limit outdoor lighting, which would be directed downward and shielded to minimize light spillover and skyglow. Further, the City would require conditions of approval that minimize the use of reflective materials in building design. Compliance with City General Plan policies, zoning regulations, and Design Guidelines would minimize lighting and glare for development within the Project site. The off-site improvement areas would not require new lighting.

Notwithstanding City requirements, development of regional commercial, light and heavy industrial, and mixed uses would still contribute to the cumulative increase in nighttime lighting from new development, and therefore would result in a **cumulatively considerable and significant and unavoidable impact**.

### **4.2.2 AGRICULTURAL RESOURCES**

The geographic scope for agricultural resources consists of Sacramento County.

Past, present, and future projects throughout the region have, and will continue to convert existing agricultural land to other uses – predominantly urban use. This includes plans and projects in Sacramento County, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, Citrus Heights, and all existing, approved, proposed, and reasonably foreseeable development projects within these jurisdictions. This includes the SEPA west of the Project site, the Lent Ranch Marketplace, and other large regional projects, including the potential casino west of the Project site. In addition to these local development projects, there are several urban development projects in Sacramento County and throughout the Central Valley that are contributing to the cumulative loss of agricultural resources, including Prime Farmland, Unique Farmland, or Farmland of Statewide

Importance and lands under Williamson Act Contract. Continued urbanization of the region in accordance with applicable land use plans, as well as those approved and proposed development projects described previously, would continue to convert agricultural and open space land to urban uses with residential and commercial buildings and associated roadways and other infrastructure. The continued conversion of farmland in the region is a significant cumulative impact.

There is no prime agricultural land within the Project site as defined by Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act. Based on analysis of the Sacramento County Important Farmland map (DOC 2019), an estimated 409 acres of on-site Farmland of Statewide Importance could be directly and permanently converted to nonagricultural, urban use. The three new off-site improvement areas assessed as a part of this SEIR are not currently actively used for agricultural production, as they are existing channels that would be widened or deepened, or areas where drainage pipelines would be installed and where disturbance related to drainage improvements would be temporary. In 2016, an estimated 207,483 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance existed in Sacramento County. A conversion of an estimated 129 acres of Farmland of Statewide Importance would account for less than 1 percent of this total.<sup>1</sup> The total conversion of Farmland of Statewide Importance would be relatively small in the context of the county's entire agricultural land base and would not likely cause a substantial reduction in the county's total agricultural production. However, the conversion of agricultural land would contribute to the incremental decline of Important Farmland in the county and would result in the irreversible conversion of this agricultural land. In addition, future development at the project site could affect nearby agricultural uses and result in the conversion of adjacent agricultural lands. According to the Elk Grove General Plan and EIR, the loss of agricultural productivity on lands designated for urban uses is a significant and unavoidable consequence of future development. Implementation of the proposed project would contribute to the incremental decline of Farmland of Statewide Importance Farmland in the county, region, and state and contribute to the irreversible conversion of this agricultural land. Implementation of Mitigation Measures 3.3-1 would help to preserve farmland. However, this would not create new farmland. There is no additional feasible mitigation. Therefore, the Project's impact would be **cumulatively significant and significant and unavoidable**.

Furthermore, 179 acres of land within the Project site is under Williamson Act contracts. Cancellation of these Williamson Act contracts before their expiration date would be required before construction within the area identified for mixed uses and a portion of the park/open space area. The off-site drainage improvements would not result in the cancellation of any Williamson Act contracts. The amount of land in Sacramento County under Williamson Act contract is decreasing. Between 2000 and 2015 (the most recent data year available), the area of Williamson Act contract lands in Sacramento County decreased from 187,102 to 174,656, or 7.1 percent. The cancellation of land under Williamson Act contracts within the Project site would be relatively small acreage in the context of the county's entire acreage of land under Williamson Act contracts. Furthermore, implementation of Mitigation Measure 3.3-1 would help to preserve farmland, including land held under Williams Act contracts. However, cancellation of Williamson Act contracts would contribute to the incremental decline of contract land in the county and would result in the irreversible conversion of this agricultural land on these contract lands. Therefore, the project's impact would be **cumulatively significant and significant and unavoidable**.

---

<sup>1</sup> Appendix G of the CEQA Guidelines focuses the analysis on conversion of agricultural land on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Implementation of Mitigation Measure 3.3-3 would reduce the Project’s potential for conflicts with ongoing off-site agricultural uses. In addition, the City of Elk Grove Municipal Code Chapter 14.05 (“Right to Farm Ordinance”) protects the rights of agricultural property owners and farmers to continue agricultural operations on their land. Therefore, the Project’s impact would be **less than cumulatively considerable**.

### 4.2.3 AIR QUALITY

The geographic scope for air quality consists of the Sacramento Valley Air Basin (SVAB).

#### **GENERATION OF SHORT-TERM CONSTRUCTION AND LONG-TERM OPERATIONAL EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS, OR CONFLICT WITH OR OBSTRUCT AN AIR QUALITY PLAN**

By its nature, air pollution is largely a cumulative impact. All new development that would result in an increase in air pollutant emissions would contribute to cumulative construction air quality impacts. In addition, operational emissions from all new development in the region also affect the attainment status of an air basin, particularly as a result of increased traffic and energy demands from additional development. The implementation of regional and local development within the Sacramento Valley Air Basin would generate increased short-term construction and long-term operational emissions that may cumulatively exceed regional thresholds and conflict with or obstruct implementation of the applicable air quality plan. This is a cumulatively significant impact.

Sacramento County’s attainment status for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) has not changed since the 2019 SOIA EIR was prepared. Sacramento County currently meets NAAQS for all criteria air pollutants except ozone and the 24-hour particulate matter with an aerodynamic diameter less than 2.5 microns (PM<sub>2.5</sub>) standard. Sacramento County meets the CAAQS for all criteria air pollutants except ozone and particulate matter with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>). As summarized in Tables 3.4-1 and 3.4-3 (Section 3.4-1, “Air Quality”) of this SEIR, short-term construction-related emissions (for on-site development and the off-site improvements) as well as long-term operational emissions would exceed both maximum daily and maximum annual Sacramento Metropolitan Air Quality Management District (SMAQMD) thresholds for criteria air pollutants and ozone precursors. Implementation of Mitigation Measures 3.4-1a and 3.4-1b would reduce the Project’s short-term construction emissions to a less-than-significant level. However, SMAQMD considers that if a project’s impacts would be significant at the project-level, it could also be considered significant on a cumulative level. Implementation of Mitigation Measure 3.4-2 would reduce the Project’s operational emissions, but it is not possible to determine at this time where such emissions would be reduced to a less-than-significant level. Operations of future development could result in air pollutant emissions that still exceed the SMAQMD thresholds. Even if emissions are reduced to levels that are below SMAQMD thresholds, the Project would still contribute to increased overall emissions throughout the SVAB. There is no additional feasible mitigation available that would avoid these impacts. The proposed Project could make a **cumulatively considerable contribution to significant cumulative** air quality impacts.

#### **EXPOSURE OF SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS**

Exposure of sensitive receptors to substantial pollutant concentrations, such as toxic air contaminants (TACs) and carbon monoxide (CO) generally occurs on a localized rather than regional basis. As discussed in Section 3.4-1, “Air Quality” of this SEIR, development of the proposed Project would not expose sensitive receptors to

substantial concentrations of CO. Because site-specific details of development are not known at the present time and construction at the Project site could occur in phases adjacent to existing on-site rural residences, implementation of Mitigation Measures 3.4-1a and 3.4-3b are necessary to ensure the Project's impacts would be less than significant. Since there are no other known projects among those considered as part of this cumulative analysis that are both large enough and would involve construction in close enough proximity to these rural residences to result in TAC impacts, the proposed Project's cumulative contribution would be **less than significant**.

## **ODOR EMISSIONS**

Odor impacts are generally localized and do not combine with odor impacts in nearby jurisdictions to increase the severity of impacts. The closest cumulative project is the Waterman 75 project, on the north side of Grant Line Road north of the project site. Even if this project were to be constructed at the same time as portion of the proposed Project, implementation of Mitigation Measure 3.4-6 would avoid conflicts between Project-generated odor emissions and sensitive receptors. Therefore, a **cumulatively significant impact would not occur**, and the proposed Project would **not result in a cumulatively significant incremental contribution** to odor impacts.

### **4.2.4 BIOLOGICAL RESOURCES**

The geographic scope for biological resources includes the land surrounding the Project site and off-site improvements areas, as well as the greater Sacramento County region, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, Citrus Heights, and all existing, proposed, and reasonably foreseeable development projects within these jurisdictions.

Cumulative development in the vicinity of the Project site within the City of Elk Grove includes the Laguna Ridge Specific Plan, Southeast Policy Area (SEPA), Sterling Meadows, and the Lent Ranch Marketplace projects, which are anticipated to increase residential and commercial uses covering over 2,000 acres between these projects, along with the Kammerer Road/Highway 99 SOIA (City of Elk Grove 2019a). These planned development areas occur less than 5 miles away from the Project site and the off-site improvements areas, and Project-related activities could contribute to the cumulative loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland/aquatic resources within the region.

Past and present actions by humans have substantially altered biological resources in the Central Valley region of California including Sacramento County, specifically, compared to historical conditions. Among the most important of these past actions have been conversion of natural vegetation and habitats to agricultural and developed land uses; fill and alteration of aquatic habitats; flood control and water supply projects; and the introduction of nonnative species, which in many cases have competed with, preyed upon, and degraded habitat for native species. More recently, the large-scale conversion of agricultural habitats to urban land uses has resulted in substantial loss of habitat for species such as State-listed Swainson's hawk that have adapted to use agricultural habitats in response to loss of their natural habitats. Past, present, and foreseeable future urbanization in the city of Elk Grove has contributed substantially to the loss of grassland, wetland, and agricultural habitats that are important to many species in the region, including listed species like Swainson's hawk and other raptors, and greater sandhill crane. Therefore, the impact of the cumulative projects is **significant**.

Climate change and associated sea-level rise may also contribute to human-caused impacts to these species in the future. The Central Valley is generally becoming hotter and drier as a result of climate change and the region has

been experiencing more frequent droughts with reduced precipitation and snowpack contributing to the system. With regards to the effects of sea-level rise, it should be noted that the Delta is surrounded by levees and is a highly regulated system, and it is likely that measures would be taken to compensate for rising levels within the Delta. It is difficult to predict with any certainty the degree to which climate change and sea-level rise may affect the local special-status plant and wildlife species. For Swainson's hawk, climate change is another human-induced factor that could substantially reduce the extent and quality of habitat for this species. The proposed Project could have a **cumulatively considerable** contribution to the **significant cumulative** impact on Swainson's hawk due the fact that a large area of suitable habitat would be converted to urban land uses. No feasible mitigation would avoid this impact on Swainson's hawk because there is a limited amount of suitable habitat land available and there would be a net loss of habitat regardless of the acreage preserved as compensatory mitigation.

Roosting and foraging habitat for a variety of special-status bird species in the Central Valley, such as wetland habitats in the off-site improvement areas, may also be adversely affected by climate change. The changes to these habitats that may occur as a result of climate change are uncertain and speculative, but it is likely that climate change will adversely affect at least some of these special-status species, such as the wintering population of greater sandhill cranes using the Cosumnes River floodplain. It is possible that development of the Project site and the off-site improvements may contribute in some way to the cumulative impact of climate change related to this and other special-status species. The SSCHP addresses the potential effects of climate change on greater sandhill crane and other covered species and has developed biological goals and measurable objectives focused on mitigating those potential future impacts (County of Sacramento et al. 2018).

As specified in the CEQA Guidelines (Section 15126.2), when evaluating the impacts of a proposed project, the lead agency should normally limit its examination to changes in the existing physical conditions at the time of the NOP or at the time the environmental analysis commenced (in this case, 2020). What specific changes to habitats and shifts in distribution of plants and animals in the region may occur as a result of climate change within the time frame of the development that could eventually occur as a result of the proposed Project is too speculative for meaningful evaluation.

These past and present actions have resulted in significant adverse effects on the extent, species composition, and functioning of natural habitats that occur in the region, and on the distribution and abundance of plant and wildlife species associated with these habitats. Large areas of freshwater marsh, riparian, valley oak woodland, grassland, and vernal pool vegetation have been lost or degraded in the region over the past 100 years. The increase in the distribution and abundance of invasive plant species and nonnative plant communities, the large number of plant and wildlife species listed as threatened or endangered or considered sensitive by the CDFW, and the dramatic reductions in the extent of aquatic habitats and natural vegetation in the Central Valley region are evidence of these overall significant adverse effects. These actions have altered habitats, biotic interactions, and physical processes that continue to affect species in the region today. Therefore, the impact of the cumulative projects is significant.

The Project site is primarily agricultural land that provides limited habitat values to most species; however, agricultural lands provide important foraging habitat for Swainson's hawk, white-tailed kite, northern harrier, greater sandhill crane, and loggerhead shrike. The Project site also contains burrow habitat for burrowing owl and American badger. The off-site improvement areas contain sensitive natural habitats including wetlands that support a wide variety of special-status plant and wildlife species. Although mitigation measures are proposed to



compensate for the loss of habitat from the Project site and for potentially small areas of lost habitat from the off-site drainage improvements, fully compensating for these impacts by preserving existing habitat in the vicinity is infeasible because there is a limited amount of suitable habitat land available and there would be a net loss of habitat regardless of the acreage preserved as compensatory mitigation. Because there has been a substantial loss of natural and agricultural habitats for these species that has resulted in a notable decline in their regional population numbers, loss of habitat from the region is considered a significant cumulative impact. Therefore, the loss of cropland and irrigated pasture, and potentially a small amount of lost habitat from the required off-site drainage improvements, could have a **cumulatively considerable contribution** to this **significant cumulative impact**. Impacts on the sensitive biological resources resulting from future development of the Project site requires implementation of Mitigation Measures 3.5-1a, 3.5-1c, 3.5-1d, 3.5-2a, 3.5-2b, 3.5-3a, 3.5-3b, 3.5-3c, 3.5-4, 3.5-5, 3.5-6a, 3.5-6b, 3.5-8, 3.5-9a, 3.5-9b, and 3.5-13, Implementation of these mitigation measures would reduce impacts on sensitive biological resources resulting from future development of the Project site and the off-site improvement areas. However, no additional feasible mitigation is available that would avoid this impact. The impact is **significant and unavoidable**.

#### **4.2.5 CULTURAL AND TRIBAL CULTURAL RESOURCES**

The geographic scope for cultural resources consists of the greater Sacramento County region, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, Citrus Heights, and all existing, approved, proposed, and reasonably foreseeable development projects within these jurisdictions.

Cumulative development in the vicinity of the Project site within the City of Elk Grove includes the Southeast Policy Area (SEPA) west of the SOIA Area, the Lent Ranch Marketplace, and other large regional projects, including the Wilton Rancheria Resort project site. Continued urbanization of the region in accordance with applicable land use plans as well as those approved and proposed development projects described previously, could result in the disturbance of cultural resources, which includes archaeological and historic-period built environment resources. Regulations protecting cultural resources have substantially reduced the rate and intensity of these impacts. However, even with these regulations, cultural resources are still degraded or destroyed as cumulative development in proceeds. Therefore, the impact of the cumulative projects is significant.

As discussed in Section 3.6, “Cultural and Tribal Cultural Resources,” the on-site structures and features have not yet been evaluated for historic significance. Additionally, development of the off-site drainage improvements has a potential to affect off-site Tribal Cultural Resources. Development in the Project site and the off-site improvement areas would involve earth-moving activities and grading during construction. The potential to encounter previously unknown cultural materials on the Project site is moderate, and the potential to encounter unknown materials in the off-site improvement areas is high, thus the proposed Project has the potential to adversely affect previously unknown significant cultural resources. Because all significant cultural resources are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one archaeological site or historic-period built environment property has the potential to affect all others in a region since these resources are best understood in the context of the entirety of the cultural system of which they are a part. The proposed Project, in combination with other development in the region, could contribute to the loss of significant cultural resources.

Compliance with California law, City of Elk Grove policies, and implementation of the Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c will ensure that any cultural resources encountered during construction, including

archaeological features or potential human remains, would be treated in an appropriate manner under CEQA and other applicable laws and regulations. This would reduce the potential for a significant impact resulting from inadvertent damage or destruction of presently undocumented cultural resources. If an inadvertent discovery of cultural materials (including human remains) is made during Project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with a professional archaeologist and in accordance with CEQA Guidelines Section 15126.4 if the resource is an historical resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. Implementation of Mitigation Measures 3.6-2a, 3.6-2b, and 3.6-2c would also help to protect tribal cultural resources, because these measures require preparation of site-specific archaeological surveys, consultation with culturally affiliated California Native American tribes (including potential monitoring during construction of the off-site improvements by a Native American tribal member), proper treatment of materials encountered during construction activities, incorporation of measures to protect archaeological resources, and preservation/avoidance of archaeological resources as feasible. If human remains are discovered during construction activities, implementation of Mitigation Measure 3.6-4 requires compliance with Health and Safety Code Section 7050 et seq. and Public Resources Code Section 5097.9 et seq.. Although compliance with California law, City of Elk Grove policies, and Mitigation Measures 3.6-2a, 3.6-2b, 3.6-2c, and 3.6-4 contained in this SEIR would reduce the potential for adverse effects, impacts to archaeological and historical resources, including Tribal Cultural Resources, are considered **cumulatively considerable** due to the cumulative loss of resources in the region. No additional feasible mitigation is available. These impacts are **cumulatively significant and unavoidable**.

#### **4.2.6 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES**

The geographic scope for geology and soils consists of Sacramento County, and the geographic scope for paleontological resources consists of the greater Sacramento Valley region.

##### **Geology, Soils, and Seismicity**

The geologic formations, soil types, and seismic hazards of each project considered in this cumulative analysis vary depending on project location, and therefore are site-specific. Therefore, the geology, soils, and seismic impacts are site specific and generally do not combine to result in cumulative impacts. Furthermore, as with the proposed Project, development projects considered in the cumulative analysis would be required to comply with applicable State and local building codes and regulations, including the California Building Standards Code (CBC), which requires a site-specific geotechnical report that includes design and engineering requirements specifically intended to reduce hazards from geologic, soils, and seismic hazards. Therefore, **no additive effect would result and no cumulatively significant impact** related to geologic, soils, or seismic hazards would occur.

##### **Paleontological Resources**

Fossil discoveries resulting from excavation and earth-moving activities associated with development are occurring with increasing frequency throughout the state. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Unique, scientifically-important fossil discoveries are relatively rare, and the likelihood of encountering them is site-specific and is based on the type of specific geologic rock formations found underground. These geologic formations vary from location to location.

Some of the projects considered in this cumulative analysis could encounter Pleistocene-age or older deposits that have yielded unique paleontological resources in the past and therefore are considered paleontologically sensitive. Therefore, the cumulative projects could result in damage to or destruction of unique paleontological resources, which would be a significant cumulative impact.

The Project site and the off-site improvement areas are located in the Riverbank Formation, which is considered to be of high paleontological sensitivity. Implementation of Mitigation Measure 3.7-6 would result in the Project avoiding damage to or destruction of unique paleontological resources. Therefore, the Project's contribution to this cumulatively significant impact would be **less than cumulatively considerable**.

#### **4.2.7 GREENHOUSE GAS EMISSIONS**

Greenhouse gases (GHGs) typically persist in the atmosphere for extensive periods time—long enough to be dispersed throughout the globe and result in long-term global impacts that contribute to climate change. As such, the proposed Project will not, by itself, contribute significantly to climate change; however, cumulative emissions from many projects and plans all contribute to global GHG concentrations and the climate system. Accordingly, GHG emissions are inherently cumulative. Please see Section 3.8, “Greenhouse Gas Emissions,” of this SEIR for the analysis of the proposed Project's contribution to the significant cumulative impact of climate change.

#### **4.2.8 HAZARDS, HAZARDOUS MATERIALS AND WILDFIRE**

The geographic scope for hazards and hazardous materials consists of the City of Elk Grove's General Plan Planning Area, which includes the Project site.

Development associated with the cumulative projects and the proposed Project would involve the storage, use, disposal, and transport of hazardous materials (such as asphalt, fuel, lubricants, and solvents) to varying degrees during demolition, construction, and operation. Facilities that use hazardous materials during operation are required to obtain applicable local and state permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. The storage, use, disposal, and transport of hazardous materials are extensively regulated by various federal, State, and local agencies, and therefore construction companies and businesses (during the operational phase) that would handle any hazardous substances are required by law to implement and comply with these existing hazardous-materials regulations. These health and safety impacts usually occur on a project-by-project basis, rather than cumulatively.

Some of the past, present, and future cumulative project sites could contain existing hazards materials (e.g., underground or aboveground storage tanks, septic systems, stained soils [indicating potential contamination], lead-based paints, asbestos-containing materials, or contaminated groundwater plumes). However, if hazardous materials are encountered on site during construction of the proposed Project and the cumulative projects, the associated impacts would be localized to the individual project sites and would not be additive to other hazardous materials-related impacts at the Project site or other individual cumulative project sites. Therefore, no additive effect would result and **no cumulatively significant impact** related to hazards or hazardous materials would occur.

## 4.2.9 HYDROLOGY AND WATER QUALITY

The geographic scope for surface water hydrology and water quality consists of the City of Elk Grove. The cumulative context for groundwater consists of the Sacramento Valley – South American Subbasin.

### GROUNDWATER

Development of the cumulative projects within the South American Subbasin will increase the need for groundwater. The South American Subbasin has been designated by the California Department of Water Resources (DWR) as a high priority basin, but is not in a condition of critical overdraft. As a signatory to the Water Forum Agreement, the Sacramento County Water Agency (SCWA) is committed to adhering to the long-term average sustainable yield of the basin. The Water Forum estimated that the long-term average annual sustainable yield of the basin was 273,000 afy, while extractions were estimated at 217,000 afy in 2015. The Sacramento Central Groundwater Authority (SCGA) submitted an Alternative Groundwater Sustainability Plan (GSP) in 2016 (Sacramento Central Groundwater Authority 2016), which consisted of SCGA’s Central Sacramento County Groundwater Management Plan that was originally prepared in 2006. DWR has since required SCGA to prepare a standard GSP, which is in process as of the time of preparation of this SEIR. DWR requires annual reporting of subbasin conditions every five years to demonstrate how subbasin operations have stayed below the sustainable yield. The Alternative GSP identified provisions to maintain groundwater pumping levels within the sustainable yield, including reducing demand, conjunctive use, and aquifer storage and recovery projects, that would apply to all signatories of the Water Forum Agreement, including SCWA and SCGA. Because water supply for the proposed Project has been included in SCWA’s Zone 40 Water Supply Master Plan Amendment (Brown and Caldwell 2020) indicating that sufficient water supplies are available, and because the Project’s water supply is included in the Elk Grove General Plan (City of Elk Grove 2019a) and therefore is part of the SCGA’s GSP for the South American Subbasin, a cumulatively significant impact would not occur, and the proposed Project would have a **less than cumulatively considerable** impact.

### EROSION, SILTATION, POLLUTED RUNOFF, AND FLOOD HAZARDS

Development of the cumulative projects and the proposed Project would include on-site and off-site excavation and grading activities that could result in erosion; result in increased impervious surfaces that would generate increased stormwater runoff that could result in increased pollutant transport and exceedance of existing drainage systems; and construction of buildings, homes, and other structures that could be constructed in a floodplain, which could affect hydrology and water quality in the cumulative study area. However, compliance with the National Pollutant Discharge Elimination System permitting requirements (i.e., both the Statewide Construction General Permit and the local operational Municipal Separate Storm System [MS4] Permits), Clean Water Act permitting requirements, and applicable local regulations such as flood control ordinances and grading permits, would ensure that the cumulative projects would not result in a significant cumulative impact, and the proposed Project would result in a **less-than-significant cumulative contribution**.

## 4.2.10 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES

The geographic scope for land use, population, housing, employment, environmental justice, and unincorporated disadvantaged communities consists of the Sacramento County region, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, and Citrus Heights.

## CONSISTENCY WITH LAND USE

Cumulative development within the region would result in a significant change in land use, and individual projects would need to be considered in context of their compliance with adopted land use plans. Plans with which compliance may be analyzed include general plans, habitat conservation plans, and regional transportation plans. For the proposed Project, appropriate plans to consider include the SACOG 2020 MTP/SCS and the City's General Plan. Land use inconsistencies are not physical effects in and of themselves and combinations of policy inconsistencies would not rise to the level of a physical effect. Cumulative effects of the physical changes related to the Project are discussed in the other topics in this section. **No cumulatively considerable** impacts would occur.

## POPULATION, HOUSING, AND EMPLOYMENT

Like land use policy inconsistency, population growth is not considered a significant cumulative effect because it is not a physical environmental impact. However, the direct and indirect effects, such as housing and infrastructure needs that are related to population growth, can lead to physical environmental effects.

Incorporated cities, including Elk Grove, Sacramento, Rancho Cordova, Folsom, and Citrus Heights, and Sacramento County implement general plans and specific or master plans that could potentially accommodate substantially greater population and employment growth compared to regional forecasts and planning efforts. Increased population and employment in the region could generate the need for additional housing and infrastructure, which could lead to conversion of undeveloped land and associated adverse physical environmental impacts. Considering the indirect effects from past, present, and future development under the cumulative plans, the potential for population growth in the county is a **significant cumulative** impact.

Assumed industrial and commercial land uses within the Project site could generate approximately 7,788 new jobs in the City at full buildout. In addition, future development of mixed uses on the Project site could add an assumed 713 housing units, or 2,304 residents for a total service population (population plus employment) of 10,092. As stated previously, the Project site is within the East Study Area. The City estimated as a part of the General Plan that the East Study Area could accommodate 4,806 housing units that would accommodate a population of 15,523 persons and employment-generating uses could result in 3,875 new jobs for a total service population of 19,398 (City of Elk Grove 2019). The total service population anticipated under the proposed Project (10,092) is less than the total assumed under the City's General Plan (19,398), but the employment estimate is substantially higher and the residential population substantially lower.

SACOG estimated that, by 2035, continued development of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, and the Triangle Special Plan, as well as other planned development (not including the Project site, which was not anticipated in the MTP/SCS) could increase the City's jobs to 57,640 by 2035 and 60,070 by 2040 (SACOG 2019). Because development of the Project site is not included in SACOG's future employment projections, the jobs generated by the proposed Project (7,788 jobs) are not accounted for in SACOG's employment projections for the City.

As discussed in Section 3.11, "Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities," if the proposed Project's level of job growth is realized during the City General Plan planning horizon and MTP/SCS 2040 horizon, it is possible that development of employment-generating land uses in other areas of the City or County would occur at a slower pace. The regional demographic

and economic forecasts for SACOG use Board-adopted regional-level projections, which serve as control totals for the entire region (SACOG 2020). If residential or employment growth is higher for a particular jurisdiction, using the control totals, this would mean that residential or employment growth would need to be proportionally reduced in one or more areas.

Specific indirect impacts associated with increased population, such as traffic congestion, air quality degradation, and noise generation, are addressed in each section of this SEIR and this chapter, as appropriate. These sections provide a detailed analysis of other relevant environmental effects as a result of development of the proposed Project.

Physical impacts associated with development of the Project site, such as traffic, greenhouse gas emission, air quality degradation, and noise generation and impacts related to increased demand for public services and utilities, are evaluated throughout this SEIR because the Proposed project's future land uses are considered to be part of buildout of the Project site. Mitigation presented throughout this SEIR addresses environmental impacts associated with future development of the Project site. There is no significant impact that is not addressed comprehensively throughout this SEIR.

One of the objectives of the proposed Project is to provide employment and possibly housing opportunities. No feasible mitigation is available to reduce the population growth at the Project site to a less-than-significant level, while still meeting Project objectives. Therefore, the proposed Project would indirectly result in a **cumulatively considerable** contribution to a significant cumulative impact. Impacts associated with inducement of population, housing, and employment would be **significant and unavoidable**.

#### **4.2.11 NOISE AND VIBRATION**

The geographic scope for noise and vibration consists of the City of Elk Grove planning area.

##### **SHORT-TERM CONSTRUCTION NOISE**

Construction activities associated with development of the projects considered in this cumulative analysis may result in significant increases in ambient noise levels. Construction noise impacts are typically highly localized and therefore multiple projects would have to occur in close proximity to one another for a cumulative increase in ambient noise levels to occur. Implementation of Mitigation Measure 3.12-1 in Section 3.12, "Noise and Vibration," of this SEIR would reduce the Project's short-term construction noise impacts. However, even with implementation of this mitigation measure, it may not be possible to fully reduce all of the Project's construction noise impacts to a less-than-significant level. In accordance with City General Plan requirements, other planned and/or approved projects in the area would also be required to evaluate construction noise impacts and implement noise-reduction measures. The Waterman 75 project would be developed on the north side of Grant Line Road, across from the Project site. Because the exact nature and timing of development of both the proposed Project and the Waterman 75 project are not known at this time, there is a potential that construction noise could be generated from both projects at the same time. If that were to occur, the Project's construction noise impacts would be considered **cumulatively significant and unavoidable**.

## LONG-TERM OPERATIONAL TRAFFIC NOISE

Development forecast under the City's General Plan would generate and attract vehicular travel along roadways, which would combine with traffic associated with development of the Project site to increase vehicular traffic noise in areas directly adjacent to roadways. This is a cumulatively significant impact.

Under future cumulative conditions, predicted traffic noise levels along off-site roadways in the Project vicinity would increase. As discussed in Impact 3.12-4, development at the Project site would result in significant increases in existing traffic noise levels. Under future cumulative conditions, predicted traffic noise levels along all studied roadway segments would further increase. However, there are no existing noise-sensitive uses located along Grant Line Road between SR 99 SB Ramps to SR 99 NB Ramps, Grant Line Road between East Stockton Boulevard to Waterman Road, and Waterman Road between Mosher Road to Grant Line Road.

Elk Grove Policy MOB-1-1 establishes vehicle miles traveled (VMT) limits for the City's Planning Area, including locations for new growth, such as the East Study Area. The implementation of this policy would reduce travel demand by incorporating density mixing of uses, pedestrian and bike infrastructure, and transit services. Reducing travel demand would reduce traffic volumes and therefore traffic noise levels. Based on direction included in the General Plan, development in the Project site would be designed to minimize potential impacts. However, it is not possible to determine at this time whether this program would avoid all potentially significant impacts. Significant traffic noise impacts at existing and future noise-sensitive areas can be difficult to feasibly mitigate. Some noise-sensitive areas may have noise barriers that are constructed to reduce noise levels that, once these barriers are constructed, increase noise levels experienced on the other side of the roadway once noise is reflected off the newly constructed noise barriers to the other side of the roadway. New noise barriers may have limited effectiveness for traffic noise mitigation, since openings are often required for pedestrian, bicycle, vehicle, and emergency access and visual access for safety. Quiet pavement may be infeasible due to cost.

Given that detailed development plans are not currently available, it is conceivable that traffic noise levels at some land uses may continue to exceed applicable noise impact criteria. In addition, commonly employed traffic noise mitigation measures, such as sound barriers, may not be feasible at some land uses, particularly existing residential land uses that front major roadways. As a result, the Project's contribution to this cumulatively significant impact is considered **cumulatively significant and unavoidable**.

## LONG-TERM OPERATIONAL STATIONARY SOURCE NOISE

Noise sources associated with development projects in the City's planning area include landscape and building maintenance activities, mechanical equipment, solid waste collection, parking lots, commercial, office, and industrial activities, agricultural machinery and equipment, and residential, school, and recreation activities and events. Ambient noise is increasing in urbanized areas over time as a result of increased development, and noise sources that are adjacent to one another could combine to create a cumulatively significant impact.

Implementation of Mitigation Measure 3.12-6, along with compliance with the City's Noise regulations, contained in City Municipal Code Chapter 6.32, would reduce the Project's non-transportation source noise levels at on-site sensitive receptors. However, even with implementation of this mitigation measure, the Project's long-term stationary-source noise levels may not be reduced to a less-than-significant level. Furthermore, off-site agricultural noise would continue on parcels to the northeast and southeast, immediately adjacent to the development that is proposed on the Project site. Because cumulative noise increases could occur where site-

specific projects are in close proximity to one another, along with ongoing agricultural noise, the proposed Project could result in a **cumulatively significant and unavoidable contribution** to this significant cumulative impact.

## **GROUNDBORNE VIBRATION**

Construction activities associated with the cumulative projects would result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and activities involved. Although detailed information is not currently available, construction would generally be anticipated to result in maximum groundborne vibration levels associated with bulldozing (although unlikely, in some cases pile-driving could be necessary). Sensitive receptors could be located within the threshold distances established by the Federal Transit Administration; therefore, the cumulative projects could result in a significant cumulative impact.

Implementation of Mitigation Measure 3.12-3 would reduce the Project's vibration impacts. However, even with implementation of this mitigation measure it may not be possible to fully reduce these impacts to a less-than-significant level. Operation of the UPRR generates groundborne vibration at the Project site and in the immediate Project vicinity. Furthermore, construction of the Waterman 75 development project, on the north side of Grant Line Road across from the Project site, could occur simultaneously with development of the proposed Project. Therefore, the proposed Project could result in a **cumulatively significant and unavoidable contribution** to this significant cumulative impact.

### **4.2.12 PUBLIC SERVICES AND RECREATION**

The geographic scope for public services and recreation consists of the City of Elk Grove planning area.

## **FIRE PROTECTION SERVICES**

The Cosumnes Community Service District (CCSD), currently provides fire protection services for the City of Elk Grove. New development within the CCSD service area would increase demand for fire protection services and facilities, potentially resulting in the need for additional staff members, facilities, and equipment. Individual development projects would be required to assess impacts related to fire protection services during the environmental review process to ensure that the CCSD has sufficient facilities and equipment to meet demand.

The project applicant(s) would provide funding for additional fire facilities and equipment necessary to serve the Project through payment of development impact fees. Similarly, all individual development projects within the CCSD service area would be required to pay development impact fees. In addition, the proposed Project and individual development projects would incorporate California Fire Code and City standards into project designs. Therefore, a **cumulatively significant** impact would not occur, and the proposed Project would not result in a cumulatively significant incremental contribution to impacts related to increased fire protection services and facilities.

The CCSD Fire Department may need to build one or more of the three predesignated new fire stations (i.e., Station 77, Station 78, or Station 79) and need to hire additional firefighters, prevention, and emergency medical personnel to accommodate the increased demand for services. The construction and operation of new off-site facilities and expansion of existing off-site facilities by CCSD could also be required to maintain service ratios. If construction and operation of CCSD facilities are required to serve future development within its service area, the Project and other individual projects could indirectly contribute to cumulative impacts. CCSD would prepare



separate CEQA documentation in the future to evaluate the cumulative environmental impacts and those cumulative impacts are not knowable at this time. It is speculative to gauge the extent to which this would create any indirect cumulative impact that is distinct from the analysis of direct Project impacts.

## LAW ENFORCEMENT SERVICES

The Police Department provides law enforcement services to the City of Elk Grove. The Police Department currently has a staffing ratio of 0.80 officers per 1,000 residents. With the assumed addition of up to 2,304 persons, an estimated two (rounded up) officers could be needed. New development within the Police Department service area would increase demand for fire protection services and facilities, potentially resulting in the need for additional staff members, facilities, and equipment. Individual development projects would be required to assess impacts related to police protection services during the environmental review process to ensure that the Police Department has sufficient facilities and equipment to meet demand.

New staff, equipment, and facilities that would be necessary to provide additional law enforcement services is funded by property taxes, development impact fees, and potentially other mechanisms. The City reviews development impact fees yearly and adjusts as necessary to adequately fund police protection services. Therefore, development of the project site and other individual development projects in the Police Department's service area would not affect Police Department response times or other performance objectives because project applicants for future projects would pay development impact fees to ensure police protection personnel and equipment is provided to meet increased demand for police protection services. Therefore, a **cumulatively significant impact would not occur**, and the proposed Project would **not result in a cumulatively significant incremental contribution** to impacts related to increased police protection services and facilities.

If construction and operation of Police Department facilities are required to serve future development within its service area, the Project and other individual projects could indirectly contribute to cumulative impacts. The Police Department would prepare separate CEQA documentation in the future to evaluate the cumulative environmental impacts and those cumulative impacts are not knowable at this time. It is speculative to gauge the extent to which this would create any cumulative impact that is distinct from the analysis of direct Project impacts.

## SCHOOLS

The Elk Grove Unified School District (EGUSD) provides K–12 education to the City of Elk Grove and the Project site. Development within the EGUSD service area could increase the demand for school facilities. The Project site is currently in the Elk Grove Elementary School, Joseph Kerr Middle School, and Elk Grove High School district boundaries but it should be noted that school attendance boundaries may change, so other schools may eventually provide school services. All three schools are currently operating at below design capacity. However, these schools will be used to house future students from the already approved Laguna Ridge Specific Plan (7,400 homes), Sterling Meadows (1,184 homes), and the Southeast Policy Area (4,000 homes). It is anticipated that Elk Grove Elementary School will exceed its design capacity by 2021 and Joseph Kerr Middle School and Elk Grove High School will exceed design capacity by 2025; therefore, these schools and may not have capacity to accommodate the students who may reside in the mixed-use portion of the project site. The EGUSD's School Facilities Needs Analysis indicates that the Laguna Ridge South Elementary School, which would be located along Poppy Ridge Road, approximately 2.5 miles west of the Project site, and Crooked Creek Estates Elementary School, which would be located on Wyman Drive approximately 0.5 mile north of the Project

site, are anticipated to be designed and constructed in the next 5 to 6 years (ODELL Planning and Research 2020), and therefore would have capacity to serve students from the mixed-use portion of the project site.

City General Plan Policy CIF-4-2 requires developments to incorporate new schools in their overall designs, which would render any impacts to school facilities created by the increase in residential population resulting from potential future development less than significant by assuring that adequate school facilities are provided for current and future residents. The City supports state legislative efforts to secure additional state funding for school construction and ensure maintenance of local district priorities for funds in the State school bond program (City General Plan Policy CIF-4-3). In addition, City General Plan Policy IFP-1-7 requires new development to fund its fair share portion of its impacts to all public facilities as provided for in State law. Pursuant to SB 50, new development would be required to pay all applicable State-mandated school impact fees to EGUSD. The California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA (California Government Code Section 65996). Therefore, a **cumulatively significant impact would not occur**, and the proposed Specific Plan **would not result in a cumulatively significant incremental contribution** to impacts related to increased demand for school facilities and services.

It is possible that future residential development within the mixed-use portion of the Project site would generate demand for school facilities that are not met by existing elementary, middle, and high school facilities. Future students could potentially be bused or driven to schools within the EGUSD boundaries, resulting in indirect cumulative impacts related to transportation, such as air pollutant emissions, greenhouse gas emissions, and transportation noise. Off-site impacts associated with possible school facility development are not knowable at this time. It is speculative to gauge the extent to which this would create any cumulative impact that is distinct from the analysis of direct Project impacts.

## **PARKS AND RECREATION**

The CCSD provides parks and recreation facilities for residents of the city of Elk Grove, as well as portions of Sacramento County. CCSD serves an area of roughly 157 square miles, including the city limits of the City of Elk Grove, plus unincorporated areas of Sacramento County.

New development, including future development within the Project site, would generate demand for new and existing recreational facilities in Elk Grove and the unincorporated county. Future development within the Project site could add an assumed 713 housing units, or 2,304 residents to the CCSD service area. This amount of residential development would require the development of an estimated 11.5 acres of parkland, using standards maintained by the City and CCSD. Payment of the development impact fees would provide financing for public facilities, including parks and recreational facilities, which are required to serve new development. Similarly, individual development projects would be required to assess impacts related to parks and recreational facilities during the environmental review process to ensure sufficient facilities to meet demand and Individual development projects would be required to dedicate park and recreation facilities or pay applicable impact fees, per California Government Code Section 66477 (Quimby Act), the City of Elk Grove Municipal Code Chapter 22.40, and City General Plan Policy PT-1-3, or contribute to other fair share funding mechanisms required by the City as stated in General Plan Policy PT-1-5. Therefore, a **cumulatively significant impact would not occur**, and the proposed Project would **not result in a cumulatively significant incremental contribution** to impacts related to parks and recreation facilities.

## 4.2.13 TRANSPORTATION AND TRAFFIC

Please see Section 3.14, “Transportation,” for a discussion of the proposed Project’s cumulative traffic impacts.

## 4.2.14 UTILITIES

The geographic scope for utilities consists of future development that would occur within each utility provider’s service area. Utilities and service systems would be provided to future development by the Sacramento County Water Agency (SCWA), the Sacramento Area Sewer District (SASD), and the Sacramento Regional County Sanitation District (SRCSD). The related projects discussed in this section include future development that would occur within each provider’s service area.

### WATER SUPPLY AND WATER SYSTEMS

Water supply for the Project site would be provided by the SCWA’s Zone 40. Zone 40 provides water supply through a conjunctive-use water supply system consisting of surface water, groundwater, and recycled water. SCWA prepared a Water Supply Master Plan (WSMP) Amendment that addresses water supply and water infrastructure for the Project site (Brown and Caldwell 2020). The amended WSMP indicates that water supplies and demands within SCWA Zone 40 would be the same during normal, single-dry, and multiple-dry years; however, the year-to-year mix of surface and groundwater would be adjusted, as necessary, to meet the demands as part of its conjunctive use water supply program. As shown on Table 3.15-3 in Section 3.11, “Utilities and Service Systems,” SCWA would have water supplies that exceed demands in all water years.

SCWA’s Zone 40 water-demand factors were applied to the acreage for each future land use designation that generates water use within the Project site (Wood Rogers 2020a, Brown and Caldwell 2020). As shown on Table 3.15-5 in Section 3.11, the estimated water demand assuming development of the sports complex, commercial, industrial, and mixed uses has been conservatively estimated as 1,383 acre-feet per year (afy).<sup>2, 3</sup> The water supply demands for the proposed Project (1,383 afy) were added to water demand projections contained in the amended WSMP and shown in Table 3.15-3 in Section 3.11. As shown in Tables 8-12, 8-13, and 8-14 of the amended WSMP, water supply is projected to be sufficient to meet demands of the proposed Project and existing and planned development in Zone 40 in normal, single-dry, and multiple dry years. Therefore, a **cumulatively significant impact would not occur**, and the proposed Project would **not result in a cumulatively significant incremental contribution** to impacts related to water supply demand.

The amended WSMP evaluated the capacity for SCWA’s existing off-site water supply infrastructure to serve the Project site. The WSMP determined that the existing Grant Line Road transmission main and Elk Grove GWTP and East Park GWTP have capacity to meet the demands of the proposed Project and existing and future development (Brown and Caldwell 2020). Therefore, **no significant cumulative** impact would occur.

---

2 The water supply demand for development of the City-owned property with industrial land uses is estimated as 1,333 afy (Brown and Caldwell).

3 The water supply demand for development of the City-owned property with industrial land uses is estimated as 1,333 afy (Brown and Caldwell).

## WASTEWATER COLLECTION, CONVEYANCE, AND TREATMENT FACILITIES

Wastewater collection and conveyance facilities would be provided by SASD and wastewater treatment would be provided by SRCSD.

As shown in Table 3.16 in Section 3.11, buildout of the proposed Project would generate an estimated 1.05 million gallons per day (mgd) of average dry-weather flow. The SRWTP has a design capacity of 181 mgd with the potential to expand to 218 mgd. As of 2019, the SRWTP receives and treats an average of 115 mgd each day (SRCSD 2019). When proposed Project -related wastewater flows (1.05 mgd) are combined with the current average dry-weather flows (115 mgd), implementation of the proposed Project would not result in an increase in wastewater flows that exceed the current disposal capacity of 181 mgd average dry-weather flow. The SRCSD anticipates conservation measures implemented throughout the service area would result in the existing 181 mgd average dry-weather flow capacity to be adequate for at least 40 more years (SRCSD 2014). Therefore, the SRWTP would have adequate capacity to treat wastewater flows generated by future development within the Project site in addition its existing commitments. A **significant cumulative impact would not occur**, and the proposed Project **would not result in a cumulatively significant incremental contribution** to impacts related to wastewater treatment.

SASD conducted an analysis and confirmed that the existing off-site conveyance system has adequate capacity to accommodate peak wet-weather flows generated by the project site at full build-out in addition to existing and future development (Wood Rogers 2020b). Therefore, **no significant cumulative impact** would occur.

## SOLID WASTE

Residential solid waste in the City of Elk Grove is collected and hauled by Republic Services. Waste generated by proposed nonresidential uses could be hauled by any of a number of permitted haulers as selected by the individual developer, and wastes would be hauled to a variety of permitted landfills. Solid waste is collected by private franchised haulers and disposed of at various facilities, most of which have more than 70 percent capacity remaining, including Altamont Landfill & Resource Recovery, Recology Hay Road, Bakersfield Metropolitan Sanitary Landfill, Foothill Sanitary Landfill, Forward Landfill, Inc., Keller Canyon Landfill, L and D Landfill, North County Landfill, Potrero Hills Landfill, and Sacramento County Landfill (Kiefer) (City of Elk Grove 2020). The area of the Project site identified for development of mixed uses could generate approximately 3.8 tpd of solid waste.<sup>4</sup> Future development of commercial and industrial uses could generate approximately 58.8 tpd of solid waste.<sup>5</sup> Combined, these landfills have a large volume of landfill capacity (150 million cubic yards) available to serve future development. The closure dates of the Kiefer Landfill and L and D Landfill are anticipated to be approximately January 1, 2064 and January 1, 2031, respectively.

Future development would comply with all federal, State, and local solid waste statues and regulations, including Compliance with the CalGreen Code; the City's the Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance; Space Allocation and Enclosure Design Guidelines; Assembly Bill 1826 (mandatory

---

4 Based on CalRecycle's estimated 2018 annual per capita disposal rate of 3.3 pounds per resident per day, the estimated total population for the proposed project (2,304 persons) would generate approximately 7,600 pound per day of solid waste, which equates to 3.8 tpd (CalRecycle 2020).

5 Based on CalRecycle's estimated 2018 annual per capita disposal rate of 15.1 pounds per employee per day and an estimated 7,788 employees for the proposed project, approximately 117,600 pound per day of solid waste would be generated per day, which equates to 58.8 tpd (CalRecycle 2020).

commercial organics recycling); and other City recycling programs. The Kiefer Landfill, L and D Landfill, and Yolo County Central Landfill have sufficient landfill capacity available to accommodate solid-waste disposal needs for future development within the Project site. Therefore, **no significant cumulative** impact would occur.

## 4.2.15 ENERGY

### ENERGY USE

The geographic scope for energy resources consists of the City of Elk Grove and the larger Sacramento County region.

Increased demand for electrical and natural gas supplies and infrastructure is a byproduct of all future land uses and development throughout the Sacramento region. Energy is consumed for heating, cooling, and electricity in homes and businesses; for public infrastructure and service operations; and for agriculture, industry, and commercial uses. Each service provider is responsible for ensuring adequate provision of these utilities within their jurisdictional boundaries and would be responsible for upgrading their existing electrical and natural gas distribution systems or constructing new distribution systems to meet the demands of individual projects.

As noted in Section 3.16 “Energy,” transportation is, by far, the largest energy consuming sector in California, accounting for approximately 40 percent of all energy use in the state (U.S. Energy Information Administration 2018). Since transportation accounts for more energy consumption than heating, cooling, and powering of buildings, powering industry, or any other use, the overall efficiency of energy use in the region will depend importantly on the ability of local lead agencies to plan in a way that reduces travel demand. SACOG’s 2016 MTP/SCS demonstrates an increase in energy efficiency through 2035 in relation to transportation energy use – household generated vehicle miles traveled (VMT) per capita is forecast to decrease by more than 8 percent; SACOG also estimates that total VMT will decrease by almost 7 percent during the 2016 MTP/SCS planning period (SACOG 2016, Chapter 5B, page 91).

Energy efficiency will also increase in relation to heating and cooling of buildings. The State of California adopted the California Green Building Standards Code (CALGreen Code), which establishes mandatory standards for all buildings in California, including for energy efficiency. This Code is updated over time and in each instance, the energy efficiency standards are increased.

The City of Elk Grove General Plan Update (City of Elk Grove 2019a) and Climate Action Plan Update (City of Elk Grove 2019b) include energy conservation strategies for land use, transportation, community design, public facilities and infrastructure, which also support the reductions in GHG emissions and increased emissions in criteria pollutants. However, the demand for energy and consumption of energy resources would still increase should the area become developed. Future land use patterns, new construction and building renovations, and commuting patterns would increase demand for energy in the City. This would result in a significant cumulative increase in the demand for energy and the need for construction and/or extension of additional facilities to generate and/or distribute electricity and natural gas to serve the Project site. Therefore, the increase in regional development would result in a significant cumulative impact.

Project development would increase energy demand. However, the City would require all discretionary projects to comply with the City’s General Plan and Climate Action Plan. Additionally, site-specific projects would also need to incorporate energy efficient design elements and energy conservation measures included in the City’s General

Plan, including those related to reducing VMT, as well as ongoing cooperation with SUMD and local agencies to support renewable energy production, in addition to the implementation of State building and energy efficiency standards. Development of the Project site would be subject to policies and standards designed to improve energy efficiency and avoid inefficient, excessive, and unnecessary consumption of energy due in construction and operations. Implementation of Mitigation Measures 3.16-1a and 3.16-1b, which include incorporation of energy conservation strategies in project designs, would reduce impacts associated with energy consumption. Mitigation measures would reduce energy demand and improve energy conservation by reducing energy associated with transportation of building materials, lighting, irrigation, and heating and cooling; require reductions in ozone precursors from operational emissions sources; and require implementation of GHG emission reduction strategies. However, given the scale of possible development that could be proposed in the future, the impact would be considered significant and unavoidable. Therefore, development of the Project site could result in a **cumulatively considerable contribution** to a significant cumulative impact related to the increased energy demand. There is no additional feasible mitigation. The impact is **cumulatively significant and unavoidable**.

## **ELECTRICITY AND NATURAL GAS**

Development at the Project site would increase demand for electricity and natural gas services and require the development of new utility infrastructure to deliver services to future development. Electrical and natural gas service in the City of Elk Grove is provided by SMUD and PG&E, respectively.

Projects in the SMUD and PG&E service areas would vary in size and have different amounts of development. However, they would be expected to increase the demand for electricity and natural gas supplies and related infrastructure. Individual development projects in the region would be required to assess project impacts during the environmental review process to ensure that SMUD has sufficient electrical supplies and PG&E has sufficient natural gas supplies to meet demand. Therefore, **a cumulatively significant impact would not occur**, and the project **would not result in a cumulatively significant incremental contribution** to impacts related to the increased demand for electrical and natural gas services.

New or extensions of existing SMUD and PG&E off-site infrastructure could be required to serve development in the Project site and other future projects within the SMUD and PG&E service areas. If construction and operation of SMUD and PG&E facilities are required to serve future development within their service areas, the Project and other individual projects could indirectly contribute to cumulative impacts. Construction and operation of off-site electrical and natural gas facilities are the responsibility of SMUD and PG&E, respectively. SMUD and PG&E would prepare separate CEQA documentation in the future to evaluate the cumulative environmental impacts and those cumulative impacts are not knowable at this time. It is speculative to gauge the extent to which this would create any cumulative impact that is distinct from the analysis of direct Project impacts.

# 5 ALTERNATIVES

## 5.1 INTRODUCTION

CEQA requires the consideration and analysis of alternatives to a proposed project. According to the CEQA Guidelines, the range of alternatives “shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant impacts” (CEQA Guidelines Section 15126.6[c]; see also CEQA Guidelines Section 15126.6[a]).

Section 15126.6(a) of the CEQA Guidelines requires that an EIR describe:

“...a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

In defining “feasibility,” CEQA Guidelines Section 15126.6(f)(1) states, in part:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

The CEQA Guidelines further require that the alternatives be compared to a proposed project’s environmental impacts and that the “no project” alternative be considered (CEQA Guidelines Section 15126.6[e]). The CEQA Guidelines provide guidance on defining and analyzing alternatives. Section 15126.6[b] states:

“... the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.”

## 5.2 SELECTION OF ALTERNATIVES

### 5.2.1 CRITERIA

Alternatives were selected for evaluation in this SEIR based on criteria in the CEQA Guidelines Section 15126.6. These criteria include (1) ability of the alternative to attain most of the basic project objectives; (2) feasibility of

the alternative; and (3) ability of the alternative to avoid or substantially reduce one or more significant environmental effects of the proposed Project.

The City has evaluated potential alternatives relative to the objectives of the proposed Project. For the purpose of alternatives analysis under CEQA, project objectives may not be defined so narrowly that the range of alternatives is unduly constrained. Alternatives that would impede to some degree the attainment of the project objectives or would be more costly may also be considered.

### **5.2.1 PROJECT PURPOSE AND OBJECTIVES**

The following objectives have been established for the proposed Project:

- ▶ Provide for development consistent with the General Plan Study Area Organizing Principles and the East Study Area Land Use District Program Standards.
- ▶ Create a mix of employment activities in the southwestern portion of the East Study Area that transitions to residential neighborhoods toward the northeast.
- ▶ Focus employment uses within the East Study Area on industrial, office, and regional retail uses.
- ▶ Designate open space as needed to meet resource conservation standards and to provide an adequate floodplain buffer.
- ▶ Facilitate development that would create a better balance between the types of local jobs available and the skills and interests of the local labor force.

### **5.3 ALTERNATIVES CONSIDERED IN DETAIL IN THE SEIR**

The proposed Project involves most of the same development in the same locations as assessed in the 2019 SOIA EIR. The approximately 100-acre City-owned parcel in the center of the project site was formerly designated Public Open Space/Recreation and now would be designated for Light Industrial uses. The Project site would have a reduction in the land area of Parks and Open Space, an increase in both Light Industrial and Heavy Industrial uses, a reduction in the amount of mixed General Commercial and Commercial Office uses, and a new use, Regional Commercial, proposed for 20 acres of land. Regional Commercial uses are generally characterized by retail and service uses that serve a regional market area.

Based on the criteria for selection of the alternatives discussed above in Section 5.2, the City has determined that it is appropriate to keep the same alternatives that were evaluated in the 2019 SOIA EIR: Alternative 1: No-Project Alternative and Alternative 2: Reduced Size Alternative.

#### **5.3.1 ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

CEQA Guidelines Section 15126.6(e)(2) states that a discussion of the “No Project” alternative must consider “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans.”

Most of the Project site is designated as Farmland of Statewide Importance (424 acres), with several smaller areas of Farmland of Local Importance (including the City-owned parcel) (129 acres). The Project site is currently used



for agricultural production, consisting of row crops and pasture, with three existing home sites, five rural residences, and multiple barns and sheds associated with agricultural activities. Most of the Project site is zoned for agricultural uses with a small area in the south zoned for industrial use. For purposes of this SEIR, the No-Project Alternative assumes continued agricultural use on 527 acres and intensive industrial development on 41 acres, as shown in Exhibit 5-1.

### **ABILITY OF ALTERNATIVE TO MEET PROJECT OBJECTIVES**

This alternative would not meet the Project objectives since it would not create new jobs in the form of industrial and commercial development opportunities, and there would be no mixed-use development. This alternative would not address the City's jobs-housing balance.

### **5.3.2 ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under this alternative, development would be limited to the 100-acre City property and the Kendrick and Cypress Avenue properties, approximately 385 acres total, as shown in Exhibit 5-2. The Kendrick and Cypress Avenue properties would be industrial and commercial, although in slightly different amounts as compared to the proposed Project. The front approximately 50 acres of the City property would be employment uses along the frontage with Grant Line Road, with approximately 50 acres of multi-sport park complex in the rear. There would be no stadium or separate land set aside for fairground use (though the fair use could occur on the same land as the sports park complex). The balance of the Project site would not be developed with mixed uses or parks/open space, but instead would continue to be used for agriculture. Development under this alternative would require generally the same off-site drainage improvements as the proposed project.

### **ABILITY OF ALTERNATIVE TO MEET PROJECT OBJECTIVES**

This alternative could generally meet the Project objectives, albeit potentially not to the same degree as the proposed Project since there would be less industrial and mixed-use development to address the City's jobs-housing balance.

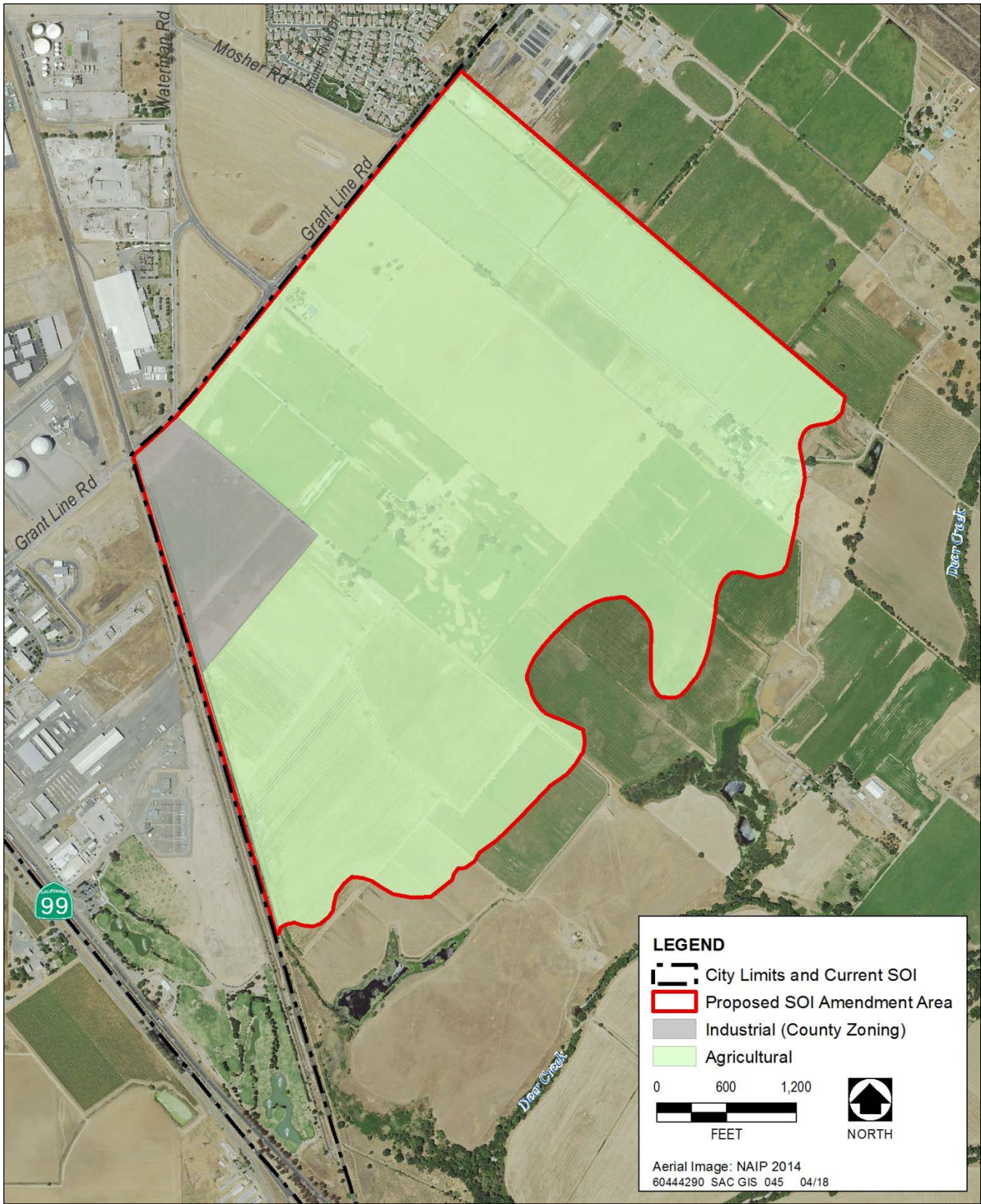
## **5.4 ALTERNATIVES ANALYSIS**

### **5.4.1 AESTHETICS**

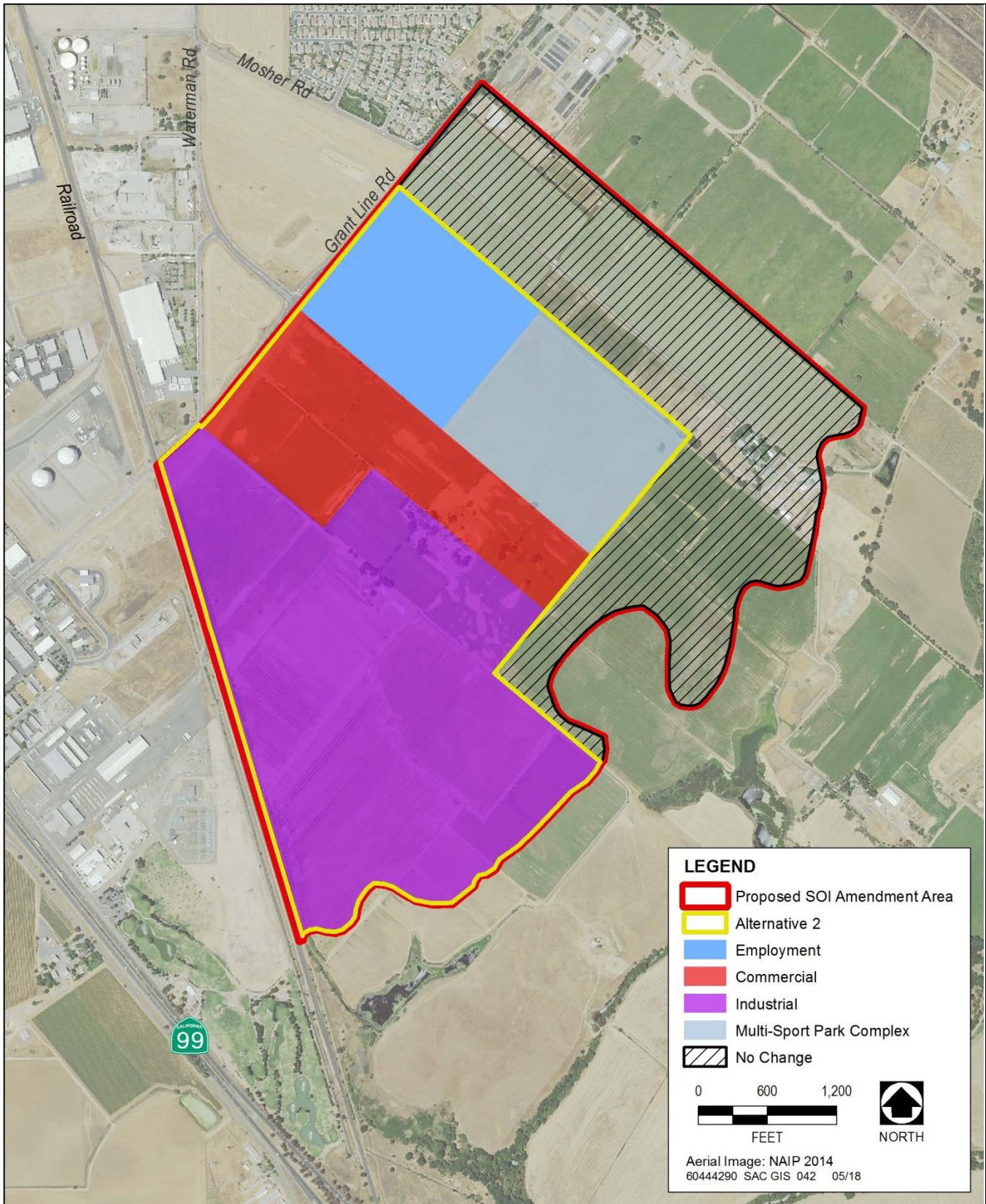
#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

With the continuation of existing agricultural uses, it is likely that no visual change would occur, or that any future activities permitted under the zoning and designation such as the construction of minor outbuildings or farming facilities or changes in agricultural operations would not entail a significant change in the visual character of the project site. No damage to scenic vistas or scenic resources within a state scenic highway would occur. There would be no additional sources of light or glare.

If development were to be approved on the industrial portion, it would likely be similar to the industrial development considered under the proposed Project, although the extent would be much less than the proposed Project. Thus, aesthetics impacts would be reduced compared to the proposed Project.



**Exhibit 5-1. Alternative 1: No Project Alternative**



**Exhibit 5-2. Alternative 2: Reduced Size Alternative**

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Similar to the proposed Project, future development could have impacts on aesthetics, although the extent would be much less than the proposed Project. As described in Section 3.2, “Aesthetics,” because the area has little or no topographical relief and the adjacent areas are private farmland, industrial, or protected floodplain, public views are limited. Portions of the Project site are visible from Grant Line Road and from the intersections of Grant Line Road and Mosher and Waterman Roads, and from pedestrians walking on the new sidewalks installed as part of the UPRR grade separation. Motorists traveling east have views of the Project site after crossing over the elevated portion of Grant Line Road at the UPRR grade separation, for approximately 0.65 mile. The Project site is also visible to motorists traveling west on Grant Line Road as they approach the intersection with Waterman Road and the UPRR grade separation. There are no public views of the off-site drainage improvements. For these public views, Alternative 2 would still introduce structural elements into the landscape that would detract from the visual qualities of the existing agricultural open space, changing the visual character. However, the extent of the development would be reduced compared to the proposed Project – there would be no stadium or separate land set aside for fairground use. Thus, aesthetics impacts would be reduced compared to the proposed Project.

### **5.4.2 AGRICULTURAL RESOURCES**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

There is no Prime Farmland on the Project site. Approximately 424 acres of the Project site are designated as Farmland of Statewide Importance, and 129 acres are designated as Farmland of Local Importance (including the 100-acre City-owned parcel). If development were to be approved on the industrial portion, it would likely be similar to the industrial development considered under the proposed Project. No off-site drainage improvements would be required, but those off-site improvements would not result in the conversion of existing farmland to urban uses. Existing agricultural operations could continue on 527 acres of the Project site. No Williamson Act lands would be developed under this alternative. In addition, no conversion of Farmland of Local Importance would occur and the conversion of Farmland of Statewide Importance would be 38 acres compared to 424 acres under the proposed Project. Therefore, the impacts of Alternative 1 on agricultural resources would be reduced as compared to the proposed Project.

#### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Alternative 2 would not convert Prime Farmland. Alternative 2 would result in substantially less conversion of Important Farmland. Alternative 2 would convert approximately 278 acres of Farmland of Statewide Importance, compared to 424 acres under the proposed Project, and approximately 110 acres of Farmland of Local Importance, compared to 129 acres under the proposed Project. Furthermore, Alternative 2 would avoid impacts to on-site Williamson Act contract lands. Off-site drainage improvements would be required, but those off-site improvements would not result in the conversion of existing farmland to urban uses or the cancellation of existing Williamson Act contracts. Existing agricultural operations could continue in the areas not proposed for development. Therefore, the impacts of Alternative 2 on agricultural resources would be reduced as compared to the proposed Project.

### **5.4.3 AIR QUALITY**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Existing air pollutant emissions associated with agricultural activities would still occur on most of the Project site. Temporary emissions associated with maintenance activities or construction of new agriculture-related structures could also occur on-site. Under Alternative 1, construction would occur on 41 acres of the Project site compared to 571 acres under the proposed Project. There would be reduced exhaust emissions associated with off-road construction equipment and construction worker commutes. Therefore, the amount of construction-related air pollutants that would be generated under Alternative 1 would be substantially reduced as compared to the proposed Project. Operational generation of criteria air pollutants and precursors, as well as toxic air contaminants, would also be reduced compared to the proposed Project. Thus, the air quality impacts would be reduced compared to the proposed Project.

#### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, construction would occur on 385 acres of the Project site compared to 571 acres under the proposed Project. Construction of generally the same off-site drainage improvements would still be required. Less construction and development would occur under Alternative 2, and there would be reduced exhaust emissions associated with off-road construction equipment and construction worker commutes. Therefore, the amount of construction-related air pollutants that would be generated would be reduced under Alternative 2 as compared to the proposed Project.

Operational generation of criteria air pollutants and precursors, as well as toxic air contaminants, would also be reduced compared to the proposed Project. There would be a reduced amount of industrial and commercial development and no residential development; thereby resulting in less traffic-related exhaust emissions. Thus, the operational air quality impacts under Alternative 2 would be reduced compared to the proposed Project.

### **5.4.4 BIOLOGICAL RESOURCES**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Under Alternative 1, most of the Project site would continue to function as habitat for special-status wildlife species, and potentially for one special-status plant species. As with the proposed Project, industrial development could adversely affect special-status plants and habitat for special-status species, but only in a small area of cropland in the northwest corner of the Project site. Furthermore, due to the much smaller amount of development, the off-site improvements that would be necessary as part of the proposed Project would not be required under Alternative 1. Therefore, impacts related to the loss and degradation of habitat for special-status wildlife and plant species would be greatly reduced both in type (since no wetlands or associated special-status species would be affected under Alternative 1), and in scope (due to the smaller acreage).

On both agricultural and industrial lands, property owners would still be required to comply with Sections 1602, 3503, 3511, 4700, 5050, and 5515 of the California Fish and Game Code, which prohibit diversion or obstruction of streamflow and streambeds, prohibit “take” of protected species (including raptors), and prohibit destruction of nests or eggs of any bird. Finally, the Federal Endangered Species Act (16 U.S.C. Section 1531 et seq.) prohibits private parties from engaging in any activity that may result in “take” of a species listed as threatened or endangered.

Development could occur on 41 acres of the Project site, and this conversion from agricultural land uses to urban land uses would result in loss of suitable nesting and foraging habitat for Swainson's hawk and other raptors. However, as compared to the impacts of the proposed project, the impacts of Alternative 1 on biological resources would be greatly reduced.

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

As with the proposed Project, development of the Project site could adversely affect one special-status plant and habitat for special-status wildlife. Furthermore, Alternative 2 would require the same off-site drainage improvements as the proposed Project. Impacts related to the loss and degradation of habitat for special-status wildlife and plant species would be similar in type, although they would be reduced due to the smaller acreage.

Development could occur on 385 acres of the Project site, and this conversion from agricultural land uses to urban land uses would result in loss of suitable nesting and foraging habitat for Swainson's hawk and other raptors. In addition, the off-site improvements could result in loss of sensitive habitats and or numerous additional species of special-status plants and wildlife. Therefore, as compared to the impacts of the proposed Project, the impacts of Alternative 2 on biological resources would be similar.

## **5.4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Under Alternative 1, urban development could occur on 41 acres of the Project site. If cultural materials are unearthed, they would be subject to same regulations protecting cultural resources as discussed in detail in Section 3.6, "Cultural and Tribal Cultural Resources." Furthermore, the reduced area of development would avoid any potential impacts to Tribal Cultural Resources and would avoid impacts to any of the existing on-site structures which have yet to be evaluated for historical significance. Therefore, the potential for adverse impacts to cultural resources would be reduced compared to the proposed Project. The same potential to uncover and potentially damage or destroy unknown cultural and archaeological materials or human remains would occur under Alternative 1, but would be limited to a 41-acre area under Alternative 1 (as compared to 571 acres under the proposed Project).

Although the same types of impacts could occur, they would occur in a much smaller area as compared to the proposed Project and would occur in an area that is farther from the Deer Creek/Cosumnes River floodplain where prehistoric settlements were more likely to have been located. Furthermore, Alternative 1 would avoid potential impacts to Tribal Cultural Resources and to any structures on the Project site (which may be found to be historic). Therefore, the impacts of Alternative 1 would be reduced as compared to the proposed Project.

### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

The Mosher and Mahon portions of the Project site (see Section 3.6, "Cultural Resources," of this SEIR) are both outside of the boundary of Alternative 2 and therefore potentially historic facilities on those properties would not be affected. However, Alternative 2 still could have impacts on a farmstead, an Italianate house that dates to the late 19<sup>th</sup> century, and other old farm structures that may be historical resources for CEQA when they are evaluated in the future. The off-site drainage improvements would not affect any known cultural resources but may adversely affect a Tribal Cultural Resource similar to the proposed Project. If cultural materials are unearthed, they would be subject to regulations protecting cultural resources. Therefore, the potential for adverse impacts to

cultural resources would be reduced compared to the proposed Project, but since it is not possible to know whether or not there are subsurface resources that could be affected, it is not possible to determine at this time whether actual impacts would be reduced relative to the proposed Project. Because this alternative would result in similar potential to unearth cultural resources if development were to occur, because development would still occur over a relatively large area, would still have the potential to adversely affect historic resources and potentially a Tribal Culture Resource from the off-site improvements, Alternative 2 would have similar impacts on cultural resources as compared to the proposed Project.

## **5.4.6 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Under Alternative 1, construction could occur on 41 acres of the Project site compared to 571 acres under the proposed Project. The same regulations related to site preparation and the construction of buildings, including the California Building Standards Code, which provides minimum standards for building design throughout California, would apply. Although similar less-than-significant impacts from seismic, soils, and geologic hazards would occur, they would be reduced as compared to the proposed Project since substantially less land would be developed.

Because the entire Project site is considered paleontologically sensitive, development of the industrial parcel would have the same potential for significant impacts to unique paleontological resources. However, because earthmoving activities would occur on only 41 acres instead of 571 acres, and the off-site drainage improvements would not be necessary, the potential for adverse impacts to unique paleontological resources would be greatly reduced under Alternative 1 as compared to the proposed Project.

### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, development could occur on 385 acres as compared to 571 acres under the proposed Project. The same regulations related to site preparation and the construction of buildings, including the California Building Standards Code, which provides minimum standards for building design throughout California, would apply. Although similar less-than-significant impacts from seismic, soils, and geologic hazards would occur, they would be reduced as compared to the proposed Project since substantially less land would be developed.

Because all of the Project site and the off-site areas are considered paleontologically sensitive, development under Alternative 2 would have the same potential for significant impacts to unique paleontological resources. Because earthmoving activities would still occur on a large portion of the Project site (i.e., 385 acres) plus the off-site improvements areas, the potential for adverse impacts to unique paleontological resources would be similar under Alternative 2 as compared to the proposed Project.

## **5.4.7 GREENHOUSE GAS EMISSIONS**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Small temporary GHG emissions associated with agricultural maintenance activities or construction of new agriculture-related structures on site would continue. In addition, livestock and fertilizer application are sources of GHG emissions.

Under Alternative 1, construction could occur on 41 acres of the Project site compared to 571 acres under the proposed Project. There would be less construction-related GHG emissions generated by exhaust emissions associated with off-road construction equipment, heavy-duty material haul trucks, and construction worker commutes. Therefore, development under Alternative 1 would have reduced short-term construction-related GHG emissions compared to the proposed Project

Operational GHG emission sources, including energy consumption (i.e., electricity and natural gas), transportation, and water and wastewater, would be less compared to the proposed Project since less development would occur.

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, construction would occur on 385 acres of the Project site compared to 571 acres under the proposed Project, which would generate GHG emissions. Construction of the same off-site drainage improvements would be required, which would also generate GHG emissions. However, there would be less construction-related GHG emissions generated by exhaust emissions associated with off-road construction equipment, heavy-duty material haul trucks, and construction worker commutes under Alternative 2 as compared to the proposed Project because a smaller area would be developed with the same types of land uses.

There would be a reduction in the acreage and square footage of development under this alternative and an associated reduction in operational GHG emission sources, including energy consumption (i.e., electricity and natural gas), transportation, and water and wastewater. It is not known what land use, transportation, pricing, or design strategies would be incorporated under Alternative 2, and therefore not possible to know the rate of GHG emissions relative to the proposed Project. However, it is reasonable to assume that the total GHG emissions would be reduced under Alternative 2 compared to the proposed Project.

## **5.4.8 HAZARDS, HAZARDOUS MATERIALS, AND WILDFIRE**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

The storage, use, disposal, and transport of hazardous materials are extensively regulated by various federal, State, and local agencies, and therefore agricultural companies, construction companies, and businesses (during the operational phase on the industrial parcel) that would handle any hazardous substances would be required by law to implement and comply with these existing hazardous-materials regulations. During the construction phase on the 41-acre industrial parcel, similar to the proposed Project, hazardous materials, such as fuels, oils and lubricants, paints, glues, and cleaning fluids, could be required, although the amount of development would be reduced. Facilities that would use hazardous materials on site after any future development would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. Construction and operation of industrial development under Alternative 2 would be required to comply with applicable building, health, fire, and safety codes, as described for the proposed Project. Reducing the amount of development (41 acres as compared to 571 acres) would also reduce the likelihood that a potential hazardous materials upset and accident condition would occur. Thus, hazards and hazardous materials impacts under Alternative 1 would be reduced compared to the proposed Project.



## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

The storage, use, disposal, and transport of hazardous materials are extensively regulated by various federal, State, and local agencies, and therefore agricultural companies, construction companies, and businesses (during the operational phase on the industrial parcel) that would handle any hazardous substances would be required by law to implement and comply with these existing hazardous-materials regulations. During the construction phase both on-site and for the off-site drainage improvements, similar to the proposed Project, hazardous materials such as fuels, oils, and lubricants, would be required, although the area where these materials would be used during construction would be reduced. Facilities that would use hazardous materials on site during the operational phase would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases, similar to the proposed Project. Operation of commercial and industrial development under this alternative would be required to comply with applicable building, health, fire, and safety codes, as described for the proposed Project. Reducing the amount of development (385 acres as compared to 571 acres) would also reduce the likelihood that a potential hazardous materials upset and accident condition would occur. Thus, hazards and hazardous materials impacts under Alternative 2 would be reduced as compared to the proposed Project.

### **5.4.9 HYDROLOGY AND WATER QUALITY**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Depending on crop types and agricultural practices, continuing water demand could be considerable. In addition, agricultural production—which would allow the use of fertilizers and pesticides—could affect water quality. As with the proposed Project, the 41 acres of industrial development could affect long-term water quality due to increased impervious surfaces and urban stormwater runoff. Construction and grading activities associated with the 41 acres of industrial development have the potential to cause temporary and short-term increased erosion and sedimentation and increase pollutant loads in stormwater runoff. Development on the industrial parcel would involve earth-disturbing activities (e.g., cut and fill, vegetation removal, grading, and trenching) that could expose disturbed areas and stockpiled soils to winter rainfall and stormwater runoff.

However, under Alternative 1, construction would occur on only 41 acres of the Project site as compared to 571 acres under the proposed Project. Furthermore, construction of the off-site improvements would not be required. With the substantial reduction in development, the level of temporary, construction-related impacts would be reduced under Alternative 1 compared to the proposed Project. In addition, Alternative 1 would greatly reduce the amount of new impervious surfaces added on-site compared to the proposed Project and therefore would decrease the peak discharge flow and rate of stormwater runoff generated on the Project site.

Continued agricultural uses would potentially increase the amount of groundwater recharge as compared to the proposed Project. Furthermore, the industrial parcel is not located within either the 100- or 200-year floodplain.

Since the amount of development under Alternative 1 would be substantially reduced as compared to the proposed Project, hydrology and water quality impacts under Alternative 1 would be reduced as compared to the proposed Project.

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

As with the proposed Project, development with industrial and commercial uses could affect long-term water quality due to increased impervious surfaces and urban stormwater runoff. Construction and grading activities have the potential to cause temporary and short-term increased erosion and sedimentation and increase pollutant loads in stormwater runoff. Development would involve substantial earth-disturbing activities over 385 acres (e.g., cut and fill, vegetation removal, grading, and trenching), plus the off-site drainage improvement areas, that could expose disturbed areas and stockpiled soils to winter rainfall and stormwater runoff.

Under Alternative 2, construction would occur on 385 acres of the Project site compared to 571 acres under the proposed Project. Construction in the off-site improvements areas would still be required. With the reduction in total development, the level of temporary, construction-related impacts would be reduced under Alternative 2 compared to the proposed Project. In addition, Alternative 2 would reduce the amount of impervious surfaces added on-site compared to the proposed Project and therefore would decrease the peak discharge flow and rate of stormwater runoff generated on the Project site.

Since agricultural activities would continue on 176 acres of the Project site, the potential for on-site groundwater recharge would increase as compared to the proposed Project. None of the development proposed under Alternative 2 would be located within a 100-year floodplain. Some of the industrial development would be within the 200-year floodplain, but this area would be subject to inundation depth that are 1 foot or less and therefore an Urban Level of Flood Protection is not required. With less overall development under Alternative 2, impacts related to hydrology and water quality would be reduced compared to the proposed Project.

### **5.4.10 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

The continued use of the Project site for agricultural production would not impact land use and planning, population, housing, or employment. Industrial development on the 41-acre parcel and continuation of agricultural uses would be consistent with the Sacramento County General Plan's land use designation and the City's zoning of the project site. Alternative 1 would not displace people or housing, induce substantial population growth, or divide an established community. Alternative 1 land uses are consistent with the land uses identified in the Sacramento County General Plan and the City of Elk Grove General Plan Update (City of Elk Grove 2019). This alternative involves substantially less employment opportunity compared to the proposed Project. Alternative 1 would convert less open space than the proposed Project. Overall, impacts would be reduced compared to the proposed Project.

#### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Similar to the proposed Project, the portion of the Project site that is designated for agriculture in the Sacramento County General Plan would be annexed to the City and would be outside of the County's jurisdiction. LAFCo has already approved a Sphere of Influence amendment (with approval of the 2019 SOIA EIR) that placed the Project site in the City's planning area. The City's 2019 General Plan identified the Project site for planning and development. The Project site would be annexed into the City and therefore would be required to comply with the City of Elk Grove General Plan policies. The off-site drainage improvements would be operated by the City under an easement that would be executed with the off-site landowners.

No residential development would be constructed under Alternative 2; therefore, there would be no population growth generated by new housing. Although there would be less development, Alternative 2 would create a substantial number of new employment opportunities that could generate the need for new housing and result in indirect and unplanned population growth. Development associated with Alternative 2 was accounted for in the City's 2019 General Plan, but was not included in the SACOG 2020 MTP/SCS. Development of housing, infrastructure, and facilities and services to serve this growth could have significant environmental impacts through land conversions, commitment of resources, and other mechanisms. Overall, impacts would be reduced compared to the proposed Project.

## **5.4.11 NOISE AND VIBRATION**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Noise associated with the use of agricultural equipment would continue on the Project site and could potentially increase or change in type, depending on any changes in agricultural activities, including a change in crops or farming techniques, or other activities that would be permitted under the current zoning and designations. The same types of construction equipment would be used for development on the 41-acre industrial parcel, but for less time compared to the proposed Project, given the substantially reduced area of development. In addition, operational noise impacts would be reduced since only 41 acres would be developed as compared to 571 acres. Thus, impacts from noise and vibration under Alternative 1 would be reduced as compared to the proposed Project.

### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, construction could occur on 385 acres of the Project site compared to 571 acres under the proposed Project, as well as in the off-site improvement areas. The same types of construction equipment would be used for development of industrial and commercial land uses and the off-site drainage improvements, but for less time compared to the proposed Project, given the reduced area of development. This would lead to a reduction in potential temporary, short-term exposure of sensitive receptors to construction noise, groundborne noise, and vibration.

In addition, operational noise impacts would be reduced since there would be a smaller amount of development compared with the proposed Project. There would be less industrial commercial/office development, no mixed uses, and no stadium (the proposed Project could accommodate a sports complex and stadium under the City's conditional use permit process). Therefore, Alternative 2 would result in less long-term traffic noise levels at existing noise-sensitive receivers, improved land use compatibility of on-site sensitive receptors with future traffic noise levels, and improved land use compatibility of on-site sensitive receptors and improved generation of non-transportation noise levels in excess of local standards compared to the proposed project. Overall, noise and vibration impacts under Alternative 2 would be reduced compared to the proposed Project.

## **5.4.12 PUBLIC SERVICES AND RECREATION**

### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Continuation of the existing agricultural land uses on most of the Project site would not result in increased demand on fire protection, emergency medical, or law enforcement services. Project applicant(s) on the 41-acre parcel would pay development impact fees to ensure fire and police protection personnel and equipment, school

facilities, and parks are provided to meet increased demand for these services. Since Alternative 1 would reduce the development potential on-site from 571 acres to 41 acres, the law enforcement, fire protection, public school services, and parks and recreational services needs would be substantially reduced compared with the proposed Project. Thus, impacts would be reduced compared to the proposed Project.

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Since Alternative 2 would reduce the development potential on-site from 571 acres to 385 acres, the law enforcement, fire protection, public school services, and parks and recreational services needs would be proportionally reduced compared with the proposed Project. Project applicants would pay development impact fees to ensure fire and police protection personnel and equipment, school facilities, and parks are provided to meet increased demand for these services. Because of the relatively large area that would still be developed and the likely increase in demand for public services that would still occur under Alternative 2, impacts would be similar compared to the proposed Project.

### **5.4.13 TRANSPORTATION AND TRAFFIC**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Assuming that agricultural operations would continue consistent with existing operations, no increase in travel demand would occur and no conflicts with transportation-related policies would occur. Under Alternative 1, substantially less development would occur as compared to the proposed Project (41 acres compared to 571 acres). Since travel demand is typically determined based on the size and type of development proposed, the traffic and transportation effects would be substantially reduced under Alternative 1 as compared to the proposed Project.

#### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, commercial and industrial development would occur on approximately 385 acres. Therefore, Alternative 2 would result in increased generation of traffic and therefore potential conflicts with transportation-related policies could occur. Under Alternative 2, less development would occur (385 acres as compared to 571 acres). Since travel demand is typically determined based on the size and type of development proposed, the traffic and transportation effects would be reduced under Alternative 2 as compared to the proposed Project.

### **5.4.14 UTILITIES AND SERVICE SYSTEMS**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

For continued agricultural use, there would be no increased demand for utilities and services; agricultural water demands would be similar to existing conditions and septic systems would provide wastewater treatment. Under Alternative 1, development with urban uses would occur on 41 acres of the project site compared to 571 acres under the proposed Project. Development under Alternative 1 would have substantially less water supply demands, generate less wastewater, and generate less solid waste. Thus, impacts under Alternative 1 would be reduced compared to the proposed Project.

## **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 571 acres under the proposed Project. Development under Alternative 2 would have less water supply demands, generate less wastewater, and generate less solid waste as compared to the proposed Project. Thus, impacts under Alternative 2 would be reduced compared to the proposed Project.

### **5.4.15 ENERGY**

#### **ALTERNATIVE 1: NO-PROJECT ALTERNATIVE**

Under Alternative 1, construction would occur on 41 acres of the Project site compared to 571 acres under the proposed Project. Since development would be substantially reduced in size compared to the proposed Project, energy demands would also be similarly reduced. This development would be subject to the same State building energy efficiency requirements as would occur under the proposed Project. There would be substantially less construction-related, development-related, and transportation-related energy consumption. There would be substantially less demand for electricity and natural gas. Thus, energy impacts under Alternative 1 would be reduced compared to the proposed Project.

#### **ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE**

Under Alternative 2, construction would occur on 385 acres of the Project site compared to 571 acres under the proposed Project. Construction of the off-site drainage improvements would still be required. Since development would be reduced in size compared to the proposed Project, energy demands would also be similarly reduced. This development would be subject to the same State building energy efficiency requirements as would occur under the proposed Project. There would be less industrial commercial/office development, and no stadium or development of mixed residential uses. There would be less construction-related, development-related, and transportation-related energy consumption. There would be less demand for electricity and natural gas. In addition, similar to the proposed Project, the scale of possible development under Alternative 2 could result in substantial energy consumption even with inclusion of energy conservation measures. Thus, energy impacts under Alternative 2 would be similar as compared to the proposed Project.

## **5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

Alternative 1 would have the greatest number of reduced impacts as shown in Table 5-1, therefore Alternative 1: No Project Alternative would be the Environmentally Superior Alternative. This alternative provides the greatest reduction in potential environmental effects of the proposed project. Other than the No-Project Alternative, Alternative 2: Reduced Size Alternative would provide the most benefit relative to reducing environmental effects compared to the proposed Project.

**Table 5-1 Comparison of Significant Environmental Effects of the Alternatives to the Proposed Project**

Environmental Issue Area	Alternative 1: No-Project Alternative	Alternative 2: Reduced Size Alternative
Aesthetics	Reduced	Reduced
Agricultural Resources	Reduced	Reduced
Air Quality	Reduced	Reduced
Biological Resources	Reduced	Similar
Cultural and Tribal Cultural Resources	Reduced	Similar
Geology, Soils, Minerals, and Paleontological Resources	Reduced	Similar
Greenhouse Gas Emissions	Reduced	Reduced
Hazards, Hazardous Materials and Wildfire	Reduced	Reduced
Hydrology and Water Quality	Reduced	Reduced
Land Use and Planning and Population, Housing, Employment	Reduced	Reduced
Noise and Vibration	Reduced	Reduced
Public Services and Recreation	Reduced	Similar
Transportation and Traffic	Reduced	Reduced
Utilities and Service Systems	Reduced	Reduced
Energy	Reduced	Similar
<b>Total Reduced Impact Topics</b>	<b>11</b>	<b>10</b>

Note: Some environmental issue areas are split into subsections. In this case, if any of the subsections had reduced or increased impacts, the entire environmental issue is shown as reduced or increased (even if another subsection had similar impacts).

## 6 OTHER CEQA CONSIDERATIONS

This chapter provides a summary of significant environmental impacts; significant and unavoidable impacts; significant irreversible environmental changes; and growth-inducing effects.

Comments received on the Notice of Preparation (NOP) were reviewed during preparation of this SEIR. A comment letter was submitted by the Sacramento Local Agency Formation Commission (LAFCo) expressing concern regarding project effects on growth inducement. The City reviewed and considered this information during preparation of this chapter.

### 6.1 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

Section 15226.2(b) of the CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the proposed project is implemented.

Chapter 3 of this SEIR provides a detailed analysis of significant and potentially significant environmental impacts related to approval of the proposed project; identifies feasible mitigation measures, where available, that could avoid or reduce these significant and potentially significant impacts; and presents a determination whether these mitigation measures would reduce these impacts to less-than-significant levels.

Following is a listing of significant and unavoidable impacts associated with implementation of the proposed project. Cumulative impacts associated with the proposed project, including significant impacts, are summarized in Chapter 4 of this SEIR.

#### SECTION 3.2, AESTHETICS

- ▶ **Impact 3.2-1:** Substantial degradation of existing visual character.

#### SECTION 3.3, AGRICULTURAL RESOURCES

- ▶ **Impact 3.3-1:** Direct and indirect loss of agricultural land, including Farmland of Statewide Importance.
- ▶ **Impact 3.3-2:** Potential conflict with existing on-site and off-site Williamson Act contracts.

#### SECTION 3.4, AIR QUALITY

- ▶ **Impact 3.4-2:** Generation of long-term operational emissions of criteria pollutants and precursors.

#### SECTION 3.5, BIOLOGICAL RESOURCES

- ▶ **Impact 3.5-3:** Loss of nesting and foraging habitat for special-status and other protected raptors. (Swainson's Hawk).

#### SECTION 3.6, CULTURAL AND TRIBAL CULTURAL RESOURCES

- ▶ **Impact 3.6-2:** Substantial adverse change to unknown historical resources or unique archeological resources.
- ▶ **Impact 3.6-3:** Substantial adverse change to a Tribal Cultural Resource.

### **SECTION 3.8, GREENHOUSE GAS EMISSIONS**

- ▶ **Impact 3.8-1:** Generation of greenhouse gas emissions or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

### **SECTION 3.11, LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES**

- ▶ **Impact 3.11-4:** Conversion of open space.

### **SECTION 3.12, NOISE AND VIBRATION**

- ▶ **Impact 3.12-1:** Temporary, short-term exposure of sensitive receptors to construction noise.
- ▶ **Impact 3.12-3:** Temporary, short-term exposure of sensitive receptors to potential groundborne noise and vibration from Project construction.
- ▶ **Impact 3.12-4:** Long-term traffic noise levels at existing noise-sensitive receivers.
- ▶ **Impact 3.12-5:** Land use compatibility of on-site sensitive receptors with future traffic noise levels.
- ▶ **Impact 3.12-6:** Land use compatibility of on-site sensitive receptors to or generation of non-transportation noise levels in excess of local standards.

### **SECTION 3.16 ENERGY**

- ▶ **Impact 3.16-1:** Result in the wasteful, inefficient, or unnecessary consumption of energy resources.

## **6.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

CEQA requires an EIR to address significant irreversible environmental changes. Specifically, the EIR must consider whether “uses of nonrenewable resources during the initial and continued phases of the Project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely” (CEQA Guidelines Section 15126.2[c]). Nonrenewable resources, as used in this discussion, refer to the physical features of the natural environment: land, air, and waterways.

Development of the Project site would result in commitment of land to a mix of urban uses instead of the agricultural uses that exist today. Proposed development would use both renewable and nonrenewable natural resources during both construction and operational phases—both within the Project site and also to construct required off-site improvements. Nonrenewable fossil fuels would be used primarily during construction, but also during Project operation. Other nonrenewable and slowly-renewable resources consumed as a result of development of the Project site would include, but not necessarily be limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, and water. Proposed development would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, electronics, office equipment, and commercial machinery. Energy could also be consumed during each vehicle trip associated with these proposed uses. It is important to note that actual energy usage could vary substantially, depending upon factors such as the type of uses that would occupy the buildings, actual miles driven



by future residents and employees, and the degree to which energy conservation measures are incorporated into the design of the various facilities.

Irreversible changes would likely occur as a result of future excavation, grading, and construction activities. Proposed development would also generate additional transportation demand, construction, energy demand, and other activities that would increase emissions of greenhouse gases and other air pollutants, as well as generation of noise. Different air pollutants and different greenhouse gas emissions remain in the atmosphere for different amounts of time, ranging from a few years to thousands of years.

Operation of projects in the vicinity could include the use of hazardous materials, which could increase the risk of an accidental spill or release.

During construction, equipment would be using various types of fuel and material classified as hazardous. In the State of California, the storage and use of hazardous substances are strictly regulated. The enforcement of these existing regulations would preclude credible significant impacts related to environmental accidents.

Detailed assessments for each of the above-mentioned topics are provided throughout Chapter 3 of this SEIR. Cumulative impacts associated with each of these topics are additionally addressed in detail in Chapter 4.

### **6.3 GROWTH-INDUCING IMPACTS**

According to Section 15126.2(d) of the CEQA Guidelines, an EIR should:

[d]iscuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects. Also discuss characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project has the potential to induce growth both directly and indirectly. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); or a construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new employment demand; and/or removal of an obstacle to additional growth and development, such as improving the capacity of a public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may lead to environmental effects. These environmental effects may include increased demand on other services and infrastructure, increased traffic and

noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open space land to urban uses, or other adverse impacts.

### **6.3.1 GROWTH-INDUCING IMPACTS OF THE PROJECT**

The Project site is located outside of the existing City limits; however, the proposed Project site would ultimately be annexed to the City and was considered as part of the recently updated Elk Grove General Plan, adopted in 2019.

In addition to residential development in the mixed-use area that could occur in the future, the proposed regional commercial, and light and heavy industrial development would generate a substantial amount of employment-generating land uses. As described in Chapter 2, “Project Description,” of this SEIR, the Project site could accommodate a broad range of uses that could generate approximately 8,000 jobs. SACOG estimates the City of Elk Grove would have approximately 60,070 jobs by 2036 and 122,160 jobs at buildout of the City.

Development of the Project site would require construction workers. Because construction workers typically do not change where they live each time they are assigned to a new construction site, it is not anticipated that there would be any substantial relocation of construction workers to Elk Grove or Sacramento County associated with the proposed Project

The additional population associated with the proposed Project could spur an increase in demand for goods and services in the surrounding area, which could potentially result in additional development to satisfy this demand. In this respect, the proposed Project would be growth inducing. It would be speculative to attempt to predict where and when any such new services would be developed, and whether or not existing and future planned industrial and commercial development would satisfy additional demand for goods and services created by the project.

In summary, the proposed Project may indirectly induce population growth because the increased population and employment opportunities associated with the future development could increase demand for goods and services, thereby fostering population and economic growth in the City and surrounding unincorporated Sacramento County and other nearby communities. It is possible that the proposed Project could place pressure on adjacent areas to seek development entitlements or annexation applications. However, the proposed Project, along with other areas planned for development of the City’s General Plan, would provide sufficient acreage to accommodate population and employment growth. Therefore, the proposed Project would likely not induce substantial growth outside of the Project site.

# 7 LIST OF PREPARERS

## CITY OF ELK GROVE

Christopher Jordan, AICP ..... Director of Strategic Planning and Innovation

## AECOM

Matthew Gerken, AICP ..... Project Manager  
Wendy Copeland ..... Senior Environmental Scientist  
Jenifer King ..... Senior Environmental Scientist  
Chandra Miller ..... Architectural Historian  
Issa Mahmodi ..... Noise and Vibration Specialist  
Suzanne McFerran ..... Air Quality/Greenhouse Gas Emissions Specialist  
Jasmine Wurlitzer ..... Biologist  
Susan Sanders ..... Wildlife Biologist  
Richard Deis, RPA ..... Senior Archaeologist  
Diana Ewing ..... Archaeologist  
Lisa Clement ..... GIS Specialist  
Deborah Jew ..... Document Specialist

## FEHR AND PEERS

Dave Robinson ..... Principal

This page intentionally left blank

## 8 REFERENCES

### 8.1 EXECUTIVE SUMMARY

No references cited.

### 8.2 CHAPTER 1, “INTRODUCTION”

No references cited.

### 8.3 CHAPTER 2, “PROJECT DESCRIPTION”

Brown & Caldwell. 2020 (June 5). Zone 40 Water Supply Master Plan Amendment for the Multi-Sport Complex. Prepared for Sacramento County Water Agency.

West Yost Associates. 2020. Multi-Sport Complex Drainage Master Plan, Draft Report.

Wood Rodgers. 2020 (June 22). Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Level II Sewer Study.

Wood Rodgers. 2020 (June 12). Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Area DRAFT Water Master Plan.

Wood Rodgers. 2020 (April 15). Elk Grove Multi-Sport Complex Transportation Master Plan.

### 8.4 SECTION 3.1, “ENVIRONMENTAL IMPACT ANALYSIS”

No references cited.

### 8.5 SECTION 3.2, “AESTHETICS”

California Department of Transportation. 2017. State Scenic Highway Program, California Scenic Highways.

Available: <https://www.arcgis.com/home/item.html?id=f0259b1ad0fe4093a5604c9b838a486a>. Accessed July 7, 2020.

Caltrans. *See* California Department of Transportation.

City of Elk Grove. 2007. Elk Grove Design Guidelines. Available:

[https://www.elkgrovecity.org/city\\_hall/departments\\_divisions/planning/land\\_use\\_regulations/elk\\_grove\\_design\\_guidelines](https://www.elkgrovecity.org/city_hall/departments_divisions/planning/land_use_regulations/elk_grove_design_guidelines). Accessed July 7, 2020.

———. 2019. City of Elk Grove General Plan. Available:

[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 7, 2020.

## 8.6 SECTION 3.3, “AGRICULTURAL RESOURCES”

California Department of Conservation. 2018. Farmland Mapping and Monitoring Program, Important Farmland Mapping. Available: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed August 13, 2020.

City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 30, 2020.

DOC. *See* California Department of Conservation.

Jensen, Juli. Sacramento County Agricultural Commissioner. Office of the Agricultural Commissioner/Weights & Measures. April 19, 2018—e-mail to Don Lockhart, Executive Officer, Sacramento Local Agency Formation Commission regarding the acreages of crop types and estimated values.

Sacramento County. 2020a. Williamson Act Parcel Map. Available: [http://data.saccounty.net/datasets/199810930ef9465a9a1ae0315e5a7535\\_0](http://data.saccounty.net/datasets/199810930ef9465a9a1ae0315e5a7535_0). Accessed July 28, 2020.

\_\_\_\_\_. 2020b. Sacramento County Online Map. Available: [https://generalmap.gis.saccounty.net/JSViewer/county\\_portal.html](https://generalmap.gis.saccounty.net/JSViewer/county_portal.html). Accessed July 28, 2020.

\_\_\_\_\_. 2015. Sacramento County Zoning Code. Chapter 2, Zoning Districts. Available: [https://planning.saccounty.net/LandUseRegulationDocuments/Documents/Zoning-Code/Chapter-2\\_Amended-July-16-2020.pdf](https://planning.saccounty.net/LandUseRegulationDocuments/Documents/Zoning-Code/Chapter-2_Amended-July-16-2020.pdf). Accessed September 5, 2020.

U.S. Department of Agriculture. 2003 (December). *National Range and Pasture Handbook*. Revision 1. Issued September 1997; revised December 2003. Fort Worth, TX: Grazing Lands Technology Institute.

U.S. Natural Resources Conservation Service. 2018 (April 2). *Custom Soil Report for Sacramento County, California: Elk Grove SOIA and Multi-Sport Complex*. Available: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed April 2, 2018.

## 8.7 SECTION 3.4, “AIR QUALITY”

ARB. *See* California Air Resources Board.

BAAQMD. *See* Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2017. California Environmental Quality Act Air Quality Guidelines. Available at: <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>. Accessed August 2020.

California Air Resources Board. 2005 (April). *Air Quality and Land Use Handbook: A Community Health Perspective*.

\_\_\_\_\_. 2013. *The California Almanac of Emissions and Air Quality: 2013 Edition*.

- \_\_\_\_\_. 2017. Technical Advisory: Strategies to Reduce Air Pollution Near High-Volume Roadways. Available at: <https://ww3.arb.ca.gov/ch/landuse.htm>. Accessed August 2020.
- California Energy Commission. 2020. 2019 Building Energy Efficiency Standards: Frequently Asked Questions. Available at: [https://www.energy.ca.gov/sites/default/files/2020-03/Title\\_24\\_2019\\_Building\\_Standards\\_FAQ\\_ada.pdf](https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf). Accessed August 2020.
- CEC. *See* California Energy Commission.
- City of Elk Grove. 2019. *Elk Grove General Plan*. Available at: [http://elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 2020.
- EPA. *See* United States Environmental Protection Agency.
- OEHHA. *See* Office of Environmental Health Hazard Assessment.
- Office of Environmental Health Hazard Assessment. 2015 (February). Air Toxics Hot Spots Program: Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments. Available at <http://oehha.ca.gov/air/crn/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>. Accessed November 2019.
- PCAPCD. *See* Placer County Air Pollution Control District.
- Placer County Air Pollution Control District. 2017. CEQA Handbook. Available at: <https://www.placerair.org/1801/CEQA-Handbook>. Accessed August 2020.
- San Joaquin Valley Air Pollution Control District. 2015. SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts. Available: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed August 2020.
- Sacramento Metropolitan Air Quality Management District. 2009. SMAQMD Guide to Air Quality Assessment in Sacramento County (CEQA) Guide: SMAQMD’s Recommended Odor Screening Distances. Available <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>. Accessed June 2020.
- Sacramento Metropolitan Air Quality Management District. et al. 2017. Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan.
- \_\_\_\_\_. 2020a. Guide to Air Quality Assessment in Sacramento County (CEQA Guide). Available: <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>. Accessed August 2020.
- \_\_\_\_\_. 2020b. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. Available: <http://www.airquality.org/LandUseTransportation/Documents/SacMetroFriantDraftFinalPublic2020-06-15.pdf>. Accessed August 2020.

SJVAPCD. *See* San Joaquin Valley Air Pollution Control District.

SMAQMD. *See* Sacramento Metropolitan Air Quality Management District.

United States Environmental Protection Agency. 2016. Basic Information about NO<sub>2</sub>. Available: <https://www.epa.gov/no2-pollution/basic-information-about-no2>. Accessed August 2020.

\_\_\_\_\_. 2019. Sulfur Dioxide Basics. Available: <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>. Accessed August 2020.

\_\_\_\_\_. 2020a. Ozone Pollution and Your Patients' Health. Available: <https://www.epa.gov/ozone-pollution-and-your-patients-health/patient-exposure-and-air-quality-index>. Accessed August 2020.

\_\_\_\_\_. 2020b (September 8). Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. Available: <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution>. Accessed August 2020.

\_\_\_\_\_. 2020c. Carbon Monoxide Trends. Available at <https://www.epa.gov/air-trends/carbon-monoxide-trends#coreg>. Accessed August 2020.

WHO. *See* World Health Organization.

Wood Rodgers. 2020. Elk Grove Multi-Sport Complex & Grant Line Industrial Annexation Area Transportation Master Plan.

World Health Organization. 2018. Ambient (outdoor) air quality and health. Available: <http://www.who.int/mediacentre/factsheets/fs313/en/>. Accessed August 2020.

## **8.8 SECTION 3.5, "BIOLOGICAL RESOURCES"**

California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. State of California Natural Resources Agency Department of Fish and Wildlife, March 20, 2018.

California Department of Fish and Wildlife. 2020. California Natural Diversity Database (CNDDB) Maps and Data – Rarefind 5, Version 5.2.14. Retrieved August 8, 2020 from <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>.

California Department of Transportation. 2016. Technical Guidance for Assessment and Mitigation of the Effects of Traffic Noise and Road Construction Noise on Bats. California Department of Transportation Division of Environmental Analysis. July 2016.

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org>. Accessed 18 August 2020.

Caltrans. *See* California Department of Transportation.



CDFW. *See* California Department of Fish and Wildlife.

CDFW. *See* California Department of Fish and Wildlife.

City of Elk Grove. 2019. City of Elk Grove General Plan. Adopted February 27, 2019.

CNPS. *See* California Native Plant Society.

County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, and Southeast Connector Joint Powers Authority. 2018. South Sacramento Habitat Conservation Plan. With assistance from Dudek, Auburn, CA; Economic & Planning Systems, Oakland, CA; and Best, Best and Krieger, Riverside, CA. Available: <https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/SSHCPPlan.aspx>. Accessed August 19, 2020.

Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency Department of Fish and Game, March 7, 2012.

DFG. *See* Department of Fish and Game.

Environmental Laboratory. 1987 (January). Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1 (on-line edition). U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

———. 2008 (September). Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Corps of Engineers Engineer Research and Development Center, Vicksburg, MS.

Hamilton, W.J. 2004. Tricolored Blackbird Management Recommendations and 2005 Survey Priorities. Prepared For: California Resource Management Institute. November 2004.

Shuford, W. D., and T. Gardali (eds.). 2008. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, CA, and California Department of Fish and Game, Sacramento. Part II, "Species Accounts".

Swainson's Hawk Technical Advisory Committee. 2000 (May 31). Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley.

U.S. Army Corps of Engineers. 2020. Letter from Michael S. Jewell, Chief, Regulatory Division, Sacramento District, to Christopher Jordan, City of Elk Grove, regarding the jurisdictional determination for the Elk Grove Sports Park Complex site.

U.S. Fish and Wildlife Service. 1999 (July 9). Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento Fish and Wildlife Service Office. Sacramento, CA.

U.S. Fish and Wildlife Service. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Available: <https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/>. Accessed November 19, 2020.

U.S. Fish and Wildlife Service. 2017a. Riparian Brush Rabbit Recovery. Sacramento Fish and Wildlife Office. Available at: <https://www.fws.gov/sacramento/es/Recovery-Planning/Riparian-Brush-Rabbits/>. Last Updated 06 December 2017.

———. 2017b. Species Information—Conservancy Fairy Shrimp. Available: [https://www.fws.gov/sacramento/es\\_species/Accounts/Invertebrates/conservancy\\_fairy\\_shrimp/](https://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/conservancy_fairy_shrimp/). Accessed August 19, 2020.

USACE. *See* U.S. Army Corps of Engineers.

USFWS. *See* U.S. Fish and Wildlife Service.

## **8.9 SECTION 3.6, “CULTURAL RESOURCES”**

Bennyhoff, J. A. 1977. *Ethnography of the Plains Miwok*. Center for Archaeological Research at Davis, Publication Number 5.

City of Elk Grove. 2003. *City of Elk Grove General Plan Background Report*. Prepared by City of Elk Grove Planning, Elk Grove, CA. Chapter 7, “Cultural and Historic Resources.”

———. 2019. *City of Elk Grove General Plan*. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 7, 2020.

NETRonline. 2016. “Elk Grove, California.” Various years, 1957–2012. Available: <https://www.historicaerials.com/viewer>. Accessed November 21, 2017.

Page & Turnbull. 2012 (October 4). *Elk Grove Historic Context Statement, Elk Grove, California*. San Francisco, CA. Prepared for the City of Elk Grove.

UCSB. *See* University of California, Santa Barbara.

University of California, Santa Barbara. 2017. Aerial Photograph Collection. Elk Grove, California. 1937, 1952, 1961, 1971, 1981. Available: [http://mil.library.ucsb.edu/ap\\_indexes/FrameFinder/](http://mil.library.ucsb.edu/ap_indexes/FrameFinder/). Accessed November 21, 2017.

## **8.10 SECTION 3.7, “GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES”**

CalGEM. *See* California Geologic Energy Management Division.

- California Department of Water Resources. 2018. SGMA Data Viewer—Groundwater Levels Spring 2018. Available: <https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels>. Accessed July 7, 2020.
- California Geological Survey. 2008. Probabilistic Seismic Hazard Analysis Ground Motion Interpolator. Available: <https://www.conservation.ca.gov/cgs/ground-motion-interpolator-for-embedding.htm>. Accessed May 7, 2019.
- . 2020. Earthquake Zones of Required Investigation. Available: <https://maps.conservation.ca.gov/cgs/EQZApp/>. Accessed July 6, 2020.
- California Geologic Energy Management Division. 2020. Well Finder. Available: <https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx>. Accessed July 7, 2020.
- CDFW. *See* California Department of Water Resources.
- CGS. *See* California Geological Survey.
- City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 6, 2020.
- . 2020a. *Construction Specifications Manual*. Adopted in 2018, updated in 2020. Available: [https://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Public%20Works/Standards/Construction\\_Specs\\_October\\_24\\_2018.pdf](https://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Public%20Works/Standards/Construction_Specs_October_24_2018.pdf). Accessed July 7, 2020.
- . 2020b. *Improvement Standards Manual*. Adopted in 2018, updated in 2020. Available: [https://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Public%20Works/Standards/Improvement\\_Standards\\_October\\_24\\_2018.pdf](https://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Public%20Works/Standards/Improvement_Standards_October_24_2018.pdf). Accessed July 7, 2020.
- Dupras, D. 1999. *Mineral Land Classification: Portland Cement Concrete-Grade Aggregate and Kaolin Clay Resources in Sacramento County, California*. DMG Open-File Report 99-09. California Division of Mines and Geology. Sacramento, CA.
- Jennings, C.W. and W.A. Bryant. 2010. *2010 Fault Activity Map of California*. Available: <http://maps.conservation.ca.gov/cgs/fam/>. Accessed July 6, 2020.
- NRCS. *See* U.S. Natural Resources Conservation Service
- Sacramento County. 2017. *Sacramento County 2030 General Plan—Conservation Element*. Adopted 1993, Amended 2017. Available: <https://planning.saccounty.net/LandUseRegulationDocuments/Documents/General-Plan/Conservation%20Element%20-%20Amended%2009-26-17.pdf>. Accessed July 7, 2020.
- UCMP. *See* University of California Museum of Paleontology.

University of California Museum of Paleontology. 2020. Paleontological Collections Database. Available: <https://ucmpdb.berkeley.edu/about.shtml>. Accessed July 6, 2020.

U.S. Natural Resources Conservation Service. 2019. Web Soil Survey. Available: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed July 7, 2020.

## **8.11 SECTION 3.8, “GREENHOUSE GAS EMISSIONS”**

ARB. *See* California Air Resources Board.

California Air Resources Board. 2019. California Greenhouse Gas Emissions for 2000 to 2017, Trends of Emissions and Other Indicators. Available: <https://ww2.arb.ca.gov/ghg-inventory-data>.

City of Elk Grove. 2019a. General Plan Environmental Impact Report. Available at: [https://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/GPU/DraftMaterials\\_201807/EIR/0507\\_GHG.pdf](https://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/GPU/DraftMaterials_201807/EIR/0507_GHG.pdf). Accessed August 5, 2020.

———. 2019b. City of Elk Grove Climate Action Plan: 2019 Update. Available at: [http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Amend\\_2019-12/ElkGrove\\_CAP\\_Amended\\_December2019.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Amend_2019-12/ElkGrove_CAP_Amended_December2019.pdf). Accessed August 5, 2020.

Crockett, Alexander G. 2011 (January). Addressing the Significance of Greenhouse Gas Emissions under CEQA: California’s Search for Regulatory Certainty in an Uncertain World. Golden Gate University Environmental Law Journal. Volume 4, Issue 2, Pacific Region Edition. Article 3. Available: <https://digitalcommons.law.ggu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1060&context=gguelj>. Accessed August 22, 2020.

SACOG. *See* Sacramento Area Council of Governments.

Sacramento Area Council of Governments. 2019. 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: <https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update>. Accessed August 2020.

Sacramento Metropolitan Air Quality Management District. 2020. Guide to Air Quality Assessment in Sacramento County (CEQA Guide). Available: <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>. Accessed August 2020.

SMAQMD. *See* Sacramento Metropolitan Air Quality Management District.

## **8.12 SECTION 3.9, “HAZARDS AND HAZARDOUS MATERIALS”**

Blackburn Consulting (BCI). 2014 (October). *Phase I Environmental Site Assessment Elk Grove Sports Complex, Elk Grove, California*. BCI File No. 2101.X 079. West Sacramento, CA.

BCI. *See* Blackburn Consulting.

CAL FIRE. *See* California Department of Forestry and Fire Protection.

California Department of Forestry and Fire Protection. 2018. Fire Hazard Severity Zone Viewer. Available: <https://egis.fire.ca.gov/FHSZ/>. Accessed July 8, 2020.

California Department of Toxic Substances Control. 2020. EnviroStor. Available: <https://www.envirostor.dtsc.ca.gov/public/>. Accessed July 8, 2020.

City of Elk Grove. 2019. Elk Grove General Plan. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 22, 2020.

DTSC. *See* California Department of Toxic Substances Control.

Foster Morrison Consulting. 2016. *Sacramento Countywide Local Hazard Mitigation Plan*. Available: <https://waterresources.saccounty.net/stormready/Documents/LHMP%20Draft%20Document/Sacramento%20County%20LHMP%20Update%20Chapters%20Complete.pdf>. Accessed July 8, 2020.

State Water Resources Control Board. 2020. GeoTracker. Available: <https://geotracker.waterboards.ca.gov/>. Accessed July 8, 2020.

SWRCB. *See* State Water Resources Control Board.

## **8.13 SECTION 3.10, “HYDROLOGY AND WATER QUALITY”**

Brown and Caldwell. 2011. *2010 Zone 41 Urban Water Management Plan*. Prepared for: Sacramento County Water Agency. Available: <https://waterresources.saccounty.net/Documents/Sac%20County%202010%20Urban%20Water%20Management%20Plan%20070511.pdf>. Accessed August 4, 2020.

———. 2020. *Draft Zone 40 Water Supply Master Plan Amendment for the Multi-Sport Complex*. Prepared for: Sacramento County Water Agency. Sacramento, CA.

California Department of Water Resources. 2019. SGMA Basin Prioritization Dashboard. Available: <https://gis.water.ca.gov/app/bp-dashboard/final/#>. Accessed August 3, 2020.

California Stormwater Quality Association. 2014. *Industrial and Commercial Best Management Practice Handbook*. Available: <https://www.casqa.org/resources/bmp-handbooks/industrial-commercial>. Accessed August 4, 2020.

———. 2019. *Construction Best Management Practice Handbook*. Available: <https://www.casqa.org/resources/bmp-handbooks/construction>. Accessed August 4, 2020.

CASQA. *See* California Stormwater Quality Association.

Central Valley Regional Water Quality Control Board. 2018. *The Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins*. Available:

[https://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/#basinplans](https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/#basinplans). Accessed August 3, 2020.

Central Valley RWQCB. *See* Central Valley Regional Water Quality Control Board.

City of Elk Grove. 2011. *Storm Drainage Master Plan*. Available:

[https://www.elkgrovecity.org/city\\_hall/departments\\_divisions/public\\_works/drainage/storm\\_drainage\\_master\\_plan](https://www.elkgrovecity.org/city_hall/departments_divisions/public_works/drainage/storm_drainage_master_plan). Accessed August 3, 2020.

———. 2019a. *200-Year Floodplain Zones, City of Elk Grove General Plan*. Available:

<https://elkmap.maps.arcgis.com/apps/MapSeries/index.html?appid=fce53c77964049ed8c267b87f41d554a>. Accessed August 3, 2020.

———. 2019b. *City of Elk Grove General Plan*. Available:

[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.

DWR. *See* California Department of Water Resources.

Federal Emergency Management Agency. 2012. Flood Map Service Center. Available:

<https://msc.fema.gov/portal/home>. Accessed August 3, 2020.

FEMA. *See* Federal Emergency Management Agency.

Sacramento Central Groundwater Authority. 2012. *Sacramento Central Groundwater Authority Groundwater Elevation Monitoring Plan*. Available:

<http://www.scgah2o.org/documents/SCGA%20CASGEM%20PLAN.pdf>. Accessed August 4, 2020.

———. 2016. *South American Subbasin Alternative Groundwater Sustainability Plan*. Available:

<https://scgah2o.saccounty.net/Pages/South-American-Subbasin-Alternative-Submittal.aspx>. Accessed August 4, 2020.

Sacramento County and City of Sacramento. 1996. *Sacramento City/County Drainage Manual Volume 2, Hydrology*. Available: <https://waterresources.saccounty.net/Pages/DrainageManualVolume2.aspx>. Accessed August 4, 2020.

Sacramento Stormwater Quality Partnership. 2018. *Sacramento Region Stormwater Quality Design Manual*. Available: <https://www.beriverfriendly.net/Newdevelopment/>. Accessed August 4, 2020.

South American Groundwater Subbasin. 2020. SASb and the Sustainable Groundwater Management Act. Available: <http://www.sasbgroundwater.org/>. Accessed August 3, 2020.

State Water Resources Control Board. 2017. *2014 and 2016 California Integrated Report*. Available:

[https://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2014\\_2016.shtml](https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml). Accessed: August 3, 2020.

West Yost Associates. 2020. *Multi-Sport Complex Drainage Master Plan, Draft Report*. Prepared for: City of Elk Grove. West Yost Project No. 309-60-19-06. Sacramento, CA.

## **8.14 SECTION 3.11, “LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES”**

California Department of Finance. 2020. E-5: Population and Housing Estimates for Cities, Counties, and the State, January 2011-2020, with 2010 Benchmark. Available:  
<http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/>. Accessed August 24, 2020.

California Employment Development Department. 2020a. Unemployment Rates (Labor Force), Data Not Seasonally Adjusted. Available:  
<https://www.labormarketinfo.edd.ca.gov/cgi/dataanalysis/AreaSelection.asp?tableName=labforce>. Accessed August 19, 2020.

California Employment Development Department. 2020b. Monthly Labor Force Data for Cities and Census Designated Places (CDP), July 2020 – Preliminary, Data Not Seasonally Adjusted. Available:  
<https://www.labormarketinfo.edd.ca.gov/file/lfmonth/sacsub.xls>. Accessed August 25, 2020.

City of Elk Grove. 2018 (July). City of Elk Grove General Plan Update Draft Environmental Impact Report. Available:  
[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.

City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available:  
[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.

DOF. *See* California Department of Finance.

EDD. *See* California Employment Development Department.

SACOG. *See* Sacramento Area Council of Governments.

Sacramento Area Council of Governments. 2019 (November). 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy. Available: <https://www.sacog.org/post/adopted-2020-mtpsc>. Accessed August 7, 2020.

Sacramento Area Council of Governments. 2020 (June). User Guide and Model Documentation for SACSIM19 – June 2020. Available: [https://www.sacog.org/sites/main/files/file-attachments/5.4\\_future\\_year\\_household\\_population\\_demographics.pdf?1593567562](https://www.sacog.org/sites/main/files/file-attachments/5.4_future_year_household_population_demographics.pdf?1593567562). Accessed August 25, 2020.

U.S. Census Bureau. 2018. DP3: Selected Economic Characteristics. Available:  
<https://data.census.gov/cedsci/advanced>. Accessed August 24, 2020.

## 8.15 SECTION 3.12, “NOISE”

Bolt, Beranek and Newman Inc. 1981. *Noise Control for Buildings and Manufacturing Plants*. Cambridge, MA; Arlington, VA; and Canoga Park, CA.

California Department of Transportation. 2009. *Technical Noise Supplement*. Division of Environmental Analysis, Sacramento, CA. Prepared by ICF Jones & Stokes, Sacramento, CA.

———. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, CA.

Caltrans. *See* California Department of Transportation.

Capital SouthEast Connector Joint Powers Authority. 2017 (May). Tiered Initial Study with Mitigated Negative Declaration, Capital SouthEast Connector – B2 Project.

City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 26, 2020.

EPA. *See* U.S. Environmental Protection Agency.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Washington, DC. Prepared by Harris Miller Miller & Hanson Inc., Burlington, MA, and produced by Vanasse Hangen Brustlin, Inc., Vienna, VA.

Fehr & Peers. 2017. *Transportation Impact Study for the Elk Grove Sphere of Influence Amendment and Multi-Sport Park Complex*. Draft.

FTA. *See* Federal Transit Administration.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Washington, DC.

## 8.16 SECTION 3.13, “PUBLIC SERVICES AND RECREATION”

California Department of Education. 2020. Elk Grove Unified Report (34-67314) 2019 -20 Enrollment by Grade. Available:

<https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=3467314&agglevel=district&year=2019-20>. Accessed August 3, 2020.

California Department of Finance. 2020. -5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark. Available:

<http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>. Accessed September 6, 2020.



- City of Elk Grove. 2019. City of Elk Grove General Plan. Available:  
[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.
- City of Elk Grove Police Department. 2019. 2019 Annual Report. Available:  
<http://online.flipbuilder.com/houh/balg/mobile/index.html>. Accessed September 6, 2020.
- City of Elk Grove. 2018 (July). City of Elk Grove General Plan Update Draft Environmental Impact Report. Available:  
[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 3, 2020.
- City of Elk Grove. 2020a. District 56. Available:  
[http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Finance/fee-booklet.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Finance/fee-booklet.pdf). Accessed August 7, 2020.
- City of Elk Grove. 2020b. City of Elk Grove 2020 Development Related Fees. Available:  
[http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Finance/fee-booklet.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Finance/fee-booklet.pdf). Accessed August 7, 2020.
- City of Sacramento Community Development Department. 2020 (June 22). School District Impact Fees. Available: <http://www.cityofsacramento.org/Community-Development/Resources/Forms/Building-Forms>. Accessed August 4, 2020.
- Cosumnes Community Service District Fire Department. 2020. Stations and Facilities. Available:  
<https://www.yourcsd.com/175/Stations-Facilities>. Accessed August 7, 2020.
- Cosumnes Community Service District Parks and Recreation. 2018. Plan for Play Parks, Recreation & Facilities Master Plan. Available: <https://www.yourcsd.com/793/Parks-Recreation-Master-Plan>. Accessed August 6, 2020.
- DOF. *See* California Department of Finance.
- Elk Grove Unified School District. 2016 (February). Facilities Master Plan 2015–2025 Update. Available:  
<http://www.egusd.net/about/divisions-departments/business-services-and-facilities/facilities-and-planning/>. Accessed August 6, 2020.
- Elk Grove Unified School District. 2020. Boundary Information. Available:  
<http://www.egusd.net/enrollment/boundary-info/>. Accessed August 5, 2020.
- ODELL Planning and Research. 2020 (February). Development Fee Justification Study/School Facilities Needs Analysis. Prepared for the Elk Grove Unified School District. Available:  
<http://www.egusd.net/about/divisions-departments/business-services-and-facilities/facilities-and-planning/>. Accessed August 5, 2020.

## 8.17 SECTION 3.14, “TRANSPORTATION/TRAFFIC”

City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available:

[http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.

Fehr & Peers. 2020 (August 24). Elk Grove Multi-Sport Complex VMT Analysis and Transportation Management Plan Review. Memorandum to Christopher Jordan, City of Elk Grove.

\_\_\_\_\_. 2017. Transportation Impact Study for the Elk Grove Sphere of Influence Amendment and Multi-Sport Park Complex. Draft.

Governor’s Office of Planning and Research (OPR). 2017. Analyzing Transportation Impacts: Text of the Proposed New Section 15064.3, Determining the Significance of Transportation Impacts.

OPR. *See* Governor’s Office of Planning and Research.

Wood Rodgers. 2020 (July 23). Elk Grove Multi-Sport Complex & Grant Line Industrial Annexation Area Transportation Master Plan.

## 8.18 SECTION 3.15, “UTILITIES AND SERVICE SYSTEMS”

Brown and Caldwell. 2020 (June). Zone 40 Water Supply Master Plan Amendment for the Multi-Sport Complex. Prepared for Sacramento County Water Agency.

California Building Standards Commission. 2019. California Green Building Standards Code (CALGreen). Available: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>. Accessed August 12, 2020.

California Department of Resources Recycling and Recovery. 2018. Jurisdictional Per Capita Disposal Trends. Elk Grove. Available: <https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>. Accessed August 10, 2020.

\_\_\_\_\_. 2020a. Solid Waste Information System. Facility/Site Summary Details: Sacramento County Landfill (Kiefer) (34-AA-0001). Available: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2070?siteID=2507>. Accessed August 10, 2020.

\_\_\_\_\_. 2020b. Solid Waste Information System. Facility/Site Summary Details: L and D Landfill (34-AA-0020). Available: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2087?siteID=2524>. Accessed August 10, 2020.

\_\_\_\_\_. 2020c. Solid Waste Information System. Facility/Site Summary Details: Yolo County Central Landfill (57-AA-0001). Available: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/689?siteID=4033>. Accessed August 10, 2020.

CalRecycle. *See* California Department of Resources Recycling and Recovery.

City of Elk Grove. 2019. *City of Elk Grove General Plan*. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed August 5, 2020.

\_\_\_\_\_. 2020 (August). California Northstate University Medical Center Project Draft EIR.

Jensen, Juli. Sacramento County Agricultural Commissioner. April 20, 2018—email to Don Lockhart, Executive Officer, Sacramento Local Agency Formation Commission, regarding acreages of agricultural crops within the SOIA Area.

Johnson, Renee and Betsy A. Cody. 2015. “California Agricultural Production and Irrigated Water Use”. For the Congressional Research Service. June 30, 2015. Available at: <https://www.fas.org/sgp/crs/misc/R44093.pdf>.

Pacific Gas and Electric Company. 2017. Gas Transmission Pipeline Systems Map. Available: [https://www.pge.com/en\\_US/safety/howthesystemworks/naturalgassystemoverview/gastransmissionpipeline/gastransmissionpipelines.page](https://www.pge.com/en_US/safety/howthesystemworks/naturalgassystemoverview/gastransmissionpipeline/gastransmissionpipelines.page). Accessed December 1, 2017.

PG&E. *See* Pacific Gas and Electric Company.

Sacramento Regional County Sanitation District. 2014 (March). Draft Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project. Available: <https://www.regionalsan.com/reports>. Accessed August 12, 2020.

Sacramento Regional County Sanitation District. 2019. *2019 State of the District Report*. Sacramento, CA. Available: <https://www.regionalsan.com/state-district-reports>. Accessed August 12, 2020.

Wood Rogers. 2020a (June). *Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Water Master Plan*. Prepared for the City of Elk Grove and Sacramento County Water Agency.

Wood Rogers. 2020b (June). *Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Level II Sewer Study*. Prepared for the City of Elk Grove and Sacramento County Water Agency.

## **8.19 SECTION 3.16, “ENERGY”**

Alternative Fuels Data Center. 2020. Alternative Fueling Station Counts by State. Accessed August 2020. [https://www.afdc.energy.gov/data\\_download](https://www.afdc.energy.gov/data_download).

California Energy Commission. 2008. State of California Energy Action Plan. Available at: <http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF>. Accessed: June 2016.

\_\_\_\_\_. 2019a. California Gasoline Data, Facts, and Statistics. Available at: [https://ww2.energy.ca.gov/almanac/transportation\\_data/gasoline/](https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/). Accessed February 2020.

- . 2019b. Diesel Fuel Data, Facts, and Statistics. Available at: [https://ww2.energy.ca.gov/almanac/transportation\\_data/diesel.html](https://ww2.energy.ca.gov/almanac/transportation_data/diesel.html). Accessed February 2020.
- . 2020a. Energy Reports: Gas Consumption by Entity. Available at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>. Accessed August 2020.
- . 2020b. Energy Reports: Gas Consumption by County. Available at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>. Accessed August 2020.
- . 2020c. 2019 Integrated Energy Policy Report. Available at: <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>. Accessed August 2020.

California Public Utilities Commission. 2011. California Energy Efficiency Strategic Plan. Available at: [http://www.cpuc.ca.gov/uploadedfiles/cpuc\\_public\\_website/content/utilities\\_and\\_industries/energy/energy\\_programs/demand\\_side\\_management/ee\\_and\\_energy\\_savings\\_assist/zneresactionplan\\_final\\_060815.pdf](http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/zneresactionplan_final_060815.pdf). Accessed: June 2016.

CEC. *See* California Energy Commission.

CPUC. *See* California Public Utilities Commission.

EIA. *See* U.S. Energy Information Administration.

SACOG. *See* Sacramento Area Council of Governments.

Sacramento Municipal Utility District. 2019a. SMUD Power Content Label. Available at: <https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/PowerContentLabel.ashx>. Accessed August 2020.

———. 2019b. Resource Planning Report: IRP Filing Report for Submission to the California Energy Commission. Available at: <https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/Integrated-Resource-Plan.ashx>. Accessed August 2020.

Sacramento Area Council of Governments. 2019. 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy. Available at: <https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update>. Accessed August 2020.

SMUD. *See* Sacramento Municipal Utility District.

U.S. Energy Information Administration. 2020a. California State Profile and Energy Estimates. Available at: <https://www.eia.gov/state/?sid=CA#tabs-2>. Accessed August 2020.

U.S. Energy Information Administration. 2020b. California State Energy Profile Analysis. Available at: <https://www.eia.gov/state/analysis.php?sid=CA>. Accessed February 2020.

## 8.20 CHAPTER 4, “CUMULATIVE EFFECTS”

Brown and Caldwell. 2020. Zone 40 Water Supply Master Plan Amendment for the Multi-Sport Complex. Prepared for: Sacramento County Water Agency. Sacramento, CA.

California Department of Conservation. 2018. Farmland Mapping and Monitoring Program, Important Farmland Mapping. Available: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed August 13, 2020.

California Department of Finance. 2017. E-5 Population and Housing Estimates for Cities, Counties and the State—January 1, 2011–2017, with 2010 Benchmark. Available: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>. Accessed June 27, 2017.

City of Elk Grove. 2016. City of Elk Grove City Council Staff Report. Agenda Item No. 10.1. Agenda Title: Receive a Report on Elk Grove Employment Dynamics and provide direction as deemed appropriate. Elk Grove, CA.

———. 2018. City of Elk Grove General Plan Update Draft Environmental Impact Report. State Clearinghouse No. 2017062058. Available: [http://elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 30, 2020.

———. 2019a. City of Elk Grove General Plan. Available: [http://www.elkgrovecity.org/city\\_hall/departments\\_divisions/city\\_manager/strategic\\_planning\\_and\\_innovation/general\\_plan/documents](http://www.elkgrovecity.org/city_hall/departments_divisions/city_manager/strategic_planning_and_innovation/general_plan/documents). Accessed July 30, 2020.

———. 2019b. Climate Action Plan: 2019 Update. Available: [http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Amend\\_2019-12/ElkGrove\\_CAP\\_Amended\\_December2019.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Amend_2019-12/ElkGrove_CAP_Amended_December2019.pdf). Accessed August 25, 2020.

County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, and Southeast Connector Joint Powers Authority. 2018. South Sacramento Habitat Conservation Plan. With assistance from Dudek, Auburn, CA; Economic & Planning Systems, Oakland, CA; and Best, Best and Krieger, Riverside, CA. Available: <https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/SSHCPPlan.aspx>. Accessed August 19, 2020.

DOC. *See* California Department of Conservation.

DOF. *See* California Department of Finance.

ODELL Planning and Research. 2020 (February). Development Fee Justification Study/School Facilities Needs Analysis. Prepared for the Elk Grove Unified School District. Available: <http://www.egusd.net/about/divisions-departments/business-services-and-facilities/facilities-and-planning/>. Accessed August 5, 2020.

SACOG. *See* Sacramento Area Council of Governments.

- Sacramento Area Council of Governments. 2016. Metropolitan Transportation Plan/Sustainable Communities Strategy: Building a Sustainable System. Available: <https://www.sacog.org/2016-mtpsc>. Accessed July 30, 2020.
- \_\_\_\_\_. 2020 (November 18). Metropolitan Transportation Plan/Sustainable Communities Strategy. Available: <https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy-update>. Accessed August 23, 2020.
- Sacramento County. 2017. Sacramento County General Plan of 2005–2030. Adopted 2011, Update 2017. Available: <https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx>. Accessed July 30, 2020.
- Sacramento Central Groundwater Authority. 2016. Alternative Groundwater Sustainability Plan. Available: <https://scgah2o.saccounty.net/Pages/South-American-Subbasin-Alternative-Submittal.aspx>. Accessed July 30, 2020.
- Sacramento Regional County Sanitation District. 2014 (March). Draft Environmental Impact Report for the Sacramento Regional County Sanitation District Echo Water Project. Available: <https://www.regionalsan.com/reports>. Accessed August 12, 2020.
- Sacramento Regional County Sanitation District. 2019. 2019 State of the District Report. Sacramento, CA. Available: <https://www.regionalsan.com/state-district-reports>. Accessed August 12, 2020.
- U.S. Energy Information Administration. 2018. California: State Profile and Energy Estimates. Profile Overview. Available: <https://www.eia.gov/state/?sid=CA>. Accessed August 25, 2018.
- Wood Rogers. 2020a (June). Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Water Master Plan. Prepared for the City of Elk Grove and Sacramento County Water Agency.
- Wood Rogers. 2020b (June). Elk Grove Multi-Sport Complex & Sphere of Influence Annexation Level II Sewer Study. Prepared for the City of Elk Grove and Sacramento County Water Agency.

## **8.21 CHAPTER 5, “ALTERNATIVES TO THE PROPOSED PROJECT”**

- California Department of Conservation. 2014. Farmland Mapping and Monitoring Program (FMMP). Important Farmland GIS layer for Sacramento County. Available: <ftp://ftp.consrv.ca.gov/pub/dlrp/fmmp/2014/>. Accessed January 28, 2016.
- \_\_\_\_\_. 2016a. *Elk Grove General Plan* Figure SA-2, “200 year Flood Zones and Critical Facilities within the City of Elk Grove.” Adopted November 19, 2003; reflects amendments through July 22, 2009, and proposed 2016 revisions. Available: [http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Flood%20Management/200-year\\_floodplain\\_map.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Flood%20Management/200-year_floodplain_map.pdf).

DOC. *See* California Department of Conservation.

## **8.22 CHAPTER 6, “OTHER CEQA AND LAFCO CONSIDERATIONS”**

No references cited.

## **8.23 CHAPTER 7, “PERSONS AND ORGANIZATIONS CONSULTED/LIST OF PREPARERS”**

No references cited.

This page intentionally left blank



**Sent Via E-Mail**

November 16, 2020

Christopher Jordan  
City of Elk Grove  
8401 Laguna Palms  
Elk Grove, CA 95758  
[cjordan@elkgrovecity.org](mailto:cjordan@elkgrovecity.org)

Subject: **Multi-Sport Complex and Grant Line Industrial Annexation Area / SEIR / 2015102067**

Dear Mr. Jordan:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Supplemental Environmental Impact Report (SEIR) for the Multi-Sport Complex and Grant Line Industrial Annexation Area (Project, SCH 2015102067). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

6-1

It is our desire that the Project will acknowledge any impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - <https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services>
  - <https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way>
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery
- The potential need to relocate and or remove any SMUD infrastructure that may be affected in or around the project area

6-2

More specifically, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

- Based on the updated Land Use designations, this development will likely require up to two distribution substation sites to adequately serve future electrical demand.
- SMUD will require the acquisition of easements for necessary new distribution line, as well as easement to cover any remaining line on the property not currently covered.
- Comments from 2019 Elk Grove SOIA EIR specific to the Multi-Sport Complex & Grant Line Road Annexation:
  - Standard 12.5-foot overhead/underground PUE along all streets.
  - 25-foot PUE/PUFPE along Grant Line Rd. for existing 69kV line.
  - Existing 12kV overhead line along Waterman & Grant Line Rd.
  - Existing & proposed 12kV line along Mosher Rd.
  - Existing 69kV line along Waterman & Grant Line Rd.
  - Proposed 2<sup>nd</sup> 69kV circuit along Grant Line Rd. on existing pole line.
  - Proposed 12kV underground lines along Grant Line Rd. and Waterman Rd.

6-3

Including the above information in the project description will allow SMUD to serve the project without unnecessary delays. SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

6-4

Environmental leadership is a core value of SMUD, and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this SEIR. If you have any questions regarding this letter, please do not hesitate to contact me at 916.732.5384, or by email at [Amy.Spitzer@smud.org](mailto:Amy.Spitzer@smud.org).

6-5

Sincerely,



Amy Spitzer  
Environmental Services Specialist  
Sacramento Municipal Utility District  
6201 S Street  
Sacramento, CA 95817

cc: Entitlements

**DEPARTMENT OF TRANSPORTATION**

DISTRICT 3  
PLANNING DIVISION  
703 B Street, MS-4130  
Marysville CA 95901  
Phone (530) 634-7616  
www.dot.ca.gov  
TTY 711  
www.dot.ca.gov



*Making Conservation  
a California Way of Life.*

November 19, 2020

GTS# 03-SAC-2020-00773  
SCH# 2015102067

Christopher Jordan  
Director, Strategic Planning and Innovation  
City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, CA 95758

**Multi-Sport Complex and Southeast Industrial Annexation Area – Draft Supplemental Environmental Impact Report (SEIR)**

Dear Mr. Jordan,

Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. Caltrans' new mission, vision, and goals signal a modernization of our approach to California's transportation system. We reviewed this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision, and goals for sustainability/livability/economy, and safety/health. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl.

7-1

The Multi-Sport Complex and Southeast Industrial Annexation Area (Project) proposes an expansion to the City of Elk Grove's Sphere of Influence of approximately 561 acres. The Draft SEIR would change several City of Elk Grove General Plan land use designations and pre-zoning designations for the project site relative to the EIR certified by the Sacramento Local Agency Formation Commission (LAFCo) in May of 2019. Revisions in the assumed land uses for the Project site focus on the approximately 100-acre City-owned parcel in the center of the Project. This parcel was formerly proposed for Public Open Space/Recreation and now would be designated for Light Industrial uses. Land use changes would result in:

7-2

- A reduction in the land area of Parks and Open Space
- An increase in both Light Industrial and Heavy Industrial uses



- A reduction in the amount of mixed General Commercial and Commercial Office uses
- A new use, Regional Commercial, proposed for 20 acres of land

The Project is located south of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99. The Project site extends eastward past the intersection of Grant Line Road and Mosher Road, and extends southward to the Sacramento County Urban Services Boundary. The following comments are based on the Draft SEIR received.

↑  
7-2  
(Cont.)

### Hydraulics

The Project will result in an increase in peak surface water runoff due to construction of buildings and parking, roads etc., and an increase in impermeable surface area. Detention ponds are proposed in the Project to control this increase of runoff. Care should be taken that peak runoff discharge for the 10 and 100-year storm events to the State Right of Way and to Caltrans highway drainage facilities must be reduced to at or below the pre-construction levels. This may be accomplished through the implementation of storm water management Best Management Practices (i.e., detention/retention ponds or basins, sub-surface galleries, on-site storage and/or infiltration ditches, etc.). Once installed, the property owner must properly maintain these systems. The proponent/developer may be held liable for future damages due to impacts for which adequate mitigation was not undertaken or sustained.

7-3

Runoff from the Project that will enter the State Right of Way and/or Caltrans drainage facilities, must meet all regional water quality control board water quality standards prior to entering the State Right of Way or Caltrans drainage facilities. Appropriate storm water quality Best Management Practices may be applied to ensure that runoff from the site meets these standards (i.e., is free of oils, greases, metals, sands, sediment, etc.). Once installed, the property owner must properly maintain these systems in perpetuity.

All work proposed and performed within the State Right of Way must be in accordance with Caltrans standards and require a Caltrans Encroachment Permit prior to commencing construction.

For the encroachment permit application, provide drainage plans and calculations for the pre and post 10 and 100 peak run-off (quantities and velocities) and water quality treatment for all discharge to the State Right of Way and to Caltrans highway drainage facilities.

Christopher Jordan  
City of Elk Grove  
November 19, 2020  
Page 3

Please provide our office with copies of any further actions regarding the Project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Douglas Adams, Intergovernmental Review Coordinator, at (530) 741-4543 or by email at: douglas.adams@dot.ca.gov.

7-4

Sincerely,



Alex Fong  
Acting Branch Chief, Transportation Planning – South  
Planning, Local Assistance, and Sustainability

Cc: State Clearinghouse



GAVIN NEWSOM  
GOVERNOR



JARED BLUMENFELD  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Central Valley Regional Water Quality Control Board

19 November 2020

Christopher Jordan  
City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, 95758

### **COMMENTS TO REQUEST FOR REVIEW FOR THE SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT, MULTI-SPORT COMPLEX AND SOUTHEAST INDUSTRIAL ANNEXATION AREA, SCH#2015102067, SACRAMENTO COUNTY**

Pursuant to the State Clearinghouse’s 9 October 2020 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Supplemental Environmental Impact Report* for the Multi-Sport Complex and Southeast Industrial Annexation Area, located in Sacramento County.

8-1

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

#### **I. Regulatory Setting**

##### **Basin Plan**

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State’s water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

8-2

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:  
[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/)

8-3  
(Cont.)

**Total Maximum Daily Load – Planning and Assessment**

To minimize sediment movement that could trigger algal blooms, the Central Valley Water Board recommends the project activities occur outside of the timeframe of June through September.

Portions of the Lower Cosumnes River near the project area are currently on the Clean Water Act Section 303(d) List of Impaired Waters due to Escherichia coli (E.coli), Invasive Species, and sediment toxicity. Central Valley Water Board staff recommends referencing the most current 303(d) list and requirements contained in existing TMDLs for the Lower Cosumnes River within the Supplemental EIR discussing any potential short- and long-term effects of these pollutants from project activities or program level impacts, and discussing mitigation measures and/or best management practices to reduce potential effects.

8-4

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:

[https://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/sacsjr\\_2018\\_05.pdf](https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_2018_05.pdf)

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

8-5

## II. Permitting Requirements

### **Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml)

8-6

### **Phase I and II Municipal Separate Storm Sewer System (MS4) Permits<sup>1</sup>**

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

8-7

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/municipal\\_permits/](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/)

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/phase\\_ii\\_municipal.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml)

### **Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit,

8-8

---

<sup>1</sup> Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.



visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/industrial\\_general\\_permits/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml)

8-8  
(Cont.)

#### **Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

8-9

#### **Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:

[https://www.waterboards.ca.gov/centralvalley/water\\_issues/water\\_quality\\_certification/](https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/)

8-10

#### **Waste Discharge Requirements – Discharges to Waters of the State**

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at: [https://www.waterboards.ca.gov/centralvalley/water\\_issues/waste\\_to\\_surface\\_water/](https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/)

8-11

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources

Control Board website at:

[https://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2004/wqo/wqo2004-0004.pdf](https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf)

↑ 8-11  
(Cont.)

### **Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2003/wqo/wqo2003-0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf)

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:

[https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/waivers/r5-2018-0085.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf)

8-12

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

[https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2016-0076-01.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf)

### **NPDES Permit**

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: <https://www.waterboards.ca.gov/centralvalley/help/permit/>

8-13

If you have questions regarding these comments, please contact me at (916) 464-0335  
or [Angela.Nguyen-Tan@waterboards.ca.gov](mailto:Angela.Nguyen-Tan@waterboards.ca.gov).



Angela Nguyen-Tan  
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research,  
Sacramento



Suzanne Pecci

916 686-6768     [specci@aol.com](mailto:specci@aol.com) 10212 Equestrian Drive Elk Grove, CA 95624

November 23, 2020

City of Elk Grove  
Attn: Christopher Jordon  
Office of Strategic Planning  
8401 Laguna Palms Way  
Elk Grove, Ca

Dear Mr. Jordon,

I appreciate the opportunity to comment on the Draft SEIR ( DSEIR) for the Elk Grove Soccer Complex/ Industrial Annexation Area. I am an ag res member of the Elk Grove Community residing in the overlapping boundaries of SCWA Zone 40, and Omochumne-Hartnell Water District( OHWD). My property, off Grantline Road, is on the Urban Services Boundary. The first Sphere of Influence filed by the City of Elk Grove and denied by LAFCo in 2007 proposed urbanization outside the floodplain almost up to my back fence. Since Elk Grove incorporation in 2000 and the big push to develop farmland, I have always been interested and engaged in the what is happening in my back yard. The recent impacts of corporate farming to the neighborhood and now water for urbanization in a Landowner District controlled by landowners, many waiting to develop their land for the 40 + years I have resided in Elk Grove keep me involved.

9-1

As ag res I am concerned about the impact this development will have on all our domestic wells which is the sole source of water and the potential risk to our rural lifestyle. None of these concerns are addressed in the DSEIR.

9-2

The DSEIR focuses exclusively on SCWA as the being the designated M&I for the Project Area except for 17 and 48 acres located exclusively in OHWD and SCWA service area respectively. The DSEIR fails to mention the approximate 514 acre Project as being located in the "overlap service area" of OHWD and SCWA. There are no comments on OHWD's well-documented long-time desire and planning to provide M&I to urbanization within in their district.

9-3

However, the Project Municipal Services Review, Sphere of Influence LAFC#04-15 Sacramento LAFCo/City of Elk Grove, April 2019 4.0 Services, Infrastructure , and Facilities states " ... OHWD has indicated that the District is preparing a plan regarding the provision of domestic water service within its boundaries.... " my public records request to

9-4

OHWD in November 2018 for the Letter of Interest of 2016 submitted to LAFCo by OHWD resulted in the verbal acknowledgement of the letter, but regrets about the inability of OHWD and their attorney to find the letter after going through boxes of old correspondence of a former OHWD chairman. LAFCo 's response to my PRI for the same information in Feb. 2019 yielded a written response that they had no knowledge of such a letter from OHWD.

↑  
9-4  
(Cont.)

There certainly must have been Brown Act violations and at best an obvious lack of transparency in public agencies failing to provide information to the public regarding a matter of public interest of how sufficient water will be provided for planned urbanization, agricultural interests, environmental interests, as well as for all existing beneficial users in the South American Subbasin for the Project Area (and subsequent areas of development along Grantline Road in OHWD. )

9-5

A review of the SCWA Water Supply Master Plan Draft Amendment Section 4.4 Recycled Water –Direct Potable Reuse DPR or Indirect Potable Reuse IPR gives a hint of what is planned for the Project Area by OHWD . Onsite construction plans and sewer and water infrastructure plans provided in the DSEIR are appropriate to an IPR or perhaps a DPR being constructed in the Project Area by OHWD. But one can only guess about the plan due to the lack of transparency in the DSEIR.

9-6

Why isn't this information being openly shared with the public whose taxes support such projects? There are questions about whether the financing costs of new onsite M&I facilities and related construction and infrastructure in the Project area in OHWD will be passed on to ag res and landowners currently residing in the district and whether the operating cost of the new onsite service facilities in OHWD would be funded in anyway by current ag res and landowners in the district . These questions should be addressed publically.

9-7

Finally, Section 4.3.2 SCGA , is a summary of SGMA actions in the South American Subbasin since 2015 leading up to the current development of a groundwater sustainability plan GSP. I feel there is a relationship of SGMA to the Project Area which is in OHWD boundaries as OHWD walks a fine line and wears "two hats" as a water service provider for M&I for urbanization in their district and a GSA currently involved in developing a GSP for the South American Subbasin. I feel all of this is an appropriate public conversation.

9-8

Sincerely yours, Suzanne Pecci

page2

Urna Semper



November 24, 2020

SENT VIA EMAIL

City of Elk Grove
Attn: Christopher Jordan, AICP
Director Strategic Planning and Innovation
8401 Laguna Palms Way
Elk Grove, CA 95758
cjordan@elkgrovecity.org

RE: Multi-Sport Complex and Southeast Industrial Annexation Area
Draft Supplemental Environmental Impact Report (SAC201501538)

Dear Mr. Jordan:

Thank you for providing an opportunity for the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District) to review and comment on the City of Elk Grove (City) Supplemental Environmental Impact Report (SEIR) for the Multi-Sport Complex and Grant Line Industrial Annexation Area (Project). The Project consists of a 571-acre annexation area located south of Grant Line Road. The SEIR includes environmental review of a Project revision consisting of (1) changes in the land use designations for the proposed General Plan amendment and pre-zoning for the Project site and (2) additional information related to infrastructure improvements that will be necessary to serve the Project site. Sac Metro Air District staff comments follow.

10-1

Operational Emissions:

Mitigation Measure 3.4-2 Generation of long-term operational emissions of criteria air pollutants and ozone precursors. District staff note that this measure has been modified to require the implementation of an enforceable mechanism such as an Air Quality Mitigation Plan (AQMP) to reduce or offset mobile source operational emissions by a minimum of 35 percent of total mobile source emissions. The timing/schedule for the implementation of this measure is described in Appendix H-MMRP Comparison draft. We appreciate the fact that this measure is consistent with the recommendation made in the Sac Metro Air District's 8/19/2020 letter on the Project Notice of Preparation (NOP).

10-2

Greenhouse Gas Reduction Program:

Mitigation Measure 3.8-1a Achieve GHG Emissions Rate Consistent with State Guidance (2019 SOIA EIR Mitigation Measure 3.8-1). District staff note that this mitigation measure has been modified to specify the timing, which is prior to the issuance of Building Permits, for demonstration of compliance with the specified measures. This change yields consistency with the recommendation in the Sac Metro Air District's 8/19/2020 letter on the Project NOP.

10-3

**Mitigation Measure 3.8-1b Implement the SMAQMD BMPs, or equivalent on-site or off-site mitigation, as applicable for land use operations.** District staff note that projects within the annexation area will be designed and constructed without natural gas infrastructure and be required to implement the CalGreen Tier 2 standards. We appreciate the incorporation these Best Management Practices.

10-4

*Transportation Master Plan:*

**Appendix G-Transportation Master Plan:** The District notes the inclusion of parking-protected bike lanes in the design for the collector street section. The District encourages the City to consider as well the inclusion of buffers between the bicycle lane and the travel lane in the design of the Arterial Street section as well.

10-5

*General Comments:*

Please provide notice to the Sac Metro Air District when the final environmental document is available for review. An email to [projectreview@airquality.org](mailto:projectreview@airquality.org) is the most direct way to do so.

10-6

All projects are subject to Sac Metro Air District rules in effect at the time of construction. A list of common [construction related rules](#)<sup>1</sup> and the [complete listing of rules](#)<sup>2</sup> are available on the Sac Metro Air District's website. Links are provided in the footnotes.

Thank you for your consideration of these comments. If you have any questions, please contact me at 916-874-2694 or [jhurley@airquality.org](mailto:jhurley@airquality.org).

Sincerely,

-JJ Hurley

Joseph J. Hurley  
Air Quality Planner/Analyst

c: Paul Philley, Program Supervisor, CEQA & Land Use Section, Sac Metro Air District

<sup>1</sup> [http://www.airquality.org/LandUseTransportation/Documents/Rules%20attachment\\_6-18Final.pdf](http://www.airquality.org/LandUseTransportation/Documents/Rules%20attachment_6-18Final.pdf)

<sup>2</sup> <http://www.airquality.org/Businesses/Rules-Regulations>







T 510.836.4200  
F 510.836.4205

1939 Harrison Street, Ste. 150  
Oakland, CA 94612

www.lozeaudrury.com  
michael@lozeaudrury.com

*Via Email*

November 25, 2020

Christopher Jordan, Director  
City of Elk Grove  
Strategic Planning and Innovation  
8401 Laguna Palms Way  
Elk Grove, CA 95758  
[cjordan@elkgrovecity.org](mailto:cjordan@elkgrovecity.org)

Jason Lindgren, City Clerk  
City of Elk Grove  
City Clerk's Office  
8401 Laguna Palms Way  
Elk Grove, CA 95758  
[jlindgren@elkgrovecity.org](mailto:jlindgren@elkgrovecity.org)

**Re: CEQA and Land Use Notice Request for the Project known as Multi-Sport Complex Site and Southeast Grant Line Industrial Annexation Area**

Dear Mr. Jordan, and Mr. Lindgren

I am writing on behalf of the Laborers International Union of North America, Local Union 185 and its members living in the City of Elk Grove ("LIUNA"), regarding the project known as Multi-Sport Complex Site and Southeast Grant Line Industrial Annexation Area, including all actions related or referring to the annexation and build out of the Project area pursuant to the planned land uses, as well as the infrastructure necessary to serve these uses on approximately 571 acres located southeast of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route (SR) 99 in the City of Elk Grove ("Project").

We hereby request that the City of Elk Grove ("City") send by electronic mail, if possible or U.S. Mail to our firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City and any of its subdivisions, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the City, including, but not limited to the following:

- Notice of any public hearing in connection with the project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.
- Any and all notices prepared pursuant to the California Environmental Quality Act ("CEQA"), including, but not limited to:
  - Notices of any public hearing held pursuant to CEQA.
  - Notices of any addenda prepared to a previously certified or approved EIR.
  - Notices of determination that an Environmental Impact Report ("EIR") or supplemental EIR is required for the project, prepared pursuant to Public Resources Code Section 21080.4.
  - Notices of any scoping meeting held pursuant to Public Resources Code Section 21083.9.
  - Notices of preparation of an EIR or a negative declaration for the project, prepared pursuant to Public Resources Code Section 21092.

November 25, 2020

CEQA and Land Use Notice Request for the Project known as Multi-Sport Complex Site and Southeast Grant Line Industrial Annexation Area

Page 2 of 2

- Notices of availability of an EIR or a negative declaration for the project, prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations.
- Notices of approval and/or determination to carry out the project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of approval or certification of any EIR or negative declaration, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of determination that the project is exempt from CEQA, prepared pursuant to Public Resources Code section 21152 or any other provision of law.
- Notice of any Final EIR prepared pursuant to CEQA.
- Notice of determination, prepared pursuant to Public Resources Code Section 21108 or Section 21152.

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. **This request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092**, which requires agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

Please send notice by electronic mail, if possible or U.S. Mail to:

Michael Lozeau  
Hannah Hughes  
Komal Toor  
Lozeau Drury LLP  
1939 Harrison Street, Suite 150  
Oakland, California 94612  
510 836-4200  
[michael@lozeaudrury.com](mailto:michael@lozeaudrury.com)  
[hannah@lozeaudrury.com](mailto:hannah@lozeaudrury.com)  
[komal@lozeaudrury.com](mailto:komal@lozeaudrury.com)

Please call if you have any questions. Thank you for your attention to this matter.

Sincerely,



Hannah Hughes  
Paralegal  
Lozeau | Drury LLP



T 510.836.4200  
F 510.836.4205

1939 Harrison Street, Ste. 150  
Oakland, CA 94612

www.lozeaudrury.com  
michael@lozeaudrury.com

December 11, 2020

City of Elk Grove Office of Strategic Planning and Innovation  
c/o Christopher Jordan  
8401 Laguna Palms Way  
Elk Grove, CA 95758  
cjordan@elkgrovecity.org

Re: Comments Regarding Multi-Sport Complex and Southeast Industrial Annexation Area  
Supplemental Environmental Impact Report

Dear Mr. Jordan,

I am writing on behalf of Laborers International Union of North America Local Union 185 (“LIUNA”) concerning the Draft Supplemental Environmental Impact Report (“SEIR”) prepared for the Multi-Sport Complex and Southeast Industrial Annexation Project (“Project”). The Project proposes changes to the proposed General Plan land use designations and pre-zoning designations for the 561-acre Project site. In particular, the Project proposes to change the designated use of a 100-acre City-owned parcel from Public Open Space/Recreation to Light Industrial Uses and to change the use of the parcels previously identified for Retail Commercial and Industrial Uses to expand the Industrial Uses and reduce the Commercial Uses. SEIR, p. ES-1. In addition, the SEIR reviews potential impacts of additional off-site drainage improvements for the Project. *Id.*, p. ES-2.

1

After reviewing the SEIR, we conclude the SEIR fails as an informational document, and that the SEIR is insufficient as a matter of law and not supported by substantial evidence. With the assistance of expert wildlife biologist Shawn Smallwood, Ph.D., and environmental consulting firm SWAPE, we have identified a number of significant omissions and flaws in the SEIR’s analysis of likely hazard, air quality, greenhouse gas (“GHG”) and biological resource impacts. SWAPE’s comments and curriculum vitae are attached hereto as Exhibit A. Dr. Smallwood’s comments and c.v. are attached as Exhibit B. Therefore, we request that the City of Elk Grove (“City”) revise the draft SEIR in order to address the following shortcomings prior to presenting it to the City Council. We reserve the right to supplement these comments during public hearings concerning the Project. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997).

2

## I. Legal Background.

The California Environmental Quality Act (“CEQA”) requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report (“EIR”) (except in certain limited circumstances). *See, e.g.* Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. “The ‘foremost principle’ in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. (“CEQA Guidelines”) § 15002(a)(1). “Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR ‘protects not only the environment but also informed self-government.’” *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564. The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.” *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354 (“*Berkeley Jets*”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); *see also, Berkeley Jets*, 91 Cal.App.4th at pp. 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.” CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.” Pub. Res. Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732.

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A ‘clearly inadequate or unsupported study is entitled to no judicial deference.’” *Berkeley Jets*, 91 Cal. App. 4th at p. 1355 (emphasis added) (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 391 409, fn. 12). As the court stated in *Berkeley Jets*:

A prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process.” (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

More recently, the California Supreme Court has emphasized that:

When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510 (2018), citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405. “Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document.” *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, “a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including ‘detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.’” 6 Cal.5th at 516, citing *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197. “The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency’s factual conclusions.” 6 Cal.5th at 516. Whether a discussion of a potential impact is sufficient “presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency’s decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference.” *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. As the Court emphasized:

[W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

*Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 514.

3,  
cont.



## II. DISCUSSION.

### A. The SEIR Fails to Establish a Sufficient Baseline or Address the Potential Hazard Impacts Disclosed in the 2014 Phase I Environmental Site Assessment.

The City has previously been apprised of the likelihood that the areas slated for development within the Project area may be contaminated with persistent residual pesticides and herbicides from historic applications of DDT and pesticides containing heavy metals including arsenic and lead. SEIR, p. 3.9-1. Despite that likelihood, the City makes no effort to further investigate or identify any areas of potential contamination, disclose the extent of such contamination and devise meaningful mitigations or a Project alternative that responds to any contamination found on the site. The SEIS purports to address this potential impact by noting that, should evidence of contamination come to light, the relevant site would adhere to any requirements of the California Occupational Safety and Health Administration and General Plan Policy ER-1-5b addressing a general goal of addressing sites suspected or known to contain hazardous materials. SEIR, p. 3.9-7. The SEIR's reliance on future, vague actions to identify contamination at the site and provide for clean-up is contrary to CEQA because it fails to provide a necessary baseline regarding the presence of soil contamination and fails to develop enforceable mitigation measures to address the Project's disturbance of any such areas, instead deferring mitigation until a future date.

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. (Emphasis added.)

*See, Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125. As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. *Save Our Peninsula, supra*, 87 Cal.App.4th 99, 121-123.

"[U]nder CEQA, the lead agency bears a burden to investigate potential environmental impacts." *Cty. Sanitation Dist. No. 2 v. Cty. of Kern* (2005) 127 Cal.App.4th 1544, 1597. "[W]here comments from responsible experts or sister agencies disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored. *There must be good faith, reasoned analysis in response.*" *Berkeley Keep Jets Over the Bay Comm. v. Bd. of Port Comm'rs* (2001) 91 Cal.App.4th 1344, 1371, *as modified on denial of reh'g* (Sept. 26, 2001). Likewise, simply labeling an environmental effect as "significant" "without accompanying analysis of the

project's impact ... is inadequate to meet the environmental assessment requirements of CEQA." *Berkeley Keep Jets*, 91 Cal.App.4th at 1371.

As the Court of Appeal has stated, "[a] new project located in an area that will expose its occupants to preexisting dangerous pollutants can be said to have substantial adverse effect on human beings." *Cal. Building Industry Assn. v. Bay Area Air Quality Mgm't Dist.* ("CBIA v. BAAQMD") (2013) 218 Cal.App.4th 1171. The existence of toxic soil contamination at a project site is a significant impact requiring review and mitigation in an EIR. *McQueen v. Bd. of Dirs.* (1988) 202 Cal.App.3d 1136, 1149; *Assoc. For A Cleaner Env't v. Yosemite Comm. College Dist.* ("ACE v. Yosemite") (2004) 116 Cal.App.4th 629. This mitigation may not be deferred until a future time after Project approval. *Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d 296, 306; *Citizens for Responsible Equitable Env't'l Dev. v. City of Chula Vista* ("CREED") (2011) 197 Cal.App.4th 327, 330-31.

As SWAPE points out, in order to properly assess this potential impact, representative soil sampling throughout the site must be conducted. SWAPE Comment, p. 2. The sampling should adhere to protocols relating to agricultural fields identified by the Department of Toxic Substances Control. *Id.* The results should be used to evaluate health risks to construction workers and nearby residents. *Id.* The data and resulting evaluation should be fully disclosed and discussed in a revised SEIR. The SEIR also should develop actual mitigation measures that would apply to all future projects within the area to address the possible soil contamination present within the area.

**B. The EIR Fails to Identify All Feasible Mitigations To Address the Project's Acknowledged Significant and Unavoidable Impacts on Farmland.**

The SEIR acknowledges that the Project will have significant and unavoidable impacts on farmland. SEIS, p. ES-5. Most of the Project site consists of Farmland of Statewide and Local Importance. *Id.*, p. 3-3.1. Despite that significant impact, the mitigation proposed in the EIR only requires the protection of one acre of farmland for every acre of farmland destroyed by the project. *Id.* There is no explanation describing why the ratio of protected farmland is limited to 1:1. There is no evidence that it is not feasible for future projects to increase the acreage of farmland that must be conserved in exchange for farmland loss to the Project's future development. Although requiring additional farmland to be conserved in exchange for destroying farmland on the Project site would not completely offset those significant impacts, it plainly would further mitigate those impacts beyond the proposed 1:1 ratio.

Under CEQA, when an agency approves a project with significant environmental impacts that will not be fully mitigated, it must adopt a "statement of overriding considerations" finding that, because of the project's overriding benefits, it is approving the project despite its environmental harm. 14 Cal. Admin. Code §15043; Pub. Res. Code §21081(b); *Sierra Club v. Contra Costa County* (1992) 10 Cal.App.4th 1212, 1222. A statement of overriding considerations expresses the "larger, more general reasons for approving the project, such as the need to create new jobs, provide housing, generate taxes and the like." *Concerned Citizens of*

4,  
cont.

5

6



*South Central LA v. Los Angeles Unif. Sch. Dist.* (1994) 24 Cal.App.4th 826, 847.

An agency may adopt a statement of overriding considerations only *after* it has imposed all feasible mitigation measures to reduce a project’s impact to less than significant levels. 14 Cal. Admin. Code §§ 15126.4, 15091. CEQA prohibits agencies from approving projects with significant environmental impacts when feasible mitigation measures can substantially lessen or avoid such impacts. Pub. Res. Code § 21002. As explained in CEQA Guidelines § 15092(b)(2), an agency is prohibited from approving a project unless it has “[e]liminated or substantially lessened all significant effects on the environment where feasible.”

6,  
cont.

A statement of overriding considerations must be supported by substantial evidence in the record. 14 Cal. Admin. Code §15093(b); *Sierra Club v. Contra Costa Co.*, 10 Cal.App.4th at 1223. The agency must make “a fully informed and publicly disclosed” decision that “specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project.” 14 Cal. Admin. Code. §15043(b). As with all findings, the agency must present an explanation to supply the logical steps between the ultimate finding and the facts in the record. *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.

In order to comply with these mandates, the SEIR must identify the highest farmland mitigation ratio that is feasible. In order to do that, the SEIR should be revised to identify the costs of the conservation easements it identifies and the feasibility of requiring a higher ratio of preserved acres to offset future development at the site. As it stands, there is no substantial evidence to show that a 1:1 ratio is the feasible limit on conserving farmland acreage to offset the Project’s unavoidable impacts to farmland.

7

**C. The SEIR’s Discussion of the Project’s Air Quality Impacts is not Supported by Substantial Evidence.**

The modeling done in support of the SEIR’s discussion of air quality impacts is inconsistent with the Project description and relies on inputs that have not been substantiated. As a result, the SEIR’s discussion of air quality impacts is not supported by substantial evidence.

8

The SEIR for the Project relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2016.3.2 (“CalEEMod”). This model relies on recommended default values, or on site-specific information related to a number of factors. The model is used to generate a project’s construction and operational emissions. SWAPE reviewed the Project’s CalEEMod files and found that the values input into the model were inconsistent with information provided in the SEIR. This results in an underestimation of the Project’s emissions. As a result, the SEIR’s discussion of air quality impacts is not supported by substantial evidence.

The inconsistencies include the omission of any modeling inputs to account for the extensive parking areas anticipated by the Project. SWAPE Comments, p. 3. “By completely omitting the proposed parking land use, the models fail to account for all of the emissions that

9

would be produced during construction and operation of the Project and should not be relied upon to determine Project significance.” *Id.*

9, cont.

The modeling inputs reduced the default input for the “CO2 Intensity Factor” by about 100 pounds per megawatt hour. SWAPE Comment, p. 4. The model notes claim that the reduction was based on an unsourced average CO<sup>2</sup> Intensity Factor for all of California. *Id.* There is no information regarding where this number came from or whether it is applicable to the Sacramento region. *Id.*

10

There is a significant discrepancy in the potential footprint of development identified in the SEIR and the amount input to the CalEEMod model. SWAPE Comments, p. 4. The SEIR states that the Project site will support up to 5.6 million square feet of light and heavy industrial uses. The model input reduces this number by about 44,000 square feet. That discrepancy should be reviewed.

11

The SEIR and the model assume that 25 percent of the land uses allowed by the project would be constructed in a single year. SEIR, pp. 3.4-10 – 3.4-11. The SEIR cites the Sacramento Metropolitan Air Quality Management District (“SMAQMD”) as the source of this recommendation but does not provide a reference to the document substantiating such a recommendation. SWAPE Comment, p. 5. Given the demand for large distribution centers and warehouses, this estimate could very well be an underestimate. Without a substantial basis for this figure, it is not substantial evidence.

12

The inputs for recreational uses are “User Defined.” SWAPE Comments, p. 6. However, the model has left out data inputs for a number of relevant fields for this use, including trip rates. As a result, the model underestimates emissions associated with that use.

13

The construction schedule inputs also are not substantiated in the modeling document. SWAPE Comments, p. 8. The models default values are assumed to be the same for all construction phases and spread out for some construction phases thus arbitrarily altering the modeling inputs. *Id.*, pp. 8-9. As SWAPE notes:

14

by *disproportionately* altering individual construction phase lengths without proper justification, the model’s calculations are altered and underestimate emissions. Thus, by including unsubstantiated changes to the Project’s anticipated individual construction phase lengths, the model may underestimate the Project’s maximum daily construction-related emissions and should not be relied upon to determine the significance of the Project’s air quality impacts.

*Id.*

The model exaggerates the expected use of Tier 4 equipment for the entire Project. SWAPE Comments, pp. 9-10. Mitigation Measure TACM-8 only requires that at least 25 percent of the Project’s off-road construction fleet shall use EPA certified Tier 4 diesel engines. SEIR, p. ES-44. However, the CalEEMod modeling is based on 100 percent of the off-road construction

15

fleet utilizing Tier 4 diesel engines. SWAPE Comments, pp. 9-12. Hence, the model does not reflect the likely fleet mix used to construct projects at the site. In addition, Mitigation Measure TACM-8 does not specify which of the two Tier 4 levels are required – Tier 4 Interim or Tier 4 Final. *Id.*, p. 11. The Tier 4 Interim equipment emissions are higher than Tier 4 Final. However, the air modeling assumes all of the equipment will use Tier 4 Final equipment. That assumption is not supported by the SEIR’s Project description and Mitigation Measure TACM-8. *Id.*

15,  
cont.

The CalEEMod inputs for vehicle trip lengths also are inconsistent with what is described in the SEIR and appear to underestimate the longer trips associated with industrial uses that are expected to occur at the site. SWAPE Comments, pp. 12-13. Thus, while the SEIR informs a reader that the modeling was adjusted to account for longer truck trips between the Project site and regional ports and distribution centers, the modeling actually reduces several of the default trip lengths for industrial uses. *Id.*, p. 13. These unexplained inputs contribute to the modeling’s failure to achieve the substantial evidence standard.

16

For all of these reasons, the CalEEMod modeling should be carefully reviewed and adjusted to reflect a more reliable and realistic projection of emissions from the Project. Until that effort is made and the SEIR’s discussion of air quality impacts and other related issues updated accordingly, those discussions relying upon the CalEEMod modeling are not supported by substantial evidence.

17

**D. The SEIR’s Conclusion That Pollution Emissions from the Project’s Construction Would Have Less Than Significant Impacts After Mitigation is Not Supported by Substantial Evidence.**

The SEIR concludes that, with mitigations, the Project’s construction-related pollution emissions will be less than significant. SEIR, p. 3.5-16. The SEIR bases this conclusion on the flawed CalEEMod modeling. SWAPE has rerun the CalEEMod modeling to omit the unsubstantiated and inconsistent inputs discussed above. Rather than no impact, the modeling indicates that the Project will have significant air quality impacts from the emission of both NO<sub>x</sub> and PM<sub>10</sub>. SWAPE Comment, p. 16. The SEIR should be revised to acknowledge these significant impacts and set forth the requisite mitigation measures that will address these emissions.

18

**E. The SEIR Fails to Identify All Feasible Mitigation Measures and Improperly Defers the Development of Mitigations to Offset the Project’s Significant and Unavoidable NO<sub>x</sub> Emission Impacts.**

The SEIR’s response to addressing the significant and unavoidable impacts identified for the Project’s emissions of ozone precursors, including NO<sub>x</sub>, falls short of complying with CEQA by deferring the establishment of mitigation measures for the Project until after the Project is approved and not establishing now all feasible mitigation measures that are available.

19

Feasible mitigation measures for significant environmental effects must be set forth in an EIR for consideration by the lead agency’s decision makers and the public before certification of

the EIR and approval of a project. The formulation of mitigation measures generally cannot be deferred until after certification of the EIR and approval of a project. “A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA.” *Sundstrom*, 202 Cal.App.3d at 307. Withholding the specific details of mitigation prior to approval of a project is prohibited unless identifying such details are impractical or infeasible. 14 Cal. Admin. Code § 15126.4(a)(1)(B). If substantial evidence establishes that developing the details of a mitigation measure is impractical and infeasible, the agency can then develop the details after approval if it “(1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will [be] considered, analyzed, and potentially incorporated in the mitigation measure. *Id.* However, a lead agency’s adoption of an EIR’s proposed mitigation measure for a significant environmental effect that merely states a “generalized goal” to mitigate a significant effect without committing to any specific criteria or standard of performance violates CEQA by improperly deferring the formulation and adoption of enforceable mitigation measures. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670; *Communities for a Better Env’t v. City of Richmond* (2010) 184 Cal.App.4th 70, 93 (rejecting EIR that “merely proposes a generalized goal of no net increase in greenhouse gas emissions and then sets out a handful of cursorily described mitigation measures for future consideration that might serve to mitigate the [project’s significant environmental effects]”). In addition, an agency may adopt a statement of overriding considerations only *after* it has imposed all feasible mitigation measures to reduce a project’s impact to less than significant levels. 14 Cal. Admin. Code §§ 15126.4, 15091.

Nothing precludes the City from adopting additional feasible mitigation measures addressing ozone precursor emissions applicable to future projects on the site. The SEIR proposes Mitigation Measure 3.4-2 as the only response to the Project’s significant and unavoidable impacts to air quality from its operational emissions of ozone precursors, claiming it is the only feasible measure at this time. SEIR, p. 3.4-18. Mitigation Measure 3.4-2 would require future developments within the Project site to prepare an Air Quality Mitigation Plan (“AQMP”) which would be submitted to the Sacramento Metropolitan Air Quality Management District (“SMAQMD”) for review and approval. *Id.* The Measure states that “[t]he performance standard for the AQMP is to achieve a reduction in, or offset of operational ozone precursor emissions.” *Id.* The Measure then refers to a list of General Plan policies that would guide an AQMP. *Id.*

The Measure assumes that SMAQMD is available to review and “approve” the future AQMDs. Although SMAQMD does provide guidance on the preparation of AQMDs for local lead agency’s CEQA proceedings, LIUNA is unaware of, and the SEIR does not disclose, any program that provides for SMAQMD to be volunteered by a lead agency to play the role of reviewing and approving AQMD’s on the lead agency’s behalf. This alone calls into question whether Mitigation Measure 3.4-2 is enforceable.

The claimed “performance standard” which the Measure 3.4-2 identifies is vague and is not sufficient to justify deferring mitigation measures for the Project. The loose directive to “achieve a reduction in, or offset of operational ozone precursor emissions” provides no standard that could be enforced or understood by either the City or a future project applicant. The measure does not specify a specific amount of reduction future projects must achieve. It does not provide a clear baseline from which such reductions would be compared.

The SEIR focuses on MOB-1-1, suggesting that Mitigation Measure 3.4-2 would achieve results similar to the VMT reduction goal of 15% for new development projects. This comparison encounters a few insurmountable difficulties. First, according to the City’s traffic analysis guidelines, it is unclear whether any future projects within the Project site are excluded from VMT. City of Elk Grove, Transportation Analysis Guidelines (“TAG”) (Feb. 2019) [http://www.elkgrovecity.org/UserFiles/Servers/Server\\_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Adopted\\_2019-02/EG\\_Traffic\\_Analysis\\_Guidelines\\_CC%20Final\\_Adopted\\_2019-02-27.pdf](http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Projects/General%20Plan/GPU/Adopted_2019-02/EG_Traffic_Analysis_Guidelines_CC%20Final_Adopted_2019-02-27.pdf). The Project site is immediately adjacent to areas within the City limit that have been “pre-screened” as already being 15 percent or below the average service population VMT established for the applicable land use designations. TAG, p. 13. Given the existing lack of development on the site, it is likely the Project-site may also be pre-screened to exclude it from the VMT analysis. If that is the case, there may well be no future VMT analyses for the future projects proposed within the project area. Hence, any comparison assuming an AQMD may resemble a VMT analysis is not supported by the Measure’s language or the City’s procedures.

Second, the Project would authorize any number of large-scale distribution centers within the Project site’s industrial areas. The VMT analyses referenced by the City would only apply to the passenger vehicles. VMT analysis would not address the major pollution increases from, for example, a distribution center, which would be attributable to diesel trucks. *See* 14 Cal. Admin. code § 15064.3 (““vehicle miles traveled” refers to the amount and distance of automobile travel attributable to a project”).

Lastly, MOB-1-1 does not prevent projects with excessive VMT. SEIR, p. 3.4-6. It simply kicks the can down the road and would allow the City to make a determination of overriding considerations if a project exceeded the referenced VMT thresholds. Thus, the SEIRs assumption that future projects within the project site would expect reductions in ozone precursor emissions of 15 percent similar to MOB-1-1 is not sufficiently explained and not supported by the City’s existing guidance. SEIR, p. 3.4-19.

The SEIR paraphrases the numeric VMT targets included in the City’s General Plan, mentioning these “performance metrics” but not evaluating how the Project may or may not be consistent with the identified VMT limits. The SEIR is incomplete without this analysis.

Reviewing each of the other cited General Plan policies further demonstrates how the proposed AQMP requirement is vague and unenforceable. MOB-3-1 cannot be implemented by

19,  
cont.



an individual project because it focuses on the implementation of a “balanced transportation system” involving how streets are designed.

MOB-3-2 merely admonishes the City to support strategies to reduce single occupancy vehicles and promote alternative modes of transport. SEIR, p. 3.4-7. How this policy informs a future AQMP that is identifiable or enforceable is not apparent. MOB-3-2-a does obligate the City to require new development “to install conduits for future installation of electric vehicle charging equipment.” *Id.* How mere conduits will reduce any air pollution is not clear. Rather than mere conduits, actual mitigation could include the City requiring a minimum number of EV charging stations keyed to the future number of employees or parking spaces.

MOB-3-7 provides for “complete and connected” sidewalks and other pathways for bikes and pedestrians. *Id.* This policy, applied at a project level, may compliment a few bike riders commuting to an industrial or warehouse job. MOB-4-1 and NR-4-4 largely reiterate the same general concepts of promoting or providing well-designed bike and pedestrian routes also loosely provided for by MOB-3-7. But there is no evidence or indication that a few bike riders and likely fewer pedestrians would offset the emissions of a fleet of trucks, delivery vehicles or commuter automobiles. Nothing in the SEIR corroborates whether reduced parking requirements will be “appropriate” on these outlying parcels of Elk Grove, a prominent contingency in MOB-3-15. *Id.* MOB-3-16’s acknowledgment of the need for bike parking is logical but, again, there is no evidence or indication that a few bike riders would offset the emissions of a fleet of trucks, delivery vehicles or commuter automobiles. MOB-4-5’s policy to “encourage employers” to offer incentives for reducing vehicle use hardly assures any mitigation will occur. An actual mitigation measure would be for the City to condition the Project on requiring future projects and tenants to include bike storage, shower rooms, lockers, cash incentives not to drive, or other specific measures.

NR-4-1 calls for a reduction in emissions of 15 percent compared to the same project with no emission mitigation measures. This only applies to future projects that are not exempt and are found to have potential significant air quality impacts. Nothing in the SEIR indicates whether any of the future individual projects contemplated for the Project site will themselves be subject to CEQA and not exempt. It also does not explain how the admitted impact identified in the SEIR will be addressed if the future projects, taken individually, do not exceed the applicable thresholds.

Policies NR-6-5 and NR-6-7 merely admonish the City to promote energy conservation measures and encourage the use of solar energy systems. How these measures would reduce NOx emissions from trucks and vehicles is unclear. Moreover, the benefits of installing solar panels or other energy conservation measures not already required by the CalGreen Code are not realized by their mere encouragement or promotion. The measures need to be required and enforceable to qualify as mitigation measures under CEQA.

Even if specified mitigations were adopted, it likely would still be true that, given the remaining uncertainties of future projects, the SEIR would still need to acknowledge the

significant and unavoidable air quality impacts of the annexation Project. However, it is incumbent and required by CEQA that the City eliminate as much of the unavoidable impact by identifying and requiring mitigation measures now for those future projects.

19,  
cont.

**F. The SEIR's Conclusion That Health Risks From Diesel Emissions Associated With the Project's Construction and Operation Will Be Less Than Significant Is Not Supported by Substantial Evidence Because No Health Risk Assessment Has Been Prepared.**

The SEIR lists various rules that will be implemented by the California Air Resources Board in the future, including the so-called Tier 4 diesel standards. Which the SEIR claims will mitigate any possible health risks from construction activities at the Project site. SEIR, 3.4-24. As for operational emissions from, for example, diesel emissions from distribution centers that would be allowed within the Project site, the SEIR defers mitigation of future assessments of individual projects and identification of future measures to address any health risks. SEIR, p. 3.4-27 – 3.4-28. The deferral of mitigation to the future is inappropriate under CEQA. This deferred project level review improperly piecemeals the City's consideration of mobile source health risks and fails to comply with the City's duty to investigate the Project's potential impacts. In effect, the City breaks up the Project into a myriad of smaller, individual future projects that only address their individual truck impacts rather than the Project's foreseeable truck impacts as a whole.

20

The City is aware of the existing sensitive receptors as well as potential receptors in the residential portion of the Project site. Nothing is preventing the City from evaluating a likely scenario of uses relying on diesel trucks or other TAC sources and evaluating an appropriate buffer zone excluding such uses in proximity to sensitive receptors. The number of trucks expected from warehousing, distribution centers and other industrial uses are readily available from ITE's Trip Generation Manual. <https://www.ite.org/technical-resources/topics/trip-and-parking-generation/trip-generation-10th-edition-formats/>. It is entirely feasible for the City to determine as part of the SEIR process which specific types and extent of uses are being authorized. Given that the City is unclear what type of warehouse projects may be proposed in the future, the EIR can readily identify a reasonable mix that, like the square footage limit, would establish the outer bounds of warehousing and distribution that were actually addressed in the SEIR. The health risk results of various scenarios would allow the City to further refine the square footage limits for certain uses or further refine their allowed locations within the Project site. These discussions and analyses also would identify reasonable alternatives that should have been considered in the SEIR. Absent that discussion and analysis, the SEIR fails to address the health risks of these proposed uses. As a result, the SEIR is insufficient as a matter of law. The City has failed to identify any substantial evidence indicating that identifying specific details of a mitigation measure to address mobile source health risks is either impractical or infeasible. Nor does the open ended, piecemealed modeling by future projects, if any, establish a performance standard sufficient enough to postpone developing a clear mitigation measure.

**G. The SEIR Fails to Identify All feasible Mitigation Measures.**

The SEIR acknowledges that the Project will have significant and unavoidable GHG emission impacts. SEIR, p. 3.8-18. Although the SEIR identifies mitigation measures, it does not identify all of the feasible mitigation measures that are available and must be incorporated into the Project.

The SEIR does not consider requiring all projects within the Project site to comply with mitigation measures equivalent to SMAQMD BMP-1 and BMP-2. These measures would “require all projects to be designed without natural gas and meet CalGreen Tier 2 standards with electric vehicle ready parking spaces....” SEIR, p./ 3.8-14. The SEIR claims that these measures cannot be required now because that “can only be considered in the context of development proposals since these BMPs relate to design details.” *Id.* Contrary to this assertion, the City can adopt these requirements now and future projects would propose designs that implement these requirements. If adopted by the SEIR, future projects would not propose the use of natural gas and they would need to include the requisite number of electric vehicle charging stations.

Given the significant and unavoidable GHG emission impacts, the City must consider additional feasible mitigations. These should include for example a requirement that 100 percent of the residential units include all electric appliances and HVAC systems (rather than the 10 percent currently proposed), that 100 percent of the off-construction use Tier 4 Final equipment (rather than the 25 percent currently proposed); mandated EV charging equipment for the industrial uses as well as the commercial and residential standards identified in the SEIR; and the installation of solar panels on all buildings sufficient to meet the Project’s electrical demands, in particular any industrial buildings. SWAPE also identifies many other mitigations that should be considered by the City to furth reduce the Project’s GHG emissions. SWAPE Comments, pp. 24-26.

**H. The SEIR’s Analysis of Biological Resource Impacts is Inadequate And Not Supported by Substantial Evidence.**

Expert biologist Shawn Smallwood, Ph.D., has reviewed the SEIR’s discussion of biological resources. *See* Smallwood Comments, attached hereto as Exhibit B. Drawing on his familiarity with the project area and decades of studying and surveying many of the species encountered at the site, Dr. Smallwood has prepared a critique of the SEIR, pointing out numerous shortcomings in the baseline assessment of the presence of species at the site, failures to evaluate impacts that will result from the Project, and numerous instances where the SEIR’s assertions are insufficient or not supported by substantial evidence.

**1. The EIR fails to identify the likely presence of sensitive and other wildlife species at the Project site.**

The SEIR admits that because “[t]he proposed project does not result in any physical development; therefore, no specific surveys were conducted to assess potential impacts.” SEIR,

21

22

23



p. 3.4-35. Dr. Smallwood points out the inadequacies of this effort at the Project site to establish a baseline from which to assess impacts to wildlife. Smallwood Comments, p. 8. He notes that, given the reconnaissance level of surveys conducted to date, the results are wildly erratic with each subsequent survey identifying new and different special status species occurring on the site. *Id.* Indeed, during his three past surveys from the edge of the site, he observed 12 special status species that were unaddressed in the 2019 SOIA EIR and earlier surveys. *Id.* During a brief site visit adjacent to a portion of the Project site on December 4, 2020, Dr. Smallwood observed 29 species of vertebrate wildlife. Smallwood Comments, p. 1. Dr. Smallwood observed thousands of blackbirds from a distance. In his expert opinion those blackbirds likely included the threatened tricolored blackbird. *Id.*, p. 3. His past surveys in the vicinity of the site have detected breeding pairs of Swainson’s hawks. *Id.* Based on his research of available databases, Dr. Smallwood identifies 69 special status species that may occur at the site – significantly more than the 25 special status species acknowledged by the SEIR. *Id.* As Dr. Smallwood explains, “[n]o serious effort has been made to characterize the environmental setting, resulting in the 2020 SEIR’s false and entirely unbelievable determination that a 572-acre site composed of irrigated pasture, thickly vegetated hedges, Valley oaks, and wetlands, and situated along Deer Creek, supports only a few special-status species of wildlife.” *Id.* Dr. Smallwood notes that, if the City were to perform the detection level surveys applying scientific-based protocols identified by the wildlife resource agencies, the City undoubtedly would detect many more special status species at the Project site. *Id.*, pp. 8-11.

23,  
cont.

Dr. Smallwood notes the presence of ground squirrels on the Project site. The presence of ground squirrel burrows is closely associated with the presence of burrowing owls that frequently use the squirrel burrows. Smallwood Comments, p. 15. Nevertheless, the SEIR does not document any effort to perform the necessary protocol level surveys at the site to determine whether owls are present and, if so, fully documenting the Project’s impacts on those birds of special concern. *Id.*

Establishing an accurate baseline is the sine qua non to adequately analyzing and mitigating the significant environmental impacts of the Project. *See* CEQA Guidelines, § 15125(a); *Save Our Peninsula*, 87 Cal.App.4th at 121-123. Unfortunately, the SEIR’s failure to investigate and identify the occurrences of sensitive biological resources at the Project site results in a skewed baseline. Such a skewed baseline ultimately “mislead(s) the public” by engendering inaccurate analyses of environmental impacts, mitigation measures and cumulative impacts for biological resources. *See San Joaquin Raptor Rescue Center*, 149 Cal.App.4th at 656; *Woodward Park Homeowners*, 150 Cal.App.4th at 708-711. By failing to conduct sufficient surveys, disregarding the absence of key species from the project site, and ignoring numerous other species likely to be present, the SEIR fails to establish and otherwise skews the entire biological resources baseline for the Project.

**2. The SEIR does not sufficiently disclose the Project’s impacts on habitat loss and the Project’s cumulative effects on wildlife.**

The SEIR assumes that by simply looking for nests and avoiding construction of nest sites during the breeding season is sufficient to disclose and address impacts to special status birds using the site. SEIR, pp. 3.5-35 – 3.5-39. Some additional efforts are made regarding the Swainson’s hawk’s foraging habitat. *Id.*, p. 3.5-39. Dr. Smallwood explains that merely avoiding nests does not disclose or address all of the permanent impacts that result when a nest location is destroyed. Smallwood Comments, pp. 15-16. As he states, “[h]abitat loss not only results in the immediate numerical decline of wildlife, but also in permanent loss of productive capacity.” *Id.* With the implementation of the Project, the habitat located on the site would be prevented from producing thousands of birds per year and millions over the next century:

The whole of the action would take 572 acres of habitat. Based on the preceding assumptions, the project would prevent the production of 50,382 fledglings the first year and would deny this level of productivity every year thereafter. After 100 years and assuming an average generation time of 5 years and the project site is 50% as productive as Yahner’s (1982) and Young’s (1948) sites, the lost capacity of both breeders and annual fledgling production would total 5,733,520 birds  $\{(nests/year \times chicks/nest \times number\ of\ years) + (2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation)\}$ .

*Id.*

Recognizing that several projects may together have a considerable impact, CEQA requires an agency to consider the “cumulative impacts” of a project along with other projects in the area. Pub. Res. Code § 21083(b); 14 Cal. Code Regs. §15355(b). If a project may have cumulative impacts, the agency must prepare an EIR, since “a project may have a significant effect on the environment if ‘[t]he possible effects of a project are individually limited but cumulatively considerable.’” *CBE*, 103 Cal.App.4th at 98, 114; *Kings County Farm Bur.*, 221 Cal.App.3d at 721. It is vital that an agency assess “the environmental damage [that] often occurs incrementally from a variety of small sources . . .” *Bakersfield Citizens For Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214.

Dr. Smallwood points out the lack of any serious effort by the SEIR to identify and quantify the Project’s cumulative wildlife impacts, including no effort to identify the magnitude of those impacts and the failure to acknowledge the long-term loss of productivity the Project will have on the existing habitat. For these reasons, the SEIR’s evaluation of cumulative impacts to wildlife from the project is insufficient.

**3. The SEIR fails to address the Project’s impacts on wildlife movement.**

The SEIR asserts that “[n]o established migratory routes have been identified within the Project site and converting land in the Project site from agricultural to urban land uses would not cause any areas of natural habitat to become isolated.” SEIR, p. 3.5-52. Noting the presence of

24

25

26

sandhill cranes, Swainson’s hawks and other hawks that migrate through this area and nest in the area of the Project, Dr. Smallwood takes issue with the generalized dismissal the SEIR makes of the importance of this area as a migratory route. Smallwood Comments, p. 16. Notably, Dr. Smallwood notes the SEIR’s failure to acknowledge and evaluate a scientific report studying an area near the site that was commissioned by the City of Elk Grove. Applying data from that study and his own surveys, Dr. Smallwood notes the density of Swainson’s hawk nest sites in the area of the Project is one of the highest densities he has encountered. *Id.* “This high-density cluster of Swanson's hawk nest sites easily qualifies as a very important nursery site.” *Id.*

In addition, the SEIR fails to address the complete threshold of significance for wildlife movement impacts. As the SEIR states, the question is will the project “[i]nterfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?” SEIR, p. 3.5-31. However, the SEIR’s response to this question focuses almost exclusively on impacts to wildlife corridors. *Id.*, pp. 3.5-52 – 3.5-53. The SEIR translates interfering with the movement of species to be limited to the Project acting as a “barrier” to movement. *Id.*

As Dr. Smallwood points out, this is a significant omission in the MND’s analysis. Dr. Smallwood notes that the Project may have significant impacts on wildlife movement without also affecting a discrete corridor or erecting a barrier. Smallwood Comments, pp. 16-17. Dr. Smallwood also notes that the likely development would have effects on wildlife movement off-site due to collisions between wildlife and vehicles, including trucks, using the likely development. *Id.*, p. 17. As a result, the SEIR discussion of movement impacts is insufficient and not supported by substantial evidence.

**4. The SEIR fails to address the Project’s significant impacts on wildlife from increased traffic.**

Dr. Smallwood describes the significant role increased traffic plays in wildlife mortality. Smallwood Comments, pp. 17-18. Despite this scientific evidence of wildlife impacts from traffic, no attempt is made by the SEIR to identify or evaluate this impact from the Project’s increased traffic. Dr. Smallwood identifies numerous studies and his own experience in evaluating the rate of traffic collisions with wildlife. *Id.*, p. 18. Focusing on collision with birds alone, Dr. Smallwood estimates that close to 100,000 birds per year would be hurt or killed by collisions involving the over 200,000 daily vehicle miles to be generated from the Project. *Id.* He further concludes that “the project-generated traffic would cause substantial, significant impacts to wildlife.” *Id.* Dr. Smallwood’s expert analysis, combined with the SEIR’s failure to collect information or address traffic impacts to wildlife, is substantial evidence that the Project may have significant wildlife impacts associated with vehicle collisions and these impacts are not addressed in the SEIR.

**5. The MND fails to analyze the Project’s impacts from the use of pest control measures.**

The SEIR does not discuss the potential impact of using pesticides inside and outside of

26,  
cont.

27

28

Christopher Jordan  
Multi-Sport Complex and Southeast  
Industrial Annexation Area SEIR  
December 11, 2020  
Page 18 of 18

the proposed industrial use areas. Whatever the likely development is at the site, there will likely be steps taken to abate pests. There are many businesses that provide services for controlling stored products pests, perching birds, and rodents and other mammal pests within and around the uses anticipated in the City's industrial zone. Pest control measures include glue boards for rodents and other measures including anticoagulant poisons and acute toxicants. The use of these methods can harm non-target wildlife through direct exposure and indirect exposure via predation and scavenging. Pest control involving toxicants can result in the spread of toxicants beyond the warehouse. The SEIR fails to analyze the potential impacts of animal damage control associated with the proposed Project. Anticipated animal control strategies at the Project should be detailed, and impacts mitigated.

I understand that these comments are being submitted subsequent to the close of the City's announced comment period. Nevertheless, as the final EIR has not yet been released, LIUNA asks that you take these comments into account before releasing the final EIR. In any event, LIUNA reserves its right to supplement these comments up until the close of the public hearings on the Project. *Galante Vineyards*, 60 Cal.App.4th at 1121. For all of the above reasons, the City should amend the SEIR to address the above concerns and recirculate it for additional public review and comment.

Sincerely,



Michael R. Lozeau

28,  
cont.

29

# EXHIBIT A



Technical Consultation, Data Analysis and  
Litigation Support for the Environment

2656 29<sup>th</sup> Street, Suite 201  
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.  
(949) 887-9013  
[mhagemann@swape.com](mailto:mhagemann@swape.com)

Paul E. Rosenfeld, PhD  
(310) 795-2335  
[prosenfeld@swape.com](mailto:prosenfeld@swape.com)

December 8, 2020

Michael R. Lozeau  
Lozeau | Drury LLP  
1939 Harrison Street, Suite 150  
Oakland, CA 94612

**Subject:           Comments on the Multi-Sport Complex and Southeast Industrial Annexation Area  
Project (SCH No. 2015102067)**

---

Dear Mr. Lozeau,

We have reviewed the October 2020 Draft Supplemental Environmental Impact Report (“SEIR”) for the Multi-Sport Complex and Southeast Industrial Annexation Area Project (“Project”) located in the City of Elk Grove (“City”). The SEIR proposes two changes to the land designations evaluated in the May 2019 Environmental Impact Report (“EIR”) including: the designation of a 100-acre parcel, formerly designated for public open space/recreation, for light industrial; and the designation of 20-acres of retail commercial, instead of 60-acres of retail commercial. These changes would allow for the construction of up to 5,600,000-SF of light and heavy industrial uses and 252,650-SF of regional commercial uses, as well as 713 dwelling units, on the 561-acre Project site.

Our review concludes that the SEIR fails to adequately evaluate the Project’s hazards and hazardous materials, air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential hazards and hazardous materials, air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

## Hazards and Hazardous Materials

A 2014 Phase I ESA<sup>1</sup>, cited in the SEIR on p. 3.9-1, concluded that there is a potential for the presence of residual soil concentrations of pesticides at the Project site. The Phase I identified orchards at the Project site from 1937 to 1984. The Phase I ESA concluded:

“The parcel has been heavily farmed since the 1930’s with seasonal row crops, hay crops and irrigated pastureland; consequently, there is potential for the presence of residual persistent pesticides and/or herbicides from past application. This includes organochlorine pesticides, such as dichloro-diphenyl-trichloroethane (DDT), and heavy metals, such as lead and arsenic. Recommendation: We recommend a limited shallow soil investigation to screen for persistent pesticides at this parcel.”

No sampling for pesticides has been conducted. Instead, the SEIR provides for the following mitigation.

“Mitigation Measure 3.9-2:

For development proposed after 5 years have passed (after 2023), update the review of environmental risk databases for the presence of potential hazardous materials. This evaluation should consider the SOIA Area and any off-site improvement areas and if this assessment or other indicators point to the presence or likely presence of contamination, Phase I environmental site assessments and/or Phase II soil/groundwater testing and remediation shall be required before development. The sampling program developed as a part of the Phase II EA shall be conducted to determine the degree and location of contamination, if any, exists. If contamination is determined to exist, it will be fully remediated, by qualified personnel, in accordance with federal, State, and local regulations and guideline established for the treatment of hazardous substances.”

The indicators of the presence of contamination are clearly stated in the Phase I ESA which called for sampling pesticides in soil. Mitigation measure 3.9-2 ignores the Phase I ESA and commits only to a vague consideration of the need for sampling post-2023.

Pesticide sampling in soil should be conducted site-wide. The sampling should adhere to guidance published by the DTSC, entitled “Interim Guidance for Sampling Agricultural Properties.”<sup>2</sup> The results of the sampling should be evaluated for health risks and any mitigation that would be necessary to protect construction worker health and health of adjacent residents should be identified in an updated EIR. Mitigation for handling any soil that would contain concentrations of pesticides at hazardous waste levels should also be identified in the EIR.

---

<sup>1</sup> Blackburn Consulting (BCI). 2014 (October). Phase I Environmental Site Assessment Elk Grove Sports Complex, Elk Grove, California. BCI File No. 2101.X 079. West Sacramento, CA

<sup>2</sup><https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf>

## Air Quality

### Unsubstantiated Input Parameters Used to Estimate Project Emissions

The SEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (p. 3.4-11).<sup>3</sup> CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.<sup>4</sup> Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions and make known which default values were changed as well as provide justification for the values selected.<sup>5</sup>

When reviewing the Project's CalEEMod output files, provided in the Quantification of Criteria Air Pollutant and Greenhouse Gas Emissions, and Energy Use ("AQ & GHG Analysis") as Appendix E to the SEIR, we found that several model inputs were not consistent with information disclosed in the SEIR. As a result, the Project's construction and operational emissions are underestimated. An updated EIR should be prepared and recirculated to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

### Failure to Model Parking

Review of the SEIR demonstrates that the proposed Project would include parking. Specifically, the SEIR states,

"Construction of future development projects would require demolition and disposal of existing structures, grading and excavation, construction of building foundations, trenching and installation of utilities, paving of parking lots and internal roadways, lighting, and construction of commercial and industrial buildings subject to review under the City's zoning regulations and design guidelines" (emphasis added) (p. ES-2).

However, review of the Project's CalEEMod output files reveals that none of the models included any amount of parking (Appendix E, pp. 9, 45, 75, 105, 125, 140, 159, 183, 199, 215, 239, 264, 281, 298). This omission presents an issue, as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations.<sup>6</sup> For example, the

---

<sup>3</sup> "CalEEMod User's Guide." CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2).

<sup>4</sup> "CalEEMod User's Guide." CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2), p. 1, 9.

<sup>5</sup> "CalEEMod User's Guide." CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2), p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.

<sup>6</sup> "CalEEMod User's Guide." CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2), p. 17



square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Furthermore, CalEEMod assigns each land use type with its own set of energy usage emission factors.<sup>7</sup> By completely omitting the proposed parking land use, the models fail to account for all of the emissions that would be produced during construction and operation of the Project and should not be relied upon to determine Project significance.

### *Unsubstantiated Reduction to CO<sub>2</sub> Intensity Factor*

Review of the Project’s CalEEMod output files demonstrates that the default CO<sub>2</sub> intensity factor was manually reduced from 590.31 pounds per megawatt hour (“lbs/MWh”) to 492 lbs/MWh (see excerpt below) (Appendix E, pp. 13, 49, 79, 161, 185, 201, 242, 267, 284).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	590.31	492

As you can see in the excerpt above, the default CO<sub>2</sub> intensity factor was artificially reduced by approximately 17%. As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.<sup>8</sup> According to the “User Entered Comments & Non-Default Data” table, the justification provided for these changes is: “CA average CO<sub>2</sub> intensity factor” (Appendix E, pp. 10, 46, 76, 105, 125, 140, 240, 265, 282, 299). However, this justification fails to provide any source or explanation of how the average CO<sub>2</sub> intensity factor was calculated. Thus, we cannot verify the revised value of 492 lbs/MWh. As such, the Project should have relied upon the default 590.31 lbs/MWh CO<sub>2</sub> intensity value. This underestimation presents an issue, as CalEEMod uses the CO<sub>2</sub> intensity factor to calculate the Project’s greenhouse gas (“GHG”) emissions associated with electricity use.<sup>9</sup> Thus, by including an underestimated CO<sub>2</sub> intensity factor, the model underestimates the Project’s GHG emissions and should not be relied upon to determine Project significance.

### *Underestimated Land Use Sizes*

According to the SEIR, “[f]uture development of the Project site includes the potential for construction of approximately 5.6 million square feet of light and heavy industrial uses” (emphasis added) (p. 3.13-5). As a result, the Project’s CalEEMod models should have included 5,600,000-SF of light and heavy industrial land uses. However, review of the CalEEMod output files demonstrates that the “Operational Elk Grove Multi-Sport Complex and SOIA SEIR,” “2040 Operational Elk Grove Multi-Sport Complex and SOIA SEIR,” and “Operational (Mit) Elk Grove Multi-Sport Complex and SOIA SEIR” models include only 2,248,898-SF of “General Heavy Industry” and 3,306,936-SF of “General Light Industry,” for a total of 5,555,834-SF (see excerpt below) (Appendix E, pp. 159, 183, 199, 215, 239, 264, 281, 298).

<sup>7</sup> “CalEEMod User’s Guide, Appendix D.” CAPCOA, September 2016, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05\\_appendix-d2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2)

<sup>8</sup> CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2, 9

<sup>9</sup> “CalEEMod User’s Guide.” CAPCOA, November 2017, available at: <http://www.caleemod.com/>, p. 17.

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
General Heavy Industry	2,248.90	1000sqft	143.41	2,248,898.00
General Light Industry	3,306.94	1000sqft	210.88	3,306,936.00

As you can see in the excerpt above, the square footage of the light and heavy industrial land uses allowed by the Project is underestimated by approximately 44,166-SF.<sup>10</sup> This underestimation presents an issue, as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model’s calculations.<sup>11</sup> For example, the square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Furthermore, CalEEMod assigns each land use type with its own set of energy usage emission factors.<sup>12</sup> Thus, by underestimating the square footage of the light and heavy industrial land uses allowed by the Project, the models underestimate the Project’s emissions and should not be relied upon to determine Project significance.

### *Incorrect Analysis of Construction Emissions*

Review of the CalEEMod output files demonstrates that the “Maximum Construction Year - Elk Grove Multit-Sport Complex and SOIA SEIR” model includes only approximately 25% of the land uses allowed by the Project (see excerpt below) (Appendix E, pp. 9, 45, 75).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
General Heavy Industry	562.23	1000sqft	35.85	562,225.00
General Light Industry	826.73	1000sqft	52.72	826,734.00
User Defined Recreational	700.34	User Defined Unit	16.08	700,336.00
Single Family Housing	177.00	Dwelling Unit	29.45	318,600.00
Regional Shopping Center	65.59	1000sqft	5.19	65,594.00

Regarding the land uses modeled to account for the year of maximum construction, the “User Entered Comments & Non-Default Data” table states: “Maximum estimate of 25% of land uses constructed in a single year” (Appendix E, pp. 10, 46, 76). Furthermore, the SEIR states:

“In accordance with SMAQMD-recommended methodology, it is conservatively assumed that 25 percent of land uses within the Project site could be constructed within a single year” (p. 3.4-10 – 3.4-11).

However, the SEIR fails to provide or cite the purported “SMAQMD-recommended methodology” indicating that it should be “conservatively assumed that 25 percent of land uses within the Project site could be constructed within a single year” (p. 3.4-10 – 3.4-11). As a result, we cannot verify that the model’s inclusion of only 25% of the land uses allowed by the Project is correct. This presents an issue,

<sup>10</sup> Calculated: (5,600,000-SF of light and heavy industrial land uses) - (2,248,898-SF of “General Heavy Industry” + 3,306,936-SF of “General Light Industry”) = 44,166-SF.

<sup>11</sup> “CalEEMod User’s Guide.” CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2), p. 17

<sup>12</sup> “CalEEMod User’s Guide, Appendix D.” CAPCOA, September 2016, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05\\_appendix-d2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2)

as the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model’s calculations.<sup>13</sup> For example, the square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Furthermore, CalEEMod assigns each land use type with its own set of energy usage emission factors.<sup>14</sup> Thus, by potentially underestimating the land use sizes associated with the maximum construction year, the model may underestimate the Project’s construction-related and operational emissions and should not be relied upon to determine Project significance.

*Failure to Input Operational Values for “User Defined” Land Use Type*

Review of the CalEEMod output files for all of the Project’s models demonstrates that emissions associated with the 2,801,343-SF of recreational land uses are modeled as “User Defined Recreational” (see excerpt below) (Appendix E, pp. 159, 183, 199, 215, 239, 264, 281, 298).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
General Heavy Industry	2,248.90	1000sqft	143.41	2,248,898.00
General Light Industry	3,306.94	1000sqft	210.88	3,306,936.00
User Defined Recreational	2,801.34	User Defined Unit	64.31	2,801,343.60
Single Family Housing	707.00	Dwelling Unit	117.80	1,272,600.00
Regional Shopping Center	262.38	1000sqft	20.77	262,375.00

According to the CalEEMod User’s Guide, when a User Defined land use subtype is selected, the data fields will not be populated with default data; thus, data fields should be populated manually.<sup>15</sup> Here, while the SEIR’s model utilizes the “User Defined Recreational” land use subtype, the model fails to include project-specific inputs in several data fields. As a result, emissions from several sources are underestimated.

For example, the Weekday, Saturday, and Sunday trip rates were incorrectly left as 0 (see excerpt below) (Appendix E, pp. 169, 208, 225).

<sup>13</sup> “CalEEMod User’s Guide.” CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01\\_user-39-s-guide2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2), p. 17

<sup>14</sup> “CalEEMod User’s Guide, Appendix D.” CAPCOA, September 2016, available at: [http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05\\_appendix-d2016-3-1.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2)

<sup>15</sup> CAPCOA (November 2017) CalEEMod User’s Guide, [http://www.aqmd.gov/docs/default-source/caleemod/01\\_user-39-s-guide2016-3-2\\_15november2017.pdf?sfvrsn=4](http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4), p. 21, 22.

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
General Heavy Industry	3,373.35	3,373.35	3373.35
General Light Industry	23,049.37	4,365.16	2248.72
Regional Shopping Center	11,203.63	13,111.13	6622.47
Single Family Housing	6,730.64	7,006.37	6094.34
User Defined Recreational	0.00	0.00	0.00
Total	44,356.99	27,856.01	18,338.88

As you can see in the excerpt above, the model does not include manually entered, project-specific trip rates. As a result, the model may underestimate the number of trips that occur throughout the Project’s operation. Furthermore, the energy use values were incorrectly left as 0, and as a result, the model fails to calculate the electricity-related emissions associated with this land use (see excerpt below) (Appendix E, pp. 175, 231, 256).

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
General Heavy Industry	3.18444e+007	7,106.6325	0.4189	0.0867	7,142.9312
General Light Industry	4.68262e+007	10,450.0865	0.6160	0.1274	10,503.4627
Regional Shopping Center	2.77855e+006	620.0822	0.0366	7.5600e-003	623.2494
Single Family Housing	5.71534e+006	1,275.4775	0.0752	0.0156	1,281.9923
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		19,452.2787	1.1466	0.2372	19,551.6355

As you can see in the excerpt above, the model does not include manually entered, project-specific energy use values. As a result, the model fails to account for the energy-source operational emissions associated with the recreational land uses allowed by the Project. An updated model should be prepared to either (1) populate all of the data fields with Project-specific values, or (2) select a land use subtype that most closely fits the project description and allow the model to populate the data fields with default values.<sup>16</sup> Until then, the model underestimates the operational emissions associated with the proposed recreational land uses and should not be relied upon to determine Project significance.

<sup>16</sup> CAPCOA (November 2017) CalEEMod User’s Guide, [http://www.agmd.gov/docs/default-source/caleemod/01\\_user-39-s-guide2016-3-2\\_15november2017.pdf?sfvrsn=4](http://www.agmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4), p. 21, 22.

### Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the “Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR” model includes unsubstantiated changes to the Project’s anticipated individual construction phase lengths (see excerpt below) (Appendix E, pp. 11, 47, 77).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	120.00	260.00
tblConstructionPhase	NumDays	310.00	260.00
tblConstructionPhase	NumDays	3,100.00	260.00
tblConstructionPhase	NumDays	220.00	260.00
tblConstructionPhase	NumDays	220.00	260.00

As you can see in the excerpt above, the individual construction phase lengths were changed by approximately 30%, 117%, -16%, -92%, 18%, and 18%. As a result of these changes, the model includes a construction schedule as follows (Appendix E, pp. 17, 53, 83):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	1/1/2021	12/30/2021	5	260
2	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260
3	Grading	Grading	1/1/2021	12/30/2021	5	260
4	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260
5	Paving	Paving	1/1/2021	12/30/2021	5	260
6	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260

As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.<sup>17</sup> According to the “User Entered Comments & Non-Default Data” table, the justification provided for these changes is: “During maximum development scenario year, all phases of construction could overlap in time throughout the project site” (Appendix E, pp. 10, 46, 76). However, this justification is insufficient, as these unsubstantiated changes improperly spread out construction emissions over a longer period of time for some construction phases and not others. According to the CalEEMod User’s Guide, each construction phase is associated with different emissions activities (see excerpt below).<sup>18</sup>

<sup>17</sup> CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2, 9

<sup>18</sup> “CalEEMod User’s Guide.” CAPCOA, November 2017, available at: [http://www.aqmd.gov/docs/default-source/caleemod/01\\_user-39-s-guide2016-3-2\\_15november2017.pdf?sfvrsn=4](http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4), p. 31.

Demolition involves removing buildings or structures.

Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.

Grading involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.

Building Construction involves the construction of the foundation, structures and buildings.

Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

Paving involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

As such, by *disproportionately* altering individual construction phase lengths without proper justification, the model's calculations are altered and underestimate emissions. Thus, by including unsubstantiated changes to the Project's anticipated individual construction phase lengths, the model may underestimate the Project's maximum daily construction-related emissions and should not be relied upon to determine the significance of the Project's air quality impacts.

#### *Incorrect Application of Tier 4 Final Mitigation*

The SEIR includes Mitigation Measure ("MM") 3.8-1a, which requires future Project Building Plans to demonstrate compliance with applicable measures in the City's Climate Action Plan ("CAP"), including:

"Prior to issuance of building permits, Project Building Plans shall demonstrate compliance with the following applicable measures included in the City's Climate Action Plan, to the satisfaction of the City of Elk Grove Planning Division:

- TACM-8: A minimum of 25 percent of the off-road construction fleet used during construction of the Project shall include Environmental Protection Agency certified off-road Tier 4 diesel engines (or better). A minimum of 25 percent of the off-road construction fleet used during construction of the Project shall include Environmental Protection Agency certified off-road Tier 4 diesel engines (or better)" (emphasis added) (p. ES-44, Table ES-1).

As you can see in the excerpt above, MM 3.8-1a requires future developments to ensure that 25% of the off-road construction equipment would meet Tier 4 standards. Review of the CalEEMod output files demonstrates that the "Maximum Construction Year - Elk Grove Multi-Sport Complex and SOIA SEIR" and "Off-site Drainage Improvements - Elk Grove Multi-Sport Complex and SOIA SEIR" models assume that the entire off-road construction equipment fleet would meet Tier 4 Final standards (see excerpts below) (Appendix E, pp. 10-11, 47-48, 76-77, 106, 126, 141).

### Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

### Off-site Drainage Improvements - Elk Grove Multi-Sport Complex and SOIA SEIR

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

As you can see in the excerpts above, the “Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR” and “Off-site Drainage Improvements - Elk Grove Multi-Sport Complex and SOIA SEIR”

models assume that the entire off-road construction equipment fleet would meet Tier 4 Final standards. This is incorrect for two reasons.

First, the SEIR does not commit to the use of the more efficient Tier 4 Final equipment. The United States Environmental Protection Agency (“U.S. EPA”) has slowly adopted more stringent standards to lower the emissions from off-road construction equipment since 1994. Since that time, Tier 1, Tier 2, Tier 3, Tier 4 Interim, and Tier 4 Final construction equipment have been phased in over time. Tier 4 Final represents the cleanest burning equipment and therefore has the lowest emissions compared to other tiers, including Tier 4 Interim equipment (see excerpt below):<sup>19</sup>

Maximum horsepower	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+	
25shp<50																						
50shp<75																						
75shp<100																						
100shp<175																						
175shp<300																						
300shp<600																						
600shp<750																						
Mobile Machines > 750hp																						
750hp<GEN ≤1200hp																						
GEN>1200 hp																						

Source: derived from California Air Resources Board, [http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road\\_Diesel\\_Std.xls](http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Std.xls).

- a) When ARB and USEPA standards differ, the standards shown here represent the more stringent of the two.
- b) Standards given for all sizes of Tier 1 engines are hydrocarbons/oxides of nitrogen (NOx)/carbon monoxide (CO)/particulate matter (PM) in grams per brakehorsepower per hour (g/bhp-hr).
- c) Standards given for all sizes of Tier 2 and Tier 3 engines, and Tier 4 engines below 75 horsepower are non-methane hydrocarbons (NMHC)+NOx/CO/PM in g/bhp-hr.
- d) Standards given for Tier 4 engines above 75 horsepower are NMHC/NOx/CO/PM in g/bhp-hr.
- e) Engine families in this power category may alternately meet Tier 3 PM standards (0.30 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012.
- f) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
- g) Certain manufacturers have agreed to comply with these standards by 2005.



As demonstrated in the figure above, Tier 4 Interim equipment has greater emission levels than Tier 4 Final equipment. Therefore, by modeling construction emissions assuming nearly a full Tier 4 Final equipment fleet, the DEIR fails to account for higher emissions that may occur as a result of the use of Tier 4 Interim equipment. Since MM 3.8-1a fails to specify whether the Project will use Tier 4 Interim or Tier 4 Final equipment, it is incorrect to model emissions assuming that the more efficient Tier 4 Final equipment will be used. Until the DEIR demonstrates that the Project will actually use Tier 4 Final engines during all phases of construction, and not Tier 4 Interim equipment, the DEIR’s modeling should not be relied upon to determine Project significance.

Second, the SEIR fails to require the entire off-road construction equipment fleet to meet Tier 4 standards. Rather, MM 3.8-1a requires that “[a] minimum of 25 percent of the off-road construction fleet” meet Tier 4 standards (p. ES-44, Table ES-1). Therefore, by modeling construction emissions

<sup>19</sup> “San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects.” August 2015, available at: [https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San\\_Francisco\\_Clean\\_Construction\\_Ordinance\\_2015.pdf](https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf), p.



assuming nearly a *full* Tier 4 equipment fleet, the SEIR potentially underestimates the Project’s construction-related emissions associated with off-road equipment. As a result, the SEIR’s modeling should not be relied upon to determine Project significance.

*Unsubstantiated Changes to Operational Vehicle Trip Lengths*

Review of the CalEEMod output files demonstrates that the “Operational (Mit) Elk Grove Multi-Sport Complex and SOIA SEIR” includes several unsubstantiated changes to the Project’s anticipated operational vehicle trip lengths (see excerpt below) (Appendix E, pp. 242-243, 267-268, 284-285, 301-302).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	CC_TL	5.00	10.20
tblVehicleTrips	CC_TL	5.00	6.30
tblVehicleTrips	CC_TL	5.00	2.80
tblVehicleTrips	CNW_TL	6.50	10.20
tblVehicleTrips	CNW_TL	6.50	6.30
tblVehicleTrips	CNW_TL	6.50	2.80
tblVehicleTrips	CW_TL	10.00	10.20
tblVehicleTrips	CW_TL	10.00	6.30
tblVehicleTrips	CW_TL	10.00	2.80
tblVehicleTrips	HO_TL	6.50	7.25
tblVehicleTrips	HS_TL	5.00	7.25
tblVehicleTrips	HW_TL	10.00	7.25

As a result, emissions associated with the “General Heavy Industry,” “General Light Industry,” “Regional Shopping Center,” and “Single Family Housing” land uses are modeled assuming the following revised operational vehicle trip lengths (see excerpt below) (Appendix E, pp. 251, 275, 292, 310).

Land Use	Miles		
	H-W or C-W	H-S or C-C	H-O or C-NW
General Heavy Industry	10.20	10.20	10.20
General Light Industry	6.30	6.30	6.30
Regional Shopping Center	2.80	2.80	2.80
Single Family Housing	7.25	7.25	7.25
User Defined Recreational	10.00	5.00	6.50

As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.<sup>20</sup> According to the “User Entered Comments & Non-Default Data” table, the justification provided for these changes is: “Trip rates and distances adjusted to reflect Transportation VMT Analysis with implementation of VMT reduction measures to achieve GeneralPlan VMT limits by land use.” (Appendix E, pp. 240, 265, 282, 299). However, the SEIR directly contradicts these changes, stating:

<sup>20</sup> CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2, 9

“The CalEEMod default vehicle trip distances and fleet mix were used for the residential and regional commercial land uses, but were adjusted for industrial land uses to reflect the potential for a higher percentage of heavy trucks to serve these land uses and longer trips between the project site and regional ports and distribution areas” (p. 3.4-11).

Here, the SEIR contradicts the revised operational vehicle trip lengths included in the model for two reasons. First, the model includes revised operational vehicle trip lengths for the residential and commercial land uses, as well as the industrial land uses. This contradicts the SEIR’s claim that “CalEEMod default vehicle trip distances... were used for the residential and regional commercial land uses” (emphasis added) (p. 3.4-11). Second, while some of the operational vehicle trip lengths associated with industrial land uses were increased, others were decreased. This contradicts the SEIR’s claim that trip distances were adjusted to reflect “longer trips between the project site and regional ports and distribution areas” (emphasis added) (p. 3.4-11). As a result, we cannot verify the revised operational vehicle trip lengths.

These unsubstantiated changes present an issue, as CalEEMod uses the trip lengths to calculate the emissions associated with operational on-road vehicles.<sup>21</sup> Thus, by including unsubstantiated changes to the Project’s anticipated operational vehicle trip lengths, the model may underestimate the Project’s mobile-source operational emissions and should not be relied upon to determine Project significance.

#### *Unsubstantiated Reductions to Energy Use Values*

The energy use values, used to estimate the proposed Project’s emissions associated with building electricity and non-hearth natural gas usage, were incorrectly changed from the CalEEMod default values without sufficient justification.<sup>22</sup> As a result, the Project’s operational emissions may be underestimated.

Specifically, review of the CalEEMod output files for the Project’s operational models demonstrates that the models include several manual reductions to the Title-24 electricity energy intensity (“T24E”) and the Title-24 natural gas energy intensity (“T24NG”) values (see excerpt below) (Appendix E, pp. 160, 184, 200, 216, 300).

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	3.41	2.39
tblEnergyUse	T24E	3.41	2.39
tblEnergyUse	T24E	3.26	2.28
tblEnergyUse	T24E	678.97	319.12
tblEnergyUse	T24NG	23.39	16.37
tblEnergyUse	T24NG	23.39	16.37
tblEnergyUse	T24NG	4.49	3.14
tblEnergyUse	T24NG	23,147.69	21,527.35

<sup>21</sup> “CalEEMod User’s Guide.” CAPCOA, November 2017, available at: <http://www.caleemod.com/>, p. 35.

<sup>22</sup> CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 43

As you can see in the excerpts above, the proposed Project’s operational energy use values were manually reduced in the models. As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.<sup>23</sup> According to the “User Entered Comments & Non-Default Data” table, the justification provided for these changes is: “Adjusted Title-24 Energy Intensity to 2019 Title-24 standards” (Appendix E, pp. 160, 184, 200, 216, 240, 265, 282, 299). Furthermore, the SEIR includes MM 3.8-1a, which states:

“Prior to issuance of building permits, Project Building Plans shall demonstrate compliance with the following applicable measures included in the City’s Climate Action Plan, to the satisfaction of the City of Elk Grove Planning Division:

- BE-4: The Project shall comply with 2016 CalGreen Tier 1 standards, including a 15 percent improvement over minimum Title 24, Part 6, Building Energy Efficiency Standards. If building permits are issued subsequent to January 1, 2020, the Project shall provide a level of efficiency at least that of Tier 1 of the 2016 CalGreen Code, or baseline of the current CalGreen Code, whichever is more efficient” (emphasis added) (p. ES-44, Table ES-1).

Finally, the SEIR states:

“In order to account for 2019 Title 24, Part 6 standards, the Title 24 energy intensity factors in CalEEMod were adjusted to account for an estimated 7-percent energy reduction in new-construction nonresidential buildings and 53-percent energy reduction in new-construction residential buildings compared to the 2016 Title 24, Part 6 standards that were in place at the time of the CalEEMod Version 2016.3.2 model release” (p. 3.4-11).

However, these justifications are insufficient for two reasons. First, as you can see in the excerpt above, MM 3.8-1a requires the Project to comply with the 2016 CalGreen standards, rather than the 2019 CalGreen standards, as claimed later in the SEIR and in the “User Entered Comments & Non-Default Data” table. Second, just because the state has this goal and estimates “7-percent energy reduction in new-construction nonresidential buildings and 53-percent energy reduction in new-construction residential building,” this does not guarantee that any measures will be implemented, resulting in real reductions locally on the Project site. Without further information about how these reductions would be achieved through the implementation, monitoring, and enforcement of energy-related mitigation measures, we are unable to verify the revised energy use values inputted into the model. Thus, the models may underestimate the Project’s energy-source operational emissions and should not be relied upon to determine Project significance.

### Failure to Implement All Feasible Mitigation to Reduce Emissions

As discussed above, the SEIR’s air quality analysis relies upon an incorrect and unsubstantiated air model to determine the significance of the Project’s criteria air pollutant emissions. However, despite the SEIR’s flawed air model, the SEIR’s operational emissions estimates indicate a significant air quality

---

<sup>23</sup> CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2, 9

impact. Specifically, the SEIR concludes that the proposed Project's operational emissions would be significant and unavoidable, stating:

“[R]educing mobile emissions as a result of achieving the VMT limits would help to substantially reduce future operational emissions, and operational ozone precursor emissions would be reduced by more than 15 percent of the total mobile-source emissions, exceeding Air Quality Management Plans (AQMP) reduction requirement. However, because the details of future development projects are not currently known, it is not possible to demonstrate at this time that future development within the Project site would be able to meet the performance standard for ozone precursor emissions. Operations of future development could result in air pollutant emissions that still exceed the SMAQMD thresholds. There is no additional feasible mitigation available that would avoid this impact. As with the 2019 SOIA EIR, the impact is **significant and unavoidable**” (p. 3.4-19).

However, while we agree that the Project's operational emissions would result in significant air quality impacts, the SEIR's conclusion that these impacts are “significant and unavoidable” is incorrect. According to CEQA Guidelines § 15096(g)(2):

“When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment.”

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation is considered. Here, the SEIR includes mitigation measure (“MM”) 3.4-2, which states:

“For future developments proposed within the Project site, the City of Elk Grove shall require the implementation of strategies to reduce operational ozone precursors presented in an Air Quality Mitigation Plan, which shall be submitted to SMAQMD for review and approval. The performance standard for the AQMP is to achieve a reduction in, or offset of operational ozone precursor emissions. Reduction strategies can include policies and emissions reduction measures demonstrating compliance with the City of Elk Grove's General Plan, including policies MOB-1-1, MOB-3-1, MOB-3-2, MOB-3-7, MOB-3-15, MOB-3-16, MOB-4-1, MOB-4-5, NR-4-1, NR-4-4, NR-6-5, and NR-6-7 (or equivalent measures as may be amended), in addition to reduction measures recommended by the SMAQMD, which may include the use of offsets once all other feasible measures have been exhausted. Future projects shall demonstrate compliance with the AQMP reduction strategies or equivalent strategies prior to issuance of a building permit” (p. 3.4-18).

As you can see in the excerpt above, the MM 3.4-2 requires future developments to implement strategies to reduce operational emissions and provides examples of where these strategies may be found, but fails to require any specific mitigation measures to reduce the operational emissions emitted by future developments. As such, the SEIR fails to explicitly require any mitigation measures whatsoever. Therefore, the SEIR fails to implement all feasible mitigation, and the SEIR's conclusion that the Project's

air quality impacts are significant and unavoidable is unsubstantiated. To reduce the Project’s air quality impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled “Feasible Mitigation Measures Available to Reduce Emissions.”<sup>24</sup> Thus, the Project should not be approved until an updated EIR is prepared, including updated, accurate air modeling, as well as incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

### Updated Analysis Indicates Potentially Significant Air Quality Impact

In an effort to determine the construction-related emissions associated with Project, we prepared an updated CalEEMod model, using the Project-specific information provided by the SEIR. In our updated model, we omitted the unsubstantiated change to the default CO<sub>2</sub> intensity factor, included the land use sizes described in the SEIR, omitted the unsubstantiated changes to the individual construction phase lengths, and omitted the unsubstantiated Tier 4 Final mitigation.

Our updated analysis demonstrates that, when modeled using corrected input parameters, the nitrogen oxides (“NO<sub>x</sub>”) and particulate matter with a diameter of 10 microns or less (“PM<sub>10</sub>”) emissions associated with construction of the proposed Project exceed and meet the 85- and 80-pounds per day (“lbs/day”) thresholds, respectively (p. 3.4-12).<sup>25</sup>

Model	NO <sub>x</sub>	PM <sub>10</sub>
SEIR Construction	52	24
SWAPE Construction	315	80
% Increase	500%	230%
<b>SMAQMD Regional Threshold (lbs/day)</b>	<b>85</b>	<b>80</b>
<b>Threshold Met or Exceeded?</b>	<b>Yes</b>	<b>Yes</b>

As demonstrated above, when modeled correctly, the Project’s NO<sub>x</sub> emissions increase by 500% and exceed the SMAQMD threshold of 85 lbs/day. Similarly, the Project’s PM<sub>10</sub> emissions increase by 230% and meet the SMAQMD threshold of 80 lbs/day. Thus, our model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the SEIR. As a result, an updated EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

### Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

Regarding health risks associated with construction of the proposed Project, the SEIR states:

“Implementation of the Mitigation Measure 3.4-1a would further reduce PM emissions and satisfy the recommendation of SMAQMD. The use of newer off-road equipment is also effective in reducing PM emissions. In January 2001, EPA promulgated a final rule to reduce emissions

<sup>24</sup> See section titled “Feasible Mitigation Measures Available to Reduce Emissions” on p. 20 of this comment letter. These measures would effectively reduce operational emissions.

<sup>25</sup> “South Coast AQMD Air Quality Significance Thresholds.” SCAQMD, Revised April 2019, available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>

standards for heavy-duty diesel engines in 2007 and subsequent model years. These emissions standards represent a 90 percent reduction in NOX emissions, 72 percent reduction of non-methane hydrocarbon emissions, and 90 percent reduction of PM emissions, in comparison to the emissions standards for the 2004 model year. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA on May 11, 2004. Tier 4 emission standards requires engine manufacturers to meet after-treatment-based exhaust standards for NOX and PM starting in 2011 that are more than 90 percent lower than current levels, putting emissions from off-road engines virtually on par with those from on-road heavy-duty diesel engines. With the application of mitigation, as with the 2019 SOIA EIR, the impact is considered less than significant” (p. 3.4-24).

Regarding health risks associated with operation of the proposed Project, the SEIR states:

“Implementation of Mitigation Measure 3.4-3b would ensure that all uses that could generate TAC emissions will evaluate and mitigate TAC emissions to ensure that sensitive receptors are not exposed to substantial pollutant concentrations. With the feasible actions outlined that have been demonstrated to substantially reduce exposure to TAC emissions and the clear performance standards included in this mitigation, with implementation of mitigation, as with the 2019 SOIA EIR, this impact would be reduced to a less-than-significant level” (p. 3.4-29).

However, the SEIR’s evaluation of the Project’s health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for two reasons.

First, the SEIR’s claims that construction-related health risk impacts would be less than significant after the implementation of MM 3.4-1a is unsupported. Without preparing or requiring a construction HRA, including the implementation of MM 3.4-1a, the SEIR fails to provide substantial evidence that the Project would not result in a significant health risk impact after mitigation. Thus, the SEIR should not conclude that the Project’s construction-related TAC emissions would be insignificant without quantifying the Project’s construction-related cancer risk. Despite the DEIR’s qualitative claims that construction TAC emission would not be substantial, construction of the Project *will* produce emissions of diesel particulate matter (“DPM”), a human carcinogen, through the exhaust stacks of construction equipment over a construction period of approximately 20-years (p. ES-2). By failing to prepare a construction HRA, the Project is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment (“OEHHA”), the organization responsible for providing guidance on conducting HRAs in California. OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015.<sup>26</sup> This guidance document describes the types of projects that warrant the preparation of an HRA. The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer

---

<sup>26</sup> “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: [http://oehha.ca.gov/air/hot\\_spots/hotspots2015.html](http://oehha.ca.gov/air/hot_spots/hotspots2015.html)

risks to nearby sensitive receptors.<sup>27</sup> As the Project’s proposed 20-year construction duration vastly exceeds the 2-month requirement set forth by OEHHA, it is clear that the Project meets the threshold requiring a quantified HRA under OEHHA guidance.

Second, the SEIR includes mitigation measure (“MM”) 3.4-3b, which requires a health risk assessment (“HRA”) for “[p]rojects that would result in substantial TAC emissions directly or indirectly (e.g., industrial sources)” (p. ES-13, Table ES-1). However, by failing to require that any future *non-industrial* sources prepare an operational HRA, MM 3.4-3b is incorrect, as *industrial facilities are not the only land uses that would generate DPM*. As such, the SEIR fails to adequately evaluate all potential health risk impacts posed by Project operation to nearby sensitive receptors.

## Greenhouse Gas

### Failure to Adequately Evaluate Greenhouse Gas Impacts

The SEIR concludes that the Project would result in annual greenhouse gas (“GHG”) emissions of 51,266 metric tons of CO<sub>2</sub> equivalents per year (“MT CO<sub>2</sub>e/year”) and a service population efficiency of 5.1 metric tons of CO<sub>2</sub> equivalents per service population per year (“MT CO<sub>2</sub>e/SP/year”) (see excerpt below) (p. 3.8-17, Table 3.8-4).

Emissions Source	GHG Emissions (MT CO <sub>2</sub> e)
<b>Construction GHG Emissions</b>	
Maximum Annual Construction Emissions	5,499
Total Potential Construction Emissions <sup>1</sup>	18,494
Amortized Construction-Related Emissions <sup>2</sup>	740
<b>Operational GHG Emissions</b>	
Area	12
Energy	17,403
Mobile	27,616
Waste	4,016
Water	1,478
<b>Total Annual Operational Emissions</b>	<b>50,526</b>
<b>Total Project Emissions, including Amortized Construction + Operational Emissions</b>	<b>51,266</b>
Total Residents Associated with Development of the Project Site	2,283
Total Employment Generated by Development of the Project Site	7,708
Total Service Population Associated with Proposed Project	9,990
<b>Emissions per Capita (MT CO<sub>2</sub>e/capita) at Full Buildout<sup>3,4</sup></b>	<b>22.5</b>
<b>Emissions per Service Population (MT CO<sub>2</sub>e/ service population) at Full Buildout<sup>3,4</sup></b>	<b>5.1</b>

<sup>27</sup> “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: [http://oehha.ca.gov/air/hot\\_spots/2015/2015GuidanceManual.pdf](http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf), p. 8-18

Thus, the Project's service population efficiency would exceed the threshold of 1.81 MT CO<sub>2</sub>e/SP/year, which was developed for the SEIR for 2040, as referenced by the SEIR (p. 3.8-14). As a result, the SEIR concludes that the Project's GHG emissions would be significant and unavoidable, stating:

“[M]eeting the City's VMT limits alone would not achieve the required GHG emissions reduction required to demonstrate consistency with the State's GHG emissions reductions target for 2030 or long-term goal for 2050. Additional emissions reductions would be achieved through the implementation of other energy-reduction measures, such as the use of on-site solar photovoltaic systems to off-site building energy demand, implementation of new construction without natural gas infrastructure, increased resource conservation measures to reduce water demand and solid waste generation of future operations, and other feasible reduction measures. However, it is not possible at this time to guarantee the success of this mitigation measure in achieving an emissions rate that would be consistent with AB 32, SB 32, and S-3-05, particularly given the need to monitor a GHG reduction strategy and make revisions that take into account new regulatory guidance, technology, and economic changes that make emission reduction strategies that are not currently feasible become feasible in the future. There is no additional feasible mitigation. As with the 2019 SOIA EIR, the impact is **cumulatively considerable and unavoidable**” (p. 3.8-18).

However, the SEIR's GHG analysis, as well as the subsequent significant-and-unavoidable impact conclusion, is incorrect for three reasons.

- (1) The SEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
- (2) The SEIR fails to implement all feasible mitigation to reduce the Project's GHG emissions; and
- (3) The SEIR fails to consider the performance-based standards under CARB's 2017 *Scoping Plan*.

#### *1) Incorrect and Unsubstantiated Quantitative GHG Analysis*

As discussed above, the SEIR estimates that the Project would generate net annual GHG emissions of 51,266 MT CO<sub>2</sub>e/year and a service population efficiency of 5.1 MT CO<sub>2</sub>e/SP/year (p. 3.8-17, Table 3.8-4). However, the SEIR's quantitative GHG analysis should not be relied upon, as it relies upon an unsubstantiated air model. As previously discussed, when we reviewed the Project's CalEEMod output files, provided in the AQ & GHG Analysis as Appendix E to the SEIR we found that several of the values inputted into the model are not consistent with information disclosed in the SEIR and associated documents. As a result, the model underestimates the Project's GHG emissions, and the SEIR's quantitative GHG analysis should not be relied upon to determine Project significance. An updated EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment.

#### *2) Failure to Implement All Feasible Mitigation to Reduce GHG Emissions*

As discussed above, the SEIR's GHG analysis relies upon an incorrect and unsubstantiated air model to determine the significance of the Project's GHG emissions. However, despite the SEIR's flawed air model, the SEIR's GHG emissions estimates indicate a significant GHG impact. As a result, the SEIR concludes that the proposed Project's GHG emissions would be significant and unavoidable (p. 3.8-18).



However, while we agree that the Project’s GHG emissions would be significant, the SEIR’s conclusion that these impacts are “significant and unavoidable” is incorrect. As previously stated, according to CEQA Guidelines § 15096(g)(2):

“When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment.”

As you can see, an impact can only be labeled as significant and unavoidable after *all available, feasible* mitigation is considered. Here, the SEIR implements MM 3.8-1a and 3.8-1b, which require the Project “demonstrate compliance with the following applicable measures included in the City’s Climate Action Plan” and implement SMAQMD best management practices (“BMP”) to reduce construction-related GHG emissions. However, the SEIR fails to implement *all feasible* mitigation, and as a result, the SEIR’s conclusion that the Project’s GHG impact is significant and unavoidable is unsubstantiated. To reduce the Project’s GHG emissions to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled “Feasible Mitigation Measures Available to Reduce Emissions.”<sup>28</sup> Thus, the Project should not be approved until an updated EIR is prepared, including updated, accurate air modeling, as well as incorporating *all feasible* mitigation to reduce emissions to less-than-significant levels.

### Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project’s air quality, health risk, and GHG emissions may result in significant impacts and should be mitigated further. In an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures*.<sup>29</sup> Therefore, to reduce the Project’s emissions, consideration of the following measures should be made:

<b>CAPCOA’s Quantifying Greenhouse Gas Mitigation Measures<sup>30</sup></b>
<b>Measures – Energy</b>
<b><i>Building Energy Use</i></b>
Exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code)
Install Programmable Thermostat Timers
Obtain Third-party HVAC Commissioning and Verification of Energy Savings
Install Energy Efficient Boilers

<sup>28</sup> See section titled “Feasible Mitigation Measures Available to Reduce Emissions” on p. 20 of this comment letter. These measures would effectively reduce the Project’s GHG emissions.

<sup>29</sup> <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

<sup>30</sup> “Quantifying Greenhouse Gas Mitigation Measures.” California Air Pollution Control Officers Association (CAPCOA), August 2010, available at: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>, p.

<b>Lighting</b>
Install Higher Efficacy Public Street and Area Lighting
Limit Outdoor Lighting Requirements
Replace Traffic Lights with LED Traffic Lights
<b>Alternative Energy Generation</b>
Establish Onsite Renewable or Carbon-Neutral Energy Systems
Establish Onsite Renewable Energy System – Solar Power
Establish Onsite Renewable Energy System – Wind Power
Utilize a Combined Heat and Power System
Establish Methane Recovery in Landfills
Establish Methane Recovery in Wastewater Treatment Plants
<b>Measures – Transportation</b>
<b>Land Use/Location</b>
Increase Density
Increase Location Efficiency
Increase Diversity of Urban and Suburban Developments (Mixed Use)
Increase Destination Accessibility
Increase Transit Accessibility
Integrate Affordable and Below Market Rate Housing
Orient Project Toward Non-Auto Corridor
Locate Project near Bike Path/Bike Lane
<b>Neighborhood/Site Enhancements</b>
Provide Pedestrian Network Improvements, such as: <ul style="list-style-type: none"> <li>• Compact, mixed-use communities</li> <li>• Interconnected street network</li> <li>• Narrower roadways and shorter block lengths</li> <li>• Sidewalks</li> <li>• Accessibility to transit and transit shelters</li> <li>• Traffic calming measures and street trees</li> <li>• Parks and public spaces</li> <li>• Minimize pedestrian barriers</li> </ul>
Provide Traffic Calming Measures, such as: <ul style="list-style-type: none"> <li>• Marked crosswalks</li> <li>• Count-down signal timers</li> <li>• Curb extensions</li> <li>• Speed tables</li> <li>• Raised crosswalks</li> <li>• Raised intersections</li> <li>• Median islands</li> </ul>

<ul style="list-style-type: none"> <li>• Tight corner radii</li> <li>• Roundabouts or mini-circles</li> <li>• On-street parking</li> <li>• Planter strips with trees</li> <li>• Chicanes/chokers</li> </ul>
Implement a Neighborhood Electric Vehicle (NEV) Network.
Create Urban Non-Motorized Zones
Incorporate Bike Lane Street Design (on-site)
Provide Bike Parking in Non-Residential Projects
Provide Bike Parking with Multi-Unit Residential Projects
Dedicate Land for Bike Trails
<b><i>Parking Policy/Pricing</i></b>
Limit Parking Supply through: <ul style="list-style-type: none"> <li>• Elimination (or reduction) of minimum parking requirements</li> <li>• Creation of maximum parking requirements</li> <li>• Provision of shared parking</li> </ul>
Unbundle Parking Costs from Property Cost
Implement Market Price Public Parking (On-Street)
Require Residential Area Parking Permits
<b><i>Commute Trip Reduction Programs</i></b>
Implement Commute Trip Reduction (CTR) Program – Voluntary <ul style="list-style-type: none"> <li>• Carpooling encouragement</li> <li>• Ride-matching assistance</li> <li>• Preferential carpool parking</li> <li>• Flexible work schedules for carpools</li> <li>• Half time transportation coordinator</li> <li>• Vanpool assistance</li> <li>• Bicycle end-trip facilities (parking, showers and lockers)</li> <li>• New employee orientation of trip reduction and alternative mode options</li> <li>• Event promotions and publications</li> <li>• Flexible work schedule for employees</li> <li>• Transit subsidies</li> <li>• Parking cash-out or priced parking</li> <li>• Shuttles</li> <li>• Emergency ride home</li> </ul>
Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring <ul style="list-style-type: none"> <li>• Established performance standards (e.g. trip reduction requirements)</li> <li>• Required implementation</li> <li>• Regular monitoring and reporting</li> </ul>
Provide Ride-Sharing Programs <ul style="list-style-type: none"> <li>• Designate a certain percentage of parking spaces for ride sharing vehicles</li> </ul>

<ul style="list-style-type: none"> <li>• Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles</li> <li>• Providing a web site or messaging board for coordinating rides</li> <li>• Permanent transportation management association membership and funding requirement.</li> </ul>
Implement Subsidized or Discounted Transit Program
Provide Ent of Trip Facilities, including: <ul style="list-style-type: none"> <li>• Showers</li> <li>• Secure bicycle lockers</li> <li>• Changing spaces</li> </ul>
Encourage Telecommuting and Alternative Work Schedules, such as: <ul style="list-style-type: none"> <li>• Staggered starting times</li> <li>• Flexible schedules</li> <li>• Compressed work weeks</li> </ul>
Implement Commute Trip Reduction Marketing, such as: <ul style="list-style-type: none"> <li>• New employee orientation of trip reduction and alternative mode options</li> <li>• Event promotions</li> <li>• Publications</li> </ul>
Implement Preferential Parking Permit Program
Implement Car-Sharing Program
Implement School Pool Program
Provide Employer-Sponsored Vanpool/Shuttle
Implement Bike-Sharing Programs
Implement School Bus Program
Price Workplace Parking, such as: <ul style="list-style-type: none"> <li>• Explicitly charging for parking for its employees;</li> <li>• Implementing above market rate pricing;</li> <li>• Validating parking only for invited guests;</li> <li>• Not providing employee parking and transportation allowances; and</li> <li>• Educating employees about available alternatives.</li> </ul>
Implement Employee Parking “Cash-Out”
<b><i>Transit System Improvements</i></b>
Transit System Improvements, including: <ul style="list-style-type: none"> <li>• Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route.</li> <li>• Frequent, high-capacity service</li> <li>• High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride.</li> <li>• Pre-paid fare collection to minimize boarding delays.</li> <li>• Integrated fare systems, allowing free or discounted transfers between routes and modes.</li> <li>• Convenient user information and marketing programs.</li> <li>• High quality bus stations with Transit Oriented Development in nearby areas.</li> </ul>

<ul style="list-style-type: none"> <li>• Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services.</li> </ul>
Implement Transit Access Improvements, such as: <ul style="list-style-type: none"> <li>• Sidewalk/crosswalk safety enhancements</li> <li>• Bus shelter improvements</li> </ul>
Expand Transit Network
Increase Transit Service Frequency/Speed
Provide Bike Parking Near Transit
Provide Local Shuttles
<b>Road Pricing/Management</b>
Implement Area or Cordon Pricing
Improve Traffic Flow, such as: <ul style="list-style-type: none"> <li>• Signalization improvements to reduce delay;</li> <li>• Incident management to increase response time to breakdowns and collisions;</li> <li>• Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and</li> <li>• Speed management to reduce high free-flow speeds.</li> </ul>
Required Project Contributions to Transportation Infrastructure Improvement Projects
Install Park-and-Ride Lots
<b>Vehicles</b>
Utilize Alternative Fueled Vehicles, such as: <ul style="list-style-type: none"> <li>• Biodiesel (B20)</li> <li>• Liquefied Natural Gas (LNG)</li> <li>• Compressed Natural Gas (CNG)</li> </ul>
Utilize Electric or Hybrid Vehicles
<b>Measures – Water</b>
<b>Water Supply</b>
Use Reclaimed Water
Use Gray Water
Use Locally Sourced Water Supply
<b>Water Use</b>
Install Low-Flow Water Fixtures
Adopt a Water Conservation strategy
Reduce Turf in Landscapes and Lawns
Plant Native or Drought-Resistant Trees and Vegetation
<b>Measures – Area Landscaping</b>
<b>Landscaping Equipment</b>

Prohibit Gas Powered Landscape Equipment
Implement Lawnmower Exchange Program
Electric Yard Equipment Compatibility
<b>Measures – Solid Waste</b>
<b><i>Solid Waste</i></b>
Institute Recycling and Composting Services
Recycle Demolished Construction Material
<b>Measures – Vegetation</b>
<b><i>Vegetation</i></b>
Create New Vegetated Open Space
<b>Measures – Construction</b>
<b><i>Construction</i></b>
Use Alternative Fuels for Construction Equipment
Use Electric and Hybrid Construction Equipment
Implement a Construction Vehicle Inventory Tracking System
<b>Measures – Miscellaneous</b>
<b><i>Miscellaneous</i></b>
Establish a Carbon Sequestration Project, such as: <ul style="list-style-type: none"> <li>• Geologic sequestration or carbon capture and storage techniques, in which CO<sub>2</sub> from point sources is captured and injected underground;</li> <li>• Terrestrial sequestration in which ecosystems are established or preserved to serve as CO<sub>2</sub> sinks;</li> <li>• Novel techniques involving advanced chemical or biological pathways; or</li> <li>• Technologies yet to be discovered.</li> </ul>
Establish Off-Site Mitigation
Use Local and Sustainable Building Materials
Require Environmentally Responsible Purchasing, such as: <ul style="list-style-type: none"> <li>• Purchasing products with sustainable packaging;</li> <li>• Purchasing post-consumer recycled copier paper, paper towels, and stationary;</li> <li>• Purchasing and stocking communal kitchens with reusable dishes and utensils;</li> <li>• Choosing sustainable cleaning supplies;</li> <li>• Leasing equipment from manufacturers who will recycle the components at their end of life;</li> <li>• Choosing ENERGY STAR appliances and Water Sense-certified water fixtures;</li> <li>• Choosing electronic appliances with built in sleep-mode timers;</li> <li>• Purchasing ‘green power’ (e.g. electricity generated from renewable or hydropower) from the utility; and</li> <li>• Choosing locally-made and distributed products.</li> </ul>
Implement an Innovative Strategy for GHG Mitigation
<b>Measures – General Plans</b>
<b><i>General Plans</i></b>
Fund Incentives for Energy Efficiency, such as:

<ul style="list-style-type: none"> <li>• Retrofitting or designing new buildings, parking lots, streets, and public areas with energy-efficient lighting;</li> <li>• Retrofitting or designing new buildings with low-flow water fixtures and high-efficiency appliances;</li> <li>• Retrofitting or purchasing new low-emissions equipment;</li> <li>• Purchasing electric or hybrid vehicles;</li> <li>• Investing in renewable energy systems</li> </ul>
Establish a Local Farmer’s Market
Establish Community Gardens
Implement Strategies to Reduce Urban Heat-Island Effect, such as: <ul style="list-style-type: none"> <li>• Planting urban shade trees;</li> <li>• Installing reflective roofs; and</li> <li>• Using light-colored or high-albedo pavements and surfaces.</li> </ul>

Furthermore, in an effort to reduce the Project’s emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC’s *Diesel Emission Controls in Construction Projects*.<sup>31</sup> Therefore, to reduce the Project’s emissions, consideration of the following measures should be made:

<b>NEDC’s Diesel Emission Controls in Construction Projects<sup>32</sup></b>
<b>Measures – Diesel Emission Control Technology</b>
<b>a. Diesel Onroad Vehicles</b> All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
<b>b. Diesel Generators</b> All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
<b>c. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.</b>
<b>d. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.</b>

<sup>31</sup> “Diesel Emission Controls in Construction Projects.” Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

<sup>32</sup> “Diesel Emission Controls in Construction Projects.” Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.

e. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend <sup>33</sup> approved by the original engine manufacturer with sulfur content of 15 ppm or less.
<b>Measures – Additional Diesel Requirements</b>
a. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
b. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
c. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
<b>Reporting</b>
a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer’s representative a report prior to bringing said equipment on site that includes: <ul style="list-style-type: none"> <li>i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.</li> <li>ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.</li> <li>iii. The Certification Statement signed and printed on the contractor’s letterhead.</li> </ul>
b. The contractor shall submit to the developer’s representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes: <ul style="list-style-type: none"> <li>i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.</li> <li>ii. Any problems with the equipment or emission controls.</li> <li>iii. Certified copies of fuel deliveries for the time period that identify: <ul style="list-style-type: none"> <li>1. Source of supply</li> <li>2. Quantity of fuel</li> <li>3. Quality of fuel, including sulfur content (percent by weight)</li> </ul> </li> </ul>

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An updated EIR should be prepared to include all feasible mitigation measures, as well as include an updated health risk and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The updated EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project’s significant emissions are reduced to the maximum extent possible.

## Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of

---

<sup>33</sup> Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:  
<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>.



care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink that reads "Matt Hagemann". The signature is fluid and cursive, with a long horizontal stroke at the end.

Matt Hagemann, P.G., C.Hg.

A handwritten signature in blue ink that reads "Paul E. Rosenfeld". The signature is cursive and clearly legible.

Paul E. Rosenfeld, Ph.D.

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR  
Sacramento County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	2,248.90	1000sqft	143.41	2,248,898.00	0
General Light Industry	3,351.10	1000sqft	210.88	3,351,102.00	0
User Defined Recreational	2,801.34	User Defined Unit	64.31	2,801,343.60	0
Single Family Housing	713.00	Dwelling Unit	117.80	1,283,400.00	2283
Regional Shopping Center	262.38	1000sqft	20.77	262,375.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2035
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MW hr)</b>	590.31	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

Project Characteristics - See SWAPE comment about CO2 intensity factor.

Land Use - See SWAPE comment about land use sizes.

Construction Phase - See SWAPE comment about individual construction phase lengths.

Vehicle Trips - Consistent with SEIR's model.

Area Coating - Consistent with SEIR's model.

Energy Use - Consistent with SEIR's model.

Water And Wastewater - Consistent with SEIR's model.

Solid Waste - Consistent with SEIR's model.

Construction Off-road Equipment Mitigation - See SWAPE comment about Tier 4 Final mitigation.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	4331858	0
tblAreaCoating	Area_Nonresidential_Interior	12995573	0
tblAreaCoating	Area_Residential_Exterior	866295	0
tblAreaCoating	Area_Residential_Interior	2598885	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.26	0.00
tblEnergyUse	T24E	678.97	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	4.49	0.00
tblEnergyUse	T24NG	23,147.69	0.00
tblLandUse	LandUseSquareFeet	2,248,900.00	2,248,898.00
tblLandUse	LandUseSquareFeet	3,351,100.00	3,351,102.00
tblLandUse	LandUseSquareFeet	0.00	2,801,343.60
tblLandUse	LandUseSquareFeet	262,380.00	262,375.00
tblLandUse	LotAcreage	51.63	143.41
tblLandUse	LotAcreage	76.93	210.88
tblLandUse	LotAcreage	0.00	64.31
tblLandUse	LotAcreage	231.49	117.80
tblLandUse	LotAcreage	6.02	20.77
tblLandUse	Population	1,904.00	2,283.00
tblSolidWaste	SolidWasteGenerationRate	2,788.64	0.00
tblSolidWaste	SolidWasteGenerationRate	4,155.36	0.00
tblSolidWaste	SolidWasteGenerationRate	275.50	0.00
tblSolidWaste	SolidWasteGenerationRate	821.88	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	9.91	0.00

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	520,058,125.00	0.00
tblWater	IndoorWaterUseRate	774,941,875.00	0.00
tblWater	IndoorWaterUseRate	19,435,148.19	0.00
tblWater	IndoorWaterUseRate	46,454,820.27	0.00
tblWater	OutdoorWaterUseRate	11,911,865.02	0.00
tblWater	OutdoorWaterUseRate	29,286,734.52	0.00

**2.0 Emissions Summary**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	23.7064	40.9655	34.8151	0.1154	10.0330	1.0409	11.0739	3.3918	0.9650	4.3568	0.0000	10,633.4508	10,633.4508	1.0191	0.0000	10,658.9283
2022	22.8905	33.8232	30.7989	0.1099	8.5342	0.7223	9.2565	2.5770	0.6709	3.2479	0.0000	10,137.3342	10,137.3342	0.9095	0.0000	10,160.0728

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	13.1075	24.9967	23.9940	0.0972	7.2727	0.4063	7.6789	1.9878	0.3773	2.3651	0.0000	9,013.487 5	9,013.487 5	0.6866	0.0000	9,030.652 7
2024	2.3113	20.7952	18.3243	0.0859	6.5602	0.2260	6.7863	1.7037	0.2104	1.9141	0.0000	8,007.570 4	8,007.570 4	0.4905	0.0000	8,019.832 4
2025	1.9483	17.8151	15.2041	0.0793	4.8491	0.1132	4.9624	1.3159	0.1064	1.4223	0.0000	7,425.817 2	7,425.817 2	0.3489	0.0000	7,434.538 3
2026	1.8621	17.4723	14.3872	0.0779	4.8490	0.1114	4.9605	1.3159	0.1046	1.4205	0.0000	7,301.096 2	7,301.096 2	0.3415	0.0000	7,309.634 3
2027	1.7793	17.1585	13.6557	0.0767	4.8490	0.1093	4.9583	1.3159	0.1027	1.4186	0.0000	7,188.373 4	7,188.373 4	0.3347	0.0000	7,196.741 8
2028	1.6890	16.8245	12.9665	0.0753	4.8303	0.1066	4.9369	1.3108	0.1002	1.4110	0.0000	7,061.920 4	7,061.920 4	0.3273	0.0000	7,070.101 9
2029	1.6064	16.6340	12.4184	0.0746	4.8488	0.1048	4.9536	1.3158	0.0984	1.4143	0.0000	7,000.625 5	7,000.625 5	0.3225	0.0000	7,008.687 8
2030	1.5134	15.8048	11.8980	0.0742	4.8488	0.0531	4.9019	1.3158	0.0510	1.3668	0.0000	6,962.873 0	6,962.873 0	0.2594	0.0000	6,969.357 8
2031	1.4250	15.5878	11.4044	0.0735	4.8487	0.0511	4.8998	1.3158	0.0491	1.3649	0.0000	6,894.749 9	6,894.749 9	0.2542	0.0000	6,901.105 3
2032	1.3517	15.4480	11.0182	0.0731	4.8673	0.0495	4.9168	1.3208	0.0476	1.3685	0.0000	6,862.339 5	6,862.339 5	0.2506	0.0000	6,868.605 5
2033	1.2774	15.1566	10.5744	0.0720	4.8301	0.0476	4.8777	1.3107	0.0458	1.3566	0.0000	6,759.503 1	6,759.503 1	0.2449	0.0000	6,765.624 8
2034	1.2208	14.9981	10.2358	0.0715	4.8301	0.0461	4.8762	1.3107	0.0445	1.3552	0.0000	6,716.154 8	6,716.154 8	0.2413	0.0000	6,722.186 4
2035	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.198 3	6,705.198 3	0.2380	0.0000	6,711.148 3
2036	1.1686	14.8734	10.0184	0.0716	4.8672	0.0376	4.9048	1.3208	0.0360	1.3568	0.0000	6,730.888 7	6,730.888 7	0.2389	0.0000	6,736.861 6
2037	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.198 3	6,705.198 3	0.2380	0.0000	6,711.148 3
2038	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.198 3	6,705.198 3	0.2380	0.0000	6,711.148 3
2039	1.1597	14.7599	9.9420	0.0711	4.8300	0.0373	4.8674	1.3107	0.0358	1.3465	0.0000	6,679.507 9	6,679.507 9	0.2371	0.0000	6,685.435 1
2040	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.381 2	6,601.381 2	0.2265	0.0000	6,607.044 5

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2041	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.381 2	6,601.381 2	0.2265	0.0000	6,607.044 5
2042	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.381 2	6,601.381 2	0.2265	0.0000	6,607.044 5
2043	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.381 2	6,601.381 2	0.2265	0.0000	6,607.044 5
2044	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.381 2	6,601.381 2	0.2265	0.0000	6,607.044 5
2045	0.9101	14.0274	8.7150	0.0695	4.8299	0.0296	4.8594	1.3107	0.0284	1.3390	0.0000	6,532.526 1	6,532.526 1	0.2199	0.0000	6,538.023 4
2046	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.651 2	6,557.651 2	0.2207	0.0000	6,563.169 6
2047	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.651 2	6,557.651 2	0.2207	0.0000	6,563.169 6
2048	0.9171	14.1353	8.7820	0.0700	4.8670	0.0298	4.8968	1.3207	0.0286	1.3493	0.0000	6,582.776 3	6,582.776 3	0.2216	0.0000	6,588.315 9
2049	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.651 2	6,557.651 2	0.2207	0.0000	6,563.169 6
2050	0.8875	13.8537	8.6209	0.0693	4.8298	0.0288	4.8586	1.3106	0.0276	1.3383	0.0000	6,521.835 9	6,521.835 9	0.2152	0.0000	6,527.214 9
2051	0.1556	0.8957	2.0954	4.0200e-003	3.9953	9.5800e-003	4.0049	0.9807	9.5800e-003	0.9902	0.0000	341.7194	341.7194	0.0123	0.0000	342.0264
2052	0.1568	0.9026	2.1115	4.0600e-003	4.0260	9.6600e-003	4.0357	0.9882	9.6600e-003	0.9979	0.0000	344.3480	344.3480	0.0124	0.0000	344.6574
2053	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
2054	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
2055	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
2056	0.1012	0.5822	1.3620	2.6200e-003	2.5969	6.2300e-003	2.6032	0.6374	6.2300e-003	0.6437	0.0000	222.1176	222.1176	7.9800e-003	0.0000	222.3171
<b>Maximum</b>	<b>23.7064</b>	<b>40.9655</b>	<b>34.8151</b>	<b>0.1154</b>	<b>10.0330</b>	<b>1.0409</b>	<b>11.0739</b>	<b>3.3918</b>	<b>0.9650</b>	<b>4.3568</b>	<b>0.0000</b>	<b>10,633.45 08</b>	<b>10,633.45 08</b>	<b>1.0191</b>	<b>0.0000</b>	<b>10,658.92 83</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	23.7064	40.9655	34.8150	0.1154	10.0330	1.0409	11.0739	3.3918	0.9650	4.3568	0.0000	10,633.44 82	10,633.44 82	1.0191	0.0000	10,658.92 57
2022	22.8905	33.8231	30.7989	0.1099	8.5342	0.7223	9.2565	2.5770	0.6709	3.2479	0.0000	10,137.33 20	10,137.33 20	0.9095	0.0000	10,160.07 05
2023	13.1075	24.9967	23.9940	0.0972	7.2727	0.4063	7.6789	1.9878	0.3773	2.3651	0.0000	9,013.486 0	9,013.486 0	0.6866	0.0000	9,030.651 2
2024	2.3113	20.7952	18.3243	0.0859	6.5602	0.2260	6.7863	1.7037	0.2104	1.9141	0.0000	8,007.569 6	8,007.569 6	0.4905	0.0000	8,019.831 6
2025	1.9483	17.8151	15.2041	0.0793	4.8491	0.1132	4.9624	1.3159	0.1064	1.4223	0.0000	7,425.816 8	7,425.816 8	0.3489	0.0000	7,434.538 0
2026	1.8621	17.4723	14.3872	0.0779	4.8490	0.1114	4.9604	1.3159	0.1046	1.4205	0.0000	7,301.095 8	7,301.095 8	0.3415	0.0000	7,309.633 9
2027	1.7793	17.1585	13.6557	0.0767	4.8490	0.1093	4.9583	1.3159	0.1027	1.4186	0.0000	7,188.373 0	7,188.373 0	0.3347	0.0000	7,196.741 4
2028	1.6890	16.8245	12.9665	0.0753	4.8303	0.1066	4.9369	1.3108	0.1002	1.4110	0.0000	7,061.920 0	7,061.920 0	0.3273	0.0000	7,070.101 6
2029	1.6064	16.6340	12.4184	0.0746	4.8488	0.1048	4.9536	1.3158	0.0984	1.4143	0.0000	7,000.625 1	7,000.625 1	0.3225	0.0000	7,008.687 5
2030	1.5134	15.8048	11.8980	0.0742	4.8488	0.0531	4.9019	1.3158	0.0510	1.3668	0.0000	6,962.872 6	6,962.872 6	0.2594	0.0000	6,969.357 4
2031	1.4250	15.5878	11.4044	0.0735	4.8487	0.0511	4.8998	1.3158	0.0491	1.3649	0.0000	6,894.749 5	6,894.749 5	0.2542	0.0000	6,901.104 8
2032	1.3517	15.4480	11.0182	0.0731	4.8673	0.0495	4.9168	1.3208	0.0476	1.3685	0.0000	6,862.339 1	6,862.339 1	0.2506	0.0000	6,868.605 1
2033	1.2774	15.1566	10.5744	0.0720	4.8301	0.0476	4.8777	1.3107	0.0458	1.3566	0.0000	6,759.502 7	6,759.502 7	0.2449	0.0000	6,765.624 4
2034	1.2208	14.9981	10.2358	0.0715	4.8301	0.0461	4.8762	1.3107	0.0445	1.3552	0.0000	6,716.154 4	6,716.154 4	0.2413	0.0000	6,722.186 0
2035	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.197 9	6,705.197 9	0.2380	0.0000	6,711.147 9



## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2036	1.1686	14.8734	10.0184	0.0716	4.8672	0.0376	4.9048	1.3208	0.0360	1.3568	0.0000	6,730.888 3	6,730.888 3	0.2389	0.0000	6,736.861 1
2037	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.197 9	6,705.197 9	0.2380	0.0000	6,711.147 9
2038	1.1642	14.8166	9.9802	0.0714	4.8486	0.0375	4.8861	1.3157	0.0359	1.3516	0.0000	6,705.197 9	6,705.197 9	0.2380	0.0000	6,711.147 9
2039	1.1597	14.7599	9.9420	0.0711	4.8300	0.0373	4.8674	1.3107	0.0358	1.3465	0.0000	6,679.507 5	6,679.507 5	0.2371	0.0000	6,685.434 7
2040	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.380 8	6,601.380 8	0.2265	0.0000	6,607.044 1
2041	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.380 8	6,601.380 8	0.2265	0.0000	6,607.044 1
2042	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.380 8	6,601.380 8	0.2265	0.0000	6,607.044 1
2043	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.380 8	6,601.380 8	0.2265	0.0000	6,607.044 1
2044	0.9837	14.3256	9.0845	0.0702	4.8485	0.0314	4.8799	1.3157	0.0301	1.3458	0.0000	6,601.380 8	6,601.380 8	0.2265	0.0000	6,607.044 1
2045	0.9101	14.0274	8.7150	0.0695	4.8299	0.0296	4.8594	1.3107	0.0284	1.3390	0.0000	6,532.525 7	6,532.525 7	0.2199	0.0000	6,538.023 0
2046	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.650 8	6,557.650 8	0.2207	0.0000	6,563.169 2
2047	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.650 8	6,557.650 8	0.2207	0.0000	6,563.169 2
2048	0.9171	14.1353	8.7820	0.0700	4.8670	0.0298	4.8968	1.3207	0.0286	1.3493	0.0000	6,582.775 9	6,582.775 9	0.2216	0.0000	6,588.315 4
2049	0.9136	14.0814	8.7485	0.0697	4.8484	0.0297	4.8781	1.3157	0.0285	1.3442	0.0000	6,557.650 8	6,557.650 8	0.2207	0.0000	6,563.169 2
2050	0.8875	13.8537	8.6209	0.0693	4.8298	0.0288	4.8586	1.3106	0.0276	1.3383	0.0000	6,521.835 5	6,521.835 5	0.2152	0.0000	6,527.214 5
2051	0.1556	0.8957	2.0954	4.0200e-003	3.9953	9.5800e-003	4.0049	0.9807	9.5800e-003	0.9902	0.0000	341.7190	341.7190	0.0123	0.0000	342.0260
2052	0.1568	0.9026	2.1115	4.0600e-003	4.0260	9.6600e-003	4.0357	0.9882	9.6600e-003	0.9979	0.0000	344.3476	344.3476	0.0124	0.0000	344.6569
2053	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2054	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
2055	0.1562	0.8992	2.1035	4.0400e-003	4.0107	9.6200e-003	4.0203	0.9844	9.6200e-003	0.9941	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
2056	0.1012	0.5822	1.3620	2.6200e-003	2.5969	6.2300e-003	2.6032	0.6374	6.2300e-003	0.6437	0.0000	222.1173	222.1173	7.9800e-003	0.0000	222.3169
<b>Maximum</b>	<b>23.7064</b>	<b>40.9655</b>	<b>34.8150</b>	<b>0.1154</b>	<b>10.0330</b>	<b>1.0409</b>	<b>11.0739</b>	<b>3.3918</b>	<b>0.9650</b>	<b>4.3568</b>	<b>0.0000</b>	<b>10,633.4482</b>	<b>10,633.4482</b>	<b>1.0191</b>	<b>0.0000</b>	<b>10,658.9257</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	16.0010	16.0010
2	4-1-2021	6-30-2021	16.0643	16.0643
3	7-1-2021	9-30-2021	16.2408	16.2408
4	10-1-2021	12-31-2021	16.3566	16.3566
5	1-1-2022	3-31-2022	14.8098	14.8098
6	4-1-2022	6-30-2022	14.3307	14.3307
7	7-1-2022	9-30-2022	13.8450	13.8450
8	10-1-2022	12-31-2022	13.9444	13.9444
9	1-1-2023	3-31-2023	12.4418	12.4418
10	4-1-2023	6-30-2023	11.9101	11.9101
11	7-1-2023	9-30-2023	7.2753	7.2753
12	10-1-2023	12-31-2023	6.5825	6.5825
13	1-1-2024	3-31-2024	6.2738	6.2738
14	4-1-2024	6-30-2024	6.2158	6.2158

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

15	7-1-2024	9-30-2024	5.4300	5.4300
16	10-1-2024	12-31-2024	5.1700	5.1700
17	1-1-2025	3-31-2025	4.9051	4.9051
18	4-1-2025	6-30-2025	4.9053	4.9053
19	7-1-2025	9-30-2025	4.9592	4.9592
20	10-1-2025	12-31-2025	5.0141	5.0141
21	1-1-2026	3-31-2026	4.7970	4.7970
22	4-1-2026	6-30-2026	4.7989	4.7989
23	7-1-2026	9-30-2026	4.8516	4.8516
24	10-1-2026	12-31-2026	4.9036	4.9036
25	1-1-2027	3-31-2027	4.6969	4.6969
26	4-1-2027	6-30-2027	4.7004	4.7004
27	7-1-2027	9-30-2027	4.7520	4.7520
28	10-1-2027	12-31-2027	4.8013	4.8013
29	1-1-2028	3-31-2028	4.6588	4.6588
30	4-1-2028	6-30-2028	4.6122	4.6122
31	7-1-2028	9-30-2028	4.6629	4.6629
32	10-1-2028	12-31-2028	4.7100	4.7100
33	1-1-2029	3-31-2029	4.5204	4.5204
34	4-1-2029	6-30-2029	4.5259	4.5259
35	7-1-2029	9-30-2029	4.5756	4.5756
36	10-1-2029	12-31-2029	4.6209	4.6209
37	1-1-2030	3-31-2030	4.2910	4.2910
38	4-1-2030	6-30-2030	4.2955	4.2955
39	7-1-2030	9-30-2030	4.3427	4.3427
40	10-1-2030	12-31-2030	4.3864	4.3864
41	1-1-2031	3-31-2031	4.2134	4.2134

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

42	4-1-2031	6-30-2031	4.2185	4.2185
43	7-1-2031	9-30-2031	4.2649	4.2649
44	10-1-2031	12-31-2031	4.3070	4.3070
45	1-1-2032	3-31-2032	4.1892	4.1892
46	4-1-2032	6-30-2032	4.1484	4.1484
47	7-1-2032	9-30-2032	4.1940	4.1940
48	10-1-2032	12-31-2032	4.2352	4.2352
49	1-1-2033	3-31-2033	4.0829	4.0829
50	4-1-2033	6-30-2033	4.0882	4.0882
51	7-1-2033	9-30-2033	4.1331	4.1331
52	10-1-2033	12-31-2033	4.1736	4.1736
53	1-1-2034	3-31-2034	4.0284	4.0284
54	4-1-2034	6-30-2034	4.0333	4.0333
55	7-1-2034	9-30-2034	4.0776	4.0776
56	10-1-2034	12-31-2034	4.1179	4.1179
57	1-1-2035	3-31-2035	3.9533	3.9533
58	4-1-2035	6-30-2035	3.9574	3.9574
59	7-1-2035	9-30-2035	4.0009	4.0009
60	10-1-2035	12-31-2035	4.0412	4.0412
61	1-1-2036	3-31-2036	3.9973	3.9973
62	4-1-2036	6-30-2036	3.9574	3.9574
63	7-1-2036	9-30-2036	4.0009	4.0009
64	10-1-2036	12-31-2036	4.0412	4.0412
65	1-1-2037	3-31-2037	3.9533	3.9533
66	4-1-2037	6-30-2037	3.9574	3.9574
67	7-1-2037	9-30-2037	4.0009	4.0009
68	10-1-2037	12-31-2037	4.0412	4.0412

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

69	1-1-2038	3-31-2038	3.9533	3.9533
70	4-1-2038	6-30-2038	3.9574	3.9574
71	7-1-2038	9-30-2038	4.0009	4.0009
72	10-1-2038	12-31-2038	4.0412	4.0412
73	1-1-2039	3-31-2039	3.9533	3.9533
74	4-1-2039	6-30-2039	3.9574	3.9574
75	7-1-2039	9-30-2039	4.0009	4.0009
76	10-1-2039	12-31-2039	4.0412	4.0412
77	1-1-2040	3-31-2040	3.8262	3.8262
78	4-1-2040	6-30-2040	3.7857	3.7857
79	7-1-2040	9-30-2040	3.8273	3.8273
80	10-1-2040	12-31-2040	3.8683	3.8683
81	1-1-2041	3-31-2041	3.7842	3.7842
82	4-1-2041	6-30-2041	3.7857	3.7857
83	7-1-2041	9-30-2041	3.8273	3.8273
84	10-1-2041	12-31-2041	3.8683	3.8683
85	1-1-2042	3-31-2042	3.7842	3.7842
86	4-1-2042	6-30-2042	3.7857	3.7857
87	7-1-2042	9-30-2042	3.8273	3.8273
88	10-1-2042	12-31-2042	3.8683	3.8683
89	1-1-2043	3-31-2043	3.7842	3.7842
90	4-1-2043	6-30-2043	3.7857	3.7857
91	7-1-2043	9-30-2043	3.8273	3.8273
92	10-1-2043	12-31-2043	3.8683	3.8683
93	1-1-2044	3-31-2044	3.8262	3.8262
94	4-1-2044	6-30-2044	3.7857	3.7857
95	7-1-2044	9-30-2044	3.8273	3.8273

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

96	10-1-2044	12-31-2044	3.8683	3.8683
97	1-1-2045	3-31-2045	3.7059	3.7059
98	4-1-2045	6-30-2045	3.7062	3.7062
99	7-1-2045	9-30-2045	3.7470	3.7470
100	10-1-2045	12-31-2045	3.7883	3.7883
101	1-1-2046	3-31-2046	3.7059	3.7059
102	4-1-2046	6-30-2046	3.7062	3.7062
103	7-1-2046	9-30-2046	3.7470	3.7470
104	10-1-2046	12-31-2046	3.7883	3.7883
105	1-1-2047	3-31-2047	3.7059	3.7059
106	4-1-2047	6-30-2047	3.7062	3.7062
107	7-1-2047	9-30-2047	3.7470	3.7470
108	10-1-2047	12-31-2047	3.7883	3.7883
109	1-1-2048	3-31-2048	3.7471	3.7471
110	4-1-2048	6-30-2048	3.7062	3.7062
111	7-1-2048	9-30-2048	3.7470	3.7470
112	10-1-2048	12-31-2048	3.7883	3.7883
113	1-1-2049	3-31-2049	3.7059	3.7059
114	4-1-2049	6-30-2049	3.7062	3.7062
115	7-1-2049	9-30-2049	3.7470	3.7470
116	10-1-2049	12-31-2049	3.7883	3.7883
117	1-1-2050	3-31-2050	3.6578	3.6578
118	4-1-2050	6-30-2050	3.6566	3.6566
119	7-1-2050	9-30-2050	3.6968	3.6968
120	10-1-2050	12-31-2050	3.7391	3.7391
121	1-1-2051	3-31-2051	0.2599	0.2599
122	4-1-2051	6-30-2051	0.2628	0.2628

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

123	7-1-2051	9-30-2051	0.2657	0.2657
124	10-1-2051	12-31-2051	0.2657	0.2657
125	1-1-2052	3-31-2052	0.2628	0.2628
126	4-1-2052	6-30-2052	0.2628	0.2628
127	7-1-2052	9-30-2052	0.2657	0.2657
128	10-1-2052	12-31-2052	0.2657	0.2657
129	1-1-2053	3-31-2053	0.2599	0.2599
130	4-1-2053	6-30-2053	0.2628	0.2628
131	7-1-2053	9-30-2053	0.2657	0.2657
132	10-1-2053	12-31-2053	0.2657	0.2657
133	1-1-2054	3-31-2054	0.2599	0.2599
134	4-1-2054	6-30-2054	0.2628	0.2628
135	7-1-2054	9-30-2054	0.2657	0.2657
136	10-1-2054	12-31-2054	0.2657	0.2657
137	1-1-2055	3-31-2055	0.2599	0.2599
138	4-1-2055	6-30-2055	0.2628	0.2628
139	7-1-2055	9-30-2055	0.2657	0.2657
140	10-1-2055	12-31-2055	0.2657	0.2657
141	1-1-2056	3-31-2056	0.2628	0.2628
142	4-1-2056	6-30-2056	0.2628	0.2628
143	7-1-2056	9-30-2056	0.1589	0.1589
		Highest	16.3566	16.3566

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	39.0776	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>39.0776</b>	<b>0.0855</b>	<b>7.4370</b>	<b>4.0000e-004</b>	<b>0.0000</b>	<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>12.2259</b>	<b>12.2259</b>	<b>0.0120</b>	<b>0.0000</b>	<b>12.5256</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	39.0776	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>39.0776</b>	<b>0.0855</b>	<b>7.4370</b>	<b>4.0000e-004</b>	<b>0.0000</b>	<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>12.2259</b>	<b>12.2259</b>	<b>0.0120</b>	<b>0.0000</b>	<b>12.5256</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	4/20/2023	5	600	
2	Site Preparation	Site Preparation	1/1/2021	5/19/2022	5	360	
3	Grading	Grading	1/1/2021	7/25/2024	5	930	
4	Building Construction	Building Construction	1/1/2021	8/24/2056	5	9300	
5	Paving	Paving	1/1/2021	7/13/2023	5	660	
6	Architectural Coating	Architectural Coating	1/1/2021	7/13/2023	5	660	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 2325**

**Acres of Paving: 0**

**Residential Indoor: 2,598,885; Residential Outdoor: 866,295; Non-Residential Indoor: 12,995,578; Non-Residential Outdoor: 4,331,859; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

## Maximum Construction Year - Elk Grove Multi-Sport Complex and SOIA SEIR - Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3,869.00	1,496.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	774.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4131	4.1030	2.8142	5.0700e-003		0.2025	0.2025		0.1881	0.1881	0.0000	443.7102	443.7102	0.1249	0.0000	446.8324
<b>Total</b>	<b>0.4131</b>	<b>4.1030</b>	<b>2.8142</b>	<b>5.0700e-003</b>		<b>0.2025</b>	<b>0.2025</b>		<b>0.1881</b>	<b>0.1881</b>	<b>0.0000</b>	<b>443.7102</b>	<b>443.7102</b>	<b>0.1249</b>	<b>0.0000</b>	<b>446.8324</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	4.4300e-003	0.0495	1.4000e-004	0.0144	1.0000e-004	0.0145	3.8200e-003	9.0000e-005	3.9200e-003	0.0000	12.3044	12.3044	3.2000e-004	0.0000	12.3125
<b>Total</b>	<b>6.7800e-003</b>	<b>4.4300e-003</b>	<b>0.0495</b>	<b>1.4000e-004</b>	<b>0.0144</b>	<b>1.0000e-004</b>	<b>0.0145</b>	<b>3.8200e-003</b>	<b>9.0000e-005</b>	<b>3.9200e-003</b>	<b>0.0000</b>	<b>12.3044</b>	<b>12.3044</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>12.3125</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4131	4.1030	2.8142	5.0700e-003		0.2025	0.2025		0.1881	0.1881	0.0000	443.7097	443.7097	0.1249	0.0000	446.8319
<b>Total</b>	<b>0.4131</b>	<b>4.1030</b>	<b>2.8142</b>	<b>5.0700e-003</b>		<b>0.2025</b>	<b>0.2025</b>		<b>0.1881</b>	<b>0.1881</b>	<b>0.0000</b>	<b>443.7097</b>	<b>443.7097</b>	<b>0.1249</b>	<b>0.0000</b>	<b>446.8319</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	4.4300e-003	0.0495	1.4000e-004	0.0144	1.0000e-004	0.0145	3.8200e-003	9.0000e-005	3.9200e-003	0.0000	12.3044	12.3044	3.2000e-004	0.0000	12.3125
<b>Total</b>	<b>6.7800e-003</b>	<b>4.4300e-003</b>	<b>0.0495</b>	<b>1.4000e-004</b>	<b>0.0144</b>	<b>1.0000e-004</b>	<b>0.0145</b>	<b>3.8200e-003</b>	<b>9.0000e-005</b>	<b>3.9200e-003</b>	<b>0.0000</b>	<b>12.3044</b>	<b>12.3044</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>12.3125</b>

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3431	3.3435	2.6772	5.0500e-003		0.1615	0.1615		0.1502	0.1502	0.0000	441.8730	441.8730	0.1241	0.0000	444.9759
<b>Total</b>	<b>0.3431</b>	<b>3.3435</b>	<b>2.6772</b>	<b>5.0500e-003</b>		<b>0.1615</b>	<b>0.1615</b>		<b>0.1502</b>	<b>0.1502</b>	<b>0.0000</b>	<b>441.8730</b>	<b>441.8730</b>	<b>0.1241</b>	<b>0.0000</b>	<b>444.9759</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3100e-003	3.9700e-003	0.0454	1.3000e-004	0.0143	1.0000e-004	0.0144	3.8100e-003	9.0000e-005	3.9000e-003	0.0000	11.8183	11.8183	2.9000e-004	0.0000	11.8255
<b>Total</b>	<b>6.3100e-003</b>	<b>3.9700e-003</b>	<b>0.0454</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>1.0000e-004</b>	<b>0.0144</b>	<b>3.8100e-003</b>	<b>9.0000e-005</b>	<b>3.9000e-003</b>	<b>0.0000</b>	<b>11.8183</b>	<b>11.8183</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>11.8255</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3431	3.3435	2.6772	5.0500e-003		0.1615	0.1615		0.1502	0.1502	0.0000	441.8724	441.8724	0.1241	0.0000	444.9754
<b>Total</b>	<b>0.3431</b>	<b>3.3435</b>	<b>2.6772</b>	<b>5.0500e-003</b>		<b>0.1615</b>	<b>0.1615</b>		<b>0.1502</b>	<b>0.1502</b>	<b>0.0000</b>	<b>441.8724</b>	<b>441.8724</b>	<b>0.1241</b>	<b>0.0000</b>	<b>444.9754</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3100e-003	3.9700e-003	0.0454	1.3000e-004	0.0143	1.0000e-004	0.0144	3.8100e-003	9.0000e-005	3.9000e-003	0.0000	11.8183	11.8183	2.9000e-004	0.0000	11.8255
<b>Total</b>	<b>6.3100e-003</b>	<b>3.9700e-003</b>	<b>0.0454</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>1.0000e-004</b>	<b>0.0144</b>	<b>3.8100e-003</b>	<b>9.0000e-005</b>	<b>3.9000e-003</b>	<b>0.0000</b>	<b>11.8183</b>	<b>11.8183</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>11.8255</b>

**3.2 Demolition - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0896	0.8486	0.7759	1.5300e-003		0.0394	0.0394		0.0367	0.0367	0.0000	134.2687	134.2687	0.0376	0.0000	135.2087
<b>Total</b>	<b>0.0896</b>	<b>0.8486</b>	<b>0.7759</b>	<b>1.5300e-003</b>		<b>0.0394</b>	<b>0.0394</b>		<b>0.0367</b>	<b>0.0367</b>	<b>0.0000</b>	<b>134.2687</b>	<b>134.2687</b>	<b>0.0376</b>	<b>0.0000</b>	<b>135.2087</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.0800e-003	0.0127	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4561	3.4561	8.0000e-005	0.0000	3.4581
<b>Total</b>	<b>1.7900e-003</b>	<b>1.0800e-003</b>	<b>0.0127</b>	<b>4.0000e-005</b>	<b>4.3500e-003</b>	<b>3.0000e-005</b>	<b>4.3800e-003</b>	<b>1.1600e-003</b>	<b>3.0000e-005</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>3.4561</b>	<b>3.4561</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>3.4581</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0896	0.8486	0.7759	1.5300e-003		0.0394	0.0394		0.0367	0.0367	0.0000	134.2685	134.2685	0.0376	0.0000	135.2086
<b>Total</b>	<b>0.0896</b>	<b>0.8486</b>	<b>0.7759</b>	<b>1.5300e-003</b>		<b>0.0394</b>	<b>0.0394</b>		<b>0.0367</b>	<b>0.0367</b>	<b>0.0000</b>	<b>134.2685</b>	<b>134.2685</b>	<b>0.0376</b>	<b>0.0000</b>	<b>135.2086</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.2 Demolition - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.0800e-003	0.0127	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.4561	3.4561	8.0000e-005	0.0000	3.4581
<b>Total</b>	<b>1.7900e-003</b>	<b>1.0800e-003</b>	<b>0.0127</b>	<b>4.0000e-005</b>	<b>4.3500e-003</b>	<b>3.0000e-005</b>	<b>4.3800e-003</b>	<b>1.1600e-003</b>	<b>3.0000e-005</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>3.4561</b>	<b>3.4561</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>3.4581</b>

**3.3 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3577	0.0000	2.3577	1.2960	0.0000	1.2960	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5074	5.2849	2.7606	4.9600e-003		0.2668	0.2668		0.2455	0.2455	0.0000	436.3361	436.3361	0.1411	0.0000	439.8641
<b>Total</b>	<b>0.5074</b>	<b>5.2849</b>	<b>2.7606</b>	<b>4.9600e-003</b>	<b>2.3577</b>	<b>0.2668</b>	<b>2.6245</b>	<b>1.2960</b>	<b>0.2455</b>	<b>1.5414</b>	<b>0.0000</b>	<b>436.3361</b>	<b>436.3361</b>	<b>0.1411</b>	<b>0.0000</b>	<b>439.8641</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.3 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1300e-003	5.3200e-003	0.0595	1.6000e-004	0.0173	1.2000e-004	0.0174	4.5900e-003	1.1000e-004	4.7000e-003	0.0000	14.7653	14.7653	3.9000e-004	0.0000	14.7750
<b>Total</b>	<b>8.1300e-003</b>	<b>5.3200e-003</b>	<b>0.0595</b>	<b>1.6000e-004</b>	<b>0.0173</b>	<b>1.2000e-004</b>	<b>0.0174</b>	<b>4.5900e-003</b>	<b>1.1000e-004</b>	<b>4.7000e-003</b>	<b>0.0000</b>	<b>14.7653</b>	<b>14.7653</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>14.7750</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3577	0.0000	2.3577	1.2960	0.0000	1.2960	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5074	5.2849	2.7606	4.9600e-003		0.2668	0.2668		0.2455	0.2455	0.0000	436.3356	436.3356	0.1411	0.0000	439.8636
<b>Total</b>	<b>0.5074</b>	<b>5.2849</b>	<b>2.7606</b>	<b>4.9600e-003</b>	<b>2.3577</b>	<b>0.2668</b>	<b>2.6245</b>	<b>1.2960</b>	<b>0.2455</b>	<b>1.5414</b>	<b>0.0000</b>	<b>436.3356</b>	<b>436.3356</b>	<b>0.1411</b>	<b>0.0000</b>	<b>439.8636</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.3 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1300e-003	5.3200e-003	0.0595	1.6000e-004	0.0173	1.2000e-004	0.0174	4.5900e-003	1.1000e-004	4.7000e-003	0.0000	14.7653	14.7653	3.9000e-004	0.0000	14.7750
<b>Total</b>	<b>8.1300e-003</b>	<b>5.3200e-003</b>	<b>0.0595</b>	<b>1.6000e-004</b>	<b>0.0173</b>	<b>1.2000e-004</b>	<b>0.0174</b>	<b>4.5900e-003</b>	<b>1.1000e-004</b>	<b>4.7000e-003</b>	<b>0.0000</b>	<b>14.7653</b>	<b>14.7653</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>14.7750</b>

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8943	0.0000	0.8943	0.4916	0.0000	0.4916	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1569	1.6376	0.9750	1.8800e-003		0.0798	0.0798		0.0734	0.0734	0.0000	165.5250	165.5250	0.0535	0.0000	166.8633
<b>Total</b>	<b>0.1569</b>	<b>1.6376</b>	<b>0.9750</b>	<b>1.8800e-003</b>	<b>0.8943</b>	<b>0.0798</b>	<b>0.9741</b>	<b>0.4916</b>	<b>0.0734</b>	<b>0.5650</b>	<b>0.0000</b>	<b>165.5250</b>	<b>165.5250</b>	<b>0.0535</b>	<b>0.0000</b>	<b>166.8633</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.3 Site Preparation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8800e-003	1.8100e-003	0.0207	6.0000e-005	6.5400e-003	4.0000e-005	6.5900e-003	1.7400e-003	4.0000e-005	1.7800e-003	0.0000	5.4000	5.4000	1.3000e-004	0.0000	5.4033
<b>Total</b>	<b>2.8800e-003</b>	<b>1.8100e-003</b>	<b>0.0207</b>	<b>6.0000e-005</b>	<b>6.5400e-003</b>	<b>4.0000e-005</b>	<b>6.5900e-003</b>	<b>1.7400e-003</b>	<b>4.0000e-005</b>	<b>1.7800e-003</b>	<b>0.0000</b>	<b>5.4000</b>	<b>5.4000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>5.4033</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8943	0.0000	0.8943	0.4916	0.0000	0.4916	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1569	1.6376	0.9750	1.8800e-003		0.0798	0.0798		0.0734	0.0734	0.0000	165.5248	165.5248	0.0535	0.0000	166.8631
<b>Total</b>	<b>0.1569</b>	<b>1.6376</b>	<b>0.9750</b>	<b>1.8800e-003</b>	<b>0.8943</b>	<b>0.0798</b>	<b>0.9741</b>	<b>0.4916</b>	<b>0.0734</b>	<b>0.5650</b>	<b>0.0000</b>	<b>165.5248</b>	<b>165.5248</b>	<b>0.0535</b>	<b>0.0000</b>	<b>166.8631</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.3 Site Preparation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8800e-003	1.8100e-003	0.0207	6.0000e-005	6.5400e-003	4.0000e-005	6.5900e-003	1.7400e-003	4.0000e-005	1.7800e-003	0.0000	5.4000	5.4000	1.3000e-004	0.0000	5.4033
<b>Total</b>	<b>2.8800e-003</b>	<b>1.8100e-003</b>	<b>0.0207</b>	<b>6.0000e-005</b>	<b>6.5400e-003</b>	<b>4.0000e-005</b>	<b>6.5900e-003</b>	<b>1.7400e-003</b>	<b>4.0000e-005</b>	<b>1.7800e-003</b>	<b>0.0000</b>	<b>5.4000</b>	<b>5.4000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>5.4033</b>

**3.4 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0187	0.0000	2.0187	0.5651	0.0000	0.5651	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5470	6.0552	4.0296	8.0900e-003		0.2591	0.2591		0.2384	0.2384	0.0000	711.1595	711.1595	0.2300	0.0000	716.9096
<b>Total</b>	<b>0.5470</b>	<b>6.0552</b>	<b>4.0296</b>	<b>8.0900e-003</b>	<b>2.0187</b>	<b>0.2591</b>	<b>2.2778</b>	<b>0.5651</b>	<b>0.2384</b>	<b>0.8035</b>	<b>0.0000</b>	<b>711.1595</b>	<b>711.1595</b>	<b>0.2300</b>	<b>0.0000</b>	<b>716.9096</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0400e-003	5.9100e-003	0.0661	1.8000e-004	0.0192	1.3000e-004	0.0193	5.1000e-003	1.2000e-004	5.2200e-003	0.0000	16.4059	16.4059	4.3000e-004	0.0000	16.4167
<b>Total</b>	<b>9.0400e-003</b>	<b>5.9100e-003</b>	<b>0.0661</b>	<b>1.8000e-004</b>	<b>0.0192</b>	<b>1.3000e-004</b>	<b>0.0193</b>	<b>5.1000e-003</b>	<b>1.2000e-004</b>	<b>5.2200e-003</b>	<b>0.0000</b>	<b>16.4059</b>	<b>16.4059</b>	<b>4.3000e-004</b>	<b>0.0000</b>	<b>16.4167</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0187	0.0000	2.0187	0.5651	0.0000	0.5651	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5470	6.0552	4.0296	8.0900e-003		0.2591	0.2591		0.2384	0.2384	0.0000	711.1587	711.1587	0.2300	0.0000	716.9087
<b>Total</b>	<b>0.5470</b>	<b>6.0552</b>	<b>4.0296</b>	<b>8.0900e-003</b>	<b>2.0187</b>	<b>0.2591</b>	<b>2.2778</b>	<b>0.5651</b>	<b>0.2384</b>	<b>0.8035</b>	<b>0.0000</b>	<b>711.1587</b>	<b>711.1587</b>	<b>0.2300</b>	<b>0.0000</b>	<b>716.9087</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0400e-003	5.9100e-003	0.0661	1.8000e-004	0.0192	1.3000e-004	0.0193	5.1000e-003	1.2000e-004	5.2200e-003	0.0000	16.4059	16.4059	4.3000e-004	0.0000	16.4167
<b>Total</b>	<b>9.0400e-003</b>	<b>5.9100e-003</b>	<b>0.0661</b>	<b>1.8000e-004</b>	<b>0.0192</b>	<b>1.3000e-004</b>	<b>0.0193</b>	<b>5.1000e-003</b>	<b>1.2000e-004</b>	<b>5.2200e-003</b>	<b>0.0000</b>	<b>16.4059</b>	<b>16.4059</b>	<b>4.3000e-004</b>	<b>0.0000</b>	<b>16.4167</b>

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0157	0.0000	2.0157	0.5635	0.0000	0.5635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4712	5.0497	3.7754	8.0700e-003		0.2125	0.2125		0.1955	0.1955	0.0000	708.9498	708.9498	0.2293	0.0000	714.6820
<b>Total</b>	<b>0.4712</b>	<b>5.0497</b>	<b>3.7754</b>	<b>8.0700e-003</b>	<b>2.0157</b>	<b>0.2125</b>	<b>2.2282</b>	<b>0.5635</b>	<b>0.1955</b>	<b>0.7590</b>	<b>0.0000</b>	<b>708.9498</b>	<b>708.9498</b>	<b>0.2293</b>	<b>0.0000</b>	<b>714.6820</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4100e-003	5.2900e-003	0.0605	1.7000e-004	0.0191	1.3000e-004	0.0192	5.0800e-003	1.2000e-004	5.2000e-003	0.0000	15.7577	15.7577	3.9000e-004	0.0000	15.7673
<b>Total</b>	<b>8.4100e-003</b>	<b>5.2900e-003</b>	<b>0.0605</b>	<b>1.7000e-004</b>	<b>0.0191</b>	<b>1.3000e-004</b>	<b>0.0192</b>	<b>5.0800e-003</b>	<b>1.2000e-004</b>	<b>5.2000e-003</b>	<b>0.0000</b>	<b>15.7577</b>	<b>15.7577</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>15.7673</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0157	0.0000	2.0157	0.5635	0.0000	0.5635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4712	5.0497	3.7754	8.0700e-003		0.2125	0.2125		0.1955	0.1955	0.0000	708.9490	708.9490	0.2293	0.0000	714.6812
<b>Total</b>	<b>0.4712</b>	<b>5.0497</b>	<b>3.7754</b>	<b>8.0700e-003</b>	<b>2.0157</b>	<b>0.2125</b>	<b>2.2282</b>	<b>0.5635</b>	<b>0.1955</b>	<b>0.7590</b>	<b>0.0000</b>	<b>708.9490</b>	<b>708.9490</b>	<b>0.2293</b>	<b>0.0000</b>	<b>714.6812</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4100e-003	5.2900e-003	0.0605	1.7000e-004	0.0191	1.3000e-004	0.0192	5.0800e-003	1.2000e-004	5.2000e-003	0.0000	15.7577	15.7577	3.9000e-004	0.0000	15.7673
<b>Total</b>	<b>8.4100e-003</b>	<b>5.2900e-003</b>	<b>0.0605</b>	<b>1.7000e-004</b>	<b>0.0191</b>	<b>1.3000e-004</b>	<b>0.0192</b>	<b>5.0800e-003</b>	<b>1.2000e-004</b>	<b>5.2000e-003</b>	<b>0.0000</b>	<b>15.7577</b>	<b>15.7577</b>	<b>3.9000e-004</b>	<b>0.0000</b>	<b>15.7673</b>

**3.4 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0157	0.0000	2.0157	0.5635	0.0000	0.5635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4318	4.4870	3.6467	8.0700e-003		0.1852	0.1852		0.1704	0.1704	0.0000	708.9577	708.9577	0.2293	0.0000	714.6900
<b>Total</b>	<b>0.4318</b>	<b>4.4870</b>	<b>3.6467</b>	<b>8.0700e-003</b>	<b>2.0157</b>	<b>0.1852</b>	<b>2.2009</b>	<b>0.5635</b>	<b>0.1704</b>	<b>0.7338</b>	<b>0.0000</b>	<b>708.9577</b>	<b>708.9577</b>	<b>0.2293</b>	<b>0.0000</b>	<b>714.6900</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8800e-003	4.7600e-003	0.0555	1.7000e-004	0.0191	1.3000e-004	0.0192	5.0800e-003	1.2000e-004	5.2000e-003	0.0000	15.1660	15.1660	3.5000e-004	0.0000	15.1746
<b>Total</b>	<b>7.8800e-003</b>	<b>4.7600e-003</b>	<b>0.0555</b>	<b>1.7000e-004</b>	<b>0.0191</b>	<b>1.3000e-004</b>	<b>0.0192</b>	<b>5.0800e-003</b>	<b>1.2000e-004</b>	<b>5.2000e-003</b>	<b>0.0000</b>	<b>15.1660</b>	<b>15.1660</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>15.1746</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0157	0.0000	2.0157	0.5635	0.0000	0.5635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4318	4.4870	3.6467	8.0700e-003		0.1852	0.1852		0.1704	0.1704	0.0000	708.9569	708.9569	0.2293	0.0000	714.6891
<b>Total</b>	<b>0.4318</b>	<b>4.4870</b>	<b>3.6467</b>	<b>8.0700e-003</b>	<b>2.0157</b>	<b>0.1852</b>	<b>2.2009</b>	<b>0.5635</b>	<b>0.1704</b>	<b>0.7338</b>	<b>0.0000</b>	<b>708.9569</b>	<b>708.9569</b>	<b>0.2293</b>	<b>0.0000</b>	<b>714.6891</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8800e-003	4.7600e-003	0.0555	1.7000e-004	0.0191	1.3000e-004	0.0192	5.0800e-003	1.2000e-004	5.2000e-003	0.0000	15.1660	15.1660	3.5000e-004	0.0000	15.1746
<b>Total</b>	<b>7.8800e-003</b>	<b>4.7600e-003</b>	<b>0.0555</b>	<b>1.7000e-004</b>	<b>0.0191</b>	<b>1.3000e-004</b>	<b>0.0192</b>	<b>5.0800e-003</b>	<b>1.2000e-004</b>	<b>5.2000e-003</b>	<b>0.0000</b>	<b>15.1660</b>	<b>15.1660</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>15.1746</b>

**3.4 Grading - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6815	0.0000	1.6815	0.3797	0.0000	0.3797	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2398	2.4121	2.0654	4.6200e-003		0.0995	0.0995		0.0915	0.0915	0.0000	406.1705	406.1705	0.1314	0.0000	409.4545
<b>Total</b>	<b>0.2398</b>	<b>2.4121</b>	<b>2.0654</b>	<b>4.6200e-003</b>	<b>1.6815</b>	<b>0.0995</b>	<b>1.7810</b>	<b>0.3797</b>	<b>0.0915</b>	<b>0.4713</b>	<b>0.0000</b>	<b>406.1705</b>	<b>406.1705</b>	<b>0.1314</b>	<b>0.0000</b>	<b>409.4545</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2400e-003	2.4700e-003	0.0295	9.0000e-005	0.0109	7.0000e-005	0.0110	2.9100e-003	7.0000e-005	2.9800e-003	0.0000	8.3534	8.3534	1.8000e-004	0.0000	8.3579
<b>Total</b>	<b>4.2400e-003</b>	<b>2.4700e-003</b>	<b>0.0295</b>	<b>9.0000e-005</b>	<b>0.0109</b>	<b>7.0000e-005</b>	<b>0.0110</b>	<b>2.9100e-003</b>	<b>7.0000e-005</b>	<b>2.9800e-003</b>	<b>0.0000</b>	<b>8.3534</b>	<b>8.3534</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>8.3579</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6815	0.0000	1.6815	0.3797	0.0000	0.3797	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2398	2.4121	2.0654	4.6200e-003		0.0995	0.0995		0.0915	0.0915	0.0000	406.1700	406.1700	0.1314	0.0000	409.4541
<b>Total</b>	<b>0.2398</b>	<b>2.4121</b>	<b>2.0654</b>	<b>4.6200e-003</b>	<b>1.6815</b>	<b>0.0995</b>	<b>1.7810</b>	<b>0.3797</b>	<b>0.0915</b>	<b>0.4713</b>	<b>0.0000</b>	<b>406.1700</b>	<b>406.1700</b>	<b>0.1314</b>	<b>0.0000</b>	<b>409.4541</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.4 Grading - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2400e-003	2.4700e-003	0.0295	9.0000e-005	0.0109	7.0000e-005	0.0110	2.9100e-003	7.0000e-005	2.9800e-003	0.0000	8.3534	8.3534	1.8000e-004	0.0000	8.3579
<b>Total</b>	<b>4.2400e-003</b>	<b>2.4700e-003</b>	<b>0.0295</b>	<b>9.0000e-005</b>	<b>0.0109</b>	<b>7.0000e-005</b>	<b>0.0110</b>	<b>2.9100e-003</b>	<b>7.0000e-005</b>	<b>2.9800e-003</b>	<b>0.0000</b>	<b>8.3534</b>	<b>8.3534</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>8.3579</b>

**3.5 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
<b>Total</b>	<b>0.2481</b>	<b>2.2749</b>	<b>2.1631</b>	<b>3.5100e-003</b>		<b>0.1251</b>	<b>0.1251</b>		<b>0.1176</b>	<b>0.1176</b>	<b>0.0000</b>	<b>302.2867</b>	<b>302.2867</b>	<b>0.0729</b>	<b>0.0000</b>	<b>304.1099</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6139	19.9712	5.3378	0.0477	1.1414	0.0552	1.1966	0.3299	0.0528	0.3826	0.0000	4,580.9194	4,580.9194	0.2619	0.0000	4,587.4674
Worker	1.7484	1.1425	12.7791	0.0351	3.7082	0.0259	3.7341	0.9863	0.0239	1.0102	0.0000	3,173.7237	3,173.7237	0.0833	0.0000	3,175.8065
<b>Total</b>	<b>2.3623</b>	<b>21.1137</b>	<b>18.1170</b>	<b>0.0828</b>	<b>4.8496</b>	<b>0.0811</b>	<b>4.9307</b>	<b>1.3161</b>	<b>0.0767</b>	<b>1.3928</b>	<b>0.0000</b>	<b>7,754.6431</b>	<b>7,754.6431</b>	<b>0.3452</b>	<b>0.0000</b>	<b>7,763.2739</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
<b>Total</b>	<b>0.2481</b>	<b>2.2749</b>	<b>2.1631</b>	<b>3.5100e-003</b>		<b>0.1251</b>	<b>0.1251</b>		<b>0.1176</b>	<b>0.1176</b>	<b>0.0000</b>	<b>302.2863</b>	<b>302.2863</b>	<b>0.0729</b>	<b>0.0000</b>	<b>304.1095</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6139	19.9712	5.3378	0.0477	1.1414	0.0552	1.1966	0.3299	0.0528	0.3826	0.0000	4,580.9194	4,580.9194	0.2619	0.0000	4,587.4674
Worker	1.7484	1.1425	12.7791	0.0351	3.7082	0.0259	3.7341	0.9863	0.0239	1.0102	0.0000	3,173.7237	3,173.7237	0.0833	0.0000	3,175.8065
<b>Total</b>	<b>2.3623</b>	<b>21.1137</b>	<b>18.1170</b>	<b>0.0828</b>	<b>4.8496</b>	<b>0.0811</b>	<b>4.9307</b>	<b>1.3161</b>	<b>0.0767</b>	<b>1.3928</b>	<b>0.0000</b>	<b>7,754.6431</b>	<b>7,754.6431</b>	<b>0.3452</b>	<b>0.0000</b>	<b>7,763.2739</b>

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
<b>Total</b>	<b>0.2218</b>	<b>2.0300</b>	<b>2.1272</b>	<b>3.5000e-003</b>		<b>0.1052</b>	<b>0.1052</b>		<b>0.0990</b>	<b>0.0990</b>	<b>0.0000</b>	<b>301.2428</b>	<b>301.2428</b>	<b>0.0722</b>	<b>0.0000</b>	<b>303.0471</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.5676	18.8899	4.9028	0.0470	1.1369	0.0482	1.1851	0.3285	0.0461	0.3747	0.0000	4,523.2557	4,523.2557	0.2535	0.0000	4,529.5924
Worker	1.6276	1.0233	11.6979	0.0337	3.6940	0.0252	3.7192	0.9825	0.0232	1.0057	0.0000	3,048.3214	3,048.3214	0.0746	0.0000	3,050.1860
<b>Total</b>	<b>2.1953</b>	<b>19.9132</b>	<b>16.6007</b>	<b>0.0808</b>	<b>4.8309</b>	<b>0.0734</b>	<b>4.9043</b>	<b>1.3110</b>	<b>0.0693</b>	<b>1.3803</b>	<b>0.0000</b>	<b>7,571.5771</b>	<b>7,571.5771</b>	<b>0.3281</b>	<b>0.0000</b>	<b>7,579.7784</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
<b>Total</b>	<b>0.2218</b>	<b>2.0300</b>	<b>2.1272</b>	<b>3.5000e-003</b>		<b>0.1052</b>	<b>0.1052</b>		<b>0.0990</b>	<b>0.0990</b>	<b>0.0000</b>	<b>301.2425</b>	<b>301.2425</b>	<b>0.0722</b>	<b>0.0000</b>	<b>303.0467</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.5676	18.8899	4.9028	0.0470	1.1369	0.0482	1.1851	0.3285	0.0461	0.3747	0.0000	4,523.2557	4,523.2557	0.2535	0.0000	4,529.5924
Worker	1.6276	1.0233	11.6979	0.0337	3.6940	0.0252	3.7192	0.9825	0.0232	1.0057	0.0000	3,048.3214	3,048.3214	0.0746	0.0000	3,050.1860
<b>Total</b>	<b>2.1953</b>	<b>19.9132</b>	<b>16.6007</b>	<b>0.0808</b>	<b>4.8309</b>	<b>0.0734</b>	<b>4.9043</b>	<b>1.3110</b>	<b>0.0693</b>	<b>1.3803</b>	<b>0.0000</b>	<b>7,571.5771</b>	<b>7,571.5771</b>	<b>0.3281</b>	<b>0.0000</b>	<b>7,579.7784</b>

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
<b>Total</b>	<b>0.2045</b>	<b>1.8700</b>	<b>2.1117</b>	<b>3.5000e-003</b>		<b>0.0910</b>	<b>0.0910</b>		<b>0.0856</b>	<b>0.0856</b>	<b>0.0000</b>	<b>301.3462</b>	<b>301.3462</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1383</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4487	15.9652	4.3373	0.0461	1.1368	0.0230	1.1597	0.3285	0.0219	0.3504	0.0000	4,439.6503	4,439.6503	0.2274	0.0000	4,445.3346
Worker	1.5235	0.9207	10.7434	0.0325	3.6940	0.0245	3.7186	0.9825	0.0226	1.0051	0.0000	2,933.8523	2,933.8523	0.0669	0.0000	2,935.5239
<b>Total</b>	<b>1.9722</b>	<b>16.8859</b>	<b>15.0807</b>	<b>0.0786</b>	<b>4.8308</b>	<b>0.0475</b>	<b>4.8783</b>	<b>1.3110</b>	<b>0.0446</b>	<b>1.3555</b>	<b>0.0000</b>	<b>7,373.5026</b>	<b>7,373.5026</b>	<b>0.2942</b>	<b>0.0000</b>	<b>7,380.8585</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
<b>Total</b>	<b>0.2045</b>	<b>1.8700</b>	<b>2.1117</b>	<b>3.5000e-003</b>		<b>0.0910</b>	<b>0.0910</b>		<b>0.0856</b>	<b>0.0856</b>	<b>0.0000</b>	<b>301.3458</b>	<b>301.3458</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1380</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4487	15.9652	4.3373	0.0461	1.1368	0.0230	1.1597	0.3285	0.0219	0.3504	0.0000	4,439.6503	4,439.6503	0.2274	0.0000	4,445.3346
Worker	1.5235	0.9207	10.7434	0.0325	3.6940	0.0245	3.7186	0.9825	0.0226	1.0051	0.0000	2,933.8523	2,933.8523	0.0669	0.0000	2,935.5239
<b>Total</b>	<b>1.9722</b>	<b>16.8859</b>	<b>15.0807</b>	<b>0.0786</b>	<b>4.8308</b>	<b>0.0475</b>	<b>4.8783</b>	<b>1.3110</b>	<b>0.0446</b>	<b>1.3555</b>	<b>0.0000</b>	<b>7,373.5026</b>	<b>7,373.5026</b>	<b>0.2942</b>	<b>0.0000</b>	<b>7,380.8585</b>

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
<b>Total</b>	<b>0.1928</b>	<b>1.7611</b>	<b>2.1179</b>	<b>3.5300e-003</b>		<b>0.0803</b>	<b>0.0803</b>		<b>0.0756</b>	<b>0.0756</b>	<b>0.0000</b>	<b>303.7223</b>	<b>303.7223</b>	<b>0.0718</b>	<b>0.0000</b>	<b>305.5179</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4309	15.7809	4.0860	0.0462	1.1454	0.0220	1.1674	0.3310	0.0210	0.3520	0.0000	4,447.8294	4,447.8294	0.2263	0.0000	4,453.4878
Worker	1.4436	0.8386	10.0256	0.0314	3.7224	0.0242	3.7466	0.9900	0.0223	1.0123	0.0000	2,841.4949	2,841.4949	0.0608	0.0000	2,843.0143
<b>Total</b>	<b>1.8745</b>	<b>16.6195</b>	<b>14.1116</b>	<b>0.0776</b>	<b>4.8678</b>	<b>0.0461</b>	<b>4.9140</b>	<b>1.3210</b>	<b>0.0433</b>	<b>1.3643</b>	<b>0.0000</b>	<b>7,289.3243</b>	<b>7,289.3243</b>	<b>0.2871</b>	<b>0.0000</b>	<b>7,296.5021</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
<b>Total</b>	<b>0.1928</b>	<b>1.7611</b>	<b>2.1179</b>	<b>3.5300e-003</b>		<b>0.0803</b>	<b>0.0803</b>		<b>0.0756</b>	<b>0.0756</b>	<b>0.0000</b>	<b>303.7220</b>	<b>303.7220</b>	<b>0.0718</b>	<b>0.0000</b>	<b>305.5175</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4309	15.7809	4.0860	0.0462	1.1454	0.0220	1.1674	0.3310	0.0210	0.3520	0.0000	4,447.8294	4,447.8294	0.2263	0.0000	4,453.4878
Worker	1.4436	0.8386	10.0256	0.0314	3.7224	0.0242	3.7466	0.9900	0.0223	1.0123	0.0000	2,841.4949	2,841.4949	0.0608	0.0000	2,843.0143
<b>Total</b>	<b>1.8745</b>	<b>16.6195</b>	<b>14.1116</b>	<b>0.0776</b>	<b>4.8678</b>	<b>0.0461</b>	<b>4.9140</b>	<b>1.3210</b>	<b>0.0433</b>	<b>1.3643</b>	<b>0.0000</b>	<b>7,289.3243</b>	<b>7,289.3243</b>	<b>0.2871</b>	<b>0.0000</b>	<b>7,296.5021</b>

**3.5 Building Construction - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
<b>Total</b>	<b>0.1785</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6549</b>	<b>302.6549</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4335</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4118	15.4292	3.8539	0.0457	1.1409	0.0207	1.1617	0.3297	0.0198	0.3495	0.0000	4,405.8425	4,405.8425	0.2228	0.0000	4,411.4131
Worker	1.3581	0.7586	9.2511	0.0300	3.7082	0.0236	3.7319	0.9863	0.0218	1.0080	0.0000	2,717.3198	2,717.3198	0.0549	0.0000	2,718.6917
<b>Total</b>	<b>1.7698</b>	<b>16.1878</b>	<b>13.1050</b>	<b>0.0758</b>	<b>4.8491</b>	<b>0.0444</b>	<b>4.8935</b>	<b>1.3159</b>	<b>0.0416</b>	<b>1.3575</b>	<b>0.0000</b>	<b>7,123.1623</b>	<b>7,123.1623</b>	<b>0.2777</b>	<b>0.0000</b>	<b>7,130.1048</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
<b>Total</b>	<b>0.1784</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6545</b>	<b>302.6545</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4331</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4118	15.4292	3.8539	0.0457	1.1409	0.0207	1.1617	0.3297	0.0198	0.3495	0.0000	4,405.8425	4,405.8425	0.2228	0.0000	4,411.4131
Worker	1.3581	0.7586	9.2511	0.0300	3.7082	0.0236	3.7319	0.9863	0.0218	1.0080	0.0000	2,717.3198	2,717.3198	0.0549	0.0000	2,718.6917
<b>Total</b>	<b>1.7698</b>	<b>16.1878</b>	<b>13.1050</b>	<b>0.0758</b>	<b>4.8491</b>	<b>0.0444</b>	<b>4.8935</b>	<b>1.3159</b>	<b>0.0416</b>	<b>1.3575</b>	<b>0.0000</b>	<b>7,123.1623</b>	<b>7,123.1623</b>	<b>0.2777</b>	<b>0.0000</b>	<b>7,130.1048</b>

**3.5 Building Construction - 2026**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
<b>Total</b>	<b>0.1785</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6549</b>	<b>302.6549</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4335</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2026**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3963	15.1520	3.6777	0.0455	1.1408	0.0196	1.1604	0.3296	0.0187	0.3484	0.0000	4,382.0809	4,382.0809	0.2204	0.0000	4,387.5915
Worker	1.2874	0.6930	8.6105	0.0289	3.7082	0.0230	3.7312	0.9863	0.0211	1.0074	0.0000	2,616.3604	2,616.3604	0.0500	0.0000	2,617.6093
<b>Total</b>	<b>1.6837</b>	<b>15.8450</b>	<b>12.2882</b>	<b>0.0744</b>	<b>4.8490</b>	<b>0.0426</b>	<b>4.8916</b>	<b>1.3159</b>	<b>0.0399</b>	<b>1.3558</b>	<b>0.0000</b>	<b>6,998.4413</b>	<b>6,998.4413</b>	<b>0.2704</b>	<b>0.0000</b>	<b>7,005.2008</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
<b>Total</b>	<b>0.1784</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6545</b>	<b>302.6545</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4331</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2026**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3963	15.1520	3.6777	0.0455	1.1408	0.0196	1.1604	0.3296	0.0187	0.3484	0.0000	4,382.0809	4,382.0809	0.2204	0.0000	4,387.5915
Worker	1.2874	0.6930	8.6105	0.0289	3.7082	0.0230	3.7312	0.9863	0.0211	1.0074	0.0000	2,616.3604	2,616.3604	0.0500	0.0000	2,617.6093
<b>Total</b>	<b>1.6837</b>	<b>15.8450</b>	<b>12.2882</b>	<b>0.0744</b>	<b>4.8490</b>	<b>0.0426</b>	<b>4.8916</b>	<b>1.3159</b>	<b>0.0399</b>	<b>1.3558</b>	<b>0.0000</b>	<b>6,998.4413</b>	<b>6,998.4413</b>	<b>0.2704</b>	<b>0.0000</b>	<b>7,005.2008</b>

**3.5 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
<b>Total</b>	<b>0.1785</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6549</b>	<b>302.6549</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4335</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2027**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3827	14.8971	3.5245	0.0452	1.1408	0.0187	1.1594	0.3296	0.0178	0.3475	0.0000	4,359.7357	4,359.7357	0.2181	0.0000	4,365.1876
Worker	1.2181	0.6341	8.0322	0.0279	3.7082	0.0218	3.7300	0.9863	0.0201	1.0064	0.0000	2,525.9828	2,525.9828	0.0455	0.0000	2,527.1206
<b>Total</b>	<b>1.6008</b>	<b>15.5312</b>	<b>11.5566</b>	<b>0.0731</b>	<b>4.8490</b>	<b>0.0405</b>	<b>4.8894</b>	<b>1.3159</b>	<b>0.0379</b>	<b>1.3538</b>	<b>0.0000</b>	<b>6,885.7185</b>	<b>6,885.7185</b>	<b>0.2636</b>	<b>0.0000</b>	<b>6,892.3083</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
<b>Total</b>	<b>0.1784</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6545</b>	<b>302.6545</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4331</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2027**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3827	14.8971	3.5245	0.0452	1.1408	0.0187	1.1594	0.3296	0.0178	0.3475	0.0000	4,359.7357	4,359.7357	0.2181	0.0000	4,365.1876
Worker	1.2181	0.6341	8.0322	0.0279	3.7082	0.0218	3.7300	0.9863	0.0201	1.0064	0.0000	2,525.9828	2,525.9828	0.0455	0.0000	2,527.1206
<b>Total</b>	<b>1.6008</b>	<b>15.5312</b>	<b>11.5566</b>	<b>0.0731</b>	<b>4.8490</b>	<b>0.0405</b>	<b>4.8894</b>	<b>1.3159</b>	<b>0.0379</b>	<b>1.3538</b>	<b>0.0000</b>	<b>6,885.7185</b>	<b>6,885.7185</b>	<b>0.2636</b>	<b>0.0000</b>	<b>6,892.3083</b>

**3.5 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
<b>Total</b>	<b>0.1778</b>	<b>1.6211</b>	<b>2.0910</b>	<b>3.5000e-003</b>		<b>0.0686</b>	<b>0.0686</b>		<b>0.0645</b>	<b>0.0645</b>	<b>0.0000</b>	<b>301.4953</b>	<b>301.4953</b>	<b>0.0709</b>	<b>0.0000</b>	<b>303.2671</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2028**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3693	14.6239	3.3820	0.0448	1.1363	0.0178	1.1541	0.3283	0.0170	0.3453	0.0000	4,324.0424	4,324.0424	0.2149	0.0000	4,329.4142
Worker	1.1420	0.5796	7.4935	0.0269	3.6940	0.0203	3.7143	0.9825	0.0187	1.0012	0.0000	2,436.3827	2,436.3827	0.0415	0.0000	2,437.4207
<b>Total</b>	<b>1.5113</b>	<b>15.2035</b>	<b>10.8755</b>	<b>0.0718</b>	<b>4.8303</b>	<b>0.0380</b>	<b>4.8684</b>	<b>1.3108</b>	<b>0.0356</b>	<b>1.3465</b>	<b>0.0000</b>	<b>6,760.4251</b>	<b>6,760.4251</b>	<b>0.2564</b>	<b>0.0000</b>	<b>6,766.8348</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
<b>Total</b>	<b>0.1778</b>	<b>1.6211</b>	<b>2.0910</b>	<b>3.5000e-003</b>		<b>0.0686</b>	<b>0.0686</b>		<b>0.0645</b>	<b>0.0645</b>	<b>0.0000</b>	<b>301.4949</b>	<b>301.4949</b>	<b>0.0709</b>	<b>0.0000</b>	<b>303.2667</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2028**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3693	14.6239	3.3820	0.0448	1.1363	0.0178	1.1541	0.3283	0.0170	0.3453	0.0000	4,324.0424	4,324.0424	0.2149	0.0000	4,329.4142
Worker	1.1420	0.5796	7.4935	0.0269	3.6940	0.0203	3.7143	0.9825	0.0187	1.0012	0.0000	2,436.3827	2,436.3827	0.0415	0.0000	2,437.4207
<b>Total</b>	<b>1.5113</b>	<b>15.2035</b>	<b>10.8755</b>	<b>0.0718</b>	<b>4.8303</b>	<b>0.0380</b>	<b>4.8684</b>	<b>1.3108</b>	<b>0.0356</b>	<b>1.3465</b>	<b>0.0000</b>	<b>6,760.4251</b>	<b>6,760.4251</b>	<b>0.2564</b>	<b>0.0000</b>	<b>6,766.8348</b>

**3.5 Building Construction - 2029**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
<b>Total</b>	<b>0.1785</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6549</b>	<b>302.6549</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4335</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2029**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3598	14.4737	3.2866	0.0448	1.1406	0.0170	1.1576	0.3296	0.0162	0.3458	0.0000	4,323.3223	4,323.3223	0.2133	0.0000	4,328.6554
Worker	1.0681	0.5330	7.0327	0.0262	3.7082	0.0190	3.7272	0.9863	0.0175	1.0037	0.0000	2,374.6483	2,374.6483	0.0380	0.0000	2,375.5989
<b>Total</b>	<b>1.4280</b>	<b>15.0067</b>	<b>10.3193</b>	<b>0.0711</b>	<b>4.8488</b>	<b>0.0359</b>	<b>4.8848</b>	<b>1.3158</b>	<b>0.0337</b>	<b>1.3495</b>	<b>0.0000</b>	<b>6,697.9706</b>	<b>6,697.9706</b>	<b>0.2514</b>	<b>0.0000</b>	<b>6,704.2543</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
<b>Total</b>	<b>0.1784</b>	<b>1.6273</b>	<b>2.0991</b>	<b>3.5200e-003</b>		<b>0.0689</b>	<b>0.0689</b>		<b>0.0648</b>	<b>0.0648</b>	<b>0.0000</b>	<b>302.6545</b>	<b>302.6545</b>	<b>0.0711</b>	<b>0.0000</b>	<b>304.4331</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2029**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3598	14.4737	3.2866	0.0448	1.1406	0.0170	1.1576	0.3296	0.0162	0.3458	0.0000	4,323.3223	4,323.3223	0.2133	0.0000	4,328.6554
Worker	1.0681	0.5330	7.0327	0.0262	3.7082	0.0190	3.7272	0.9863	0.0175	1.0037	0.0000	2,374.6483	2,374.6483	0.0380	0.0000	2,375.5989
<b>Total</b>	<b>1.4280</b>	<b>15.0067</b>	<b>10.3193</b>	<b>0.0711</b>	<b>4.8488</b>	<b>0.0359</b>	<b>4.8848</b>	<b>1.3158</b>	<b>0.0337</b>	<b>1.3495</b>	<b>0.0000</b>	<b>6,697.9706</b>	<b>6,697.9706</b>	<b>0.2514</b>	<b>0.0000</b>	<b>6,704.2543</b>

**3.5 Building Construction - 2030**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
<b>Total</b>	<b>0.1708</b>	<b>1.0355</b>	<b>2.1085</b>	<b>4.0400e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>343.0336</b>	<b>343.0336</b>	<b>0.0138</b>	<b>0.0000</b>	<b>343.3777</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2030**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3501	14.2803	3.1974	0.0446	1.1406	0.0161	1.1567	0.3295	0.0154	0.3449	0.0000	4,307.8300	4,307.8300	0.2109	0.0000	4,313.1014
Worker	0.9925	0.4890	6.5922	0.0255	3.7082	0.0177	3.7259	0.9863	0.0163	1.0025	0.0000	2,312.0094	2,312.0094	0.0348	0.0000	2,312.8787
<b>Total</b>	<b>1.3426</b>	<b>14.7693</b>	<b>9.7895</b>	<b>0.0702</b>	<b>4.8488</b>	<b>0.0338</b>	<b>4.8825</b>	<b>1.3158</b>	<b>0.0317</b>	<b>1.3475</b>	<b>0.0000</b>	<b>6,619.8394</b>	<b>6,619.8394</b>	<b>0.2456</b>	<b>0.0000</b>	<b>6,625.9801</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
<b>Total</b>	<b>0.1708</b>	<b>1.0355</b>	<b>2.1085</b>	<b>4.0400e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>343.0332</b>	<b>343.0332</b>	<b>0.0138</b>	<b>0.0000</b>	<b>343.3773</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2030**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3501	14.2803	3.1974	0.0446	1.1406	0.0161	1.1567	0.3295	0.0154	0.3449	0.0000	4,307.8300	4,307.8300	0.2109	0.0000	4,313.1014
Worker	0.9925	0.4890	6.5922	0.0255	3.7082	0.0177	3.7259	0.9863	0.0163	1.0025	0.0000	2,312.0094	2,312.0094	0.0348	0.0000	2,312.8787
<b>Total</b>	<b>1.3426</b>	<b>14.7693</b>	<b>9.7895</b>	<b>0.0702</b>	<b>4.8488</b>	<b>0.0338</b>	<b>4.8825</b>	<b>1.3158</b>	<b>0.0317</b>	<b>1.3475</b>	<b>0.0000</b>	<b>6,619.8394</b>	<b>6,619.8394</b>	<b>0.2456</b>	<b>0.0000</b>	<b>6,625.9801</b>

**3.5 Building Construction - 2031**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
<b>Total</b>	<b>0.1708</b>	<b>1.0355</b>	<b>2.1085</b>	<b>4.0400e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>343.0336</b>	<b>343.0336</b>	<b>0.0138</b>	<b>0.0000</b>	<b>343.3777</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2031**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3418	14.1049	3.1242	0.0445	1.1405	0.0153	1.1558	0.3295	0.0147	0.3442	0.0000	4,294.6564	4,294.6564	0.2087	0.0000	4,299.8747
Worker	0.9123	0.4474	6.1717	0.0249	3.7082	0.0164	3.7247	0.9863	0.0151	1.0014	0.0000	2,257.0598	2,257.0598	0.0317	0.0000	2,257.8529
<b>Total</b>	<b>1.2541</b>	<b>14.5523</b>	<b>9.2959</b>	<b>0.0694</b>	<b>4.8487</b>	<b>0.0318</b>	<b>4.8805</b>	<b>1.3158</b>	<b>0.0298</b>	<b>1.3456</b>	<b>0.0000</b>	<b>6,551.7162</b>	<b>6,551.7162</b>	<b>0.2405</b>	<b>0.0000</b>	<b>6,557.7276</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
<b>Total</b>	<b>0.1708</b>	<b>1.0355</b>	<b>2.1085</b>	<b>4.0400e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>343.0332</b>	<b>343.0332</b>	<b>0.0138</b>	<b>0.0000</b>	<b>343.3773</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2031**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3418	14.1049	3.1242	0.0445	1.1405	0.0153	1.1558	0.3295	0.0147	0.3442	0.0000	4,294.6564	4,294.6564	0.2087	0.0000	4,299.8747
Worker	0.9123	0.4474	6.1717	0.0249	3.7082	0.0164	3.7247	0.9863	0.0151	1.0014	0.0000	2,257.0598	2,257.0598	0.0317	0.0000	2,257.8529
<b>Total</b>	<b>1.2541</b>	<b>14.5523</b>	<b>9.2959</b>	<b>0.0694</b>	<b>4.8487</b>	<b>0.0318</b>	<b>4.8805</b>	<b>1.3158</b>	<b>0.0298</b>	<b>1.3456</b>	<b>0.0000</b>	<b>6,551.7162</b>	<b>6,551.7162</b>	<b>0.2405</b>	<b>0.0000</b>	<b>6,557.7276</b>

**3.5 Building Construction - 2032**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
<b>Total</b>	<b>0.1715</b>	<b>1.0394</b>	<b>2.1166</b>	<b>4.0600e-003</b>		<b>0.0194</b>	<b>0.0194</b>		<b>0.0194</b>	<b>0.0194</b>	<b>0.0000</b>	<b>344.3479</b>	<b>344.3479</b>	<b>0.0138</b>	<b>0.0000</b>	<b>344.6933</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2032**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3362	13.9954	3.0779	0.0446	1.1449	0.0148	1.1596	0.3308	0.0141	0.3449	0.0000	4,300.311 2	4,300.311 2	0.2077	0.0000	4,305.502 4
Worker	0.8440	0.4132	5.8237	0.0245	3.7224	0.0154	3.7378	0.9900	0.0141	1.0042	0.0000	2,217.680 4	2,217.680 4	0.0292	0.0000	2,218.409 9
<b>Total</b>	<b>1.1802</b>	<b>14.4085</b>	<b>8.9016</b>	<b>0.0690</b>	<b>4.8673</b>	<b>0.0301</b>	<b>4.8974</b>	<b>1.3208</b>	<b>0.0282</b>	<b>1.3491</b>	<b>0.0000</b>	<b>6,517.991 6</b>	<b>6,517.991 6</b>	<b>0.2368</b>	<b>0.0000</b>	<b>6,523.912 2</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
<b>Total</b>	<b>0.1715</b>	<b>1.0394</b>	<b>2.1166</b>	<b>4.0600e-003</b>		<b>0.0194</b>	<b>0.0194</b>		<b>0.0194</b>	<b>0.0194</b>	<b>0.0000</b>	<b>344.3475</b>	<b>344.3475</b>	<b>0.0138</b>	<b>0.0000</b>	<b>344.6929</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2032**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3362	13.9954	3.0779	0.0446	1.1449	0.0148	1.1596	0.3308	0.0141	0.3449	0.0000	4,300.311 2	4,300.311 2	0.2077	0.0000	4,305.502 4
Worker	0.8440	0.4132	5.8237	0.0245	3.7224	0.0154	3.7378	0.9900	0.0141	1.0042	0.0000	2,217.680 4	2,217.680 4	0.0292	0.0000	2,218.409 9
<b>Total</b>	<b>1.1802</b>	<b>14.4085</b>	<b>8.9016</b>	<b>0.0690</b>	<b>4.8673</b>	<b>0.0301</b>	<b>4.8974</b>	<b>1.3208</b>	<b>0.0282</b>	<b>1.3491</b>	<b>0.0000</b>	<b>6,517.991 6</b>	<b>6,517.991 6</b>	<b>0.2368</b>	<b>0.0000</b>	<b>6,523.912 2</b>

**3.5 Building Construction - 2033**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
<b>Total</b>	<b>0.1702</b>	<b>1.0315</b>	<b>2.1004</b>	<b>4.0200e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>341.7193</b>	<b>341.7193</b>	<b>0.0137</b>	<b>0.0000</b>	<b>342.0621</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2033**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3279	13.7443	3.0054	0.0441	1.1361	0.0141	1.1502	0.3282	0.0135	0.3418	0.0000	4,258.118 4	4,258.118 4	0.2044	0.0000	4,263.228 6
Worker	0.7793	0.3808	5.4686	0.0239	3.6940	0.0142	3.7082	0.9825	0.0131	0.9956	0.0000	2,159.665 4	2,159.665 4	0.0268	0.0000	2,160.334 1
<b>Total</b>	<b>1.1072</b>	<b>14.1251</b>	<b>8.4740</b>	<b>0.0680</b>	<b>4.8301</b>	<b>0.0283</b>	<b>4.8584</b>	<b>1.3107</b>	<b>0.0266</b>	<b>1.3373</b>	<b>0.0000</b>	<b>6,417.783 7</b>	<b>6,417.783 7</b>	<b>0.2312</b>	<b>0.0000</b>	<b>6,423.562 7</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
<b>Total</b>	<b>0.1702</b>	<b>1.0315</b>	<b>2.1004</b>	<b>4.0200e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>341.7189</b>	<b>341.7189</b>	<b>0.0137</b>	<b>0.0000</b>	<b>342.0617</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2033**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3279	13.7443	3.0054	0.0441	1.1361	0.0141	1.1502	0.3282	0.0135	0.3418	0.0000	4,258.118 4	4,258.118 4	0.2044	0.0000	4,263.228 6
Worker	0.7793	0.3808	5.4686	0.0239	3.6940	0.0142	3.7082	0.9825	0.0131	0.9956	0.0000	2,159.665 4	2,159.665 4	0.0268	0.0000	2,160.334 1
<b>Total</b>	<b>1.1072</b>	<b>14.1251</b>	<b>8.4740</b>	<b>0.0680</b>	<b>4.8301</b>	<b>0.0283</b>	<b>4.8584</b>	<b>1.3107</b>	<b>0.0266</b>	<b>1.3373</b>	<b>0.0000</b>	<b>6,417.783 7</b>	<b>6,417.783 7</b>	<b>0.2312</b>	<b>0.0000</b>	<b>6,423.562 7</b>

**3.5 Building Construction - 2034**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
<b>Total</b>	<b>0.1702</b>	<b>1.0315</b>	<b>2.1004</b>	<b>4.0200e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>341.7193</b>	<b>341.7193</b>	<b>0.0137</b>	<b>0.0000</b>	<b>342.0621</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2034**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3225	13.6107	2.9607	0.0440	1.1361	0.0136	1.1497	0.3282	0.0130	0.3413	0.0000	4,250.2647	4,250.2647	0.2029	0.0000	4,255.3363
Worker	0.7281	0.3559	5.1747	0.0235	3.6940	0.0133	3.7073	0.9825	0.0122	0.9947	0.0000	2,124.1708	2,124.1708	0.0247	0.0000	2,124.7881
<b>Total</b>	<b>1.0506</b>	<b>13.9666</b>	<b>8.1354</b>	<b>0.0675</b>	<b>4.8301</b>	<b>0.0269</b>	<b>4.8569</b>	<b>1.3107</b>	<b>0.0252</b>	<b>1.3359</b>	<b>0.0000</b>	<b>6,374.4355</b>	<b>6,374.4355</b>	<b>0.2276</b>	<b>0.0000</b>	<b>6,380.1244</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
<b>Total</b>	<b>0.1702</b>	<b>1.0315</b>	<b>2.1004</b>	<b>4.0200e-003</b>		<b>0.0193</b>	<b>0.0193</b>		<b>0.0193</b>	<b>0.0193</b>	<b>0.0000</b>	<b>341.7189</b>	<b>341.7189</b>	<b>0.0137</b>	<b>0.0000</b>	<b>342.0617</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2034**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3225	13.6107	2.9607	0.0440	1.1361	0.0136	1.1497	0.3282	0.0130	0.3413	0.0000	4,250.2647	4,250.2647	0.2029	0.0000	4,255.3363
Worker	0.7281	0.3559	5.1747	0.0235	3.6940	0.0133	3.7073	0.9825	0.0122	0.9947	0.0000	2,124.1708	2,124.1708	0.0247	0.0000	2,124.7881
<b>Total</b>	<b>1.0506</b>	<b>13.9666</b>	<b>8.1354</b>	<b>0.0675</b>	<b>4.8301</b>	<b>0.0269</b>	<b>4.8569</b>	<b>1.3107</b>	<b>0.0252</b>	<b>1.3359</b>	<b>0.0000</b>	<b>6,374.4355</b>	<b>6,374.4355</b>	<b>0.2276</b>	<b>0.0000</b>	<b>6,380.1244</b>

**3.5 Building Construction - 2035**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0336</b>	<b>343.0336</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3530</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2035**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.1243	4,260.1243	0.2022	0.0000	4,265.1791
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.0404	2,102.0404	0.0230	0.0000	2,102.6162
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.1647</b>	<b>6,362.1647</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.7953</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0332</b>	<b>343.0332</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3526</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2035**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.124 3	4,260.124 3	0.2022	0.0000	4,265.179 1
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.040 4	2,102.040 4	0.0230	0.0000	2,102.616 2
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.164 7</b>	<b>6,362.164 7</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.795 3</b>

**3.5 Building Construction - 2036**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3479	344.3479	0.0128	0.0000	344.6686
<b>Total</b>	<b>0.1594</b>	<b>0.9381</b>	<b>2.1114</b>	<b>4.0600e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>344.3479</b>	<b>344.3479</b>	<b>0.0128</b>	<b>0.0000</b>	<b>344.6686</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2036**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3203	13.5963	2.9457	0.0443	1.1448	0.0133	1.1581	0.3307	0.0127	0.3434	0.0000	4,276.4466	4,276.4466	0.2030	0.0000	4,281.5207
Worker	0.6890	0.3390	4.9614	0.0233	3.7224	0.0125	3.7349	0.9900	0.0115	1.0015	0.0000	2,110.0942	2,110.0942	0.0231	0.0000	2,110.6722
<b>Total</b>	<b>1.0092</b>	<b>13.9353</b>	<b>7.9070</b>	<b>0.0676</b>	<b>4.8672</b>	<b>0.0258</b>	<b>4.8930</b>	<b>1.3208</b>	<b>0.0242</b>	<b>1.3450</b>	<b>0.0000</b>	<b>6,386.5408</b>	<b>6,386.5408</b>	<b>0.2261</b>	<b>0.0000</b>	<b>6,392.1930</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3475	344.3475	0.0128	0.0000	344.6682
<b>Total</b>	<b>0.1594</b>	<b>0.9381</b>	<b>2.1114</b>	<b>4.0600e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>344.3475</b>	<b>344.3475</b>	<b>0.0128</b>	<b>0.0000</b>	<b>344.6682</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2036**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3203	13.5963	2.9457	0.0443	1.1448	0.0133	1.1581	0.3307	0.0127	0.3434	0.0000	4,276.4466	4,276.4466	0.2030	0.0000	4,281.5207
Worker	0.6890	0.3390	4.9614	0.0233	3.7224	0.0125	3.7349	0.9900	0.0115	1.0015	0.0000	2,110.0942	2,110.0942	0.0231	0.0000	2,110.6722
<b>Total</b>	<b>1.0092</b>	<b>13.9353</b>	<b>7.9070</b>	<b>0.0676</b>	<b>4.8672</b>	<b>0.0258</b>	<b>4.8930</b>	<b>1.3208</b>	<b>0.0242</b>	<b>1.3450</b>	<b>0.0000</b>	<b>6,386.5408</b>	<b>6,386.5408</b>	<b>0.2261</b>	<b>0.0000</b>	<b>6,392.1930</b>

**3.5 Building Construction - 2037**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0336</b>	<b>343.0336</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3530</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2037**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.1243	4,260.1243	0.2022	0.0000	4,265.1791
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.0404	2,102.0404	0.0230	0.0000	2,102.6162
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.1647</b>	<b>6,362.1647</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.7953</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0332</b>	<b>343.0332</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3526</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2037**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.1243	4,260.1243	0.2022	0.0000	4,265.1791
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.0404	2,102.0404	0.0230	0.0000	2,102.6162
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.1647</b>	<b>6,362.1647</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.7953</b>

**3.5 Building Construction - 2038**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0336</b>	<b>343.0336</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3530</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2038**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.1243	4,260.1243	0.2022	0.0000	4,265.1791
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.0404	2,102.0404	0.0230	0.0000	2,102.6162
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.1647</b>	<b>6,362.1647</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.7953</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
<b>Total</b>	<b>0.1588</b>	<b>0.9346</b>	<b>2.1034</b>	<b>4.0400e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>343.0332</b>	<b>343.0332</b>	<b>0.0128</b>	<b>0.0000</b>	<b>343.3526</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2038**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3190	13.5444	2.9344	0.0441	1.1404	0.0132	1.1536	0.3295	0.0127	0.3421	0.0000	4,260.1243	4,260.1243	0.2022	0.0000	4,265.1791
Worker	0.6863	0.3377	4.9424	0.0232	3.7082	0.0125	3.7207	0.9863	0.0115	0.9977	0.0000	2,102.0404	2,102.0404	0.0230	0.0000	2,102.6162
<b>Total</b>	<b>1.0054</b>	<b>13.8821</b>	<b>7.8768</b>	<b>0.0673</b>	<b>4.8486</b>	<b>0.0257</b>	<b>4.8743</b>	<b>1.3157</b>	<b>0.0241</b>	<b>1.3398</b>	<b>0.0000</b>	<b>6,362.1647</b>	<b>6,362.1647</b>	<b>0.2252</b>	<b>0.0000</b>	<b>6,367.7953</b>

**3.5 Building Construction - 2039**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1582	0.9310	2.0953	4.0200e-003		0.0118	0.0118		0.0118	0.0118	0.0000	341.7193	341.7193	0.0127	0.0000	342.0375
<b>Total</b>	<b>0.1582</b>	<b>0.9310</b>	<b>2.0953</b>	<b>4.0200e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>341.7193</b>	<b>341.7193</b>	<b>0.0127</b>	<b>0.0000</b>	<b>342.0375</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2039**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3178	13.4925	2.9232	0.0440	1.1360	0.0132	1.1492	0.3282	0.0126	0.3408	0.0000	4,243.8020	4,243.8020	0.2014	0.0000	4,248.8374
Worker	0.6837	0.3364	4.9235	0.0231	3.6940	0.0124	3.7064	0.9825	0.0114	0.9939	0.0000	2,093.9866	2,093.9866	0.0230	0.0000	2,094.5602
<b>Total</b>	<b>1.0015</b>	<b>13.8289</b>	<b>7.8467</b>	<b>0.0671</b>	<b>4.8300</b>	<b>0.0256</b>	<b>4.8556</b>	<b>1.3107</b>	<b>0.0240</b>	<b>1.3347</b>	<b>0.0000</b>	<b>6,337.7885</b>	<b>6,337.7885</b>	<b>0.2244</b>	<b>0.0000</b>	<b>6,343.3976</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1582	0.9310	2.0953	4.0200e-003		0.0118	0.0118		0.0118	0.0118	0.0000	341.7189	341.7189	0.0127	0.0000	342.0371
<b>Total</b>	<b>0.1582</b>	<b>0.9310</b>	<b>2.0953</b>	<b>4.0200e-003</b>		<b>0.0118</b>	<b>0.0118</b>		<b>0.0118</b>	<b>0.0118</b>	<b>0.0000</b>	<b>341.7189</b>	<b>341.7189</b>	<b>0.0127</b>	<b>0.0000</b>	<b>342.0371</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2039**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3178	13.4925	2.9232	0.0440	1.1360	0.0132	1.1492	0.3282	0.0126	0.3408	0.0000	4,243.8020	4,243.8020	0.2014	0.0000	4,248.8374
Worker	0.6837	0.3364	4.9235	0.0231	3.6940	0.0124	3.7064	0.9825	0.0114	0.9939	0.0000	2,093.9866	2,093.9866	0.0230	0.0000	2,094.5602
<b>Total</b>	<b>1.0015</b>	<b>13.8289</b>	<b>7.8467</b>	<b>0.0671</b>	<b>4.8300</b>	<b>0.0256</b>	<b>4.8556</b>	<b>1.3107</b>	<b>0.0240</b>	<b>1.3347</b>	<b>0.0000</b>	<b>6,337.7885</b>	<b>6,337.7885</b>	<b>0.2244</b>	<b>0.0000</b>	<b>6,343.3976</b>

**3.5 Building Construction - 2040**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2040**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2040**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**3.5 Building Construction - 2041**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2041**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2041**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**3.5 Building Construction - 2042**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2042**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2042**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**3.5 Building Construction - 2043**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2043**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2043**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**3.5 Building Construction - 2044**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2044**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2044**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3048	13.1508	2.8220	0.0440	1.1403	0.0122	1.1525	0.3294	0.0117	0.3411	0.0000	4,248.1306	4,248.1306	0.1965	0.0000	4,253.0440
Worker	0.5227	0.2757	4.1591	0.0222	3.7082	9.5400e-003	3.7178	0.9863	8.7700e-003	0.9950	0.0000	2,010.2169	2,010.2169	0.0177	0.0000	2,010.6586
<b>Total</b>	<b>0.8275</b>	<b>13.4264</b>	<b>6.9811</b>	<b>0.0662</b>	<b>4.8485</b>	<b>0.0218</b>	<b>4.8703</b>	<b>1.3157</b>	<b>0.0205</b>	<b>1.3362</b>	<b>0.0000</b>	<b>6,258.3476</b>	<b>6,258.3476</b>	<b>0.2142</b>	<b>0.0000</b>	<b>6,263.7027</b>

**3.5 Building Construction - 2045**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7194	341.7194	0.0123	0.0000	342.0264
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7194</b>	<b>341.7194</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0264</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2045**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2983	12.8793	2.7767	0.0437	1.1359	0.0117	1.1476	0.3282	0.0112	0.3394	0.0000	4,222.7717	4,222.7717	0.1918	0.0000	4,227.5656
Worker	0.4562	0.2524	3.8429	0.0217	3.6940	8.2600e-003	3.7023	0.9825	7.6000e-003	0.9901	0.0000	1,968.0350	1,968.0350	0.0159	0.0000	1,968.4314
<b>Total</b>	<b>0.7545</b>	<b>13.1317</b>	<b>6.6196</b>	<b>0.0654</b>	<b>4.8299</b>	<b>0.0200</b>	<b>4.8498</b>	<b>1.3106</b>	<b>0.0188</b>	<b>1.3294</b>	<b>0.0000</b>	<b>6,190.8068</b>	<b>6,190.8068</b>	<b>0.2076</b>	<b>0.0000</b>	<b>6,195.9970</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7190	341.7190	0.0123	0.0000	342.0260
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7190</b>	<b>341.7190</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0260</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2045**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2983	12.8793	2.7767	0.0437	1.1359	0.0117	1.1476	0.3282	0.0112	0.3394	0.0000	4,222.7717	4,222.7717	0.1918	0.0000	4,227.5656
Worker	0.4562	0.2524	3.8429	0.0217	3.6940	8.2600e-003	3.7023	0.9825	7.6000e-003	0.9901	0.0000	1,968.0350	1,968.0350	0.0159	0.0000	1,968.4314
<b>Total</b>	<b>0.7545</b>	<b>13.1317</b>	<b>6.6196</b>	<b>0.0654</b>	<b>4.8299</b>	<b>0.0200</b>	<b>4.8498</b>	<b>1.3106</b>	<b>0.0188</b>	<b>1.3294</b>	<b>0.0000</b>	<b>6,190.8068</b>	<b>6,190.8068</b>	<b>0.2076</b>	<b>0.0000</b>	<b>6,195.9970</b>

**3.5 Building Construction - 2046**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2046**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.013 2	4,239.013 2	0.1925	0.0000	4,243.825 5
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.604 4	1,975.604 4	0.0159	0.0000	1,976.002 3
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.617 6</b>	<b>6,214.617 6</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.827 7</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2046**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.013 2	4,239.013 2	0.1925	0.0000	4,243.825 5
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.604 4	1,975.604 4	0.0159	0.0000	1,976.002 3
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.617 6</b>	<b>6,214.617 6</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.827 7</b>

**3.5 Building Construction - 2047**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2047**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.013 2	4,239.013 2	0.1925	0.0000	4,243.825 5
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.604 4	1,975.604 4	0.0159	0.0000	1,976.002 3
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.617 6</b>	<b>6,214.617 6</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.827 7</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2047**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.013 2	4,239.013 2	0.1925	0.0000	4,243.825 5
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.604 4	1,975.604 4	0.0159	0.0000	1,976.002 3
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.617 6</b>	<b>6,214.617 6</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.827 7</b>

**3.5 Building Construction - 2048**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1568	0.9026	2.1115	4.0600e-003		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	344.3480	344.3480	0.0124	0.0000	344.6574
<b>Total</b>	<b>0.1568</b>	<b>0.9026</b>	<b>2.1115</b>	<b>4.0600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>	<b>0.0000</b>	<b>344.3480</b>	<b>344.3480</b>	<b>0.0124</b>	<b>0.0000</b>	<b>344.6574</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2048**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3006	12.9784	2.7981	0.0441	1.1446	0.0118	1.1564	0.3307	0.0113	0.3420	0.0000	4,255.2546	4,255.2546	0.1932	0.0000	4,260.0853
Worker	0.4597	0.2543	3.8725	0.0219	3.7224	8.3200e-003	3.7307	0.9900	7.6600e-003	0.9977	0.0000	1,983.1738	1,983.1738	0.0160	0.0000	1,983.5732
<b>Total</b>	<b>0.7603</b>	<b>13.2327</b>	<b>6.6705</b>	<b>0.0659</b>	<b>4.8670</b>	<b>0.0201</b>	<b>4.8871</b>	<b>1.3207</b>	<b>0.0189</b>	<b>1.3397</b>	<b>0.0000</b>	<b>6,238.4284</b>	<b>6,238.4284</b>	<b>0.2092</b>	<b>0.0000</b>	<b>6,243.6585</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1568	0.9026	2.1115	4.0600e-003		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	344.3476	344.3476	0.0124	0.0000	344.6569
<b>Total</b>	<b>0.1568</b>	<b>0.9026</b>	<b>2.1115</b>	<b>4.0600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>	<b>0.0000</b>	<b>344.3476</b>	<b>344.3476</b>	<b>0.0124</b>	<b>0.0000</b>	<b>344.6569</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2048**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3006	12.9784	2.7981	0.0441	1.1446	0.0118	1.1564	0.3307	0.0113	0.3420	0.0000	4,255.2546	4,255.2546	0.1932	0.0000	4,260.0853
Worker	0.4597	0.2543	3.8725	0.0219	3.7224	8.3200e-003	3.7307	0.9900	7.6600e-003	0.9977	0.0000	1,983.1738	1,983.1738	0.0160	0.0000	1,983.5732
<b>Total</b>	<b>0.7603</b>	<b>13.2327</b>	<b>6.6705</b>	<b>0.0659</b>	<b>4.8670</b>	<b>0.0201</b>	<b>4.8871</b>	<b>1.3207</b>	<b>0.0189</b>	<b>1.3397</b>	<b>0.0000</b>	<b>6,238.4284</b>	<b>6,238.4284</b>	<b>0.2092</b>	<b>0.0000</b>	<b>6,243.6585</b>

**3.5 Building Construction - 2049**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2049**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.0132	4,239.0132	0.1925	0.0000	4,243.8255
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.6044	1,975.6044	0.0159	0.0000	1,976.0023
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.6176</b>	<b>6,214.6176</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.8277</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2049**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2994	12.9288	2.7874	0.0439	1.1402	0.0118	1.1520	0.3294	0.0112	0.3407	0.0000	4,239.013 2	4,239.013 2	0.1925	0.0000	4,243.825 5
Worker	0.4580	0.2534	3.8577	0.0218	3.7082	8.2900e-003	3.7165	0.9863	7.6300e-003	0.9939	0.0000	1,975.604 4	1,975.604 4	0.0159	0.0000	1,976.002 3
<b>Total</b>	<b>0.7574</b>	<b>13.1822</b>	<b>6.6451</b>	<b>0.0657</b>	<b>4.8484</b>	<b>0.0201</b>	<b>4.8685</b>	<b>1.3157</b>	<b>0.0189</b>	<b>1.3346</b>	<b>0.0000</b>	<b>6,214.617 6</b>	<b>6,214.617 6</b>	<b>0.2084</b>	<b>0.0000</b>	<b>6,219.827 7</b>

**3.5 Building Construction - 2050**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7194	341.7194	0.0123	0.0000	342.0264
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7194</b>	<b>341.7194</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0264</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2050**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2967	12.7119	2.7762	0.0437	1.1358	0.0114	1.1472	0.3281	0.0109	0.3390	0.0000	4,224.5276	4,224.5276	0.1875	0.0000	4,229.2150
Worker	0.4352	0.2460	3.7493	0.0216	3.6940	7.8400e-003	3.7018	0.9825	7.2100e-003	0.9897	0.0000	1,955.5889	1,955.5889	0.0154	0.0000	1,955.9735
<b>Total</b>	<b>0.7319</b>	<b>12.9579</b>	<b>6.5255</b>	<b>0.0653</b>	<b>4.8298</b>	<b>0.0192</b>	<b>4.8490</b>	<b>1.3106</b>	<b>0.0181</b>	<b>1.3287</b>	<b>0.0000</b>	<b>6,180.1165</b>	<b>6,180.1165</b>	<b>0.2029</b>	<b>0.0000</b>	<b>6,185.1885</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7190	341.7190	0.0123	0.0000	342.0260
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7190</b>	<b>341.7190</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0260</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2050**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2967	12.7119	2.7762	0.0437	1.1358	0.0114	1.1472	0.3281	0.0109	0.3390	0.0000	4,224.5276	4,224.5276	0.1875	0.0000	4,229.2150
Worker	0.4352	0.2460	3.7493	0.0216	3.6940	7.8400e-003	3.7018	0.9825	7.2100e-003	0.9897	0.0000	1,955.5889	1,955.5889	0.0154	0.0000	1,955.9735
<b>Total</b>	<b>0.7319</b>	<b>12.9579</b>	<b>6.5255</b>	<b>0.0653</b>	<b>4.8298</b>	<b>0.0192</b>	<b>4.8490</b>	<b>1.3106</b>	<b>0.0181</b>	<b>1.3287</b>	<b>0.0000</b>	<b>6,180.1165</b>	<b>6,180.1165</b>	<b>0.2029</b>	<b>0.0000</b>	<b>6,185.1885</b>

**3.5 Building Construction - 2051**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7194	341.7194	0.0123	0.0000	342.0264
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7194</b>	<b>341.7194</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0264</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2051**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8025	0.0000	0.8025	0.1970	0.0000	0.1970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.1928	0.0000	3.1928	0.7837	0.0000	0.7837	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.9953</b>	<b>0.0000</b>	<b>3.9953</b>	<b>0.9807</b>	<b>0.0000</b>	<b>0.9807</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1556	0.8957	2.0954	4.0200e-003		9.5800e-003	9.5800e-003		9.5800e-003	9.5800e-003	0.0000	341.7190	341.7190	0.0123	0.0000	342.0260
<b>Total</b>	<b>0.1556</b>	<b>0.8957</b>	<b>2.0954</b>	<b>4.0200e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>		<b>9.5800e-003</b>	<b>9.5800e-003</b>	<b>0.0000</b>	<b>341.7190</b>	<b>341.7190</b>	<b>0.0123</b>	<b>0.0000</b>	<b>342.0260</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2051**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8025	0.0000	0.8025	0.1970	0.0000	0.1970	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.1928	0.0000	3.1928	0.7837	0.0000	0.7837	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.9953</b>	<b>0.0000</b>	<b>3.9953</b>	<b>0.9807</b>	<b>0.0000</b>	<b>0.9807</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Building Construction - 2052**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1568	0.9026	2.1115	4.0600e-003		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	344.3480	344.3480	0.0124	0.0000	344.6574
<b>Total</b>	<b>0.1568</b>	<b>0.9026</b>	<b>2.1115</b>	<b>4.0600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>	<b>0.0000</b>	<b>344.3480</b>	<b>344.3480</b>	<b>0.0124</b>	<b>0.0000</b>	<b>344.6574</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2052**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8086	0.0000	0.8086	0.1985	0.0000	0.1985	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2174	0.0000	3.2174	0.7897	0.0000	0.7897	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0260</b>	<b>0.0000</b>	<b>4.0260</b>	<b>0.9882</b>	<b>0.0000</b>	<b>0.9882</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1568	0.9026	2.1115	4.0600e-003		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	344.3476	344.3476	0.0124	0.0000	344.6569
<b>Total</b>	<b>0.1568</b>	<b>0.9026</b>	<b>2.1115</b>	<b>4.0600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>		<b>9.6600e-003</b>	<b>9.6600e-003</b>	<b>0.0000</b>	<b>344.3476</b>	<b>344.3476</b>	<b>0.0124</b>	<b>0.0000</b>	<b>344.6569</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2052**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8086	0.0000	0.8086	0.1985	0.0000	0.1985	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2174	0.0000	3.2174	0.7897	0.0000	0.7897	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0260</b>	<b>0.0000</b>	<b>4.0260</b>	<b>0.9882</b>	<b>0.0000</b>	<b>0.9882</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Building Construction - 2053**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2053**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2053**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Building Construction - 2054**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2054**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2054**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Building Construction - 2055**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0337	343.0337	0.0123	0.0000	343.3419
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0337</b>	<b>343.0337</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3419</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2055**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1562	0.8992	2.1035	4.0400e-003		9.6200e-003	9.6200e-003		9.6200e-003	9.6200e-003	0.0000	343.0333	343.0333	0.0123	0.0000	343.3415
<b>Total</b>	<b>0.1562</b>	<b>0.8992</b>	<b>2.1035</b>	<b>4.0400e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>		<b>9.6200e-003</b>	<b>9.6200e-003</b>	<b>0.0000</b>	<b>343.0333</b>	<b>343.0333</b>	<b>0.0123</b>	<b>0.0000</b>	<b>343.3415</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2055**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.8055	0.0000	0.8055	0.1977	0.0000	0.1977	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					3.2051	0.0000	3.2051	0.7867	0.0000	0.7867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>4.0107</b>	<b>0.0000</b>	<b>4.0107</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.9844</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.5 Building Construction - 2056**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1012	0.5822	1.3620	2.6200e-003		6.2300e-003	6.2300e-003		6.2300e-003	6.2300e-003	0.0000	222.1176	222.1176	7.9800e-003	0.0000	222.3171
<b>Total</b>	<b>0.1012</b>	<b>0.5822</b>	<b>1.3620</b>	<b>2.6200e-003</b>		<b>6.2300e-003</b>	<b>6.2300e-003</b>		<b>6.2300e-003</b>	<b>6.2300e-003</b>	<b>0.0000</b>	<b>222.1176</b>	<b>222.1176</b>	<b>7.9800e-003</b>	<b>0.0000</b>	<b>222.3171</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2056**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.5216	0.0000	0.5216	0.1280	0.0000	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					2.0753	0.0000	2.0753	0.5094	0.0000	0.5094	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>2.5969</b>	<b>0.0000</b>	<b>2.5969</b>	<b>0.6374</b>	<b>0.0000</b>	<b>0.6374</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1012	0.5822	1.3620	2.6200e-003		6.2300e-003	6.2300e-003		6.2300e-003	6.2300e-003	0.0000	222.1173	222.1173	7.9800e-003	0.0000	222.3169
<b>Total</b>	<b>0.1012</b>	<b>0.5822</b>	<b>1.3620</b>	<b>2.6200e-003</b>		<b>6.2300e-003</b>	<b>6.2300e-003</b>		<b>6.2300e-003</b>	<b>6.2300e-003</b>	<b>0.0000</b>	<b>222.1173</b>	<b>222.1173</b>	<b>7.9800e-003</b>	<b>0.0000</b>	<b>222.3169</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.5 Building Construction - 2056**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.5216	0.0000	0.5216	0.1280	0.0000	0.1280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					2.0753	0.0000	2.0753	0.5094	0.0000	0.5094	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>2.5969</b>	<b>0.0000</b>	<b>2.5969</b>	<b>0.6374</b>	<b>0.0000</b>	<b>0.6374</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**3.6 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1639	1.6859	1.9123	2.9700e-003		0.0884	0.0884		0.0814	0.0814	0.0000	261.3064	261.3064	0.0845	0.0000	263.4192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1639</b>	<b>1.6859</b>	<b>1.9123</b>	<b>2.9700e-003</b>		<b>0.0884</b>	<b>0.0884</b>		<b>0.0814</b>	<b>0.0814</b>	<b>0.0000</b>	<b>261.3064</b>	<b>261.3064</b>	<b>0.0845</b>	<b>0.0000</b>	<b>263.4192</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	4.4300e-003	0.0495	1.4000e-004	0.0144	1.0000e-004	0.0145	3.8200e-003	9.0000e-005	3.9200e-003	0.0000	12.3044	12.3044	3.2000e-004	0.0000	12.3125
<b>Total</b>	<b>6.7800e-003</b>	<b>4.4300e-003</b>	<b>0.0495</b>	<b>1.4000e-004</b>	<b>0.0144</b>	<b>1.0000e-004</b>	<b>0.0145</b>	<b>3.8200e-003</b>	<b>9.0000e-005</b>	<b>3.9200e-003</b>	<b>0.0000</b>	<b>12.3044</b>	<b>12.3044</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>12.3125</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1639	1.6859	1.9122	2.9700e-003		0.0884	0.0884		0.0814	0.0814	0.0000	261.3061	261.3061	0.0845	0.0000	263.4189
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1639</b>	<b>1.6859</b>	<b>1.9122</b>	<b>2.9700e-003</b>		<b>0.0884</b>	<b>0.0884</b>		<b>0.0814</b>	<b>0.0814</b>	<b>0.0000</b>	<b>261.3061</b>	<b>261.3061</b>	<b>0.0845</b>	<b>0.0000</b>	<b>263.4189</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	4.4300e-003	0.0495	1.4000e-004	0.0144	1.0000e-004	0.0145	3.8200e-003	9.0000e-005	3.9200e-003	0.0000	12.3044	12.3044	3.2000e-004	0.0000	12.3125
<b>Total</b>	<b>6.7800e-003</b>	<b>4.4300e-003</b>	<b>0.0495</b>	<b>1.4000e-004</b>	<b>0.0144</b>	<b>1.0000e-004</b>	<b>0.0145</b>	<b>3.8200e-003</b>	<b>9.0000e-005</b>	<b>3.9200e-003</b>	<b>0.0000</b>	<b>12.3044</b>	<b>12.3044</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>12.3125</b>

**3.6 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1434	1.4462	1.8955	2.9600e-003		0.0738	0.0738		0.0679	0.0679	0.0000	260.3583	260.3583	0.0842	0.0000	262.4634
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1434</b>	<b>1.4462</b>	<b>1.8955</b>	<b>2.9600e-003</b>		<b>0.0738</b>	<b>0.0738</b>		<b>0.0679</b>	<b>0.0679</b>	<b>0.0000</b>	<b>260.3583</b>	<b>260.3583</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4634</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3100e-003	3.9700e-003	0.0454	1.3000e-004	0.0143	1.0000e-004	0.0144	3.8100e-003	9.0000e-005	3.9000e-003	0.0000	11.8183	11.8183	2.9000e-004	0.0000	11.8255
<b>Total</b>	<b>6.3100e-003</b>	<b>3.9700e-003</b>	<b>0.0454</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>1.0000e-004</b>	<b>0.0144</b>	<b>3.8100e-003</b>	<b>9.0000e-005</b>	<b>3.9000e-003</b>	<b>0.0000</b>	<b>11.8183</b>	<b>11.8183</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>11.8255</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1434	1.4462	1.8955	2.9600e-003		0.0738	0.0738		0.0679	0.0679	0.0000	260.3579	260.3579	0.0842	0.0000	262.4631
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1434</b>	<b>1.4462</b>	<b>1.8955</b>	<b>2.9600e-003</b>		<b>0.0738</b>	<b>0.0738</b>		<b>0.0679</b>	<b>0.0679</b>	<b>0.0000</b>	<b>260.3579</b>	<b>260.3579</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4631</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3100e-003	3.9700e-003	0.0454	1.3000e-004	0.0143	1.0000e-004	0.0144	3.8100e-003	9.0000e-005	3.9000e-003	0.0000	11.8183	11.8183	2.9000e-004	0.0000	11.8255
<b>Total</b>	<b>6.3100e-003</b>	<b>3.9700e-003</b>	<b>0.0454</b>	<b>1.3000e-004</b>	<b>0.0143</b>	<b>1.0000e-004</b>	<b>0.0144</b>	<b>3.8100e-003</b>	<b>9.0000e-005</b>	<b>3.9000e-003</b>	<b>0.0000</b>	<b>11.8183</b>	<b>11.8183</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>11.8255</b>

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0718	0.7083	1.0136	1.5800e-003		0.0355	0.0355		0.0326	0.0326	0.0000	139.1867	139.1867	0.0450	0.0000	140.3121
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0718</b>	<b>0.7083</b>	<b>1.0136</b>	<b>1.5800e-003</b>		<b>0.0355</b>	<b>0.0355</b>		<b>0.0326</b>	<b>0.0326</b>	<b>0.0000</b>	<b>139.1867</b>	<b>139.1867</b>	<b>0.0450</b>	<b>0.0000</b>	<b>140.3121</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1600e-003	1.9100e-003	0.0223	7.0000e-005	7.6600e-003	5.0000e-005	7.7100e-003	2.0400e-003	5.0000e-005	2.0800e-003	0.0000	6.0810	6.0810	1.4000e-004	0.0000	6.0844
<b>Total</b>	<b>3.1600e-003</b>	<b>1.9100e-003</b>	<b>0.0223</b>	<b>7.0000e-005</b>	<b>7.6600e-003</b>	<b>5.0000e-005</b>	<b>7.7100e-003</b>	<b>2.0400e-003</b>	<b>5.0000e-005</b>	<b>2.0800e-003</b>	<b>0.0000</b>	<b>6.0810</b>	<b>6.0810</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>6.0844</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0718	0.7083	1.0136	1.5800e-003		0.0355	0.0355		0.0326	0.0326	0.0000	139.1866	139.1866	0.0450	0.0000	140.3120
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0718</b>	<b>0.7083</b>	<b>1.0136</b>	<b>1.5800e-003</b>		<b>0.0355</b>	<b>0.0355</b>		<b>0.0326</b>	<b>0.0326</b>	<b>0.0000</b>	<b>139.1866</b>	<b>139.1866</b>	<b>0.0450</b>	<b>0.0000</b>	<b>140.3120</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.6 Paving - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1600e-003	1.9100e-003	0.0223	7.0000e-005	7.6600e-003	5.0000e-005	7.7100e-003	2.0400e-003	5.0000e-005	2.0800e-003	0.0000	6.0810	6.0810	1.4000e-004	0.0000	6.0844
<b>Total</b>	<b>3.1600e-003</b>	<b>1.9100e-003</b>	<b>0.0223</b>	<b>7.0000e-005</b>	<b>7.6600e-003</b>	<b>5.0000e-005</b>	<b>7.7100e-003</b>	<b>2.0400e-003</b>	<b>5.0000e-005</b>	<b>2.0800e-003</b>	<b>0.0000</b>	<b>6.0810</b>	<b>6.0810</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>6.0844</b>

**3.7 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	19.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0286	0.1993	0.2372	3.9000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	33.3200	33.3200	2.2900e-003	0.0000	33.3771
<b>Total</b>	<b>19.0843</b>	<b>0.1993</b>	<b>0.2372</b>	<b>3.9000e-004</b>		<b>0.0123</b>	<b>0.0123</b>		<b>0.0123</b>	<b>0.0123</b>	<b>0.0000</b>	<b>33.3200</b>	<b>33.3200</b>	<b>2.2900e-003</b>	<b>0.0000</b>	<b>33.3771</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3498	0.2286	2.5565	7.0300e-003	0.7418	5.1900e-003	0.7470	0.1973	4.7800e-003	0.2021	0.0000	634.9088	634.9088	0.0167	0.0000	635.3255
<b>Total</b>	<b>0.3498</b>	<b>0.2286</b>	<b>2.5565</b>	<b>7.0300e-003</b>	<b>0.7418</b>	<b>5.1900e-003</b>	<b>0.7470</b>	<b>0.1973</b>	<b>4.7800e-003</b>	<b>0.2021</b>	<b>0.0000</b>	<b>634.9088</b>	<b>634.9088</b>	<b>0.0167</b>	<b>0.0000</b>	<b>635.3255</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	19.0557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0286	0.1993	0.2372	3.9000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	33.3199	33.3199	2.2900e-003	0.0000	33.3771
<b>Total</b>	<b>19.0843</b>	<b>0.1993</b>	<b>0.2372</b>	<b>3.9000e-004</b>		<b>0.0123</b>	<b>0.0123</b>		<b>0.0123</b>	<b>0.0123</b>	<b>0.0000</b>	<b>33.3199</b>	<b>33.3199</b>	<b>2.2900e-003</b>	<b>0.0000</b>	<b>33.3771</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3498	0.2286	2.5565	7.0300e-003	0.7418	5.1900e-003	0.7470	0.1973	4.7800e-003	0.2021	0.0000	634.9088	634.9088	0.0167	0.0000	635.3255
<b>Total</b>	<b>0.3498</b>	<b>0.2286</b>	<b>2.5565</b>	<b>7.0300e-003</b>	<b>0.7418</b>	<b>5.1900e-003</b>	<b>0.7470</b>	<b>0.1973</b>	<b>4.7800e-003</b>	<b>0.2021</b>	<b>0.0000</b>	<b>634.9088</b>	<b>634.9088</b>	<b>0.0167</b>	<b>0.0000</b>	<b>635.3255</b>

**3.7 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	18.9827					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.1831	0.2358	3.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	33.1923	33.1923	2.1600e-003	0.0000	33.2463
<b>Total</b>	<b>19.0093</b>	<b>0.1831</b>	<b>0.2358</b>	<b>3.9000e-004</b>		<b>0.0106</b>	<b>0.0106</b>		<b>0.0106</b>	<b>0.0106</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>33.2463</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3256	0.2047	2.3402	6.7500e-003	0.7390	5.0300e-003	0.7440	0.1966	4.6400e-003	0.2012	0.0000	609.8219	609.8219	0.0149	0.0000	610.1949
<b>Total</b>	<b>0.3256</b>	<b>0.2047</b>	<b>2.3402</b>	<b>6.7500e-003</b>	<b>0.7390</b>	<b>5.0300e-003</b>	<b>0.7440</b>	<b>0.1966</b>	<b>4.6400e-003</b>	<b>0.2012</b>	<b>0.0000</b>	<b>609.8219</b>	<b>609.8219</b>	<b>0.0149</b>	<b>0.0000</b>	<b>610.1949</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	18.9827					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.1831	0.2358	3.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	33.1923	33.1923	2.1600e-003	0.0000	33.2463
<b>Total</b>	<b>19.0093</b>	<b>0.1831</b>	<b>0.2358</b>	<b>3.9000e-004</b>		<b>0.0106</b>	<b>0.0106</b>		<b>0.0106</b>	<b>0.0106</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>33.2463</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3256	0.2047	2.3402	6.7500e-003	0.7390	5.0300e-003	0.7440	0.1966	4.6400e-003	0.2012	0.0000	609.8219	609.8219	0.0149	0.0000	610.1949
<b>Total</b>	<b>0.3256</b>	<b>0.2047</b>	<b>2.3402</b>	<b>6.7500e-003</b>	<b>0.7390</b>	<b>5.0300e-003</b>	<b>0.7440</b>	<b>0.1966</b>	<b>4.6400e-003</b>	<b>0.2012</b>	<b>0.0000</b>	<b>609.8219</b>	<b>609.8219</b>	<b>0.0149</b>	<b>0.0000</b>	<b>610.1949</b>

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	10.1485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.0906	0.1259	2.1000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003	0.0000	17.7451	17.7451	1.0600e-003	0.0000	17.7717
<b>Total</b>	<b>10.1618</b>	<b>0.0906</b>	<b>0.1259</b>	<b>2.1000e-004</b>		<b>4.9200e-003</b>	<b>4.9200e-003</b>		<b>4.9200e-003</b>	<b>4.9200e-003</b>	<b>0.0000</b>	<b>17.7451</b>	<b>17.7451</b>	<b>1.0600e-003</b>	<b>0.0000</b>	<b>17.7717</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1629	0.0985	1.1490	3.4700e-003	0.3951	2.6200e-003	0.3977	0.1051	2.4200e-003	0.1075	0.0000	313.7776	313.7776	7.1500e-003	0.0000	313.9564
<b>Total</b>	<b>0.1629</b>	<b>0.0985</b>	<b>1.1490</b>	<b>3.4700e-003</b>	<b>0.3951</b>	<b>2.6200e-003</b>	<b>0.3977</b>	<b>0.1051</b>	<b>2.4200e-003</b>	<b>0.1075</b>	<b>0.0000</b>	<b>313.7776</b>	<b>313.7776</b>	<b>7.1500e-003</b>	<b>0.0000</b>	<b>313.9564</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	10.1485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.0906	0.1259	2.1000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003	0.0000	17.7451	17.7451	1.0600e-003	0.0000	17.7716
<b>Total</b>	<b>10.1618</b>	<b>0.0906</b>	<b>0.1259</b>	<b>2.1000e-004</b>		<b>4.9200e-003</b>	<b>4.9200e-003</b>		<b>4.9200e-003</b>	<b>4.9200e-003</b>	<b>0.0000</b>	<b>17.7451</b>	<b>17.7451</b>	<b>1.0600e-003</b>	<b>0.0000</b>	<b>17.7716</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**3.7 Architectural Coating - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1629	0.0985	1.1490	3.4700e-003	0.3951	2.6200e-003	0.3977	0.1051	2.4200e-003	0.1075	0.0000	313.7776	313.7776	7.1500e-003	0.0000	313.9564
<b>Total</b>	<b>0.1629</b>	<b>0.0985</b>	<b>1.1490</b>	<b>3.4700e-003</b>	<b>0.3951</b>	<b>2.6200e-003</b>	<b>0.3977</b>	<b>0.1051</b>	<b>2.4200e-003</b>	<b>0.1075</b>	<b>0.0000</b>	<b>313.7776</b>	<b>313.7776</b>	<b>7.1500e-003</b>	<b>0.0000</b>	<b>313.9564</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
General Light Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Regional Shopping Center	10.00	5.00	6.50	16.30	64.70	19.00	54	35	11
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	86	11	3
User Defined Recreational	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0







Maximum Construction Year - Elk Grove Multi-Sport Complex and SOIA SEIR - Sacramento County, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	39.0776	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256
Unmitigated	39.0776	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	38.8485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2291	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256
<b>Total</b>	<b>39.0776</b>	<b>0.0855</b>	<b>7.4370</b>	<b>4.0000e-004</b>		<b>0.0412</b>	<b>0.0412</b>		<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>12.2259</b>	<b>12.2259</b>	<b>0.0120</b>	<b>0.0000</b>	<b>12.5256</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	38.8485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2291	0.0855	7.4370	4.0000e-004		0.0412	0.0412		0.0412	0.0412	0.0000	12.2259	12.2259	0.0120	0.0000	12.5256
<b>Total</b>	<b>39.0776</b>	<b>0.0855</b>	<b>7.4370</b>	<b>4.0000e-004</b>		<b>0.0412</b>	<b>0.0412</b>		<b>0.0412</b>	<b>0.0412</b>	<b>0.0000</b>	<b>12.2259</b>	<b>12.2259</b>	<b>0.0120</b>	<b>0.0000</b>	<b>12.5256</b>

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Annual

**8.2 Waste by Land Use**

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Annual

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR  
Sacramento County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	2,248.90	1000sqft	143.41	2,248,898.00	0
General Light Industry	3,351.10	1000sqft	210.88	3,351,102.00	0
User Defined Recreational	2,801.34	User Defined Unit	64.31	2,801,343.60	0
Single Family Housing	713.00	Dwelling Unit	117.80	1,283,400.00	2283
Regional Shopping Center	262.38	1000sqft	20.77	262,375.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2035
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MWhr)</b>	590.31	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**



## Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

Project Characteristics - See SWAPE comment about CO2 intensity factor.

Land Use - See SWAPE comment about land use sizes.

Construction Phase - See SWAPE comment about individual construction phase lengths.

Vehicle Trips - Consistent with SEIR's model.

Area Coating - Consistent with SEIR's model.

Energy Use - Consistent with SEIR's model.

Water And Wastewater - Consistent with SEIR's model.

Solid Waste - Consistent with SEIR's model.

Construction Off-road Equipment Mitigation - See SWAPE comment about Tier 4 Final mitigation.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	4331858	0
tblAreaCoating	Area_Nonresidential_Interior	12995573	0
tblAreaCoating	Area_Residential_Exterior	866295	0
tblAreaCoating	Area_Residential_Interior	2598885	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00

## Maximum Construction Year - Elk Grove Multit-Sport Complex and SOIA SEIR - Sacramento County, Summer

tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.26	0.00
tblEnergyUse	T24E	678.97	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	4.49	0.00
tblEnergyUse	T24NG	23,147.69	0.00
tblLandUse	LandUseSquareFeet	2,248,900.00	2,248,898.00
tblLandUse	LandUseSquareFeet	3,351,100.00	3,351,102.00
tblLandUse	LandUseSquareFeet	0.00	2,801,343.60
tblLandUse	LandUseSquareFeet	262,380.00	262,375.00
tblLandUse	LotAcreage	51.63	143.41
tblLandUse	LotAcreage	76.93	210.88
tblLandUse	LotAcreage	0.00	64.31
tblLandUse	LotAcreage	231.49	117.80
tblLandUse	LotAcreage	6.02	20.77
tblLandUse	Population	1,904.00	2,283.00
tblSolidWaste	SolidWasteGenerationRate	2,788.64	0.00
tblSolidWaste	SolidWasteGenerationRate	4,155.36	0.00
tblSolidWaste	SolidWasteGenerationRate	275.50	0.00
tblSolidWaste	SolidWasteGenerationRate	821.88	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	9.91	0.00

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	520,058,125.00	0.00
tblWater	IndoorWaterUseRate	774,941,875.00	0.00
tblWater	IndoorWaterUseRate	19,435,148.19	0.00
tblWater	IndoorWaterUseRate	46,454,820.27	0.00
tblWater	OutdoorWaterUseRate	11,911,865.02	0.00
tblWater	OutdoorWaterUseRate	29,286,734.52	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	184.1451	310.1398	285.9439	0.9234	71.5780	7.9656	79.5436	25.6235	7.3844	33.0080	0.0000	93,708.5902	93,708.5902	8.6376	0.0000	93,924.5312
2022	180.3822	277.3418	267.2302	0.9070	71.5769	6.5453	78.1222	25.6231	6.0706	31.6937	0.0000	92,077.4454	92,077.4454	8.4730	0.0000	92,289.2698

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	174.2086	210.8491	230.7002	0.8474	53.3727	4.1020	57.4747	15.6557	3.8109	19.4666	0.0000	86,237.77 05	86,237.77 05	6.9683	0.0000	86,411.97 76
2024	20.6892	170.5649	164.6861	0.7122	47.2558	2.2962	49.5520	14.0331	2.1312	16.1643	0.0000	72,983.29 57	72,983.29 57	4.9665	0.0000	73,107.45 74
2025	16.4500	134.4827	128.2579	0.6359	38.4295	0.8627	39.2922	10.3959	0.8103	11.2062	0.0000	65,562.05 92	65,562.05 92	2.9412	0.0000	65,635.58 91
2026	15.6932	131.9645	121.2644	0.6243	38.4288	0.8493	39.2781	10.3957	0.7976	11.1933	0.0000	64,413.65 79	64,413.65 79	2.8752	0.0000	64,485.53 64
2027	14.9661	129.6602	114.9973	0.6139	38.4282	0.8338	39.2620	10.3954	0.7831	11.1785	0.0000	63,377.57 26	63,377.57 26	2.8141	0.0000	63,447.92 53
2028	14.2390	127.6755	109.5149	0.6046	38.4277	0.8167	39.2444	10.3952	0.7671	11.1624	0.0000	62,464.70 89	62,464.70 89	2.7587	0.0000	62,533.67 69
2029	13.4660	125.7927	104.3791	0.5965	38.4272	0.7999	39.2271	10.3951	0.7514	11.1465	0.0000	61,652.56 79	61,652.56 79	2.7051	0.0000	61,720.19 64
2030	12.6638	119.5068	99.8970	0.5932	38.4268	0.4044	38.8311	10.3949	0.3882	10.7831	0.0000	61,277.17 71	61,277.17 71	2.1700	0.0000	61,331.42 58
2031	11.8951	117.9060	95.6522	0.5870	38.4264	0.3894	38.8158	10.3948	0.3743	10.7690	0.0000	60,652.97 25	60,652.97 25	2.1242	0.0000	60,706.07 68
2032	11.2087	116.4358	91.9582	0.5815	38.4261	0.3762	38.8023	10.3947	0.3619	10.7566	0.0000	60,115.90 29	60,115.90 29	2.0841	0.0000	60,168.00 62
2033	10.6443	115.1470	88.8399	0.5769	38.4259	0.3645	38.7904	10.3946	0.3510	10.7456	0.0000	59,652.03 09	59,652.03 09	2.0500	0.0000	59,703.28 07
2034	10.1333	113.9682	85.9026	0.5729	38.4256	0.3535	38.7791	10.3945	0.3407	10.7352	0.0000	59,253.64 02	59,253.64 02	2.0181	0.0000	59,304.09 28
2035	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2036	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2037	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2038	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2039	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2040	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2041	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2042	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2043	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2044	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2045	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2046	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2047	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2048	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2049	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2050	7.1469	105.3645	71.8877	0.5548	38.4239	0.2210	38.6449	10.3938	0.2123	10.6062	0.0000	57,462.43 08	57,462.43 08	1.7945	0.0000	57,507.29 34
2051	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2052	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2053	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2054	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2055	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2056	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
<b>Maximum</b>	<b>184.1451</b>	<b>310.1398</b>	<b>285.9439</b>	<b>0.9234</b>	<b>71.5780</b>	<b>7.9656</b>	<b>79.5436</b>	<b>25.6235</b>	<b>7.3844</b>	<b>33.0080</b>	<b>0.0000</b>	<b>93,708.59 02</b>	<b>93,708.59 02</b>	<b>8.6376</b>	<b>0.0000</b>	<b>93,924.53 12</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**2.1 Overall Construction (Maximum Daily Emission)**

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	184.1451	310.1397	285.9439	0.9234	71.5780	7.9656	79.5436	25.6235	7.3844	33.0080	0.0000	93,708.5902	93,708.5902	8.6376	0.0000	93,924.5312
2022	180.3822	277.3418	267.2302	0.9070	71.5769	6.5453	78.1222	25.6231	6.0706	31.6937	0.0000	92,077.4454	92,077.4454	8.4730	0.0000	92,289.2698
2023	174.2086	210.8491	230.7002	0.8474	53.3727	4.1020	57.4747	15.6557	3.8109	19.4666	0.0000	86,237.7705	86,237.7705	6.9683	0.0000	86,411.9775
2024	20.6892	170.5649	164.6861	0.7122	47.2558	2.2962	49.5520	14.0331	2.1312	16.1643	0.0000	72,983.2957	72,983.2957	4.9665	0.0000	73,107.4574
2025	16.4500	134.4827	128.2579	0.6359	38.4295	0.8627	39.2922	10.3959	0.8103	11.2062	0.0000	65,562.0592	65,562.0592	2.9412	0.0000	65,635.5891
2026	15.6932	131.9645	121.2644	0.6243	38.4288	0.8493	39.2781	10.3957	0.7976	11.1933	0.0000	64,413.6579	64,413.6579	2.8752	0.0000	64,485.5364
2027	14.9661	129.6602	114.9973	0.6139	38.4282	0.8338	39.2620	10.3954	0.7831	11.1785	0.0000	63,377.5726	63,377.5726	2.8141	0.0000	63,447.9253
2028	14.2390	127.6755	109.5149	0.6046	38.4277	0.8167	39.2444	10.3952	0.7671	11.1624	0.0000	62,464.7089	62,464.7089	2.7587	0.0000	62,533.6769
2029	13.4660	125.7927	104.3791	0.5965	38.4272	0.7999	39.2271	10.3951	0.7514	11.1465	0.0000	61,652.5679	61,652.5679	2.7051	0.0000	61,720.1964
2030	12.6638	119.5068	99.8970	0.5932	38.4268	0.4044	38.8311	10.3949	0.3882	10.7831	0.0000	61,277.1771	61,277.1771	2.1700	0.0000	61,331.4258
2031	11.8951	117.9060	95.6522	0.5870	38.4264	0.3894	38.8158	10.3948	0.3743	10.7690	0.0000	60,652.9725	60,652.9725	2.1242	0.0000	60,706.0768
2032	11.2087	116.4358	91.9582	0.5815	38.4261	0.3762	38.8023	10.3947	0.3619	10.7566	0.0000	60,115.9029	60,115.9029	2.0841	0.0000	60,168.0062
2033	10.6443	115.1470	88.8399	0.5769	38.4259	0.3645	38.7904	10.3946	0.3510	10.7456	0.0000	59,652.0309	59,652.0309	2.0500	0.0000	59,703.2807
2034	10.1333	113.9682	85.9026	0.5729	38.4256	0.3535	38.7791	10.3945	0.3407	10.7352	0.0000	59,253.6402	59,253.6402	2.0181	0.0000	59,304.0928
2035	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.7661	58,916.7661	1.9817	0.0000	58,966.3075

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2036	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2037	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2038	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2039	9.5978	112.1698	83.3543	0.5695	38.4255	0.2860	38.7114	10.3944	0.2739	10.6683	0.0000	58,916.76 61	58,916.76 61	1.9817	0.0000	58,966.30 75
2040	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2041	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2042	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2043	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2044	7.9657	108.5188	75.6139	0.5598	38.4247	0.2397	38.6644	10.3941	0.2297	10.6239	0.0000	57,961.82 56	57,961.82 56	1.8824	0.0000	58,008.88 44
2045	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2046	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2047	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2048	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2049	7.3455	106.6922	72.7127	0.5558	38.4242	0.2269	38.6511	10.3940	0.2178	10.6118	0.0000	57,562.56 78	57,562.56 78	1.8336	0.0000	57,608.40 70
2050	7.1469	105.3645	71.8877	0.5548	38.4239	0.2210	38.6449	10.3938	0.2123	10.6062	0.0000	57,462.43 08	57,462.43 08	1.7945	0.0000	57,507.29 34
2051	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2052	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2053	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3





Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	4/20/2023	5	600	
2	Site Preparation	Site Preparation	1/1/2021	5/19/2022	5	360	
3	Grading	Grading	1/1/2021	7/25/2024	5	930	
4	Building Construction	Building Construction	1/1/2021	8/24/2056	5	9300	
5	Paving	Paving	1/1/2021	7/13/2023	5	660	
6	Architectural Coating	Architectural Coating	1/1/2021	7/13/2023	5	660	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2325

Acres of Paving: 0

Residential Indoor: 2,598,885; Residential Outdoor: 866,295; Non-Residential Indoor: 12,995,578; Non-Residential Outdoor: 4,331,859; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

## Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3,869.00	1,496.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	774.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
<b>Total</b>	<b>3.1651</b>	<b>31.4407</b>	<b>21.5650</b>	<b>0.0388</b>		<b>1.5513</b>	<b>1.5513</b>		<b>1.4411</b>	<b>1.4411</b>		<b>3,747.9449</b>	<b>3,747.9449</b>	<b>1.0549</b>		<b>3,774.3174</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0308	0.4487	1.1500e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		114.9719	114.9719	3.0600e-003		115.0483
<b>Total</b>	<b>0.0601</b>	<b>0.0308</b>	<b>0.4487</b>	<b>1.1500e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>114.9719</b>	<b>114.9719</b>	<b>3.0600e-003</b>		<b>115.0483</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
<b>Total</b>	<b>3.1651</b>	<b>31.4407</b>	<b>21.5650</b>	<b>0.0388</b>		<b>1.5513</b>	<b>1.5513</b>		<b>1.4411</b>	<b>1.4411</b>	<b>0.0000</b>	<b>3,747.9449</b>	<b>3,747.9449</b>	<b>1.0549</b>		<b>3,774.3174</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0308	0.4487	1.1500e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		114.9719	114.9719	3.0600e-003		115.0483
<b>Total</b>	<b>0.0601</b>	<b>0.0308</b>	<b>0.4487</b>	<b>1.1500e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>114.9719</b>	<b>114.9719</b>	<b>3.0600e-003</b>		<b>115.0483</b>

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
<b>Total</b>	<b>2.6392</b>	<b>25.7194</b>	<b>20.5941</b>	<b>0.0388</b>		<b>1.2427</b>	<b>1.2427</b>		<b>1.1553</b>	<b>1.1553</b>		<b>3,746.7812</b>	<b>3,746.7812</b>	<b>1.0524</b>		<b>3,773.0920</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0277	0.4133	1.1100e-003	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		110.8487	110.8487	2.7500e-003		110.9174
<b>Total</b>	<b>0.0561</b>	<b>0.0277</b>	<b>0.4133</b>	<b>1.1100e-003</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>110.8487</b>	<b>110.8487</b>	<b>2.7500e-003</b>		<b>110.9174</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
<b>Total</b>	<b>2.6392</b>	<b>25.7194</b>	<b>20.5941</b>	<b>0.0388</b>		<b>1.2427</b>	<b>1.2427</b>		<b>1.1553</b>	<b>1.1553</b>	<b>0.0000</b>	<b>3,746.7812</b>	<b>3,746.7812</b>	<b>1.0524</b>		<b>3,773.0920</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0277	0.4133	1.1100e-003	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		110.8487	110.8487	2.7500e-003		110.9174
<b>Total</b>	<b>0.0561</b>	<b>0.0277</b>	<b>0.4133</b>	<b>1.1100e-003</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>110.8487</b>	<b>110.8487</b>	<b>2.7500e-003</b>		<b>110.9174</b>

**3.2 Demolition - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>		<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0249	0.3804	1.0700e-003	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		106.6812	106.6812	2.4700e-003		106.7429
<b>Total</b>	<b>0.0525</b>	<b>0.0249</b>	<b>0.3804</b>	<b>1.0700e-003</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>106.6812</b>	<b>106.6812</b>	<b>2.4700e-003</b>		<b>106.7429</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>	<b>0.0000</b>	<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.2 Demolition - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0249	0.3804	1.0700e-003	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		106.6812	106.6812	2.4700e-003		106.7429
<b>Total</b>	<b>0.0525</b>	<b>0.0249</b>	<b>0.3804</b>	<b>1.0700e-003</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>106.6812</b>	<b>106.6812</b>	<b>2.4700e-003</b>		<b>106.7429</b>

**3.3 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.3 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0369	0.5385	1.3900e-003	0.1369	9.2000e-004	0.1379	0.0363	8.5000e-004	0.0372		137.9662	137.9662	3.6700e-003		138.0580
<b>Total</b>	<b>0.0721</b>	<b>0.0369</b>	<b>0.5385</b>	<b>1.3900e-003</b>	<b>0.1369</b>	<b>9.2000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.5000e-004</b>	<b>0.0372</b>		<b>137.9662</b>	<b>137.9662</b>	<b>3.6700e-003</b>		<b>138.0580</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.3 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0369	0.5385	1.3900e-003	0.1369	9.2000e-004	0.1379	0.0363	8.5000e-004	0.0372		137.9662	137.9662	3.6700e-003		138.0580
<b>Total</b>	<b>0.0721</b>	<b>0.0369</b>	<b>0.5385</b>	<b>1.3900e-003</b>	<b>0.1369</b>	<b>9.2000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.5000e-004</b>	<b>0.0372</b>		<b>137.9662</b>	<b>137.9662</b>	<b>3.6700e-003</b>		<b>138.0580</b>

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.0663</b>	<b>1.6126</b>	<b>19.6788</b>	<b>9.9307</b>	<b>1.4836</b>	<b>11.4143</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.3 Site Preparation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0332	0.4959	1.3400e-003	0.1369	9.0000e-004	0.1378	0.0363	8.3000e-004	0.0372		133.0184	133.0184	3.3000e-003		133.1009
<b>Total</b>	<b>0.0673</b>	<b>0.0332</b>	<b>0.4959</b>	<b>1.3400e-003</b>	<b>0.1369</b>	<b>9.0000e-004</b>	<b>0.1378</b>	<b>0.0363</b>	<b>8.3000e-004</b>	<b>0.0372</b>		<b>133.0184</b>	<b>133.0184</b>	<b>3.3000e-003</b>		<b>133.1009</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.0663</b>	<b>1.6126</b>	<b>19.6788</b>	<b>9.9307</b>	<b>1.4836</b>	<b>11.4143</b>	<b>0.0000</b>	<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.3 Site Preparation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0332	0.4959	1.3400e-003	0.1369	9.0000e-004	0.1378	0.0363	8.3000e-004	0.0372		133.0184	133.0184	3.3000e-003		133.1009
<b>Total</b>	<b>0.0673</b>	<b>0.0332</b>	<b>0.4959</b>	<b>1.3400e-003</b>	<b>0.1369</b>	<b>9.0000e-004</b>	<b>0.1378</b>	<b>0.0363</b>	<b>8.3000e-004</b>	<b>0.0372</b>		<b>133.0184</b>	<b>133.0184</b>	<b>3.3000e-003</b>		<b>133.1009</b>

**3.4 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0802	0.0410	0.5983	1.5400e-003	0.1521	1.0300e-003	0.1532	0.0404	9.5000e-004	0.0413		153.2958	153.2958	4.0800e-003		153.3978
<b>Total</b>	<b>0.0802</b>	<b>0.0410</b>	<b>0.5983</b>	<b>1.5400e-003</b>	<b>0.1521</b>	<b>1.0300e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.5000e-004</b>	<b>0.0413</b>		<b>153.2958</b>	<b>153.2958</b>	<b>4.0800e-003</b>		<b>153.3978</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0802	0.0410	0.5983	1.5400e-003	0.1521	1.0300e-003	0.1532	0.0404	9.5000e-004	0.0413		153.2958	153.2958	4.0800e-003		153.3978
<b>Total</b>	<b>0.0802</b>	<b>0.0410</b>	<b>0.5983</b>	<b>1.5400e-003</b>	<b>0.1521</b>	<b>1.0300e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.5000e-004</b>	<b>0.0413</b>		<b>153.2958</b>	<b>153.2958</b>	<b>4.0800e-003</b>		<b>153.3978</b>

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.6349</b>	<b>10.3082</b>	<b>3.5965</b>	<b>1.5041</b>	<b>5.1006</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0748	0.0369	0.5510	1.4800e-003	0.1521	1.0000e-003	0.1531	0.0404	9.2000e-004	0.0413		147.7983	147.7983	3.6700e-003		147.8899
<b>Total</b>	<b>0.0748</b>	<b>0.0369</b>	<b>0.5510</b>	<b>1.4800e-003</b>	<b>0.1521</b>	<b>1.0000e-003</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.2000e-004</b>	<b>0.0413</b>		<b>147.7983</b>	<b>147.7983</b>	<b>3.6700e-003</b>		<b>147.8899</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.6349</b>	<b>10.3082</b>	<b>3.5965</b>	<b>1.5041</b>	<b>5.1006</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0748	0.0369	0.5510	1.4800e-003	0.1521	1.0000e-003	0.1531	0.0404	9.2000e-004	0.0413		147.7983	147.7983	3.6700e-003		147.8899
<b>Total</b>	<b>0.0748</b>	<b>0.0369</b>	<b>0.5510</b>	<b>1.4800e-003</b>	<b>0.1521</b>	<b>1.0000e-003</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.2000e-004</b>	<b>0.0413</b>		<b>147.7983</b>	<b>147.7983</b>	<b>3.6700e-003</b>		<b>147.8899</b>

**3.4 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.4245</b>	<b>10.0978</b>	<b>3.5965</b>	<b>1.3105</b>	<b>4.9070</b>		<b>6,011.4777</b>	<b>6,011.4777</b>	<b>1.9442</b>		<b>6,060.0836</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0699	0.0332	0.5072	1.4300e-003	0.1521	9.8000e-004	0.1531	0.0404	9.0000e-004	0.0413		142.2416	142.2416	3.2900e-003		142.3238
<b>Total</b>	<b>0.0699</b>	<b>0.0332</b>	<b>0.5072</b>	<b>1.4300e-003</b>	<b>0.1521</b>	<b>9.8000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.0000e-004</b>	<b>0.0413</b>		<b>142.2416</b>	<b>142.2416</b>	<b>3.2900e-003</b>		<b>142.3238</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.4245</b>	<b>10.0978</b>	<b>3.5965</b>	<b>1.3105</b>	<b>4.9070</b>	<b>0.0000</b>	<b>6,011.4777</b>	<b>6,011.4777</b>	<b>1.9442</b>		<b>6,060.0836</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0699	0.0332	0.5072	1.4300e-003	0.1521	9.8000e-004	0.1531	0.0404	9.0000e-004	0.0413		142.2416	142.2416	3.2900e-003		142.3238
<b>Total</b>	<b>0.0699</b>	<b>0.0332</b>	<b>0.5072</b>	<b>1.4300e-003</b>	<b>0.1521</b>	<b>9.8000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.0000e-004</b>	<b>0.0413</b>		<b>142.2416</b>	<b>142.2416</b>	<b>3.2900e-003</b>		<b>142.3238</b>

**3.4 Grading - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.3354</b>	<b>10.0087</b>	<b>3.5965</b>	<b>1.2286</b>	<b>4.8251</b>		<b>6,009.7487</b>	<b>6,009.7487</b>	<b>1.9437</b>		<b>6,058.3405</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0300	0.4705	1.3700e-003	0.1521	9.5000e-004	0.1531	0.0404	8.8000e-004	0.0412		136.7050	136.7050	2.9700e-003		136.7791
<b>Total</b>	<b>0.0657</b>	<b>0.0300</b>	<b>0.4705</b>	<b>1.3700e-003</b>	<b>0.1521</b>	<b>9.5000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>8.8000e-004</b>	<b>0.0412</b>		<b>136.7050</b>	<b>136.7050</b>	<b>2.9700e-003</b>		<b>136.7791</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.3354</b>	<b>10.0087</b>	<b>3.5965</b>	<b>1.2286</b>	<b>4.8251</b>	<b>0.0000</b>	<b>6,009.7487</b>	<b>6,009.7487</b>	<b>1.9437</b>		<b>6,058.3405</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.4 Grading - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0300	0.4705	1.3700e-003	0.1521	9.5000e-004	0.1531	0.0404	8.8000e-004	0.0412		136.7050	136.7050	2.9700e-003		136.7791
<b>Total</b>	<b>0.0657</b>	<b>0.0300</b>	<b>0.4705</b>	<b>1.3700e-003</b>	<b>0.1521</b>	<b>9.5000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>8.8000e-004</b>	<b>0.0412</b>		<b>136.7050</b>	<b>136.7050</b>	<b>2.9700e-003</b>		<b>136.7791</b>

**3.5 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.6231	150.2589	38.3686	0.3692	9.0018	0.4121	9.4140	2.5904	0.3942	2.9845		39,117.09 48	39,117.09 48	2.1379		39,170.54 22
Worker	15.5066	7.9378	115.7427	0.2979	29.4315	0.1986	29.6301	7.8070	0.1831	7.9900		29,655.07 39	29,655.07 39	0.7891		29,674.80 17
<b>Total</b>	<b>20.1297</b>	<b>158.1967</b>	<b>154.1114</b>	<b>0.6671</b>	<b>38.4333</b>	<b>0.6108</b>	<b>39.0441</b>	<b>10.3973</b>	<b>0.5772</b>	<b>10.9745</b>		<b>68,772.16 86</b>	<b>68,772.16 86</b>	<b>2.9270</b>		<b>68,845.34 39</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>	<b>0.0000</b>	<b>2,553.363 9</b>	<b>2,553.363 9</b>	<b>0.6160</b>		<b>2,568.764 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.6231	150.2589	38.3686	0.3692	9.0018	0.4121	9.4140	2.5904	0.3942	2.9845		39,117.09 48	39,117.09 48	2.1379		39,170.54 22
Worker	15.5066	7.9378	115.7427	0.2979	29.4315	0.1986	29.6301	7.8070	0.1831	7.9900		29,655.07 39	29,655.07 39	0.7891		29,674.80 17
<b>Total</b>	<b>20.1297</b>	<b>158.1967</b>	<b>154.1114</b>	<b>0.6671</b>	<b>38.4333</b>	<b>0.6108</b>	<b>39.0441</b>	<b>10.3973</b>	<b>0.5772</b>	<b>10.9745</b>		<b>68,772.16 86</b>	<b>68,772.16 86</b>	<b>2.9270</b>		<b>68,845.34 39</b>

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.333 6</b>	<b>2,554.333 6</b>	<b>0.6120</b>		<b>2,569.632 2</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.2896	142.8535	35.3518	0.3657	9.0007	0.3610	9.3617	2.5899	0.3453	2.9352		38,775.87 28	38,775.87 28	2.0762		38,827.77 87
Worker	14.4741	7.1392	106.5906	0.2871	29.4315	0.1935	29.6249	7.8070	0.1783	7.9852		28,591.57 09	28,591.57 09	0.7093		28,609.30 37
<b>Total</b>	<b>18.7636</b>	<b>149.9927</b>	<b>141.9423</b>	<b>0.6528</b>	<b>38.4322</b>	<b>0.5545</b>	<b>38.9866</b>	<b>10.3969</b>	<b>0.5235</b>	<b>10.9204</b>		<b>67,367.44 37</b>	<b>67,367.44 37</b>	<b>2.7856</b>		<b>67,437.08 23</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>	<b>0.0000</b>	<b>2,554.333 6</b>	<b>2,554.333 6</b>	<b>0.6120</b>		<b>2,569.632 2</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.2896	142.8535	35.3518	0.3657	9.0007	0.3610	9.3617	2.5899	0.3453	2.9352		38,775.8728	38,775.8728	2.0762		38,827.7787
Worker	14.4741	7.1392	106.5906	0.2871	29.4315	0.1935	29.6249	7.8070	0.1783	7.9852		28,591.5709	28,591.5709	0.7093		28,609.3037
<b>Total</b>	<b>18.7636</b>	<b>149.9927</b>	<b>141.9423</b>	<b>0.6528</b>	<b>38.4322</b>	<b>0.5545</b>	<b>38.9866</b>	<b>10.3969</b>	<b>0.5235</b>	<b>10.9204</b>		<b>67,367.4437</b>	<b>67,367.4437</b>	<b>2.7856</b>		<b>67,437.0823</b>

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

Maximum Construction Year - Elk Grove Multit-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.3898	121.1746	31.3595	0.3587	8.9997	0.1703	9.1700	2.5896	0.1628	2.7524		38,058.06 51	38,058.06 51	1.8648		38,104.68 44
Worker	13.5287	6.4263	98.1115	0.2762	29.4315	0.1888	29.6202	7.8070	0.1739	7.9809		27,516.64 59	27,516.64 59	0.6358		27,532.54 16
<b>Total</b>	<b>16.9185</b>	<b>127.6009</b>	<b>129.4710</b>	<b>0.6349</b>	<b>38.4312</b>	<b>0.3590</b>	<b>38.7902</b>	<b>10.3965</b>	<b>0.3367</b>	<b>10.7332</b>		<b>65,574.71 10</b>	<b>65,574.71 10</b>	<b>2.5006</b>		<b>65,637.22 60</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.209 9</b>	<b>2,555.209 9</b>	<b>0.6079</b>		<b>2,570.406 1</b>

Maximum Construction Year - Elk Grove Multit-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.3898	121.1746	31.3595	0.3587	8.9997	0.1703	9.1700	2.5896	0.1628	2.7524		38,058.06 51	38,058.06 51	1.8648		38,104.68 44
Worker	13.5287	6.4263	98.1115	0.2762	29.4315	0.1888	29.6202	7.8070	0.1739	7.9809		27,516.64 59	27,516.64 59	0.6358		27,532.54 16
<b>Total</b>	<b>16.9185</b>	<b>127.6009</b>	<b>129.4710</b>	<b>0.6349</b>	<b>38.4312</b>	<b>0.3590</b>	<b>38.7902</b>	<b>10.3965</b>	<b>0.3367</b>	<b>10.7332</b>		<b>65,574.71 10</b>	<b>65,574.71 10</b>	<b>2.5006</b>		<b>65,637.22 60</b>

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.698 9</b>	<b>2,555.698 9</b>	<b>0.6044</b>		<b>2,570.807 7</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.2300	118.9039	29.3117	0.3564	8.9989	0.1620	9.1608	2.5892	0.1549	2.7441		37,835.5600	37,835.5600	1.8419		37,881.6074
Worker	12.7039	5.8102	91.0143	0.2654	29.4315	0.1846	29.6161	7.8070	0.1700	7.9770		26,445.5831	26,445.5831	0.5736		26,459.9227
<b>Total</b>	<b>15.9339</b>	<b>124.7141</b>	<b>120.3260</b>	<b>0.6218</b>	<b>38.4303</b>	<b>0.3466</b>	<b>38.7769</b>	<b>10.3962</b>	<b>0.3249</b>	<b>10.7211</b>		<b>64,281.1431</b>	<b>64,281.1431</b>	<b>2.4155</b>		<b>64,341.5300</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.2300	118.9039	29.3117	0.3564	8.9989	0.1620	9.1608	2.5892	0.1549	2.7441		37,835.5600	37,835.5600	1.8419		37,881.6074
Worker	12.7039	5.8102	91.0143	0.2654	29.4315	0.1846	29.6161	7.8070	0.1700	7.9770		26,445.5831	26,445.5831	0.5736		26,459.9227
<b>Total</b>	<b>15.9339</b>	<b>124.7141</b>	<b>120.3260</b>	<b>0.6218</b>	<b>38.4303</b>	<b>0.3466</b>	<b>38.7769</b>	<b>10.3962</b>	<b>0.3249</b>	<b>10.7211</b>		<b>64,281.1431</b>	<b>64,281.1431</b>	<b>2.4155</b>		<b>64,341.5300</b>

**3.5 Building Construction - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.0978	116.7356	27.7545	0.3542	8.9981	0.1539	9.1520	2.5890	0.1472	2.7361		37,620.1802	37,620.1802	1.8202		37,665.6863
Worker	11.9848	5.2775	84.4188	0.2547	29.4315	0.1812	29.6126	7.8070	0.1668	7.9738		25,385.4047	25,385.4047	0.5200		25,398.4048
<b>Total</b>	<b>15.0826</b>	<b>122.0130</b>	<b>112.1733</b>	<b>0.6089</b>	<b>38.4295</b>	<b>0.3351</b>	<b>38.7646</b>	<b>10.3959</b>	<b>0.3140</b>	<b>10.7099</b>		<b>63,005.5848</b>	<b>63,005.5848</b>	<b>2.3403</b>		<b>63,064.0911</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.0978	116.7356	27.7545	0.3542	8.9981	0.1539	9.1520	2.5890	0.1472	2.7361		37,620.1802	37,620.1802	1.8202		37,665.6863
Worker	11.9848	5.2775	84.4188	0.2547	29.4315	0.1812	29.6126	7.8070	0.1668	7.9738		25,385.4047	25,385.4047	0.5200		25,398.4048
<b>Total</b>	<b>15.0826</b>	<b>122.0130</b>	<b>112.1733</b>	<b>0.6089</b>	<b>38.4295</b>	<b>0.3351</b>	<b>38.7646</b>	<b>10.3959</b>	<b>0.3140</b>	<b>10.7099</b>		<b>63,005.5848</b>	<b>63,005.5848</b>	<b>2.3403</b>		<b>63,064.0911</b>

**3.5 Building Construction - 2026**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2026**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.9812	114.6725	26.4912	0.3521	8.9974	0.1459	9.1432	2.5887	0.1395	2.7281		37,415.37 94	37,415.37 94	1.8006		37,460.39 43
Worker	11.3446	4.8223	78.6886	0.2452	29.4315	0.1759	29.6073	7.8070	0.1619	7.9689		24,441.80 41	24,441.80 41	0.4736		24,453.64 40
<b>Total</b>	<b>14.3258</b>	<b>119.4948</b>	<b>105.1798</b>	<b>0.5973</b>	<b>38.4288</b>	<b>0.3217</b>	<b>38.7506</b>	<b>10.3957</b>	<b>0.3014</b>	<b>10.6970</b>		<b>61,857.18 36</b>	<b>61,857.18 36</b>	<b>2.2742</b>		<b>61,914.03 83</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2026**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.9812	114.6725	26.4912	0.3521	8.9974	0.1459	9.1432	2.5887	0.1395	2.7281		37,415.37 94	37,415.37 94	1.8006		37,460.39 43
Worker	11.3446	4.8223	78.6886	0.2452	29.4315	0.1759	29.6073	7.8070	0.1619	7.9689		24,441.80 41	24,441.80 41	0.4736		24,453.64 40
<b>Total</b>	<b>14.3258</b>	<b>119.4948</b>	<b>105.1798</b>	<b>0.5973</b>	<b>38.4288</b>	<b>0.3217</b>	<b>38.7506</b>	<b>10.3957</b>	<b>0.3014</b>	<b>10.6970</b>		<b>61,857.18 36</b>	<b>61,857.18 36</b>	<b>2.2742</b>		<b>61,914.03 83</b>

**3.5 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2027**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8787	112.7768	25.3934	0.3502	8.9967	0.1391	9.1358	2.5885	0.1330	2.7214		37,222.86 25	37,222.86 25	1.7814		37,267.39 84
Worker	10.7201	4.4137	73.5192	0.2367	29.4315	0.1672	29.5987	7.8070	0.1539	7.9609		23,598.23 57	23,598.23 57	0.4317		23,609.02 88
<b>Total</b>	<b>13.5987</b>	<b>117.1905</b>	<b>98.9127</b>	<b>0.5869</b>	<b>38.4282</b>	<b>0.3063</b>	<b>38.7345</b>	<b>10.3954</b>	<b>0.2869</b>	<b>10.6823</b>		<b>60,821.09 82</b>	<b>60,821.09 82</b>	<b>2.2132</b>		<b>60,876.42 72</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2027**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8787	112.7768	25.3934	0.3502	8.9967	0.1391	9.1358	2.5885	0.1330	2.7214		37,222.86 25	37,222.86 25	1.7814		37,267.39 84
Worker	10.7201	4.4137	73.5192	0.2367	29.4315	0.1672	29.5987	7.8070	0.1539	7.9609		23,598.23 57	23,598.23 57	0.4317		23,609.02 88
<b>Total</b>	<b>13.5987</b>	<b>117.1905</b>	<b>98.9127</b>	<b>0.5869</b>	<b>38.4282</b>	<b>0.3063</b>	<b>38.7345</b>	<b>10.3954</b>	<b>0.2869</b>	<b>10.6823</b>		<b>60,821.09 82</b>	<b>60,821.09 82</b>	<b>2.2132</b>		<b>60,876.42 72</b>

**3.5 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2028**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7882	111.1548	24.4692	0.3485	8.9962	0.1331	9.1293	2.5883	0.1272	2.7155		37,058.15 10	37,058.15 10	1.7621		37,102.20 36
Worker	10.0833	4.0511	68.9610	0.2292	29.4315	0.1561	29.5875	7.8070	0.1436	7.9506		22,850.08 36	22,850.08 36	0.3957		22,859.97 53
<b>Total</b>	<b>12.8716</b>	<b>115.2058</b>	<b>93.4302</b>	<b>0.5777</b>	<b>38.4277</b>	<b>0.2892</b>	<b>38.7168</b>	<b>10.3952</b>	<b>0.2709</b>	<b>10.6661</b>		<b>59,908.23 45</b>	<b>59,908.23 45</b>	<b>2.1578</b>		<b>59,962.17 89</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2028**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7882	111.1548	24.4692	0.3485	8.9962	0.1331	9.1293	2.5883	0.1272	2.7155		37,058.15 10	37,058.15 10	1.7621		37,102.20 36
Worker	10.0833	4.0511	68.9610	0.2292	29.4315	0.1561	29.5875	7.8070	0.1436	7.9506		22,850.08 36	22,850.08 36	0.3957		22,859.97 53
<b>Total</b>	<b>12.8716</b>	<b>115.2058</b>	<b>93.4302</b>	<b>0.5777</b>	<b>38.4277</b>	<b>0.2892</b>	<b>38.7168</b>	<b>10.3952</b>	<b>0.2709</b>	<b>10.6661</b>		<b>59,908.23 45</b>	<b>59,908.23 45</b>	<b>2.1578</b>		<b>59,962.17 89</b>

**3.5 Building Construction - 2029**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2029**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7066	109.6098	23.6987	0.3470	8.9957	0.1270	9.1227	2.5881	0.1214	2.7095		36,908.24 48	36,908.24 48	1.7428		36,951.81 58
Worker	9.3920	3.7133	64.5957	0.2225	29.4315	0.1454	29.5768	7.8070	0.1338	7.9407		22,187.84 88	22,187.84 88	0.3614		22,196.88 26
<b>Total</b>	<b>12.0986</b>	<b>113.3231</b>	<b>88.2944</b>	<b>0.5695</b>	<b>38.4272</b>	<b>0.2723</b>	<b>38.6995</b>	<b>10.3951</b>	<b>0.2552</b>	<b>10.6502</b>		<b>59,096.09 36</b>	<b>59,096.09 36</b>	<b>2.1042</b>		<b>59,148.69 84</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2029**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7066	109.6098	23.6987	0.3470	8.9957	0.1270	9.1227	2.5881	0.1214	2.7095		36,908.24 48	36,908.24 48	1.7428		36,951.81 58
Worker	9.3920	3.7133	64.5957	0.2225	29.4315	0.1454	29.5768	7.8070	0.1338	7.9407		22,187.84 88	22,187.84 88	0.3614		22,196.88 26
<b>Total</b>	<b>12.0986</b>	<b>113.3231</b>	<b>88.2944</b>	<b>0.5695</b>	<b>38.4272</b>	<b>0.2723</b>	<b>38.6995</b>	<b>10.3951</b>	<b>0.2552</b>	<b>10.6502</b>		<b>59,096.09 36</b>	<b>59,096.09 36</b>	<b>2.1042</b>		<b>59,148.69 84</b>

**3.5 Building Construction - 2030**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2030**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6331	108.1636	23.0663	0.3457	8.9953	0.1208	9.1161	2.5879	0.1155	2.7034		36,774.6660	36,774.6660	1.7229		36,817.7374
Worker	8.7216	3.4086	60.6737	0.2166	29.4315	0.1354	29.5669	7.8070	0.1246	7.9316		21,604.9644	21,604.9644	0.3309		21,613.2355
<b>Total</b>	<b>11.3547</b>	<b>111.5722</b>	<b>83.7400</b>	<b>0.5623</b>	<b>38.4268</b>	<b>0.2562</b>	<b>38.6830</b>	<b>10.3949</b>	<b>0.2401</b>	<b>10.6350</b>		<b>58,379.6303</b>	<b>58,379.6303</b>	<b>2.0537</b>		<b>58,430.9729</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.5468</b>	<b>2,897.5468</b>	<b>0.1162</b>		<b>2,900.4529</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2030**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6331	108.1636	23.0663	0.3457	8.9953	0.1208	9.1161	2.5879	0.1155	2.7034		36,774.66 60	36,774.66 60	1.7229		36,817.73 74
Worker	8.7216	3.4086	60.6737	0.2166	29.4315	0.1354	29.5669	7.8070	0.1246	7.9316		21,604.96 44	21,604.96 44	0.3309		21,613.23 55
<b>Total</b>	<b>11.3547</b>	<b>111.5722</b>	<b>83.7400</b>	<b>0.5623</b>	<b>38.4268</b>	<b>0.2562</b>	<b>38.6830</b>	<b>10.3949</b>	<b>0.2401</b>	<b>10.6350</b>		<b>58,379.63 03</b>	<b>58,379.63 03</b>	<b>2.0537</b>		<b>58,430.97 29</b>

**3.5 Building Construction - 2031**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2031**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5708	106.8501	22.5494	0.3446	8.9950	0.1153	9.1103	2.5878	0.1102	2.6980		36,661.25 83	36,661.25 83	1.7056		36,703.89 83
Worker	8.0152	3.1213	56.9457	0.2114	29.4315	0.1260	29.5574	7.8070	0.1159	7.9228		21,094.16 75	21,094.16 75	0.3023		21,101.72 56
<b>Total</b>	<b>10.5860</b>	<b>109.9714</b>	<b>79.4952</b>	<b>0.5560</b>	<b>38.4264</b>	<b>0.2413</b>	<b>38.6677</b>	<b>10.3948</b>	<b>0.2261</b>	<b>10.6209</b>		<b>57,755.42 57</b>	<b>57,755.42 57</b>	<b>2.0079</b>		<b>57,805.62 39</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2031**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5708	106.8501	22.5494	0.3446	8.9950	0.1153	9.1103	2.5878	0.1102	2.6980		36,661.25 83	36,661.25 83	1.7056		36,703.89 83
Worker	8.0152	3.1213	56.9457	0.2114	29.4315	0.1260	29.5574	7.8070	0.1159	7.9228		21,094.16 75	21,094.16 75	0.3023		21,101.72 56
<b>Total</b>	<b>10.5860</b>	<b>109.9714</b>	<b>79.4952</b>	<b>0.5560</b>	<b>38.4264</b>	<b>0.2413</b>	<b>38.6677</b>	<b>10.3948</b>	<b>0.2261</b>	<b>10.6209</b>		<b>57,755.42 57</b>	<b>57,755.42 57</b>	<b>2.0079</b>		<b>57,805.62 39</b>

**3.5 Building Construction - 2032**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2032**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5189	105.6277	22.1405	0.3436	8.9947	0.1109	9.1055	2.5877	0.1060	2.6937		36,568.79 76	36,568.79 76	1.6904		36,611.05 73
Worker	7.3807	2.8734	53.6607	0.2070	29.4315	0.1172	29.5486	7.8070	0.1078	7.9148		20,649.55 86	20,649.55 86	0.2775		20,656.49 60
<b>Total</b>	<b>9.8996</b>	<b>108.5012</b>	<b>75.8012</b>	<b>0.5506</b>	<b>38.4261</b>	<b>0.2280</b>	<b>38.6541</b>	<b>10.3947</b>	<b>0.2138</b>	<b>10.6084</b>		<b>57,218.35 62</b>	<b>57,218.35 62</b>	<b>1.9679</b>		<b>57,267.55 33</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2032**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5189	105.6277	22.1405	0.3436	8.9947	0.1109	9.1055	2.5877	0.1060	2.6937		36,568.79 76	36,568.79 76	1.6904		36,611.05 73
Worker	7.3807	2.8734	53.6607	0.2070	29.4315	0.1172	29.5486	7.8070	0.1078	7.9148		20,649.55 86	20,649.55 86	0.2775		20,656.49 60
<b>Total</b>	<b>9.8996</b>	<b>108.5012</b>	<b>75.8012</b>	<b>0.5506</b>	<b>38.4261</b>	<b>0.2280</b>	<b>38.6541</b>	<b>10.3947</b>	<b>0.2138</b>	<b>10.6084</b>		<b>57,218.35 62</b>	<b>57,218.35 62</b>	<b>1.9679</b>		<b>57,267.55 33</b>

**3.5 Building Construction - 2033**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2033**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4750	104.5423	21.7935	0.3428	8.9944	0.1071	9.1015	2.5876	0.1024	2.6899		36,488.25 58	36,488.25 58	1.6769		36,530.17 90
Worker	6.8601	2.6700	50.8894	0.2031	29.4315	0.1093	29.5407	7.8070	0.1005	7.9075		20,266.22 84	20,266.22 84	0.2568		20,272.64 89
<b>Total</b>	<b>9.3352</b>	<b>107.2123</b>	<b>72.6829</b>	<b>0.5459</b>	<b>38.4259</b>	<b>0.2164</b>	<b>38.6422</b>	<b>10.3946</b>	<b>0.2029</b>	<b>10.5974</b>		<b>56,754.48 41</b>	<b>56,754.48 41</b>	<b>1.9338</b>		<b>56,802.82 78</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2033**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4750	104.5423	21.7935	0.3428	8.9944	0.1071	9.1015	2.5876	0.1024	2.6899		36,488.25 58	36,488.25 58	1.6769		36,530.17 90
Worker	6.8601	2.6700	50.8894	0.2031	29.4315	0.1093	29.5407	7.8070	0.1005	7.9075		20,266.22 84	20,266.22 84	0.2568		20,272.64 89
<b>Total</b>	<b>9.3352</b>	<b>107.2123</b>	<b>72.6829</b>	<b>0.5459</b>	<b>38.4259</b>	<b>0.2164</b>	<b>38.6422</b>	<b>10.3946</b>	<b>0.2029</b>	<b>10.5974</b>		<b>56,754.48 41</b>	<b>56,754.48 41</b>	<b>1.9338</b>		<b>56,802.82 78</b>

**3.5 Building Construction - 2034**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2034**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4345	103.5373	21.4776	0.3422	8.9942	0.1034	9.0976	2.5875	0.0988	2.6863		36,420.9835	36,420.9835	1.6643		36,462.5916
Worker	6.3897	2.4962	48.2680	0.1997	29.4315	0.1019	29.5334	7.8070	0.0938	7.9007		19,935.1100	19,935.1100	0.2375		19,941.0483
<b>Total</b>	<b>8.8242</b>	<b>106.0336</b>	<b>69.7456</b>	<b>0.5419</b>	<b>38.4256</b>	<b>0.2053</b>	<b>38.6310</b>	<b>10.3945</b>	<b>0.1926</b>	<b>10.5871</b>		<b>56,356.0935</b>	<b>56,356.0935</b>	<b>1.9019</b>		<b>56,403.6399</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.5468</b>	<b>2,897.5468</b>	<b>0.1162</b>		<b>2,900.4529</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2034**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4345	103.5373	21.4776	0.3422	8.9942	0.1034	9.0976	2.5875	0.0988	2.6863		36,420.9835	36,420.9835	1.6643		36,462.5916
Worker	6.3897	2.4962	48.2680	0.1997	29.4315	0.1019	29.5334	7.8070	0.0938	7.9007		19,935.1100	19,935.1100	0.2375		19,941.0483
<b>Total</b>	<b>8.8242</b>	<b>106.0336</b>	<b>69.7456</b>	<b>0.5419</b>	<b>38.4256</b>	<b>0.2053</b>	<b>38.6310</b>	<b>10.3945</b>	<b>0.1926</b>	<b>10.5871</b>		<b>56,356.0935</b>	<b>56,356.0935</b>	<b>1.9019</b>		<b>56,403.6399</b>

**3.5 Building Construction - 2035**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.5468</b>	<b>2,897.5468</b>	<b>0.1079</b>		<b>2,900.2448</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2035**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2035**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**3.5 Building Construction - 2036**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2036**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2036**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**3.5 Building Construction - 2037**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2037**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2037**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**3.5 Building Construction - 2038**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2038**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2038**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**3.5 Building Construction - 2039**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2039**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2039**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3986	102.6480	21.2129	0.3416	8.9940	0.1002	9.0942	2.5874	0.0958	2.6832		36,365.76 47	36,365.76 47	1.6525		36,407.07 83
Worker	5.9824	2.3604	46.0237	0.1969	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		19,653.45 46	19,653.45 46	0.2212		19,658.98 44
<b>Total</b>	<b>8.3810</b>	<b>105.0085</b>	<b>67.2365</b>	<b>0.5385</b>	<b>38.4255</b>	<b>0.1956</b>	<b>38.6210</b>	<b>10.3944</b>	<b>0.1835</b>	<b>10.5779</b>		<b>56,019.21 94</b>	<b>56,019.21 94</b>	<b>1.8737</b>		<b>56,066.06 27</b>

**3.5 Building Construction - 2040**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2040**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2040**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**3.5 Building Construction - 2041**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2041**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2041**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**3.5 Building Construction - 2042**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2042**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2042**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**3.5 Building Construction - 2043**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2043**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2043**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**3.5 Building Construction - 2044**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2044**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2044**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2907	99.7005	20.4245	0.3406	8.9932	0.0929	9.0861	2.5872	0.0888	2.6760		36,264.6584	36,264.6584	1.6069		36,304.8318
Worker	4.4779	1.9280	39.0709	0.1882	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		18,799.6201	18,799.6201	0.1713		18,803.9023
<b>Total</b>	<b>6.7687</b>	<b>101.6285</b>	<b>59.4954</b>	<b>0.5288</b>	<b>38.4247</b>	<b>0.1660</b>	<b>38.5907</b>	<b>10.3941</b>	<b>0.1560</b>	<b>10.5501</b>		<b>55,064.2785</b>	<b>55,064.2785</b>	<b>1.7782</b>		<b>55,108.7341</b>

**3.5 Building Construction - 2045**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2045**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2045**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**3.5 Building Construction - 2046**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2046**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2046**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**3.5 Building Construction - 2047**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2047**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2047**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**3.5 Building Construction - 2048**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2048**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2048**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**3.5 Building Construction - 2049**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2049**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2049**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2505	98.0298	20.1856	0.3399	8.9928	0.0896	9.0824	2.5870	0.0856	2.6726		36,188.01 31	36,188.01 31	1.5743		36,227.37 12
Worker	3.8980	1.7721	36.4086	0.1850	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		18,477.00 76	18,477.00 76	0.1551		18,480.88 55
<b>Total</b>	<b>6.1485</b>	<b>99.8019</b>	<b>56.5942</b>	<b>0.5248</b>	<b>38.4242</b>	<b>0.1531</b>	<b>38.5774</b>	<b>10.3940</b>	<b>0.1441</b>	<b>10.5380</b>		<b>54,665.02 07</b>	<b>54,665.02 07</b>	<b>1.7294</b>		<b>54,708.25 67</b>

**3.5 Building Construction - 2050**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2050**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2383	96.7468	20.1888	0.3400	8.9924	0.0870	9.0795	2.5869	0.0832	2.6700		36,204.6733	36,204.6733	1.5396		36,243.1642
Worker	3.7116	1.7274	35.5804	0.1838	29.4315	0.0603	29.4917	7.8070	0.0554	7.8624		18,360.2105	18,360.2105	0.1507		18,363.9789
<b>Total</b>	<b>5.9499</b>	<b>98.4742</b>	<b>55.7692</b>	<b>0.5238</b>	<b>38.4239</b>	<b>0.1473</b>	<b>38.5712</b>	<b>10.3938</b>	<b>0.1386</b>	<b>10.5324</b>		<b>54,564.8837</b>	<b>54,564.8837</b>	<b>1.6904</b>		<b>54,607.1431</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2050**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.2383	96.7468	20.1888	0.3400	8.9924	0.0870	9.0795	2.5869	0.0832	2.6700		36,204.6733	36,204.6733	1.5396		36,243.1642
Worker	3.7116	1.7274	35.5804	0.1838	29.4315	0.0603	29.4917	7.8070	0.0554	7.8624		18,360.2105	18,360.2105	0.1507		18,363.9789
<b>Total</b>	<b>5.9499</b>	<b>98.4742</b>	<b>55.7692</b>	<b>0.5238</b>	<b>38.4239</b>	<b>0.1473</b>	<b>38.5712</b>	<b>10.3938</b>	<b>0.1386</b>	<b>10.5324</b>		<b>54,564.8837</b>	<b>54,564.8837</b>	<b>1.6904</b>		<b>54,607.1431</b>

**3.5 Building Construction - 2051**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2051**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2051**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2052**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2052**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2052**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2053**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2053**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2053**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2054**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2054**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2054**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2055**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2055**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2055**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2056**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2056**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.5 Building Construction - 2056**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.6 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0308	0.4487	1.1500e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		114.9719	114.9719	3.0600e-003		115.0483
<b>Total</b>	<b>0.0601</b>	<b>0.0308</b>	<b>0.4487</b>	<b>1.1500e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>114.9719</b>	<b>114.9719</b>	<b>3.0600e-003</b>		<b>115.0483</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0308	0.4487	1.1500e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		114.9719	114.9719	3.0600e-003		115.0483
<b>Total</b>	<b>0.0601</b>	<b>0.0308</b>	<b>0.4487</b>	<b>1.1500e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>114.9719</b>	<b>114.9719</b>	<b>3.0600e-003</b>		<b>115.0483</b>

**3.6 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>		<b>2,207.6603</b>	<b>2,207.6603</b>	<b>0.7140</b>		<b>2,225.5104</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0277	0.4133	1.1100e-003	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		110.8487	110.8487	2.7500e-003		110.9174
<b>Total</b>	<b>0.0561</b>	<b>0.0277</b>	<b>0.4133</b>	<b>1.1100e-003</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>110.8487</b>	<b>110.8487</b>	<b>2.7500e-003</b>		<b>110.9174</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>	<b>0.0000</b>	<b>2,207.6603</b>	<b>2,207.6603</b>	<b>0.7140</b>		<b>2,225.5104</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0277	0.4133	1.1100e-003	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		110.8487	110.8487	2.7500e-003		110.9174
<b>Total</b>	<b>0.0561</b>	<b>0.0277</b>	<b>0.4133</b>	<b>1.1100e-003</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>110.8487</b>	<b>110.8487</b>	<b>2.7500e-003</b>		<b>110.9174</b>

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0249	0.3804	1.0700e-003	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		106.6812	106.6812	2.4700e-003		106.7429
<b>Total</b>	<b>0.0525</b>	<b>0.0249</b>	<b>0.3804</b>	<b>1.0700e-003</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>106.6812</b>	<b>106.6812</b>	<b>2.4700e-003</b>		<b>106.7429</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.6 Paving - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0249	0.3804	1.0700e-003	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		106.6812	106.6812	2.4700e-003		106.7429
<b>Total</b>	<b>0.0525</b>	<b>0.0249</b>	<b>0.3804</b>	<b>1.0700e-003</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>106.6812</b>	<b>106.6812</b>	<b>2.4700e-003</b>		<b>106.7429</b>

**3.7 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>146.2398</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.1021	1.5880	23.1545	0.0596	5.8878	0.0397	5.9276	1.5618	0.0366	1.5984		5,932.547 7	5,932.547 7	0.1579		5,936.494 3
<b>Total</b>	<b>3.1021</b>	<b>1.5880</b>	<b>23.1545</b>	<b>0.0596</b>	<b>5.8878</b>	<b>0.0397</b>	<b>5.9276</b>	<b>1.5618</b>	<b>0.0366</b>	<b>1.5984</b>		<b>5,932.547 7</b>	<b>5,932.547 7</b>	<b>0.1579</b>		<b>5,936.494 3</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>146.2398</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.1021	1.5880	23.1545	0.0596	5.8878	0.0397	5.9276	1.5618	0.0366	1.5984		5,932.547 7	5,932.547 7	0.1579		5,936.494 3
<b>Total</b>	<b>3.1021</b>	<b>1.5880</b>	<b>23.1545</b>	<b>0.0596</b>	<b>5.8878</b>	<b>0.0397</b>	<b>5.9276</b>	<b>1.5618</b>	<b>0.0366</b>	<b>1.5984</b>		<b>5,932.547 7</b>	<b>5,932.547 7</b>	<b>0.1579</b>		<b>5,936.494 3</b>

**3.7 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>146.2254</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.8956	1.4282	21.3236	0.0574	5.8878	0.0387	5.9265	1.5618	0.0357	1.5975		5,719.792 2	5,719.792 2	0.1419		5,723.339 6
<b>Total</b>	<b>2.8956</b>	<b>1.4282</b>	<b>21.3236</b>	<b>0.0574</b>	<b>5.8878</b>	<b>0.0387</b>	<b>5.9265</b>	<b>1.5618</b>	<b>0.0357</b>	<b>1.5975</b>		<b>5,719.792 2</b>	<b>5,719.792 2</b>	<b>0.1419</b>		<b>5,723.339 6</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>146.2254</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.8956	1.4282	21.3236	0.0574	5.8878	0.0387	5.9265	1.5618	0.0357	1.5975		5,719.792 2	5,719.792 2	0.1419		5,723.339 6
<b>Total</b>	<b>2.8956</b>	<b>1.4282</b>	<b>21.3236</b>	<b>0.0574</b>	<b>5.8878</b>	<b>0.0387</b>	<b>5.9265</b>	<b>1.5618</b>	<b>0.0357</b>	<b>1.5975</b>		<b>5,719.792 2</b>	<b>5,719.792 2</b>	<b>0.1419</b>		<b>5,723.339 6</b>

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>146.2125</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>



Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.7064	1.2856	19.6274	0.0553	5.8878	0.0378	5.9256	1.5618	0.0348	1.5966		5,504.7516	5,504.7516	0.1272		5,507.9316
<b>Total</b>	<b>2.7064</b>	<b>1.2856</b>	<b>19.6274</b>	<b>0.0553</b>	<b>5.8878</b>	<b>0.0378</b>	<b>5.9256</b>	<b>1.5618</b>	<b>0.0348</b>	<b>1.5966</b>		<b>5,504.7516</b>	<b>5,504.7516</b>	<b>0.1272</b>		<b>5,507.9316</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>146.2125</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**3.7 Architectural Coating - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.7064	1.2856	19.6274	0.0553	5.8878	0.0378	5.9256	1.5618	0.0348	1.5966		5,504.7516	5,504.7516	0.1272		5,507.9316
<b>Total</b>	<b>2.7064</b>	<b>1.2856</b>	<b>19.6274</b>	<b>0.0553</b>	<b>5.8878</b>	<b>0.0378</b>	<b>5.9256</b>	<b>1.5618</b>	<b>0.0348</b>	<b>1.5966</b>		<b>5,504.7516</b>	<b>5,504.7516</b>	<b>0.1272</b>		<b>5,507.9316</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
General Light Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Regional Shopping Center	10.00	5.00	6.50	16.30	64.70	19.00	54	35	11
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	86	11	3
User Defined Recreational	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
General Light Industry	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
Regional Shopping Center	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
Single Family Housing	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
User Defined Recreational	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Unmitigated	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	212.8683					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8331	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293		107.8139	107.8139	0.1057		110.4567
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>		<b>0.3293</b>	<b>0.3293</b>		<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Summer

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	212.8683					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8331	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293		107.8139	107.8139	0.1057		110.4567
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>		<b>0.3293</b>	<b>0.3293</b>		<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**



Maximum Construction Year - Elk Grove Multit-Sport Complex and SOIA SEIR - Sacramento County, Summer

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR  
Sacramento County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	2,248.90	1000sqft	143.41	2,248,898.00	0
General Light Industry	3,351.10	1000sqft	210.88	3,351,102.00	0
User Defined Recreational	2,801.34	User Defined Unit	64.31	2,801,343.60	0
Single Family Housing	713.00	Dwelling Unit	117.80	1,283,400.00	2283
Regional Shopping Center	262.38	1000sqft	20.77	262,375.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.5	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	6			<b>Operational Year</b>	2035
<b>Utility Company</b>	Sacramento Municipal Utility District				
<b>CO2 Intensity (lb/MW hr)</b>	590.31	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Maximum Construction Year - Elk Grove Multisport Complex and SOIA SEIR - Sacramento County, Winter

Project Characteristics - See SWAPE comment about CO2 intensity factor.

Land Use - See SWAPE comment about land use sizes.

Construction Phase - See SWAPE comment about individual construction phase lengths.

Vehicle Trips - Consistent with SEIR's model.

Area Coating - Consistent with SEIR's model.

Energy Use - Consistent with SEIR's model.

Water And Wastewater - Consistent with SEIR's model.

Solid Waste - Consistent with SEIR's model.

Construction Off-road Equipment Mitigation - See SWAPE comment about Tier 4 Final mitigation.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	4331858	0
tblAreaCoating	Area_Nonresidential_Interior	12995573	0
tblAreaCoating	Area_Residential_Exterior	866295	0
tblAreaCoating	Area_Residential_Interior	2598885	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	4.57	0.00
tblEnergyUse	LightingElect	5.33	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	7.20	0.00
tblEnergyUse	NT24E	2.98	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	12.42	0.00
tblEnergyUse	NT24NG	0.93	0.00

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.41	0.00
tblEnergyUse	T24E	3.26	0.00
tblEnergyUse	T24E	678.97	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	23.39	0.00
tblEnergyUse	T24NG	4.49	0.00
tblEnergyUse	T24NG	23,147.69	0.00
tblLandUse	LandUseSquareFeet	2,248,900.00	2,248,898.00
tblLandUse	LandUseSquareFeet	3,351,100.00	3,351,102.00
tblLandUse	LandUseSquareFeet	0.00	2,801,343.60
tblLandUse	LandUseSquareFeet	262,380.00	262,375.00
tblLandUse	LotAcreage	51.63	143.41
tblLandUse	LotAcreage	76.93	210.88
tblLandUse	LotAcreage	0.00	64.31
tblLandUse	LotAcreage	231.49	117.80
tblLandUse	LotAcreage	6.02	20.77
tblLandUse	Population	1,904.00	2,283.00
tblSolidWaste	SolidWasteGenerationRate	2,788.64	0.00
tblSolidWaste	SolidWasteGenerationRate	4,155.36	0.00
tblSolidWaste	SolidWasteGenerationRate	275.50	0.00
tblSolidWaste	SolidWasteGenerationRate	821.88	0.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	9.91	0.00

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	520,058,125.00	0.00
tblWater	IndoorWaterUseRate	774,941,875.00	0.00
tblWater	IndoorWaterUseRate	19,435,148.19	0.00
tblWater	IndoorWaterUseRate	46,454,820.27	0.00
tblWater	OutdoorWaterUseRate	11,911,865.02	0.00
tblWater	OutdoorWaterUseRate	29,286,734.52	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	182.9256	314.8832	271.3499	0.8698	71.5780	7.9912	79.5692	25.6235	7.4089	33.0325	0.0000	88,306.34 49	88,306.34 49	8.6993	0.0000	88,523.82 65
2022	179.2743	281.4759	253.3608	0.8550	71.5769	6.5690	78.1458	25.6231	6.0932	31.7163	0.0000	86,837.26 38	86,837.26 38	8.5406	0.0000	87,050.77 78

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	173.1896	213.8900	217.1116	0.7974	53.3727	4.1169	57.4896	15.6557	3.8251	19.4808	0.0000	81,195.36 60	81,195.36 60	7.0216	0.0000	81,370.90 64
2024	19.9639	173.0774	154.7742	0.6707	47.2558	2.3096	49.5654	14.0331	2.1440	16.1770	0.0000	68,778.42 45	68,778.42 45	5.0415	0.0000	68,904.46 12
2025	15.7986	136.8049	119.0181	0.5959	38.4295	0.8745	39.3040	10.3959	0.8216	11.2175	0.0000	61,514.08 72	61,514.08 72	3.0206	0.0000	61,589.60 29
2026	15.1114	134.1272	112.5451	0.5856	38.4288	0.8597	39.2885	10.3957	0.8076	11.2032	0.0000	60,490.56 47	60,490.56 47	2.9581	0.0000	60,564.51 79
2027	14.4484	131.6771	106.7518	0.5762	38.4282	0.8431	39.2713	10.3954	0.7919	11.1874	0.0000	59,565.09 32	59,565.09 32	2.9002	0.0000	59,637.59 76
2028	13.7703	129.5782	101.6970	0.5680	38.4277	0.8249	39.2526	10.3952	0.7749	11.1702	0.0000	58,750.37 07	58,750.37 07	2.8470	0.0000	58,821.54 55
2029	13.0456	127.5895	96.9658	0.5607	38.4272	0.8070	39.2342	10.3951	0.7582	11.1532	0.0000	58,024.32 20	58,024.32 20	2.7954	0.0000	58,094.20 59
2030	12.2917	121.2059	92.8504	0.5582	38.4268	0.4104	38.8371	10.3949	0.3940	10.7889	0.0000	57,723.59 26	57,723.59 26	2.2616	0.0000	57,780.13 21
2031	11.5685	119.5156	88.9477	0.5526	38.4264	0.3945	38.8209	10.3948	0.3791	10.7739	0.0000	57,163.60 86	57,163.60 86	2.2172	0.0000	57,219.03 92
2032	10.9267	117.9710	85.5638	0.5477	38.4261	0.3806	38.8067	10.3947	0.3662	10.7608	0.0000	56,681.63 42	56,681.63 42	2.1784	0.0000	56,736.09 44
2033	10.4031	116.6193	82.7101	0.5435	38.4259	0.3684	38.7943	10.3946	0.3548	10.7493	0.0000	56,264.74 86	56,264.74 86	2.1452	0.0000	56,318.37 97
2034	9.9424	115.3851	80.0240	0.5399	38.4256	0.3569	38.7825	10.3945	0.3440	10.7385	0.0000	55,906.19 87	55,906.19 87	2.1142	0.0000	55,959.05 40
2035	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2036	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2037	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2038	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2039	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2040	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2041	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.6752	54,746.6752	1.9790	0.0000	54,796.1504
2042	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.6752	54,746.6752	1.9790	0.0000	54,796.1504
2043	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.6752	54,746.6752	1.9790	0.0000	54,796.1504
2044	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.6752	54,746.6752	1.9790	0.0000	54,796.1504
2045	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.8908	54,384.8908	1.9280	0.0000	54,433.0898
2046	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.8908	54,384.8908	1.9280	0.0000	54,433.0898
2047	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.8908	54,384.8908	1.9280	0.0000	54,433.0898
2048	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.8908	54,384.8908	1.9280	0.0000	54,433.0898
2049	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.8908	54,384.8908	1.9280	0.0000	54,433.0898
2050	7.2543	106.5454	67.1555	0.5237	38.4239	0.2218	38.6457	10.3938	0.2131	10.6069	0.0000	54,294.8190	54,294.8190	1.8859	0.0000	54,341.9669
2051	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
2052	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
2053	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
2054	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
2055	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
2056	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.5471	2,897.5471	0.1041	0.0000	2,900.1503
<b>Maximum</b>	<b>182.9256</b>	<b>314.8832</b>	<b>271.3499</b>	<b>0.8698</b>	<b>71.5780</b>	<b>7.9912</b>	<b>79.5692</b>	<b>25.6235</b>	<b>7.4089</b>	<b>33.0325</b>	<b>0.0000</b>	<b>88,306.3449</b>	<b>88,306.3449</b>	<b>8.6993</b>	<b>0.0000</b>	<b>88,523.8265</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**2.1 Overall Construction (Maximum Daily Emission)**

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	182.9256	314.8832	271.3499	0.8698	71.5780	7.9912	79.5692	25.6235	7.4089	33.0325	0.0000	88,306.34 49	88,306.34 49	8.6993	0.0000	88,523.82 65
2022	179.2743	281.4759	253.3608	0.8550	71.5769	6.5690	78.1458	25.6231	6.0932	31.7163	0.0000	86,837.26 38	86,837.26 38	8.5406	0.0000	87,050.77 78
2023	173.1896	213.8900	217.1116	0.7974	53.3727	4.1169	57.4896	15.6557	3.8251	19.4808	0.0000	81,195.36 60	81,195.36 60	7.0216	0.0000	81,370.90 63
2024	19.9639	173.0774	154.7742	0.6707	47.2558	2.3096	49.5654	14.0331	2.1440	16.1770	0.0000	68,778.42 45	68,778.42 45	5.0415	0.0000	68,904.46 12
2025	15.7986	136.8049	119.0181	0.5959	38.4295	0.8745	39.3040	10.3959	0.8216	11.2175	0.0000	61,514.08 72	61,514.08 72	3.0206	0.0000	61,589.60 29
2026	15.1114	134.1272	112.5451	0.5856	38.4288	0.8597	39.2885	10.3957	0.8076	11.2032	0.0000	60,490.56 47	60,490.56 47	2.9581	0.0000	60,564.51 79
2027	14.4484	131.6771	106.7518	0.5762	38.4282	0.8431	39.2713	10.3954	0.7919	11.1874	0.0000	59,565.09 32	59,565.09 32	2.9002	0.0000	59,637.59 76
2028	13.7703	129.5782	101.6970	0.5680	38.4277	0.8249	39.2526	10.3952	0.7749	11.1702	0.0000	58,750.37 07	58,750.37 07	2.8470	0.0000	58,821.54 55
2029	13.0456	127.5895	96.9658	0.5607	38.4272	0.8070	39.2342	10.3951	0.7582	11.1532	0.0000	58,024.32 20	58,024.32 20	2.7954	0.0000	58,094.20 59
2030	12.2917	121.2059	92.8504	0.5582	38.4268	0.4104	38.8371	10.3949	0.3940	10.7889	0.0000	57,723.59 26	57,723.59 26	2.2616	0.0000	57,780.13 21
2031	11.5685	119.5156	88.9477	0.5526	38.4264	0.3945	38.8209	10.3948	0.3791	10.7739	0.0000	57,163.60 86	57,163.60 86	2.2172	0.0000	57,219.03 92
2032	10.9267	117.9710	85.5638	0.5477	38.4261	0.3806	38.8067	10.3947	0.3662	10.7608	0.0000	56,681.63 42	56,681.63 42	2.1784	0.0000	56,736.09 44
2033	10.4031	116.6193	82.7101	0.5435	38.4259	0.3684	38.7943	10.3946	0.3548	10.7493	0.0000	56,264.74 86	56,264.74 86	2.1452	0.0000	56,318.37 97
2034	9.9424	115.3851	80.0240	0.5399	38.4256	0.3569	38.7825	10.3945	0.3440	10.7385	0.0000	55,906.19 87	55,906.19 87	2.1142	0.0000	55,959.05 40
2035	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2036	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2037	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2038	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2039	9.4510	113.5418	77.6930	0.5368	38.4255	0.2889	38.7144	10.3944	0.2767	10.6711	0.0000	55,602.92 40	55,602.92 40	2.0784	0.0000	55,654.88 34
2040	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04
2041	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04
2042	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04
2043	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04
2044	7.9876	109.7419	70.5909	0.5282	38.4247	0.2415	38.6662	10.3941	0.2314	10.6256	0.0000	54,746.67 52	54,746.67 52	1.9790	0.0000	54,796.15 04
2045	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.89 08	54,384.89 08	1.9280	0.0000	54,433.08 98
2046	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.89 08	54,384.89 08	1.9280	0.0000	54,433.08 98
2047	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.89 08	54,384.89 08	1.9280	0.0000	54,433.08 98
2048	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.89 08	54,384.89 08	1.9280	0.0000	54,433.08 98
2049	7.4297	107.8650	67.9124	0.5246	38.4242	0.2281	38.6523	10.3940	0.2189	10.6129	0.0000	54,384.89 08	54,384.89 08	1.9280	0.0000	54,433.08 98
2050	7.2543	106.5454	67.1555	0.5237	38.4239	0.2218	38.6457	10.3938	0.2131	10.6069	0.0000	54,294.81 90	54,294.81 90	1.8859	0.0000	54,341.96 69
2051	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2052	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3
2053	1.1970	6.8903	16.1185	0.0310	32.0044	0.0737	32.0781	7.8556	0.0737	7.9294	0.0000	2,897.547 1	2,897.547 1	0.1041	0.0000	2,900.150 3



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	4/20/2023	5	600	
2	Site Preparation	Site Preparation	1/1/2021	5/19/2022	5	360	
3	Grading	Grading	1/1/2021	7/25/2024	5	930	
4	Building Construction	Building Construction	1/1/2021	8/24/2056	5	9300	
5	Paving	Paving	1/1/2021	7/13/2023	5	660	
6	Architectural Coating	Architectural Coating	1/1/2021	7/13/2023	5	660	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2325

Acres of Paving: 0

Residential Indoor: 2,598,885; Residential Outdoor: 866,295; Non-Residential Indoor: 12,995,578; Non-Residential Outdoor: 4,331,859; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

## Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3,869.00	1,496.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	774.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
<b>Total</b>	<b>3.1651</b>	<b>31.4407</b>	<b>21.5650</b>	<b>0.0388</b>		<b>1.5513</b>	<b>1.5513</b>		<b>1.4411</b>	<b>1.4411</b>		<b>3,747.9449</b>	<b>3,747.9449</b>	<b>1.0549</b>		<b>3,774.3174</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0554	0.0380	0.3827	1.0100e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		100.9746	100.9746	2.6900e-003		101.0419
<b>Total</b>	<b>0.0554</b>	<b>0.0380</b>	<b>0.3827</b>	<b>1.0100e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>100.9746</b>	<b>100.9746</b>	<b>2.6900e-003</b>		<b>101.0419</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
<b>Total</b>	<b>3.1651</b>	<b>31.4407</b>	<b>21.5650</b>	<b>0.0388</b>		<b>1.5513</b>	<b>1.5513</b>		<b>1.4411</b>	<b>1.4411</b>	<b>0.0000</b>	<b>3,747.9449</b>	<b>3,747.9449</b>	<b>1.0549</b>		<b>3,774.3174</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0554	0.0380	0.3827	1.0100e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		100.9746	100.9746	2.6900e-003		101.0419
<b>Total</b>	<b>0.0554</b>	<b>0.0380</b>	<b>0.3827</b>	<b>1.0100e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>100.9746</b>	<b>100.9746</b>	<b>2.6900e-003</b>		<b>101.0419</b>

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
<b>Total</b>	<b>2.6392</b>	<b>25.7194</b>	<b>20.5941</b>	<b>0.0388</b>		<b>1.2427</b>	<b>1.2427</b>		<b>1.1553</b>	<b>1.1553</b>		<b>3,746.7812</b>	<b>3,746.7812</b>	<b>1.0524</b>		<b>3,773.0920</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0342	0.3510	9.8000e-004	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		97.3592	97.3592	2.4100e-003		97.4196
<b>Total</b>	<b>0.0518</b>	<b>0.0342</b>	<b>0.3510</b>	<b>9.8000e-004</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>97.3592</b>	<b>97.3592</b>	<b>2.4100e-003</b>		<b>97.4196</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
<b>Total</b>	<b>2.6392</b>	<b>25.7194</b>	<b>20.5941</b>	<b>0.0388</b>		<b>1.2427</b>	<b>1.2427</b>		<b>1.1553</b>	<b>1.1553</b>	<b>0.0000</b>	<b>3,746.7812</b>	<b>3,746.7812</b>	<b>1.0524</b>		<b>3,773.0920</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0342	0.3510	9.8000e-004	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		97.3592	97.3592	2.4100e-003		97.4196
<b>Total</b>	<b>0.0518</b>	<b>0.0342</b>	<b>0.3510</b>	<b>9.8000e-004</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>97.3592</b>	<b>97.3592</b>	<b>2.4100e-003</b>		<b>97.4196</b>

**3.2 Demolition - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>		<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0307	0.3216	9.4000e-004	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		93.7046	93.7046	2.1600e-003		93.7585
<b>Total</b>	<b>0.0485</b>	<b>0.0307</b>	<b>0.3216</b>	<b>9.4000e-004</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>93.7046</b>	<b>93.7046</b>	<b>2.1600e-003</b>		<b>93.7585</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
<b>Total</b>	<b>2.2691</b>	<b>21.4844</b>	<b>19.6434</b>	<b>0.0388</b>		<b>0.9975</b>	<b>0.9975</b>		<b>0.9280</b>	<b>0.9280</b>	<b>0.0000</b>	<b>3,746.9840</b>	<b>3,746.9840</b>	<b>1.0494</b>		<b>3,773.2183</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.2 Demolition - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0307	0.3216	9.4000e-004	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		93.7046	93.7046	2.1600e-003		93.7585
<b>Total</b>	<b>0.0485</b>	<b>0.0307</b>	<b>0.3216</b>	<b>9.4000e-004</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>93.7046</b>	<b>93.7046</b>	<b>2.1600e-003</b>		<b>93.7585</b>

**3.3 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.3 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0456	0.4593	1.2200e-003	0.1369	9.2000e-004	0.1379	0.0363	8.5000e-004	0.0372		121.1696	121.1696	3.2300e-003		121.2503
<b>Total</b>	<b>0.0664</b>	<b>0.0456</b>	<b>0.4593</b>	<b>1.2200e-003</b>	<b>0.1369</b>	<b>9.2000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.5000e-004</b>	<b>0.0372</b>		<b>121.1696</b>	<b>121.1696</b>	<b>3.2300e-003</b>		<b>121.2503</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.3 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0664	0.0456	0.4593	1.2200e-003	0.1369	9.2000e-004	0.1379	0.0363	8.5000e-004	0.0372		121.1696	121.1696	3.2300e-003		121.2503
<b>Total</b>	<b>0.0664</b>	<b>0.0456</b>	<b>0.4593</b>	<b>1.2200e-003</b>	<b>0.1369</b>	<b>9.2000e-004</b>	<b>0.1379</b>	<b>0.0363</b>	<b>8.5000e-004</b>	<b>0.0372</b>		<b>121.1696</b>	<b>121.1696</b>	<b>3.2300e-003</b>		<b>121.2503</b>

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.0663</b>	<b>1.6126</b>	<b>19.6788</b>	<b>9.9307</b>	<b>1.4836</b>	<b>11.4143</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.3 Site Preparation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0621	0.0410	0.4212	1.1700e-003	0.1369	9.0000e-004	0.1378	0.0363	8.3000e-004	0.0372		116.8311	116.8311	2.9000e-003		116.9035
<b>Total</b>	<b>0.0621</b>	<b>0.0410</b>	<b>0.4212</b>	<b>1.1700e-003</b>	<b>0.1369</b>	<b>9.0000e-004</b>	<b>0.1378</b>	<b>0.0363</b>	<b>8.3000e-004</b>	<b>0.0372</b>		<b>116.8311</b>	<b>116.8311</b>	<b>2.9000e-003</b>		<b>116.9035</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.0663</b>	<b>1.6126</b>	<b>19.6788</b>	<b>9.9307</b>	<b>1.4836</b>	<b>11.4143</b>	<b>0.0000</b>	<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.3 Site Preparation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0621	0.0410	0.4212	1.1700e-003	0.1369	9.0000e-004	0.1378	0.0363	8.3000e-004	0.0372		116.8311	116.8311	2.9000e-003		116.9035
<b>Total</b>	<b>0.0621</b>	<b>0.0410</b>	<b>0.4212</b>	<b>1.1700e-003</b>	<b>0.1369</b>	<b>9.0000e-004</b>	<b>0.1378</b>	<b>0.0363</b>	<b>8.3000e-004</b>	<b>0.0372</b>		<b>116.8311</b>	<b>116.8311</b>	<b>2.9000e-003</b>		<b>116.9035</b>

**3.4 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0738	0.0507	0.5103	1.3500e-003	0.1521	1.0300e-003	0.1532	0.0404	9.5000e-004	0.0413		134.6329	134.6329	3.5900e-003		134.7226
<b>Total</b>	<b>0.0738</b>	<b>0.0507</b>	<b>0.5103</b>	<b>1.3500e-003</b>	<b>0.1521</b>	<b>1.0300e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.5000e-004</b>	<b>0.0413</b>		<b>134.6329</b>	<b>134.6329</b>	<b>3.5900e-003</b>		<b>134.7226</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0738	0.0507	0.5103	1.3500e-003	0.1521	1.0300e-003	0.1532	0.0404	9.5000e-004	0.0413		134.6329	134.6329	3.5900e-003		134.7226
<b>Total</b>	<b>0.0738</b>	<b>0.0507</b>	<b>0.5103</b>	<b>1.3500e-003</b>	<b>0.1521</b>	<b>1.0300e-003</b>	<b>0.1532</b>	<b>0.0404</b>	<b>9.5000e-004</b>	<b>0.0413</b>		<b>134.6329</b>	<b>134.6329</b>	<b>3.5900e-003</b>		<b>134.7226</b>

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.6349</b>	<b>10.3082</b>	<b>3.5965</b>	<b>1.5041</b>	<b>5.1006</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0456	0.4680	1.3000e-003	0.1521	1.0000e-003	0.1531	0.0404	9.2000e-004	0.0413		129.8123	129.8123	3.2200e-003		129.8928
<b>Total</b>	<b>0.0690</b>	<b>0.0456</b>	<b>0.4680</b>	<b>1.3000e-003</b>	<b>0.1521</b>	<b>1.0000e-003</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.2000e-004</b>	<b>0.0413</b>		<b>129.8123</b>	<b>129.8123</b>	<b>3.2200e-003</b>		<b>129.8928</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.6349</b>	<b>10.3082</b>	<b>3.5965</b>	<b>1.5041</b>	<b>5.1006</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0456	0.4680	1.3000e-003	0.1521	1.0000e-003	0.1531	0.0404	9.2000e-004	0.0413		129.8123	129.8123	3.2200e-003		129.8928
<b>Total</b>	<b>0.0690</b>	<b>0.0456</b>	<b>0.4680</b>	<b>1.3000e-003</b>	<b>0.1521</b>	<b>1.0000e-003</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.2000e-004</b>	<b>0.0413</b>		<b>129.8123</b>	<b>129.8123</b>	<b>3.2200e-003</b>		<b>129.8928</b>

**3.4 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.4245</b>	<b>10.0978</b>	<b>3.5965</b>	<b>1.3105</b>	<b>4.9070</b>		<b>6,011.4777</b>	<b>6,011.4777</b>	<b>1.9442</b>		<b>6,060.0836</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0647	0.0410	0.4288	1.2500e-003	0.1521	9.8000e-004	0.1531	0.0404	9.0000e-004	0.0413		124.9394	124.9394	2.8800e-003		125.0114
<b>Total</b>	<b>0.0647</b>	<b>0.0410</b>	<b>0.4288</b>	<b>1.2500e-003</b>	<b>0.1521</b>	<b>9.8000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.0000e-004</b>	<b>0.0413</b>		<b>124.9394</b>	<b>124.9394</b>	<b>2.8800e-003</b>		<b>125.0114</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
<b>Total</b>	<b>3.3217</b>	<b>34.5156</b>	<b>28.0512</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.4245</b>	<b>10.0978</b>	<b>3.5965</b>	<b>1.3105</b>	<b>4.9070</b>	<b>0.0000</b>	<b>6,011.4777</b>	<b>6,011.4777</b>	<b>1.9442</b>		<b>6,060.0836</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0647	0.0410	0.4288	1.2500e-003	0.1521	9.8000e-004	0.1531	0.0404	9.0000e-004	0.0413		124.9394	124.9394	2.8800e-003		125.0114
<b>Total</b>	<b>0.0647</b>	<b>0.0410</b>	<b>0.4288</b>	<b>1.2500e-003</b>	<b>0.1521</b>	<b>9.8000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>9.0000e-004</b>	<b>0.0413</b>		<b>124.9394</b>	<b>124.9394</b>	<b>2.8800e-003</b>		<b>125.0114</b>

**3.4 Grading - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.3354</b>	<b>10.0087</b>	<b>3.5965</b>	<b>1.2286</b>	<b>4.8251</b>		<b>6,009.7487</b>	<b>6,009.7487</b>	<b>1.9437</b>		<b>6,058.3405</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0609	0.0370	0.3964	1.2000e-003	0.1521	9.5000e-004	0.1531	0.0404	8.8000e-004	0.0412		120.0846	120.0846	2.5900e-003		120.1493
<b>Total</b>	<b>0.0609</b>	<b>0.0370</b>	<b>0.3964</b>	<b>1.2000e-003</b>	<b>0.1521</b>	<b>9.5000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>8.8000e-004</b>	<b>0.0412</b>		<b>120.0846</b>	<b>120.0846</b>	<b>2.5900e-003</b>		<b>120.1493</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
<b>Total</b>	<b>3.2181</b>	<b>32.3770</b>	<b>27.7228</b>	<b>0.0621</b>	<b>8.6733</b>	<b>1.3354</b>	<b>10.0087</b>	<b>3.5965</b>	<b>1.2286</b>	<b>4.8251</b>	<b>0.0000</b>	<b>6,009.7487</b>	<b>6,009.7487</b>	<b>1.9437</b>		<b>6,058.3405</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.4 Grading - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0609	0.0370	0.3964	1.2000e-003	0.1521	9.5000e-004	0.1531	0.0404	8.8000e-004	0.0412		120.0846	120.0846	2.5900e-003		120.1493
<b>Total</b>	<b>0.0609</b>	<b>0.0370</b>	<b>0.3964</b>	<b>1.2000e-003</b>	<b>0.1521</b>	<b>9.5000e-004</b>	<b>0.1531</b>	<b>0.0404</b>	<b>8.8000e-004</b>	<b>0.0412</b>		<b>120.0846</b>	<b>120.0846</b>	<b>2.5900e-003</b>		<b>120.1493</b>

**3.5 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.8974	152.7302	44.4993	0.3598	9.0018	0.4377	9.4396	2.5904	0.4187	3.0090		38,110.9091	38,110.9091	2.3153		38,168.7904
Worker	14.2799	9.8038	98.7223	0.2616	29.4315	0.1986	29.6301	7.8070	0.1831	7.9900		26,044.7248	26,044.7248	0.6941		26,062.0764
<b>Total</b>	<b>19.1772</b>	<b>162.5340</b>	<b>143.2216</b>	<b>0.6214</b>	<b>38.4333</b>	<b>0.6364</b>	<b>39.0697</b>	<b>10.3973</b>	<b>0.6017</b>	<b>10.9990</b>		<b>64,155.6339</b>	<b>64,155.6339</b>	<b>3.0093</b>		<b>64,230.8668</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>	<b>0.0000</b>	<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.8974	152.7302	44.4993	0.3598	9.0018	0.4377	9.4396	2.5904	0.4187	3.0090		38,110.9091	38,110.9091	2.3153		38,168.7904
Worker	14.2799	9.8038	98.7223	0.2616	29.4315	0.1986	29.6301	7.8070	0.1831	7.9900		26,044.7248	26,044.7248	0.6941		26,062.0764
<b>Total</b>	<b>19.1772</b>	<b>162.5340</b>	<b>143.2216</b>	<b>0.6214</b>	<b>38.4333</b>	<b>0.6364</b>	<b>39.0697</b>	<b>10.3973</b>	<b>0.6017</b>	<b>10.9990</b>		<b>64,155.6339</b>	<b>64,155.6339</b>	<b>3.0093</b>		<b>64,230.8668</b>

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5452	144.9487	41.0394	0.3564	9.0007	0.3846	9.3854	2.5899	0.3679	2.9578		37,772.27 79	37,772.27 79	2.2495		37,828.51 61
Worker	13.3542	8.8137	90.5291	0.2521	29.4315	0.1935	29.6249	7.8070	0.1783	7.9852		25,112.19 20	25,112.19 20	0.6225		25,127.75 44
<b>Total</b>	<b>17.8994</b>	<b>153.7624</b>	<b>131.5684</b>	<b>0.6085</b>	<b>38.4322</b>	<b>0.5781</b>	<b>39.0103</b>	<b>10.3969</b>	<b>0.5461</b>	<b>10.9430</b>		<b>62,884.46 99</b>	<b>62,884.46 99</b>	<b>2.8720</b>		<b>62,956.27 05</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>	<b>0.0000</b>	<b>2,554.333 6</b>	<b>2,554.333 6</b>	<b>0.6120</b>		<b>2,569.632 2</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5452	144.9487	41.0394	0.3564	9.0007	0.3846	9.3854	2.5899	0.3679	2.9578		37,772.27 79	37,772.27 79	2.2495		37,828.51 61
Worker	13.3542	8.8137	90.5291	0.2521	29.4315	0.1935	29.6249	7.8070	0.1783	7.9852		25,112.19 20	25,112.19 20	0.6225		25,127.75 44
<b>Total</b>	<b>17.8994</b>	<b>153.7624</b>	<b>131.5684</b>	<b>0.6085</b>	<b>38.4322</b>	<b>0.5781</b>	<b>39.0103</b>	<b>10.3969</b>	<b>0.5461</b>	<b>10.9430</b>		<b>62,884.46 99</b>	<b>62,884.46 99</b>	<b>2.8720</b>		<b>62,956.27 05</b>

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.209 9</b>	<b>2,555.209 9</b>	<b>0.6079</b>		<b>2,570.406 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.6025	122.3936	36.1665	0.3495	8.9997	0.1851	9.1849	2.5896	0.1770	2.7666		37,075.6275	37,075.6275	2.0141		37,125.9810
Worker	12.5132	7.9283	82.9458	0.2426	29.4315	0.1888	29.6202	7.8070	0.1739	7.9809		24,169.5307	24,169.5307	0.5567		24,183.4470
<b>Total</b>	<b>16.1157</b>	<b>130.3219</b>	<b>119.1124</b>	<b>0.5921</b>	<b>38.4312</b>	<b>0.3739</b>	<b>38.8051</b>	<b>10.3965</b>	<b>0.3509</b>	<b>10.7474</b>		<b>61,245.1581</b>	<b>61,245.1581</b>	<b>2.5708</b>		<b>61,309.4280</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.6025	122.3936	36.1665	0.3495	8.9997	0.1851	9.1849	2.5896	0.1770	2.7666		37,075.6275	37,075.6275	2.0141		37,125.9810
Worker	12.5132	7.9283	82.9458	0.2426	29.4315	0.1888	29.6202	7.8070	0.1739	7.9809		24,169.5307	24,169.5307	0.5567		24,183.4470
<b>Total</b>	<b>16.1157</b>	<b>130.3219</b>	<b>119.1124</b>	<b>0.5921</b>	<b>38.4312</b>	<b>0.3739</b>	<b>38.8051</b>	<b>10.3965</b>	<b>0.3509</b>	<b>10.7474</b>		<b>61,245.1581</b>	<b>61,245.1581</b>	<b>2.5708</b>		<b>61,309.4280</b>

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.4305	120.0545	33.7992	0.3473	8.9989	0.1753	9.1742	2.5892	0.1676	2.7568		36,862.53 28	36,862.53 28	1.9897		36,912.27 46
Worker	11.7828	7.1651	76.6890	0.2331	29.4315	0.1846	29.6161	7.8070	0.1700	7.9770		23,230.35 95	23,230.35 95	0.5012		23,242.88 90
<b>Total</b>	<b>15.2133</b>	<b>127.2196</b>	<b>110.4881</b>	<b>0.5804</b>	<b>38.4303</b>	<b>0.3599</b>	<b>38.7902</b>	<b>10.3962</b>	<b>0.3376</b>	<b>10.7338</b>		<b>60,092.89 24</b>	<b>60,092.89 24</b>	<b>2.4909</b>		<b>60,155.16 36</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.698 9</b>	<b>2,555.698 9</b>	<b>0.6044</b>		<b>2,570.807 7</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.4305	120.0545	33.7992	0.3473	8.9989	0.1753	9.1742	2.5892	0.1676	2.7568		36,862.53 28	36,862.53 28	1.9897		36,912.27 46
Worker	11.7828	7.1651	76.6890	0.2331	29.4315	0.1846	29.6161	7.8070	0.1700	7.9770		23,230.35 95	23,230.35 95	0.5012		23,242.88 90
<b>Total</b>	<b>15.2133</b>	<b>127.2196</b>	<b>110.4881</b>	<b>0.5804</b>	<b>38.4303</b>	<b>0.3599</b>	<b>38.7902</b>	<b>10.3962</b>	<b>0.3376</b>	<b>10.7338</b>		<b>60,092.89 24</b>	<b>60,092.89 24</b>	<b>2.4909</b>		<b>60,155.16 36</b>

**3.5 Building Construction - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.2880	117.8296	31.9870	0.3452	8.9981	0.1658	9.1638	2.5890	0.1585	2.7474		36,656.94 68	36,656.94 68	1.9661		36,706.09 98
Worker	11.1433	6.5057	70.9465	0.2237	29.4315	0.1812	29.6126	7.8070	0.1668	7.9738		22,300.66 60	22,300.66 60	0.4536		22,312.00 50
<b>Total</b>	<b>14.4312</b>	<b>124.3352</b>	<b>102.9335</b>	<b>0.5689</b>	<b>38.4295</b>	<b>0.3470</b>	<b>38.7765</b>	<b>10.3959</b>	<b>0.3253</b>	<b>10.7212</b>		<b>58,957.61 28</b>	<b>58,957.61 28</b>	<b>2.4197</b>		<b>59,018.10 49</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.2880	117.8296	31.9870	0.3452	8.9981	0.1658	9.1638	2.5890	0.1585	2.7474		36,656.9468	36,656.9468	1.9661		36,706.0998
Worker	11.1433	6.5057	70.9465	0.2237	29.4315	0.1812	29.6126	7.8070	0.1668	7.9738		22,300.6660	22,300.6660	0.4536		22,312.0050
<b>Total</b>	<b>14.4312</b>	<b>124.3352</b>	<b>102.9335</b>	<b>0.5689</b>	<b>38.4295</b>	<b>0.3470</b>	<b>38.7765</b>	<b>10.3959</b>	<b>0.3253</b>	<b>10.7212</b>		<b>58,957.6128</b>	<b>58,957.6128</b>	<b>2.4197</b>		<b>59,018.1049</b>

**3.5 Building Construction - 2026**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2026**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.1621	115.7148	30.5086	0.3432	8.9974	0.1563	9.1536	2.5887	0.1494	2.7381		36,461.8689	36,461.8689	1.9448		36,510.4897
Worker	10.5819	5.9428	65.9519	0.2154	29.4315	0.1759	29.6073	7.8070	0.1619	7.9689		21,472.2214	21,472.2214	0.4124		21,482.5301
<b>Total</b>	<b>13.7440</b>	<b>121.6576</b>	<b>96.4605</b>	<b>0.5586</b>	<b>38.4288</b>	<b>0.3321</b>	<b>38.7609</b>	<b>10.3957</b>	<b>0.3113</b>	<b>10.7070</b>		<b>57,934.0903</b>	<b>57,934.0903</b>	<b>2.3572</b>		<b>57,993.0198</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2026**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.1621	115.7148	30.5086	0.3432	8.9974	0.1563	9.1536	2.5887	0.1494	2.7381		36,461.8689	36,461.8689	1.9448		36,510.4897
Worker	10.5819	5.9428	65.9519	0.2154	29.4315	0.1759	29.6073	7.8070	0.1619	7.9689		21,472.2214	21,472.2214	0.4124		21,482.5301
<b>Total</b>	<b>13.7440</b>	<b>121.6576</b>	<b>96.4605</b>	<b>0.5586</b>	<b>38.4288</b>	<b>0.3321</b>	<b>38.7609</b>	<b>10.3957</b>	<b>0.3113</b>	<b>10.7070</b>		<b>57,934.0903</b>	<b>57,934.0903</b>	<b>2.3572</b>		<b>57,993.0198</b>

**3.5 Building Construction - 2027**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2027**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.0516	113.7700	29.2226	0.3414	8.9967	0.1483	9.1450	2.5885	0.1418	2.7302		36,278.31 39	36,278.31 39	1.9240		36,326.41 45
Worker	10.0293	5.4374	61.4446	0.2079	29.4315	0.1672	29.5987	7.8070	0.1539	7.9609		20,730.30 49	20,730.30 49	0.3752		20,739.68 50
<b>Total</b>	<b>13.0810</b>	<b>119.2074</b>	<b>90.6672</b>	<b>0.5493</b>	<b>38.4282</b>	<b>0.3155</b>	<b>38.7437</b>	<b>10.3954</b>	<b>0.2957</b>	<b>10.6911</b>		<b>57,008.61 88</b>	<b>57,008.61 88</b>	<b>2.2992</b>		<b>57,066.09 95</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2027**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.0516	113.7700	29.2226	0.3414	8.9967	0.1483	9.1450	2.5885	0.1418	2.7302		36,278.31 39	36,278.31 39	1.9240		36,326.41 45
Worker	10.0293	5.4374	61.4446	0.2079	29.4315	0.1672	29.5987	7.8070	0.1539	7.9609		20,730.30 49	20,730.30 49	0.3752		20,739.68 50
<b>Total</b>	<b>13.0810</b>	<b>119.2074</b>	<b>90.6672</b>	<b>0.5493</b>	<b>38.4282</b>	<b>0.3155</b>	<b>38.7437</b>	<b>10.3954</b>	<b>0.2957</b>	<b>10.6911</b>		<b>57,008.61 88</b>	<b>57,008.61 88</b>	<b>2.2992</b>		<b>57,066.09 95</b>

**3.5 Building Construction - 2028**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2028**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.9537	112.1200	28.1327	0.3398	8.9962	0.1413	9.1375	2.5883	0.1351	2.7233		36,122.3859	36,122.3859	1.9028		36,169.9558
Worker	9.4492	4.9885	57.4797	0.2013	29.4315	0.1561	29.5875	7.8070	0.1436	7.9506		20,071.5104	20,071.5104	0.3433		20,080.0916
<b>Total</b>	<b>12.4029</b>	<b>117.1085</b>	<b>85.6124</b>	<b>0.5411</b>	<b>38.4277</b>	<b>0.2973</b>	<b>38.7250</b>	<b>10.3952</b>	<b>0.2787</b>	<b>10.6739</b>		<b>56,193.8963</b>	<b>56,193.8963</b>	<b>2.2460</b>		<b>56,250.0474</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2028**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.9537	112.1200	28.1327	0.3398	8.9962	0.1413	9.1375	2.5883	0.1351	2.7233		36,122.3859	36,122.3859	1.9028		36,169.9558
Worker	9.4492	4.9885	57.4797	0.2013	29.4315	0.1561	29.5875	7.8070	0.1436	7.9506		20,071.5104	20,071.5104	0.3433		20,080.0916
<b>Total</b>	<b>12.4029</b>	<b>117.1085</b>	<b>85.6124</b>	<b>0.5411</b>	<b>38.4277</b>	<b>0.2973</b>	<b>38.7250</b>	<b>10.3952</b>	<b>0.2787</b>	<b>10.6739</b>		<b>56,193.8963</b>	<b>56,193.8963</b>	<b>2.2460</b>		<b>56,250.0474</b>

**3.5 Building Construction - 2029**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>		<b>2,556.4744</b>	<b>2,556.4744</b>	<b>0.6010</b>		<b>2,571.4981</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2029**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8653	110.5504	27.2169	0.3384	8.9957	0.1341	9.1298	2.5881	0.1282	2.7163		35,980.43 28	35,980.43 28	1.8816		36,027.47 34
Worker	8.8129	4.5694	53.6643	0.1954	29.4315	0.1454	29.5768	7.8070	0.1338	7.9407		19,487.41 48	19,487.41 48	0.3128		19,495.23 44
<b>Total</b>	<b>11.6782</b>	<b>115.1198</b>	<b>80.8812</b>	<b>0.5337</b>	<b>38.4272</b>	<b>0.2794</b>	<b>38.7066</b>	<b>10.3951</b>	<b>0.2619</b>	<b>10.6570</b>		<b>55,467.84 76</b>	<b>55,467.84 76</b>	<b>2.1944</b>		<b>55,522.70 78</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
<b>Total</b>	<b>1.3674</b>	<b>12.4697</b>	<b>16.0847</b>	<b>0.0270</b>		<b>0.5276</b>	<b>0.5276</b>		<b>0.4963</b>	<b>0.4963</b>	<b>0.0000</b>	<b>2,556.474 4</b>	<b>2,556.474 4</b>	<b>0.6010</b>		<b>2,571.498 1</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2029**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8653	110.5504	27.2169	0.3384	8.9957	0.1341	9.1298	2.5881	0.1282	2.7163		35,980.43 28	35,980.43 28	1.8816		36,027.47 34
Worker	8.8129	4.5694	53.6643	0.1954	29.4315	0.1454	29.5768	7.8070	0.1338	7.9407		19,487.41 48	19,487.41 48	0.3128		19,495.23 44
<b>Total</b>	<b>11.6782</b>	<b>115.1198</b>	<b>80.8812</b>	<b>0.5337</b>	<b>38.4272</b>	<b>0.2794</b>	<b>38.7066</b>	<b>10.3951</b>	<b>0.2619</b>	<b>10.6570</b>		<b>55,467.84 76</b>	<b>55,467.84 76</b>	<b>2.1944</b>		<b>55,522.70 78</b>

**3.5 Building Construction - 2030**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2030**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7856	109.0801	26.4613	0.3371	8.9953	0.1268	9.1221	2.5879	0.1213	2.7092		35,853.31 42	35,853.31 42	1.8597		35,899.80 56
Worker	8.1970	4.1912	50.2322	0.1902	29.4315	0.1354	29.5669	7.8070	0.1246	7.9316		18,972.73 16	18,972.73 16	0.2857		18,979.87 37
<b>Total</b>	<b>10.9826</b>	<b>113.2713</b>	<b>76.6934</b>	<b>0.5273</b>	<b>38.4268</b>	<b>0.2622</b>	<b>38.6890</b>	<b>10.3949</b>	<b>0.2458</b>	<b>10.6407</b>		<b>54,826.04 59</b>	<b>54,826.04 59</b>	<b>2.1453</b>		<b>54,879.67 93</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2030**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7856	109.0801	26.4613	0.3371	8.9953	0.1268	9.1221	2.5879	0.1213	2.7092		35,853.31 42	35,853.31 42	1.8597		35,899.80 56
Worker	8.1970	4.1912	50.2322	0.1902	29.4315	0.1354	29.5669	7.8070	0.1246	7.9316		18,972.73 16	18,972.73 16	0.2857		18,979.87 37
<b>Total</b>	<b>10.9826</b>	<b>113.2713</b>	<b>76.6934</b>	<b>0.5273</b>	<b>38.4268</b>	<b>0.2622</b>	<b>38.6890</b>	<b>10.3949</b>	<b>0.2458</b>	<b>10.6407</b>		<b>54,826.04 59</b>	<b>54,826.04 59</b>	<b>2.1453</b>		<b>54,879.67 93</b>

**3.5 Building Construction - 2031**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2031**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7182	107.7470	25.8394	0.3360	8.9950	0.1204	9.1153	2.5878	0.1151	2.7029		35,744.97 63	35,744.97 63	1.8407		35,790.99 38
Worker	7.5411	3.8339	46.9513	0.1856	29.4315	0.1260	29.5574	7.8070	0.1159	7.9228		18,521.08 55	18,521.08 55	0.2603		18,527.59 25
<b>Total</b>	<b>10.2593</b>	<b>111.5809</b>	<b>72.7907</b>	<b>0.5216</b>	<b>38.4264</b>	<b>0.2463</b>	<b>38.6727</b>	<b>10.3948</b>	<b>0.2310</b>	<b>10.6257</b>		<b>54,266.06 18</b>	<b>54,266.06 18</b>	<b>2.1010</b>		<b>54,318.58 63</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2031**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7182	107.7470	25.8394	0.3360	8.9950	0.1204	9.1153	2.5878	0.1151	2.7029		35,744.97 63	35,744.97 63	1.8407		35,790.99 38
Worker	7.5411	3.8339	46.9513	0.1856	29.4315	0.1260	29.5574	7.8070	0.1159	7.9228		18,521.08 55	18,521.08 55	0.2603		18,527.59 25
<b>Total</b>	<b>10.2593</b>	<b>111.5809</b>	<b>72.7907</b>	<b>0.5216</b>	<b>38.4264</b>	<b>0.2463</b>	<b>38.6727</b>	<b>10.3948</b>	<b>0.2310</b>	<b>10.6257</b>		<b>54,266.06 18</b>	<b>54,266.06 18</b>	<b>2.1010</b>		<b>54,318.58 63</b>

**3.5 Building Construction - 2032**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2032**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6622	106.5104	25.3455	0.3351	8.9947	0.1153	9.1100	2.5877	0.1102	2.6979		35,656.2799	35,656.2799	1.8240		35,701.8801
Worker	6.9554	3.5261	44.0613	0.1816	29.4315	0.1172	29.5486	7.8070	0.1078	7.9148		18,127.8076	18,127.8076	0.2382		18,133.7615
<b>Total</b>	<b>9.6176</b>	<b>110.0364</b>	<b>69.4068</b>	<b>0.5167</b>	<b>38.4261</b>	<b>0.2325</b>	<b>38.6586</b>	<b>10.3947</b>	<b>0.2180</b>	<b>10.6127</b>		<b>53,784.0874</b>	<b>53,784.0874</b>	<b>2.0622</b>		<b>53,835.6416</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.5468</b>	<b>2,897.5468</b>	<b>0.1162</b>		<b>2,900.4529</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2032**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6622	106.5104	25.3455	0.3351	8.9947	0.1153	9.1100	2.5877	0.1102	2.6979		35,656.2799	35,656.2799	1.8240		35,701.8801
Worker	6.9554	3.5261	44.0613	0.1816	29.4315	0.1172	29.5486	7.8070	0.1078	7.9148		18,127.8076	18,127.8076	0.2382		18,133.7615
<b>Total</b>	<b>9.6176</b>	<b>110.0364</b>	<b>69.4068</b>	<b>0.5167</b>	<b>38.4261</b>	<b>0.2325</b>	<b>38.6586</b>	<b>10.3947</b>	<b>0.2180</b>	<b>10.6127</b>		<b>53,784.0874</b>	<b>53,784.0874</b>	<b>2.0622</b>		<b>53,835.6416</b>

**3.5 Building Construction - 2033**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.5468</b>	<b>2,897.5468</b>	<b>0.1162</b>		<b>2,900.4529</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2033**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6149	105.4107	24.9258	0.3344	8.9944	0.1110	9.1054	2.5876	0.1061	2.6937		35,578.40 95	35,578.40 95	1.8093		35,623.64 12
Worker	6.4791	3.2741	41.6273	0.1782	29.4315	0.1093	29.5407	7.8070	0.1005	7.9075		17,788.79 23	17,788.79 23	0.2197		17,794.28 57
<b>Total</b>	<b>9.0940</b>	<b>108.6847</b>	<b>66.5531</b>	<b>0.5126</b>	<b>38.4259</b>	<b>0.2203</b>	<b>38.6461</b>	<b>10.3946</b>	<b>0.2066</b>	<b>10.6012</b>		<b>53,367.20 18</b>	<b>53,367.20 18</b>	<b>2.0290</b>		<b>53,417.92 68</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2033**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.6149	105.4107	24.9258	0.3344	8.9944	0.1110	9.1054	2.5876	0.1061	2.6937		35,578.40 95	35,578.40 95	1.8093		35,623.64 12
Worker	6.4791	3.2741	41.6273	0.1782	29.4315	0.1093	29.5407	7.8070	0.1005	7.9075		17,788.79 23	17,788.79 23	0.2197		17,794.28 57
<b>Total</b>	<b>9.0940</b>	<b>108.6847</b>	<b>66.5531</b>	<b>0.5126</b>	<b>38.4259</b>	<b>0.2203</b>	<b>38.6461</b>	<b>10.3946</b>	<b>0.2066</b>	<b>10.6012</b>		<b>53,367.20 18</b>	<b>53,367.20 18</b>	<b>2.0290</b>		<b>53,417.92 68</b>

**3.5 Building Construction - 2034**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2034**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5713	104.3913	24.5434	0.3337	8.9942	0.1068	9.1010	2.5875	0.1021	2.6896		35,512.74 80	35,512.74 80	1.7954		35,557.63 38
Worker	6.0620	3.0592	39.3236	0.1752	29.4315	0.1019	29.5334	7.8070	0.0938	7.9007		17,495.90 39	17,495.90 39	0.2025		17,500.96 73
<b>Total</b>	<b>8.6333</b>	<b>107.4504</b>	<b>63.8670</b>	<b>0.5089</b>	<b>38.4256</b>	<b>0.2087</b>	<b>38.6343</b>	<b>10.3945</b>	<b>0.1958</b>	<b>10.5903</b>		<b>53,008.65 20</b>	<b>53,008.65 20</b>	<b>1.9980</b>		<b>53,058.60 11</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.546 8	2,897.546 8	0.1162		2,900.452 9
<b>Total</b>	<b>1.3091</b>	<b>7.9346</b>	<b>16.1570</b>	<b>0.0310</b>		<b>0.1481</b>	<b>0.1481</b>		<b>0.1481</b>	<b>0.1481</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1162</b>		<b>2,900.452 9</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2034**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5713	104.3913	24.5434	0.3337	8.9942	0.1068	9.1010	2.5875	0.1021	2.6896		35,512.74 80	35,512.74 80	1.7954		35,557.63 38
Worker	6.0620	3.0592	39.3236	0.1752	29.4315	0.1019	29.5334	7.8070	0.0938	7.9007		17,495.90 39	17,495.90 39	0.2025		17,500.96 73
<b>Total</b>	<b>8.6333</b>	<b>107.4504</b>	<b>63.8670</b>	<b>0.5089</b>	<b>38.4256</b>	<b>0.2087</b>	<b>38.6343</b>	<b>10.3945</b>	<b>0.1958</b>	<b>10.5903</b>		<b>53,008.65 20</b>	<b>53,008.65 20</b>	<b>1.9980</b>		<b>53,058.60 11</b>

**3.5 Building Construction - 2035**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2035**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2035**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**3.5 Building Construction - 2036**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2036**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2036**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**3.5 Building Construction - 2037**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2037**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2037**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**3.5 Building Construction - 2038**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2038**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2038**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**3.5 Building Construction - 2039**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>		<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2039**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.546 8	2,897.546 8	0.1079		2,900.244 8
<b>Total</b>	<b>1.2168</b>	<b>7.1613</b>	<b>16.1178</b>	<b>0.0310</b>		<b>0.0904</b>	<b>0.0904</b>		<b>0.0904</b>	<b>0.0904</b>	<b>0.0000</b>	<b>2,897.546 8</b>	<b>2,897.546 8</b>	<b>0.1079</b>		<b>2,900.244 8</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2039**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.5324	103.4890	24.2216	0.3332	8.9940	0.1031	9.0971	2.5874	0.0986	2.6860		35,458.52 24	35,458.52 24	1.7825		35,503.08 50
Worker	5.7017	2.8916	37.3537	0.1727	29.4315	0.0954	29.5268	7.8070	0.0877	7.8947		17,246.85 49	17,246.85 49	0.1880		17,251.55 37
<b>Total</b>	<b>8.2341</b>	<b>106.3805</b>	<b>61.5753</b>	<b>0.5059</b>	<b>38.4255</b>	<b>0.1985</b>	<b>38.6240</b>	<b>10.3944</b>	<b>0.1863</b>	<b>10.5807</b>		<b>52,705.37 72</b>	<b>52,705.37 72</b>	<b>1.9705</b>		<b>52,754.63 87</b>

**3.5 Building Construction - 2040**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2040**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2040**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**3.5 Building Construction - 2041**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2041**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2041**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**3.5 Building Construction - 2042**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2042**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2042**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**3.5 Building Construction - 2043**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2043**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.9244	35,356.9244	1.7318		35,400.2189
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.2037	16,492.2037	0.1431		16,495.7811
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.1281</b>	<b>51,849.1281</b>	<b>1.8749</b>		<b>51,896.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2043**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.92 44	35,356.92 44	1.7318		35,400.21 89
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.20 37	16,492.20 37	0.1431		16,495.78 11
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.12 81</b>	<b>51,849.12 81</b>	<b>1.8749</b>		<b>51,896.00 00</b>

**3.5 Building Construction - 2044**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2044**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.92 44	35,356.92 44	1.7318		35,400.21 89
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.20 37	16,492.20 37	0.1431		16,495.78 11
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.12 81</b>	<b>51,849.12 81</b>	<b>1.8749</b>		<b>51,896.00 00</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2044**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.4163	100.4929	23.2587	0.3321	8.9932	0.0947	9.0879	2.5872	0.0905	2.6777		35,356.92 44	35,356.92 44	1.7318		35,400.21 89
Worker	4.3744	2.3587	31.2138	0.1651	29.4315	0.0731	29.5045	7.8070	0.0672	7.8742		16,492.20 37	16,492.20 37	0.1431		16,495.78 11
<b>Total</b>	<b>6.7906</b>	<b>102.8516</b>	<b>54.4725</b>	<b>0.4972</b>	<b>38.4247</b>	<b>0.1678</b>	<b>38.5925</b>	<b>10.3941</b>	<b>0.1577</b>	<b>10.5518</b>		<b>51,849.12 81</b>	<b>51,849.12 81</b>	<b>1.8749</b>		<b>51,896.00 00</b>

**3.5 Building Construction - 2045**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2045**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2045**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**3.5 Building Construction - 2046**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2046**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2046**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**3.5 Building Construction - 2047**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2047**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2047**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**3.5 Building Construction - 2048**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2048**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2048**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**3.5 Building Construction - 2049**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2049**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2049**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3727	98.8075	22.9567	0.3314	8.9928	0.0908	9.0836	2.5870	0.0868	2.6738		35,279.39 86	35,279.39 86	1.6955		35,321.78 63
Worker	3.8601	2.1673	28.8373	0.1622	29.4315	0.0635	29.4950	7.8070	0.0584	7.8654		16,207.94 51	16,207.94 51	0.1283		16,211.15 31
<b>Total</b>	<b>6.2327</b>	<b>100.9747</b>	<b>51.7939</b>	<b>0.4936</b>	<b>38.4242</b>	<b>0.1543</b>	<b>38.5786</b>	<b>10.3940</b>	<b>0.1452</b>	<b>10.5392</b>		<b>51,487.34 37</b>	<b>51,487.34 37</b>	<b>1.8238</b>		<b>51,532.93 94</b>

**3.5 Building Construction - 2050**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2050**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3595	97.5426	22.9430	0.3315	8.9924	0.0878	9.0802	2.5869	0.0839	2.6708		35,291.84 26	35,291.84 26	1.6574		35,333.27 87
Worker	3.6978	2.1125	28.0941	0.1612	29.4315	0.0603	29.4917	7.8070	0.0554	7.8624		16,105.42 93	16,105.42 93	0.1244		16,108.53 79
<b>Total</b>	<b>6.0574</b>	<b>99.6551</b>	<b>51.0371</b>	<b>0.4927</b>	<b>38.4239</b>	<b>0.1481</b>	<b>38.5720</b>	<b>10.3938</b>	<b>0.1393</b>	<b>10.5332</b>		<b>51,397.27 19</b>	<b>51,397.27 19</b>	<b>1.7818</b>		<b>51,441.81 66</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2050**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.3595	97.5426	22.9430	0.3315	8.9924	0.0878	9.0802	2.5869	0.0839	2.6708		35,291.84 26	35,291.84 26	1.6574		35,333.27 87
Worker	3.6978	2.1125	28.0941	0.1612	29.4315	0.0603	29.4917	7.8070	0.0554	7.8624		16,105.42 93	16,105.42 93	0.1244		16,108.53 79
<b>Total</b>	<b>6.0574</b>	<b>99.6551</b>	<b>51.0371</b>	<b>0.4927</b>	<b>38.4239</b>	<b>0.1481</b>	<b>38.5720</b>	<b>10.3938</b>	<b>0.1393</b>	<b>10.5332</b>		<b>51,397.27 19</b>	<b>51,397.27 19</b>	<b>1.7818</b>		<b>51,441.81 66</b>

**3.5 Building Construction - 2051**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.547 1	2,897.547 1	0.1041		2,900.150 3
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.547 1</b>	<b>2,897.547 1</b>	<b>0.1041</b>		<b>2,900.150 3</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2051**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2051**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2052**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2052**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2052**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2053**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2053**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2053**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2054**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2054**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2054**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2055**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2055**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2055**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.5 Building Construction - 2056**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737		2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>		<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2056**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1970	6.8903	16.1185	0.0310		0.0737	0.0737		0.0737	0.0737	0.0000	2,897.5471	2,897.5471	0.1041		2,900.1503
<b>Total</b>	<b>1.1970</b>	<b>6.8903</b>	<b>16.1185</b>	<b>0.0310</b>		<b>0.0737</b>	<b>0.0737</b>		<b>0.0737</b>	<b>0.0737</b>	<b>0.0000</b>	<b>2,897.5471</b>	<b>2,897.5471</b>	<b>0.1041</b>		<b>2,900.1503</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.5 Building Construction - 2056**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					6.4281	0.0000	6.4281	1.5778	0.0000	1.5778			0.0000			0.0000
Worker					25.5763	0.0000	25.5763	6.2778	0.0000	6.2778			0.0000			0.0000
<b>Total</b>					<b>32.0044</b>	<b>0.0000</b>	<b>32.0044</b>	<b>7.8556</b>	<b>0.0000</b>	<b>7.8556</b>			<b>0.0000</b>			<b>0.0000</b>

**3.6 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0554	0.0380	0.3827	1.0100e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		100.9746	100.9746	2.6900e-003		101.0419
<b>Total</b>	<b>0.0554</b>	<b>0.0380</b>	<b>0.3827</b>	<b>1.0100e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>100.9746</b>	<b>100.9746</b>	<b>2.6900e-003</b>		<b>101.0419</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0554	0.0380	0.3827	1.0100e-003	0.1141	7.7000e-004	0.1149	0.0303	7.1000e-004	0.0310		100.9746	100.9746	2.6900e-003		101.0419
<b>Total</b>	<b>0.0554</b>	<b>0.0380</b>	<b>0.3827</b>	<b>1.0100e-003</b>	<b>0.1141</b>	<b>7.7000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>7.1000e-004</b>	<b>0.0310</b>		<b>100.9746</b>	<b>100.9746</b>	<b>2.6900e-003</b>		<b>101.0419</b>

**3.6 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>		<b>2,207.6603</b>	<b>2,207.6603</b>	<b>0.7140</b>		<b>2,225.5104</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0342	0.3510	9.8000e-004	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		97.3592	97.3592	2.4100e-003		97.4196
<b>Total</b>	<b>0.0518</b>	<b>0.0342</b>	<b>0.3510</b>	<b>9.8000e-004</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>97.3592</b>	<b>97.3592</b>	<b>2.4100e-003</b>		<b>97.4196</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>	<b>0.0000</b>	<b>2,207.6603</b>	<b>2,207.6603</b>	<b>0.7140</b>		<b>2,225.5104</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0342	0.3510	9.8000e-004	0.1141	7.5000e-004	0.1149	0.0303	6.9000e-004	0.0310		97.3592	97.3592	2.4100e-003		97.4196
<b>Total</b>	<b>0.0518</b>	<b>0.0342</b>	<b>0.3510</b>	<b>9.8000e-004</b>	<b>0.1141</b>	<b>7.5000e-004</b>	<b>0.1149</b>	<b>0.0303</b>	<b>6.9000e-004</b>	<b>0.0310</b>		<b>97.3592</b>	<b>97.3592</b>	<b>2.4100e-003</b>		<b>97.4196</b>

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0307	0.3216	9.4000e-004	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		93.7046	93.7046	2.1600e-003		93.7585
<b>Total</b>	<b>0.0485</b>	<b>0.0307</b>	<b>0.3216</b>	<b>9.4000e-004</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>93.7046</b>	<b>93.7046</b>	<b>2.1600e-003</b>		<b>93.7585</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0327</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.6 Paving - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0307	0.3216	9.4000e-004	0.1141	7.3000e-004	0.1148	0.0303	6.7000e-004	0.0309		93.7046	93.7046	2.1600e-003		93.7585
<b>Total</b>	<b>0.0485</b>	<b>0.0307</b>	<b>0.3216</b>	<b>9.4000e-004</b>	<b>0.1141</b>	<b>7.3000e-004</b>	<b>0.1148</b>	<b>0.0303</b>	<b>6.7000e-004</b>	<b>0.0309</b>		<b>93.7046</b>	<b>93.7046</b>	<b>2.1600e-003</b>		<b>93.7585</b>

**3.7 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>146.2398</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.8567	1.9613	19.7496	0.0523	5.8878	0.0397	5.9276	1.5618	0.0366	1.5984		5,210.291 3	5,210.291 3	0.1389		5,213.762 5
<b>Total</b>	<b>2.8567</b>	<b>1.9613</b>	<b>19.7496</b>	<b>0.0523</b>	<b>5.8878</b>	<b>0.0397</b>	<b>5.9276</b>	<b>1.5618</b>	<b>0.0366</b>	<b>1.5984</b>		<b>5,210.291 3</b>	<b>5,210.291 3</b>	<b>0.1389</b>		<b>5,213.762 5</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>146.2398</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.8567	1.9613	19.7496	0.0523	5.8878	0.0397	5.9276	1.5618	0.0366	1.5984		5,210.291 3	5,210.291 3	0.1389		5,213.762 5
<b>Total</b>	<b>2.8567</b>	<b>1.9613</b>	<b>19.7496</b>	<b>0.0523</b>	<b>5.8878</b>	<b>0.0397</b>	<b>5.9276</b>	<b>1.5618</b>	<b>0.0366</b>	<b>1.5984</b>		<b>5,210.291 3</b>	<b>5,210.291 3</b>	<b>0.1389</b>		<b>5,213.762 5</b>

**3.7 Architectural Coating - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>146.2254</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.6715	1.7632	18.1105	0.0504	5.8878	0.0387	5.9265	1.5618	0.0357	1.5975		5,023.7365	5,023.7365	0.1245		5,026.8498
<b>Total</b>	<b>2.6715</b>	<b>1.7632</b>	<b>18.1105</b>	<b>0.0504</b>	<b>5.8878</b>	<b>0.0387</b>	<b>5.9265</b>	<b>1.5618</b>	<b>0.0357</b>	<b>1.5975</b>		<b>5,023.7365</b>	<b>5,023.7365</b>	<b>0.1245</b>		<b>5,026.8498</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>146.2254</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.6715	1.7632	18.1105	0.0504	5.8878	0.0387	5.9265	1.5618	0.0357	1.5975		5,023.7365	5,023.7365	0.1245		5,026.8498
<b>Total</b>	<b>2.6715</b>	<b>1.7632</b>	<b>18.1105</b>	<b>0.0504</b>	<b>5.8878</b>	<b>0.0387</b>	<b>5.9265</b>	<b>1.5618</b>	<b>0.0357</b>	<b>1.5975</b>		<b>5,023.7365</b>	<b>5,023.7365</b>	<b>0.1245</b>		<b>5,026.8498</b>

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>146.2125</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.5033	1.5861	16.5935	0.0485	5.8878	0.0378	5.9256	1.5618	0.0348	1.5966		4,835.1555	4,835.1555	0.1114		4,837.9395
<b>Total</b>	<b>2.5033</b>	<b>1.5861</b>	<b>16.5935</b>	<b>0.0485</b>	<b>5.8878</b>	<b>0.0378</b>	<b>5.9256</b>	<b>1.5618</b>	<b>0.0348</b>	<b>1.5966</b>		<b>4,835.1555</b>	<b>4,835.1555</b>	<b>0.1114</b>		<b>4,837.9395</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	146.0209					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>146.2125</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**3.7 Architectural Coating - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	2.5033	1.5861	16.5935	0.0485	5.8878	0.0378	5.9256	1.5618	0.0348	1.5966		4,835.155 5	4,835.155 5	0.1114		4,837.939 5
<b>Total</b>	<b>2.5033</b>	<b>1.5861</b>	<b>16.5935</b>	<b>0.0485</b>	<b>5.8878</b>	<b>0.0378</b>	<b>5.9256</b>	<b>1.5618</b>	<b>0.0348</b>	<b>1.5966</b>		<b>4,835.155 5</b>	<b>4,835.155 5</b>	<b>0.1114</b>		<b>4,837.939 5</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
General Light Industry	10.00	5.00	6.50	59.00	28.00	13.00	92	5	3
Regional Shopping Center	10.00	5.00	6.50	16.30	64.70	19.00	54	35	11
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	86	11	3
User Defined Recreational	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
General Light Industry	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
Regional Shopping Center	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
Single Family Housing	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566
User Defined Recreational	0.578893	0.033999	0.212840	0.104491	0.010628	0.004325	0.018736	0.026318	0.001852	0.001362	0.005392	0.000598	0.000566

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567
Unmitigated	214.7014	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293	0.0000	107.8139	107.8139	0.1057	0.0000	110.4567

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	212.8683					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8331	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293		107.8139	107.8139	0.1057		110.4567
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>		<b>0.3293</b>	<b>0.3293</b>		<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	212.8683					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8331	0.6842	59.4962	3.1700e-003		0.3293	0.3293		0.3293	0.3293		107.8139	107.8139	0.1057		110.4567
<b>Total</b>	<b>214.7014</b>	<b>0.6842</b>	<b>59.4962</b>	<b>3.1700e-003</b>		<b>0.3293</b>	<b>0.3293</b>		<b>0.3293</b>	<b>0.3293</b>	<b>0.0000</b>	<b>107.8139</b>	<b>107.8139</b>	<b>0.1057</b>	<b>0.0000</b>	<b>110.4567</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

Maximum Construction Year - Elk Grove Mult-Sport Complex and SOIA SEIR - Sacramento County, Winter

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---



---

## ***Paul Rosenfeld, Ph.D.***

**Chemical Fate and Transport & Air Dispersion Modeling**

*Principal Environmental Chemist*

**Risk Assessment & Remediation Specialist**

### **Education:**

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.  
M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.  
B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

### **Professional Experience:**

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

### **Professional History:**

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner  
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)  
UCLA School of Public Health; 2003 to 2006; Adjunct Professor  
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator  
UCLA Institute of the Environment, 2001-2002; Research Associate  
Komex H<sub>2</sub>O Science, 2001 to 2003; Senior Remediation Scientist  
National Groundwater Association, 2002-2004; Lecturer  
San Diego State University, 1999-2001; Adjunct Professor  
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager  
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager  
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor  
King County, Seattle, 1996 – 1999; Scientist  
James River Corp., Washington, 1995-96; Scientist  
Big Creek Lumber, Davenport, California, 1995; Scientist  
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist  
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist  
Bureau of Land Management, Kremmling Colorado 1990; Scientist

## **Publications:**

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.**, Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

**Rosenfeld, P.E.** & Feng, L. (2011). *The Risks of Hazardous Waste*. Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*. Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution*, 123 (17), 319-327.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

**Rosenfeld, P.E.**, J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

**Rosenfeld, P. E.**, M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities*. Boston Massachusetts: Elsevier Publishing,

**Rosenfeld P.E.**, and Suffet, I.H. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology*.

**Rosenfeld, P.E.**, Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007). The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities. *Water Science And Technology*.

- Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.
- Rosenfeld P. E.,** J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.
- Rosenfeld, P.E.,** and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.
- Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49( 9), 171-178.
- Rosenfeld, P. E.,** Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.
- Rosenfeld, P.E.,** Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office, Publications Clearinghouse (MS-6)*, Sacramento, CA Publication #442-02-008.
- Rosenfeld, P.E.,** and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.
- Rosenfeld, P.E.,** and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.
- Rosenfeld, P.E.,** C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.
- Rosenfeld, P.E.,** and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.
- Rosenfeld, P.E.,** and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.
- Chollack, T. and **P. Rosenfeld**. (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.
- Rosenfeld, P. E.** (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).
- Rosenfeld, P. E.** (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).
- Rosenfeld, P. E.** (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.
- Rosenfeld, P. E.** (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.
- Rosenfeld, P. E.** (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

## **Presentations:**

**Rosenfeld, P.E.**, Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

**Rosenfeld, P.E.** (April 19-23, 2009). Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

**Rosenfeld, P.E.** (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States” Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

**Rosenfeld, P. E.** (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. *The 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld P. E.** (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

**Rosenfeld P. E.** (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florida, Alabama. *The AEHS Annual Meeting*. Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition*. Lecture conducted from Boston Massachusetts.

**Paul Rosenfeld Ph.D.** (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference*. Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

**Paul Rosenfeld Ph.D.** (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

**Paul Rosenfeld Ph.D.** (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel in Irvine, California.

**Paul Rosenfeld Ph.D.** (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference*. Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

**Paul Rosenfeld Ph.D.** (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

**Paul Rosenfeld Ph.D.** (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld Ph.D.** (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

**Paul Rosenfeld, Ph.D.** (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

**Paul Rosenfeld, Ph.D.** (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

**Rosenfeld, P. E.**, Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference Orlando, FL*.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*. Lecture conducted from Hyatt Regency Phoenix Arizona.

**Paul Rosenfeld, Ph.D.** (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

**Paul Rosenfeld, Ph.D.** (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.



**Rosenfeld, P.E.** and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association.* Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E.** and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association.* Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E.** and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association.* Lecture conducted from Vancouver Washington..

**Rosenfeld, P.E.** and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conference.* Lecture conducted from Indianapolis, Maryland.

**Rosenfeld, P.E.** (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

**Rosenfeld, P.E.** (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

**Rosenfeld, P.E.** (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association.* Lecture conducted from Sacramento California.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings.* Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.,** and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America.* Lecture conducted from Salt Lake City Utah.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

**Rosenfeld, P.E.,** C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings.* Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.,** C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America.* Lecture conducted from Anaheim California.

## **Teaching Experience:**

UCLA Department of Environmental Health (Summer 2003 through 2010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

## **Academic Grants Awarded:**

California Integrated Waste Management Board. \$41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: \$10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. \$100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. \$20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: \$10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

## **Deposition and/or Trial Testimony:**

- In The Superior Court of the State of California, County of Alameda  
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants  
Case No.: RG14711115  
Rosenfeld Deposition, September, 2015
- In The Iowa District Court In And For Poweshiek County  
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants  
Case No.: LALA002187  
Rosenfeld Deposition, August 2015
- In The Iowa District Court For Wapello County  
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants  
Law No.: LALA105144 - Division A  
Rosenfeld Deposition, August 2015
- In The Iowa District Court For Wapello County  
Doug Pauls, et al., et al., Plaintiffs vs. Richard Warren, et al., Defendants  
Law No.: LALA105144 - Division A  
Rosenfeld Deposition, August 2015
- In The Circuit Court of Ohio County, West Virginia  
Robert Andrews, et al. v. Antero, et al.  
Civil Action NO. 14-C-30000  
Rosenfeld Deposition, June 2015
- In The Third Judicial District County of Dona Ana, New Mexico  
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward  
DeRuyter, Defendants  
Rosenfeld Deposition: July 2015
- In The Iowa District Court For Muscatine County  
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant  
Case No 4980  
Rosenfeld Deposition: May 2015
- In the Circuit Court of the 17<sup>th</sup> Judicial Circuit, in and For Broward County, Florida  
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.  
Case Number CACE07030358 (26)  
Rosenfeld Deposition: December 2014
- In the United States District Court Western District of Oklahoma  
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City  
Landfill, et al. Defendants.  
Case No. 5:12-cv-01152-C  
Rosenfeld Deposition: July 2014
- In the County Court of Dallas County Texas  
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant*.  
Case Number cc-11-01650-E  
Rosenfeld Deposition: March and September 2013  
Rosenfeld Trial: April 2014
- In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*  
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)  
Rosenfeld Deposition: October 2012

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken  
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.  
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama  
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*  
Civil Action No. CV 2008-2076  
Rosenfeld Deposition: September 2010

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana  
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.  
Civil Suit Number 224,041 Division G  
Rosenfeld Deposition: September 2008

In the United States District Court, Western District Lafayette Division  
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.  
Case Number 2:07CV1052  
Rosenfeld Deposition: July 2009

In the United States District Court for the Southern District of Ohio  
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.  
Case Number 1:05 CV 227  
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana  
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.  
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana  
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.  
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153<sup>rd</sup> Judicial District  
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation  
A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.  
Case Number 153-212928-05  
Rosenfeld Deposition: December 2006, October 2007  
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino  
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100,  
inclusive, *Defendants*.  
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive,  
*Defendants*.  
Case Number VCVVS044671  
Rosenfeld Deposition: December 2009  
Rosenfeld Trial: March 2010

In the United States District Court for the Middle District of Alabama, Northern Division  
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.  
Civil Action Number 2:09-cv-232-WHA-TFM  
Rosenfeld Deposition: July 2010, June 2011

In the Superior Court of the State of California in and for the County of Los Angeles  
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants*.  
Case Number SC094173  
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 through 100, *Defendants*.  
Case Number 1229251 (Consolidated with case number 1231299)  
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas  
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants*.  
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)  
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division  
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants*.  
Civil Action Number 07-4037  
Rosenfeld Deposition: March 2010  
Rosenfeld Trial: October 2010

In the District Court of Texas 21<sup>st</sup> Judicial District of Burleson County  
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant*.  
Case Number 25,151  
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division  
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant*.  
Case 3:10-cv-00622  
Rosenfeld Deposition: February 2012  
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland  
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants  
Case Number: 03-C-12-012487 OT  
Rosenfeld Deposition: September 2013



1640 5<sup>th</sup> St., Suite 204 Santa  
Santa Monica, California 90401  
Tel: (949) 887-9013  
Email: [mhagemann@swape.com](mailto:mhagemann@swape.com)

**Matthew F. Hagemann, P.G., C.Hg., QSD, QSP**

**Geologic and Hydrogeologic Characterization  
Industrial Stormwater Compliance  
Investigation and Remediation Strategies  
Litigation Support and Testifying Expert  
CEQA Review**

**Education:**

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

**Professional Certifications:**

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

**Professional Experience:**

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

**Senior Regulatory and Litigation Support Analyst:**

With SWAPE, Matt’s responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt’s duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.



- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

### **Executive Director:**

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

### **Hydrogeology:**

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

**Policy:**

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

### Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

### Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

### Invited Testimony, Reports, Papers and Presentations:

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

**Hagemann, M.F.**, 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

**Hagemann, M.F.**, 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

**Hagemann, M.F.**, 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

**Hagemann, M.F.**, 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

**Hagemann, M.F.**, 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

**Hagemann, M.F.**, 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

**Hagemann, M.F.**, 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

**Hagemann, M.F.**, 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

**Hagemann, M.F.**, 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

**Hagemann, M.F.**, 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F.**, 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

**Hagemann, M.F.**, 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

**Hagemann, M.F.**, 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

**Hagemann, M.F.**, and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

**Hagemann, M.F.**, 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

**Hagemann, M.F.**, 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

**Hagemann, M.F.**, and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

**Hagemann, M.F.**, Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

**Hagemann, M. F.**, Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

**Hagemann, M.F.**, 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

**Hagemann, M.F.** and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

**Hagemann, M.F.**, 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

**Hagemann, M.F.**, 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

# EXHIBIT B

Shawn Smallwood, PhD  
3108 Finch Street  
Davis, CA 95616

Christopher Jordan, Director of Strategic Planning and Innovation  
City of Elk Grove  
8401 Laguna Palms Way  
Elk Grove, CA 95758

7 December 2020

RE: Multi-Sport Complex and Southeast Industrial Annexation Project

Dear Mr. Jordan,

I write to comment on potential biological impacts related to the Supplemental EIR (City of Elk Grove 2020) prepared for the proposed Multi-Sport Complex and Southeast Industrial Annexation Project, which I understand would consist of light and heavy industrial uses along with a sport complex on 572 acres (561 acres in Executive Summary) on the southeast of Grant Line Road.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, interactions between wildlife and human infrastructure and activities, and conservation of rare and endangered species. I performed research on wildlife mortality caused by wind turbines, electric distribution lines, agricultural practices, and road traffic. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-five years, including at many proposed project sites. My CV is attached.

### **SITE VISIT**

I visited a small portion of the site of the proposed project from 07:57 to 09:57 hours on 4 December 2020. I walked along the roadside and, using binoculars, scanned for wildlife over what I could see of the project large site. Conditions were cool and sunny with no wind. The site was largely irrigated pasture (Photos 1 - 3), with scattered oaks and hedges of willows and blackberries.

I saw 29 species of vertebrate wildlife at the site during my brief 2-hour visit (Table 1). In surveys I performed in the area in 1999 and 2011, I saw 39 species (Table 2), including some of the same species I saw on 4 December 2020. I saw 50 species among all 3 visits. In 1999 I detected breeding pairs of Swainson's hawks – a species listed as



Threatened under the California Endangered Species Act. Swainson's hawks were at their winter migration sites in Mexico at the time of my 4 December 2020 site visit.



**Photos 1-3.** Views of the project site, 4 December 2020. Lower photo shows initial grading.

**Table 1.** Species of wildlife I observed from 07:57 to 09:57 hours on 4 December 2020 at the site of the proposed project.

<b>Species</b>	<b>Scientific name</b>	<b>Status<sup>1</sup></b>
Killdeer	<i>Charadrius vociferous</i>	
Red-tailed hawk	<i>Buteo jamaicensis</i>	FGC 3503.5
White-tailed kite	<i>Elanus leucurus</i>	CFP, FGC 3503.5
Northern harrier	<i>Circus cyaneus</i>	SSC3, FGC 3503.5
Cooper's hawk	<i>Accipter cooperi</i>	TWL, FGC 3503.5
American kestrel	<i>Falco sparverius</i>	FGC 3503.5
California gull	<i>Larus californicus</i>	TWL
Rock pigeon	<i>Columba livea</i>	Non-native
Mourning dove	<i>Zenaida macroura</i>	
Black phoebe	<i>Sayornis nigricans</i>	
European starling	<i>Sturnus vulgaris</i>	Non-native
American crow	<i>Corvus brachyrhynchos</i>	
House wren	<i>Troglodytes aedon</i>	
Ruby-crowned kinglet	<i>Regulus calendula</i>	
Bushtit	<i>Psaltriparus minimus</i>	
Northern mockingbird	<i>Mimus polyglottos</i>	
Orange-crowned warbler	<i>Vermivora celata</i>	
Lincoln's sparrow	<i>Melospiza lincolni</i>	
Fox sparrow	<i>Passerella iliaca</i>	
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	
Great-tailed grackle	<i>Quiscalus mexicanus</i>	Range expansion
Western meadowlark	<i>Sturnella neglecta</i>	
Red-winged blackbird	<i>Agelaius phoeniceus</i>	
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	
House finch	<i>Carpodacus mexicanus</i>	
Lesser goldfinch	<i>Carduelis psaltria</i>	

<sup>1</sup> See footnote to Table 3 for definitions of special status code.

During my visits, those portions of the site that I could see from public roads were very busy with wildlife. Thousands of blackbirds were onsite, very likely including tricolored blackbird – a California Threatened species. I was just too far from the large mixed flocks of blackbirds to identify member species, but in my experience, they often include tricolored blackbirds in that part of the Central Valley. I saw 6 special-status species of wildlife on 4 December 2020, but I saw 12 special-status species among all 3 visits. I saw multiple white-tailed kites – a California Fully Protected species, and in 2011 I saw sandhill cranes – a California Threatened species. The site is intensely used by wildlife, and it hosts many of the Central Valley's special-status species.

During my 4 December 2020 visit, construction crews were onsite, flagged stakes were being set, and grading had begun near Grant Line road. Excavators were also parked nearby.

**Table 2.** Species I observed during a 65-minute visit to the project area at 16:00 hours on 9 November 2011 and during a 90-minute visit to nearby Sky Ranch Airport on 12 August 1999.

Common name	Scientific name	Status <sup>1</sup>	Visit
Great blue heron	<i>Ardea herodias</i>		11/9/2011
Great egret	<i>Casmerodius albus</i>		8/12/1999
Snowy egret	<i>Egretta thula</i>		8/12/1999
Long-billed curlew	<i>Numenius americanus</i>	TWL	11/9/2011
Sandhill crane	<i>Grus canadensis tabida</i>	CT	11/9/2011
Northern pintail	<i>Anus acuta</i>		8/12/1999
Willit	<i>Catoptrophorus semipalmatus</i>		8/12/1999
Killdeer	<i>Charadrius vociferus</i>		11/9/2011
Turkey vulture	<i>Cathartes aura</i>	FGC 3503.5	8/12/1999
Cooper's hawk	<i>Accipter cooperii</i>	TWL, FGC 3503.5	8/12/1999
Swainson's hawk	<i>Buteo swainoni</i>	CT, FGC 3503.5	8/12/1999
Red-tailed hawk	<i>Buteo jamaicensis</i>	FGC 3503.5	11/9/2011
Northern harrier	<i>Circus cyaneus</i>	SSC3, FGC 3503.5	11/9/2011
White-tailed kite	<i>Elanus leucurus</i>	CFP, FGC 3503.5	11/9/2011
American kestrel	<i>Falco sparverius</i>	FGC 3503.5	11/9/2011
Mourning dove	<i>Zenaida macroura</i>		11/9/2011
California quail	<i>Callipepla californica</i>		11/9/2011
Common raven	<i>Corvus corax</i>		11/9/2011
American crow	<i>Corvus brachyrhynchos</i>		11/9/2011
Western scrub-jay	<i>Aphelocoma coerulescens</i>		11/9/2011
Yellow-billed magpie	<i>Pica nuttalli</i>	BCC	11/9/2011
Northern mockingbird	<i>Mimus polyglottos</i>		11/9/2011
Black phoebe	<i>Sayornis nigricans</i>		11/9/2011
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC, SSC2	11/9/2011
Song sparrow	<i>Melospiza melodia</i>		11/9/2011
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		11/9/2011
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		11/9/2011
Rufous-crowned sparrow	<i>Aimophila ruficeps</i>		11/9/2011
Brewer's blackbird	<i>Euphagus cyanocephalus</i>		11/9/2011
Red-winged blackbird	<i>Agelaius phoeniceus</i>		11/9/2011
Western meadowlark	<i>Sturnella neglecta</i>		11/9/2011
House finch	<i>Carpodacus mexicanus</i>		11/9/2011
European starling	<i>Sturnus vulgaris</i>	Non-native	11/9/2011
Virginia opossum	<i>Didelphis virginianus</i>	Non-native	8/12/1999
Botta's pocket gopher	<i>Thomomys bottae</i>		11/9/2011
Raccoon	<i>Procyon lotor</i>		11/9/2011
Striped skunk	<i>Mephitis mephitis</i>		11/9/2011
Black-tailed deer	<i>Odocoileus hemionus</i>		8/12/1999
Northern Pacific rattlesnake	<i>Crotalus viridis oreganus</i>		8/12/1999

<sup>1</sup> See footnote to Table 3 for definitions of special status code.

During my 4 December 2020 visit to the site, I saw bushtits (Photo 4), house finches (Photo 5), American kestrels (Photos 6 and 7), white-tailed kites and killdeer (Photos 8 and 9), American pipits and white-crowned sparrows (Photos 10 and 11). During an earlier visit there I saw a flock of long-billed curlew foraging on site (Photo 12).



**Photo 4.** One of a large flock of bushtits on the project site, 4 December 2020.

**Photo 5.** on the project site, 4 December 2020.





**Photos 6 and 7.** One of multiple American kestrels on the project site, 4 December 2020.



**Photos 8 and 9.** One of two White-tailed kites (left) and one of a pair of killdeer (right) on the project site, 4 December 2020.



**Photos 10 and 11.** One of many American pipits (left) and one of many white-crowned sparrows (right) on the project site, 4 December 2020.



**Photo 12.** Long-billed curlew and a lone killdeer covering an alfalfa field in the project area on 9 November 2011.

### **BIOLOGICAL IMPACTS ASSESSMENT**

According to City of Elk Grove (2020:3.5-1), “The biological resources setting for the Project site itself has not changed since the 2019 SOIA EIR was prepared.” However, whereas the environmental setting has not change, the nature of the impacts resulting

from the modified project have changed. The project would replace 107 acres of Public Open Space/Recreation area proposed in the 2019 SOIA EIR with Light Industrial, which would increase 144 acres over the 2019 SOIA EIR (143 of the acres addition would be Heavy Industrial). The new project would extend wildlife-automobile impacts to many miles beyond the building footprints.

Although City of Elk Grove (2020) claims the biological resources setting has not changed since the 2019 EIR, the 2020 SEIR characterizes a different biological resources' setting from that of the 2019 EIR. The 2020 SEIR determines 9 special-status species of wildlife to possibly occur at the project site after the 2019 EIR determined these same species are unlikely to occur at the site (Table 3). Considered unlikely to use the site in 2019, least bittern, yellow warbler, Modesto song sparrow, grasshopper sparrow, yellow-headed blackbird, western red bat, western pond turtle, and giant garter snake became possible in 2020. Either the site's suitability for special-status species improved over the past year or another biologist gave the site a more careful look.

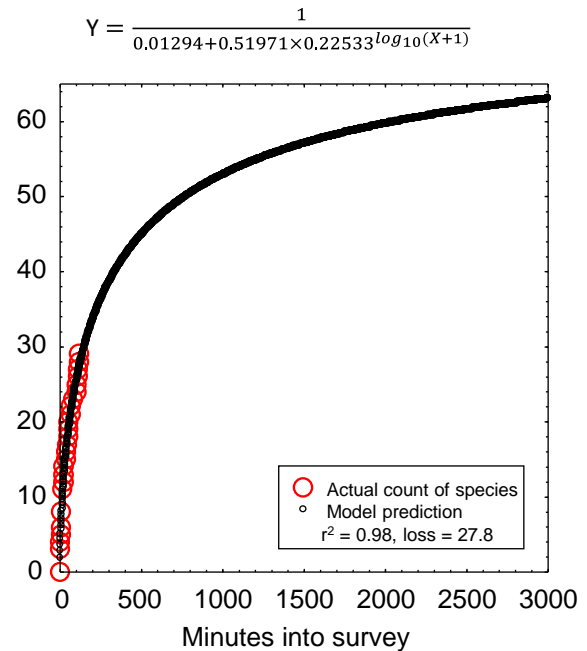
The biological resources setting changed again in August 2020 when a consulting biologist visited the site and detected 4 special-status species of wildlife, 2 of which were not previously analyzed for potential occurrence, and 2 of which the 2020 SEIR determines only possibly occurring on site. During my visits I detected another 12 special-status species. These findings all point to the grossly inadequate survey effort resulting in a mischaracterized and still-changing biological resources setting. A mischaracterized environmental setting cannot possibly support an adequate analysis of potential project impacts.

According to the 2020 SEIR, a mere 4 special-status species have been documented on the project site, and those 4 were documented only on the final survey visit by a biologist in August 2020. The 2020 SEIR only considered the potential for the occurrences of 25 special-status species of terrestrial vertebrate wildlife, which is an improvement over the 21 species considered in the 2019 DEIR, but many fewer than the 69 species that should have been considered (Table 3). Neither the 2019 DEIR nor the 2020 SEIR made use of eBird, iNaturalist or any other available resource other than the under-informed California Natural Diversity Data Base. No serious effort has been made to characterize the environmental setting, resulting in the 2020 SEIR's false and entirely unbelievable determination that a 572-acre site composed of irrigated pasture, thickly vegetated hedges, Valley oaks, and wetlands, and situated along Deer Creek, supports only a few special-status species of wildlife.

That the environmental setting has yet to be accurately characterized is further supported by known trends in species detections with survey effort. Figure 1 shows my count of species detected at the site with time into my survey – it simply shows the cumulative number of species detected with increasing survey time. Just as I have seen for many other survey efforts, a regression model fit the data very well, explaining 98% of the variation in the data, and it showed progress towards the inevitable asymptote of the nonlinear prediction curve where the same survey methods will eventually detect no

more species. In my case, had I continued doing what I was doing on 4 December 2020, I would have eventually detected more than 65 species of terrestrial vertebrate wildlife, or more than double the number I actually detected. However, combining my survey time and my survey outcomes between the 3 surveys I performed in the project area since 1999, the total number of species I detected exceeded the number that the model in Figure 1 would predict. Surveying at different times of day, in different seasons, and using various methods would vastly increase the number of species detected and it would vastly change one's characterization of the environmental setting. City of Elk Grove has come nowhere close to accurately characterizing the environmental setting.

**Figure 1.** Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on visual scan on 4 December 2020. Note that the relationships would differ if the survey was based on another method, another time of day, or during another season. Also note that the cumulative number of vertebrate species across all methods, times of day, and seasons would increase substantially. For example, between my three survey efforts on 12 August 1999, 9 November 2011 and 4 December 2020, 50 vertebrate wildlife species were detected instead of the 36 the model would have predicted by the sum duration of survey time.

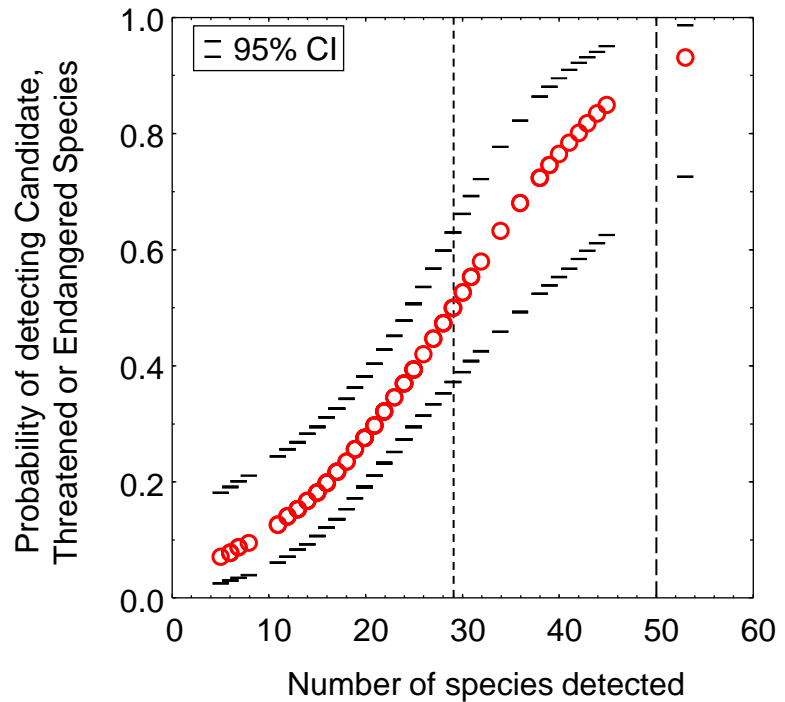


The likelihood of detecting special-status species is typically lower than that of more common species. This difference can be explained by the fact that special-status species tend to be rarer than common species. Special-status species also tend to be more cryptic, fossorial, or active during nocturnal periods when general biological surveys are not performed. Another useful relationship from careful recording of species detections and subsequent comparative analysis is the probability of detection of listed species as a function of increasing number of vertebrate wildlife species detected (Figure 2). (Note that listed species number fewer than special-status species, which are inclusive of listed species.) As demonstrated in Figure 1, the number of species detected is a function of survey effort. Therefore, greater survey effort increases the likelihood that listed species will be detected. The survey effort committed to the project site by City of Elk Grove carried a very small chance of detecting a listed species, whereas the effort committed by myself on 4 December 2020 carried a 50% chance of detecting a listed species. Adding the outcomes of my earlier survey efforts, and the odds were 88% that one of my surveys would have detected a listed species. In fact, I detected 3 listed species, including greater sandhill crane, Swanson's hawk, and white-tailed kite. My survey outcomes beat the odds of detecting listed species by nearly 3 to 1, further indicating the value of the



site to wildlife. To summarize, the type of surveys and level of effort committed by City of Elk Grove were ill-suited for detecting special-status species, nor was my survey effort suited for detecting special-status species, but careful interpretation of survey outcomes can inform of the likelihood the site will be found to host special-status species based on the survey effort. Also, the site is much more valuable to wildlife than characterized by City of Elk Grove.

**Figure 2.** Probability of detecting  $\geq 1$  Candidate, Threatened or Endangered Species of wildlife listed under California or federal Endangered Species Acts, based on survey outcomes that I logit-regressed on the number of wildlife species I detected as an expert witness during 106 site visits throughout California. The vertical short-dashed line represents the number of species I detected on 4 Dec 2020, and the vertical long-dashed line represents the number of species I detected among all 3 of my surveys at or near the project site.



I concur with California Department of Fish and Wildlife’s comments in its scoping letter that “the SEIR should evaluate “the whole of the action” (i.e., including off-site improvements); incorporate a range of alternatives that would avoid or minimize impacts to biological resources; perform habitat assessments; implement detection surveys; evaluate project impacts on special-status species; and include a complete analysis of endangered, threatened, candidate, and locally unique species” (City of Elk Grove (2020:3.4-35)). The impacts to biological resources cannot be separated between the project analyzed in the 2019 EIR and the so-called off-site improvements of the 2020 SEIR. Nor can mitigation be appropriately formulated for the off-site improvements separate from the rest of the project. An analysis of impacts from the whole of the action is especially needed in light of the mischaracterization of the environmental setting at the project site.

**Table 3.** eBird or iNaturalist occurrence records or my observations at or near the proposed project site.

<b>Species</b>	<b>Scientific name</b>	<b>Status<sup>1</sup></b>	<b>2019 EIR</b>	<b>2020 SEIR</b>	<b>eBird/iNat records and Smallwood observations</b>
Aleutian cackling goose	<i>Branta hutchinsonii leucopareia</i>	TWL			Nearby
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC1			Nearby
Double-crested cormorant	<i>Phalacrocorax auritus</i>	TWL			Nearby
White-faced ibis	<i>Plegadis chihi</i>	TWL			Nearby
Least bittern	<i>Ixobrychus exilis</i>	SSC2	Unlikely	Possible	Nearby
Sandhill crane	<i>Grus c. canadensis</i>	CT, CFP, SSC3	Possible	Possible	On site
Whimbrel	<i>Numenius phaeopus</i>	BCC			Very close
Long-billed curlew	<i>Numenius americanus</i>	BCC, TWL			On site
Marbled godwit	<i>Limosa fedua</i>	BCC			Nearby
Snowy plover	<i>Charadrius alexandrinus</i>	SSC3		Unlikely	In region
Mountain plover	<i>Charadrius montanus</i>	SSC2	Possible	Possible	In region
Black tern	<i>Chlidonias niger</i>	SSC2			In region
California gull	<i>Larus californicus</i>	TWL			On site
Turkey vulture	<i>Cathartes aura</i>	FGC 3503.5			On site
Osprey	<i>Pandion haliaetus</i>	TWL, FGC 3503.5			Nearby
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA, BCC, CE	Unlikely	Unlikely	Nearby
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, BCC, CFP	Unlikely	Unlikely	In region
Red-tailed hawk	<i>Buteo jamaicensis</i>	FGC 3503.5		Present	On site
Ferruginous hawk	<i>Buteo regalis</i>	FGC 3503.5, TWL			Nearby
Swainson's hawk	<i>Buteo swainsoni</i>	BCC, CT	Possible	Possible <sup>2</sup>	On site
Rough-legged hawk	<i>Buteo regalis</i>	FGC 3503.5			Nearby

<b>Species</b>	<b>Scientific name</b>	<b>Status<sup>1</sup></b>	<b>2019 EIR</b>	<b>2020 SEIR</b>	<b>eBird/iNat records and Smallwood observations</b>
Red-shouldered hawk	<i>Buteo lineatus</i>	FGC 3503.5			Very close
Sharp-shinned hawk	<i>Accipiter striatus</i>	FGC 3503.5, TWL			Nearby
Cooper's hawk	<i>Accipiter cooperi</i>	FGC 3503.5, TWL			On site
Northern harrier	<i>Circus cyaneus</i>	SSC3, FGC 3503.5	Possible	Possible <sup>2</sup>	On site
White-tailed kite	<i>Elanus leucurus</i>	CFP, TWL	Possible	Possible	On site
American kestrel	<i>Falco sparverius</i>	FGC 3503.5		Present	On site
Merlin	<i>Falco columbarius</i>	FGC 3503.5, TWL			Nearby
Prairie falcon	<i>Falco mexicanus</i>	FGC 3503.5, TWL			Nearby
Peregrine falcon	<i>Falco peregrinus</i>	CE, CFP			On site
Burrowing owl	<i>Athene cunicularia</i>	BCC, SSC2	Possible	Possible	Very close
Great-horned owl	<i>Bubo virginianus</i>	FGC 3503.5			Very close
Short-eared owl	<i>Asio flammeus</i>	SSC3, FGC 3503.5			Nearby
Long-eared owl	<i>Asio otus</i>	SSC3, FGC 3503.5			In region
Barn owl	<i>Tyto alba</i>	FGC 3503.5			Nearby
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC			Nearby
Lewis's woodpecker	<i>Melanerpes lewis</i>	BCC			Nearby
Western screech-owl	<i>Megascops kennicotti</i>	FGC 3503.5			Nearby
Vaux's swift	<i>Chaetura vauxi</i>	SSC2	Unlikely	No habitat	Nearby
Willow flycatcher	<i>Epidomax trailii</i>	CE, BCC			Nearby
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC2			Nearby
Oak titmouse	<i>Baeolophus inornatus</i>	BCC			Very close

<b>Species</b>	<b>Scientific name</b>	<b>Status<sup>1</sup></b>	<b>2019 EIR</b>	<b>2020 SEIR</b>	<b>eBird/iNat records and Smallwood observations</b>
Horned lark	<i>Eremophila alpestris</i>	TWL			Very close
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, CE		Possible	Nearby
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC, SSC2	Possible	Possible	On site
Yellow-billed magpie	<i>Pica nuttalli</i>	BCC			On site
Purple martin	<i>Progne subis</i>	SSC2	Unlikely	Unlikely	Nearby
Common yellowthroat	<i>Geothlypis trichas sinuosa</i>	SSC3			Nearby
Yellow warbler	<i>Setophaga petechia</i>	SSC2	Unlikely	Possible	Nearby
Yellow-breasted chat	<i>Icteria virens</i>	SSC3			In region
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC2			In region
Modesto song sparrow	<i>Melospiza melodia</i>	SSC3	Unlikely	Possible	Very close
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC2	Unlikely	Possible	Nearby
Summer tanager	<i>Piranga rubra</i>	SSC1			In region
Tricolored blackbird	<i>Agelaius tricolor</i>	CT, BCC	Possible	Possible	Very close
Yellow-headed blackbird	<i>X. xanthocephalus</i>	SSC3	Unlikely	Possible	Very close
Lawrence's goldfinch	<i>Spinus lawrencei</i>	BCC			Nearby
Pallid bat	<i>Antrozous pallidus</i>	SSC, WBWG H			In region
Townsend's big-eared bat	<i>Plecotus t. townsendii</i>	SSC, WBWG H			In range
Western red bat	<i>Lasiurus blossevillii</i>	SSC, WBWG H	Unlikely	Possible	Nearby
Small-footed myotis	<i>Myotis cililabrum</i>	WBWG M			In range
Long-eared myotis	<i>Myotis evotis</i>	WBWG M			In range
Fringed myotis	<i>Myotis thysanodes</i>	WBWG H			In range
Long-legged myotis	<i>Myotis volans</i>	WBWG H			In range
Yuma myotis	<i>Myotis yumanensis</i>	SSC, WBWG LM			Nearby
Hoary bat	<i>Lasiurus cinereus</i>	WBWG LM			Nearby
American badger	<i>Taxidea taxus</i>	SSC	Possible	Possible	In region

<b>Species</b>	<b>Scientific name</b>	<b>Status<sup>1</sup></b>	<b>2019 EIR</b>	<b>2020 SEIR</b>	<b>eBird/iNat records and Smallwood observations</b>
Western pond turtle	<i>Actinemys marmorata</i>	SSC	Unlikely	Possible	Nearby
Giant garter snake	<i>Thamnophis gigas</i>	FT, CT	Unlikely	Possible in Deer Creek	Nearby

<sup>1</sup> Listed as FE = federally Endangered, BGEPA = Bald and Golden Eagle Protection Act, BCC = federal Bird Species of Conservation Concern, CT & CE = California Threatened and Endangered, CFP = California Fully Protected (CDFG Code 3511), FGC 3503.5 = California Fish and Game Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3 (Shuford and Gardali 2008), TWL = Taxa to Watch List (Shuford and Gardali 2008), WBWG = Western Bat Working Group with low, medium and high conservation priorities.

<sup>2</sup> Note that the visiting biologist detected Swanson's hawk on site in August 2020, so the 'possible' occurrence determination is inappropriate.

## Detection Surveys

According to City of Elk Grove (2020:3.5-42), the project site supports ground squirrels. The occurrence of ground squirrels is important because ground squirrels and their burrows are the principal resources needed by multiple special-status species such as giant garter snake, western pond turtle, multiple species of large diurnal raptors, horned lark, loggerhead shrike, American badger, and burrowing owl. Burrowing owls, for example, use ground squirrel burrows as refugia and nest sites, and they rely on mutual alarm-calling between squirrels and burrowing owls to evade capture by predators. CDFW (2012) recommends that burrowing owl detection surveys be performed at project sites where ground squirrel burrows occur within 150 m of the project boundary. Burrowing owl detection surveys are clearly needed at this site, because ground squirrels do indeed occur on the site. Detection surveys are also needed for multiple other special-status species, but so far none have been performed by City of Elk Grove.

## Habitat Loss

A recent study documented a 29% decline in overall bird abundance across North America over the last 48 years – a decline driven by multiple factors including habitat loss and habitat fragmentation (Rosenberg et al. 2019). Habitat loss not only results in the immediate numerical decline of wildlife, but also in permanent loss of productive capacity. For example, a grassland/wetland/woodland complex at one study site had a total bird nesting density of 32.8 nests per acre (Young 1948). In another study on a similar complex of vegetation cover, the average annual nest density was 35.8 nests per acre (Yahner 1982). These densities averaged at 34.3 nests per acre. A density of 34.3 nests per acre multiplied against the project's take of 107 acres of habitat that the 2019 EIR had set aside as Public Open Space/Recreation, but the 2020 SEIR proposes as mostly heavy industrial, would predict a loss of 3,670 bird nests. The average number of fledglings per nest in Young's (1948) study was 2.9. Assuming Young's (1948) study site typifies bird productivity, the project would prevent the production of 10,643 fledglings the first year and would deny this level of productivity every year thereafter. After 100 years and assuming an average generation time of 5 years and the project site is 50% as productive as Yahner's (1982) and Young's (1948) sites, the lost capacity of both breeders and annual fledgling production would total 1,211,100 birds  $\{(nests/year \times chicks/nest \times number\ of\ years) + (2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation)\}$ .

The whole of the action would take 572 acres of habitat. Based on the preceding assumptions, the project would prevent the production of 50,382 fledglings the first year and would deny this level of productivity every year thereafter. After 100 years and assuming an average generation time of 5 years and the project site is 50% as productive as Yahner's (1982) and Young's (1948) sites, the lost capacity of both breeders and annual fledgling production would total 5,733,520 birds  $\{(nests/year \times chicks/nest \times number\ of\ years) + (2\ adults/nest \times nests/year) \times (number\ of\ years \div years/generation)\}$ .

These predicted losses would be substantial for both the changed project of the 2020 SEIR and for the whole of the action, and both would qualify as significant impacts that have yet to be addressed by City of Elk Grove.

## **Wildlife Movement**

On the issue of whether the project would interfere with wildlife nursery sites or migratory corridors, City of Elk Grove (2020:3.5-52) further mischaracterizes the project's environmental setting. City of Elk Grove (2020:3.5-46) says, "No surveys for bat roosts have been conducted in the Project area." No surveys have been performed to support the City's conclusion that wildlife nursery sites are absent from the Project site.

City of Elk Grove claims "No established migratory routes have been identified within the Project site," but the project site is right in the middle of the most prominent migratory route of western North America, otherwise known as the Pacific Flyway. Millions of waterfowl migrate along the Pacific Flyway, right over and through Elk Grove, and right over and through the project site. Greater sandhill cranes migrate along this route, and I know from my own observations that this species stops over on the project site. Merlin and ferruginous hawk over-winter in the project area, having migrated from their breeding grounds in the north. Swanson's hawks breed on and around the project site after having migrated to Mexico for the winter.

In fact, the breeding density of Swanson's hawk is one of the highest – if not *the* highest – I have seen reported anywhere. Figure 6 in Estep (2007) shows 18 Swanson's hawk nest sites within 2.5 miles of the project's centroid and north of Grant Line Road. Having myself published on patterns of Swanson's hawk nesting density, I calculated the density within this area based on Figure 6 of Estep (2007) and applied it to the model I fit to other reports of Swanson's hawk nesting density (Smallwood 1995). The density of 0.687 Swanson's hawk nest sites per km<sup>2</sup> was 2.45 times higher than the model would predict for the size of the study area (see Figure 1 in Smallwood 1995), and easily the highest density I have seen reported anywhere. This high-density cluster of Swanson's hawk nest sites easily qualifies as a very important nursery site.

I must also note that the City of Elk Grove (2020) made no mention of Estep (2007). This is remarkable because the study was not only relevant but very important to any analysis of potential project impacts to biological resources. Furthermore, the study was funded by City of Elk Grove and Estep (2007) was prepared for City of Elk Grove. A sure way to mischaracterize the environmental setting of the project site is to ignore the very studies the City sponsored.

Lastly, by focusing on whether the site hosts a migratory corridor, the 2020 SEIR also mischaracterizes the CEQA standard. The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes an increasingly diminishing expanse of open space within a growing expanse of anthropogenic uses, forcing more species of volant wildlife to use

the site as stopover and staging habitat during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The project would cut wildlife off from stopover and staging habitat, forcing volant wildlife to travel even farther between remaining stopover habitat patches. The project would interfere with wildlife movement in the region.

### **Traffic Impacts on Wildlife**

Project-generated traffic bears on the impacts analysis for wildlife because it collides with and crushes wild animals crossing roads traveled by cars and trucks traveling to and from the project. This type of impact extends far beyond the structural footprint of the project, affecting species that more often occur elsewhere than at the project site. Neither the 2019 DEIR nor the 2020 SEIR address this impact. My comments below exemplify how such an impact can be analyzed by what is known of collision mortality between wildlife and other, better-studied anthropogenic structures moving through the lower atmosphere.

Vehicle collisions have accounted for the deaths of many thousands of reptile, amphibian, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

In a recent study of traffic-caused wildlife mortality, investigators found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches along a 2.5 mile stretch of Vasco Road in Contra Costa County, California (Mendelsohn et al. 2009). Using carcass detection trials performed on land immediately adjacent to the traffic mortality study (Brown et al. 2016) to adjust the found fatalities for the proportion of fatalities not found due to scavenger removal and searcher error, the estimated traffic-caused fatalities was 12,187. This fatality estimate translates to a rate of 3,900 wild animals per mile per year killed. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic in and around Calimesa would similarly result in local impacts on wildlife.

Increased use of existing roads will increase wildlife fatalities (see Figure 7 in Kobylarz 2001). Fortunately, wildlife roadkill is not randomly distributed, so it can be predicted. Causal factors include types of roadway, human population density, and temperature (Chen and Wu 2014), as well as time of day and adjacency and extent of vegetation cover (Chen and Wu 2014, Bartonička et al. 2018), and intersections with streams and riparian vegetation (Bartonička et al. 2018). For example, species of mammalian



Carnivora are killed by vehicle traffic within 0.1 miles of stream crossings >40 times other than expected (K. S. Smallwood, 1989-2018 unpublished data). These factors also point the way toward mitigation measures, which should be formulated in a revised EIR.

### Predicting project-generated traffic impacts to wildlife

City of Elk Grove (2020:3.14-10) predicted the project would generate 209,581 daily vehicle miles traveled, which sums to 76,497,065 miles traveled annually. These miles would be traveled by vehicles destined to or coming from the project site. The SEIR does not break down this mileage by type of vehicle, so the SEIR does not inform of how many of these annual miles would be driven by trucks. For the sake of making my point, I will assume all miles would be driven by cars.

The project's impacts on wildlife can be predicted to a reasonable degree of accuracy based on what scientific monitoring has learned from collision impacts elsewhere. One type of impact to consider is blunt-force injury and death caused by collisions with the front ends of vehicles. Assuming the average car frontal surface area is 3.08 m<sup>2</sup> (average height of 1.7 m and average wheelbase of 1.81 m), then the predicted average annual volume of airspace intercepted by cars at high-speed would be  $3.08 \text{ m}^2 \times 1.23084 \times 10^{11} \text{ m}$  ( $1,609 \text{ m/mile} \times 76,497,065 \text{ annual miles}$ ) =  $3.79098 \times 10^{11} \text{ m}^3$ .

This volume of intercepted airspace would be equivalent to the intercepted winds of 4,477 2.3-MW wind turbines, each of which in the Altamont Pass averages about 22 bird fatalities per year (H.T. Harvey & Associates 2020, Great Basin Bird Observatory and H.T. Harvey & Associates 2020).<sup>1</sup> Therefore, front-end, blunt-force mortality would be predicted, in this example, to tally 98,494 birds annually. However, it remains unknown whether collision risk is higher or lower for vehicles traveling forward to intercept airspace as compared to wind turbines remaining stationary to intercept wind. Also, yet to be considered are the deaths and injuries to vertebrate wildlife caused by crushing under tires, broadside impacts of flying birds, and turbulence-induced injuries and deaths above, to the side, and in the wake of traveling trucks.

Based on my assumptions and simple calculations, the project-generated traffic would cause substantial, significant impacts to wildlife. Mitigation measures to improve wildlife safety along roads are available and are feasible. However, City of Elk Grove (2020) includes no mitigation for this impact.

---

<sup>1</sup> A 2.3-MW wind turbine is rated at 14 m/s. It runs an average of about 8 hours per day with a blade area of about 210 m<sup>2</sup>. Daily volume of wind intercepted by the turbine blades is  $210 \text{ m}^2 \times 14 \text{ m/s} \times 8 \text{ hr} \times 3600 \text{ s/hr} = 84.67 \text{ million m}^3$ . Fatality monitoring at the Vasco Winds and Golden Hills projects resulted in fatality estimates that accounted for the proportion of fatalities never found by searchers.

## **Additional Comment**

City of Elk Grove (2020:3.5-1) responds to scoping comments provided by California Department of Fish and Wildlife with the following: “CDFW suggests that future landscaping plans consider incorporation of the California Native Plant Society’s “Homegrown Habitat Plant List.” A search of the California Native Plant Society’s website does not yield any information about the Homegrown Habitat Plant List...” Try the following plant list, which is suggested by California Native Plant Society: <https://www.sacvalleycnps.org/homegrown-habitat>.

## **CUMULATIVE IMPACTS**

I concur with City of Elk Grove’s (2020:4-9) conclusion that cumulative impacts are significant and unavoidable. However, I do not agree with arguments leading up to this conclusion. City of Elk Grove cited a CEQA guideline in §15126.2 that would effectively prevent meaningful cumulative impacts analysis by no longer considering physical conditions in the project area prior to the NOP (2020). The City also threw up its hands at the magnitudes of the impacts and the inability to mitigate them. This is no analysis at all, nor is it a good excuse for performing no analysis. Whereas I agree that the ongoing trends in numbers and distributions of many species of wildlife are dire, I do not agree that these trends should justify the canceling of cumulative impacts analysis. Decision-makers and the public are owed a reasonable analysis.

When it comes to wildlife, cumulative effects can often be interpreted as effects on the numerical capacity (Smallwood 2015), breeding success, genetic diversity, or other population performance metrics expressed at the regional scale. In the case of migrating birds, the project’s cumulative effects could be measured as numerical reductions of breeding birds at far-off breeding sites as migrating adults and next-year’s recruits lose access to stop-over habitat. In the cases of wildlife species that are susceptible to traffic collisions, the project’s contribution to ongoing and foreseeable traffic-caused mortality can be measured or predicted. Even crude predictions of cumulative impacts are imperative. An appropriate approach would be the prediction of the number of birds that would be lost to the project and past, ongoing and foreseeable future projects over time, such as the type of analysis I performed earlier under ‘Habitat Loss.’ Such predictions are especially needed for a 572-acre site known to host a very high density of Swanson’s hawk nest sites, to be visited by greater sandhill cranes, and to be foraged by white-tailed kites. A fair argument can be made for the need to revise the EIR to adequately address the project’s potential contributions to cumulative impacts on wildlife in the region.

## **MITIGATION MEASURES**

City of Elk Grove (2020) needs to perform an appropriate analysis of potential impacts to wildlife. Without such an analysis, appropriate mitigation measures cannot be formulated. Detection surveys are needed for special-status species. Detection surveys have been designed by species experts to either detect species when they are present or

to support negative determinations. They are also needed to inform survey personnel of where to most effectively perform preconstruction take-avoidance surveys for nesting birds and special-status species.

### ***3.5-3a: Avoid Direct Loss of Swainson's Hawk and Other Raptors***

The proposed measure should be implemented if the project goes forward. However, decision-makers and the public should understand that despite these measures, the project would permanently destroy foraging and nesting habitat across 572 acres – a very large suite of impacts. Removing nest trees during the non-breeding season would not prevent or minimize this impact. The reduced capacity for Swanson's hawks would result in mortality of Swanson's hawks to the same level as removing the nest trees during the breeding season; the only meaningful difference is not having to see particular fledglings perish when their trees are removed from under them during the breeding season.

Preconstruction surveys would not be as effective without having first performed detection surveys. Preconstruction surveys are not formulated for the purpose City of Elk Grove proposes to use them. Preconstructions are really last-minute take-avoidance surveys, and cannot be used as surrogates for detection surveys.

### ***Mitigation Measure 3.5-3b: Avoid Loss of Burrowing Owl***

According to City of Elk Grove (2020), focused breeding and non-breeding surveys “will be conducted before the start of construction activities and in accordance with Appendix F of CDFW's *Staff Report on Burrowing Owl Mitigation* (DFG 2012) or the most recent CDFW protocols.” This is another false representation. The surveys proposed by City of Elk Grove cannot be performed in accordance with CDFW (2012) guidelines by replacing detection surveys with preconstruction, take-avoidance surveys. Detection surveys are intended to precede the circulation of CEQA review documents, because they are intended to inform decision-makers and the public of whether burrowing owls use the site. According to CDFW (2012), the survey guidelines were “designed to provide a compilation of the best available science for Department staff, biologists, planners, land managers, California Environmental Quality Act (CEQA) lead agencies, and the public to consider when assessing impacts of projects or other activities on burrowing owls.” In the case of this project, detection surveys are supposed to be performed prior to circulation of the SEIR. No such surveys have yet been performed at the site. In fact, no survey that qualify as a habitat assessment per CDFW (2012) has been performed.

### ***Mitigation Measure 3.5-3c: Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program***

If the project goes forward, I agree this measure should be implemented, but only after confirming that the goals and objectives of City of Elk Grove's Swainson's Hawk Foraging Habitat Mitigation Program have so far been met. This confirmation is

necessary in light of City of Elk Grove's neglect of its own commissioned study of Swanson's hawks in the project area (Estep 2007). It is also necessary in advance of the circulation of any CEQA review document to be decided upon by the City Council. The public and the City Council need to know whether the Foraging Habitat Mitigation Program is working, and whether the fees can be effectively applied to offset impacts of the proposed project to Swanson's hawk.

***Mitigation Measure 3.5-4: Avoid Loss of Special-Status Birds and Protected Bird Nests***

See my earlier comments on Measures 3.5-3a and 3.5-3b. My earlier comments apply to this measure as well. The project's impacts to breeding birds cannot be avoided by the destruction of 572 acres of habitat. Nor do preconstruction surveys substitute for detection surveys for measuring impacts, formulating mitigation, and informing where to most effectively perform preconstruction, take-avoidance surveys.

***Mitigation Measure 3.5-5: Avoid Direct Loss of American Badgers***

My earlier comments on mitigation measures apply to American badgers. Preventing direct mortality from construction will not prevent mortality caused by habitat loss. The same number of badgers will perish from habitat loss as from crushing by heavy machinery. Neighboring territories are already occupied, so badgers cannot simply move over.

Preconstruction surveys cannot substitute for detection surveys. To detect American badgers, the most effective method in my experience is to survey at night with use of a thermal-imaging camera fitted with a telephoto lens. American badgers are largely nocturnal, and are readily detectable via thermal-imaging. Surveying for burrows is not nearly as effective.

***Mitigation Measure 3.5-1a: Minimize the Off-Site Construction Impact Footprint***

This measure, intended for western red bat, lacks credibility in the face of the SEIR's replacement of 107 acres of Open Space/Recreation with Heavy Industrial. The additional take of habitat would more than offset any benefits from minimizing the footprint of off-site construction impacts.

***Mitigation Measure 3.5-8: Avoid and Minimize Potentially-Occupied Habitat for Vernal Pool Fairy Shrimp and Conservancy Fairy Shrimp During Off-Site Construction Activities***

This measure comes too late in the CEQA process. Detection surveys for vernal pool fairy shrimp and Conservancy fairy shrimp need to precede the circulation of the SEIR. Preconstruction surveys are not detection surveys.

### **Impact 3.5-12: Conflicts with the Provisions of an Adopted Habitat Conservation Plan**

City of Elk Grove (2020) concludes the project would not conflict with an adopted Habitat Conservation Plan because (1) the City did not sign on to it; and (2) the City will mitigate for impacts to Swanson's hawks. Destruction of 572 acres of Swanson's hawk habitat that also happens to support the highest density of Swanson's hawk breeding sites I have seen recorded anywhere (see above) would not be consistent with the South Sacramento HCP's goal to "Provide for the continued persistence of Covered Species in the Plan Area" (County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority 2018).

#### **Missing Mitigation Measures**

Impact minimization measures are needed for traffic impacts to wildlife, and compensatory mitigation is needed for habitat loss and for traffic mortality. I recommend funding wildlife crossings at strategic locations along roads used by the project, and funding research into wildlife mortality caused by car and truck traffic.

Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Most of the wildlife injuries will likely be caused by collisions with cars and trucks driven to and from the site, including injuries caused by turbulence of passing trucks. But the project's impacts can also be offset by funding the treatment of injuries to animals caused by other buildings, electric lines, windows, and cats.

Thank you for your attention,



---

Shawn Smallwood, Ph.D.

#### **REFERENCES CITED**

- Bartonička, T., R. Andrášik, M. Dula, J. Sedoník, and M. Bíl. 2018. Identification of local factors causing clustering of animal-vehicle collisions. *Journal of Wildlife Management*. *Journal of Wildlife Management* DOI: 10.1002/jwmg.21467
- Bishop, C. A. and J. M. Brogan. 2013. Estimates of Avian Mortality Attributed to Vehicle Collisions in Canada. *Avian Conservation and Ecology* 8:2. <http://dx.doi.org/10.5751/ACE-00604-080202>.
- Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

- CDFW (California Department of Fish and Wildlife). 2012. Staff Report on Burrowing Owl Mitigation. Sacramento, California.
- Chen, X. and S. Wu. 2014. Examining patterns of animal–vehicle collisions in Alabama, USA. *Human-Wildlife Interactions* 8:235-244.
- City of Elk Grove. 2020. Draft City of Elk Grove Multi-Sport Complex and Southeast Industrial Annexation Area Supplemental Environmental Impact Report. Prepared by AECOM for City of Elk Grove, California.
- County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority. 2018. Final South Sacramento Habitat Conservation Plan. 2018. Sacramento, CA.
- Estep, J. 2007. The Distribution, Abundance, and Habitat Associations of the Swainson’s Hawk (*Buteo swainsoni*) in South Sacramento County, California. Unpublished report to City of Elk Grove, California.
- Forman, T. T., D. Sperling, J. A. Bisonette, A. P. Clevenger, C. D. Cutshall, V. H. Dale, L. Fahrig, R. France, C. R. Goldman, K. Heanue, J. A. Jones, F. J. Swanson, T. Turrentine, and T. C. Winter. 2003. *Road Ecology*. Island Press, Covello, California.
- Kobylarz, B. 2001. The effect of road type and traffic intensity on amphibian road mortality. *Journal of Service Learning in Conservation Biology* 1:10-15.
- Loss, S. R., T. Will, and P. P. Marra. 2014. Estimation of Bird-Vehicle Collision Mortality on U.S. Roads. *Journal of Wildlife Management* 78:763-771.
- Mendelsohn, M., W. Dexter, E. Olson, and S. Weber. 2009. Vasco Road wildlife movement study report. Report to Contra Costa County Public Works Department, Martinez, California.
- Rosenberg, K. V., A. M. Dokter, P. J. Blancher, J. R. Sauer, A. C. Smith, P. A. Smith, J. C. Stanton, A. Panjabi, L. Helft, M. Parr, and P. P. Marra. 2019. Decline of the North American avifauna. *Science* 10.1126/science.aaw1313 (2019).
- Runge, C. A., T. G. Martin, H. P. Possingham, S. G. Willis, and R. A. Fuller. 2014. Conserving mobile species. *Frontiers in Ecology and Environment* 12(7): 395–402, doi:10.1890/130237.
- Sacramento LAFCo (Local Agency Formation Commission). 2011. Draft Environmental Impact Report: City of Elk Grove Proposed Sphere of Influence Amendment (LAFC

- # 09-10). State Clearinghouse No. 2010092076. City of Elk Grove, Sacramento County, California.
- Shuford, W. D., and T. Gardali, [eds.]. 2008. California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California.
- Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. *J. Raptor Research* 29:172-178.
- Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., *Wildlife habitat conservation: concepts, challenges, and solutions*. John Hopkins University Press, Baltimore, Maryland, USA.
- Taylor, P. D., S. A. Mackenzie, B. G. Thurber, A. M. Calvert, A. M. Mills, L. P. McGuire, and C. G. Guglielmo. 2011. Landscape movements of migratory birds and bats reveal an expanded scale of stopover. *PlosOne* 6(11): e27054.  
doi:10.1371/journal.pone.0027054.
- Warnock, N. 2010. Stopping vs. staging: the difference between a hop and a jump. *Journal of Avian Biology* 41:621-626.
- Yahner, R. H. 1982. Avian nest densities and nest-site selection in farmstead shelterbelts. *The Wilson Bulletin* 94:156-175.
- Young, H. 1948. A comparative study of nesting birds in a five-acre park. *The Wilson Bulletin* 61:36-47.

# Kenneth Shawn Smallwood

## Curriculum Vitae

3108 Finch Street  
Davis, CA 95616  
Phone (530) 756-4598  
Cell (530) 601-6857  
[puma@dcn.org](mailto:puma@dcn.org)

Born May 3, 1963 in  
Sacramento, California.  
Married, father of two.

### Ecologist

#### Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

#### Education

Ph.D. Ecology, University of California, Davis. September 1990.  
M.S. Ecology, University of California, Davis. June 1987.  
B.S. Anthropology, University of California, Davis. June 1985.  
Corcoran High School, Corcoran, California. June 1981.

#### Experience

- 477 professional publications, including:
  - 81 peer reviewed publications
  - 24 in non-reviewed proceedings
  - 370 reports, declarations, posters and book reviews
  - 8 in mass media outlets
  - 87 public presentations of research results at meetings
  - Reviewed many professional papers and reports
  - Testified in 4 court cases.

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The



five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

### **Peer Reviewed Publications**

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. *Wildlife Society Bulletin* 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine-wildlife interactions. Pages 255-276 in Köppel, J., Editor, *Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference*. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. [www.bit.ly/2v3cR9Q](http://www.bit.ly/2v3cR9Q)

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., *Wildlife and Wind Farms - Conflicts and Solutions*, Volume 2. Pelagic Publishing, Exeter, United Kingdom. [www.bit.ly/2v3cR9Q](http://www.bit.ly/2v3cR9Q)

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. *Human-Wildlife Interactions* 10(1):7-18.

- Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel *Micnemidocoptes* mite in a Golden Eagle (*Aquila chrysaetos*). *Journal of Avian Medicine and Surgery* 29(3):231-237.
- Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., *Wildlife habitat conservation: concepts, challenges, and solutions*. John Hopkins University Press, Baltimore, Maryland, USA.
- Mete, A., N. Stephenson, K. Rogers, M. G. Hawkins, M. Sadar, D. Guzman, D. A. Bell, J. Shipman, A. Wells, K. S. Smallwood, and J. Foley. 2014. Emergence of *Knemidocoptic* mange in wild Golden Eagles (*Aquila chrysaetos*) in California. *Emerging Infectious Diseases* 20(10):1716-1718.
- Smallwood, K. S. 2013. Introduction: Wind-energy development and wildlife conservation. *Wildlife Society Bulletin* 37: 3-4.
- Smallwood, K. S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. *Wildlife Society Bulletin* 37:19-33. + Online Supplemental Material.
- Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting Burrowing Owl Abundance in the Altamont Pass Wind Resource Area, California. *Wildlife Society Bulletin*: 37:787-795.
- Smallwood, K. S., D. A. Bell, B. Karas, and S. A. Snyder. 2013. Response to Huso and Erickson Comments on Novel Scavenger Removal Trials. *Journal of Wildlife Management* 77: 216-225.
- Bell, D. A., and K. S. Smallwood. 2010. Birds of prey remain at risk. *Science* 330:913.
- Smallwood, K. S., D. A. Bell, S. A. Snyder, and J. E. DiDonato. 2010. Novel scavenger removal trials increase estimates of wind turbine-caused avian fatality rates. *Journal of Wildlife Management* 74: 1089-1097 + Online Supplemental Material.
- Smallwood, K. S., L. Neher, and D. A. Bell. 2009. Map-based repowering and reorganization of a wind resource area to minimize burrowing owl and other bird fatalities. *Energies* 2009(2):915-943. <http://www.mdpi.com/1996-1073/2/4/915>
- Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. *The Condor* 111:247-254.
- Smallwood, K. S., L. Rugge, and M. L. Morrison. 2009. Influence of Behavior on Bird Mortality in Wind Energy Developments: The Altamont Pass Wind Resource Area, California. *Journal of Wildlife Management* 73:1082-1098.
- Smallwood, K. S. and B. Karas. 2009. Avian and Bat Fatality Rates at Old-Generation and

- Repowered Wind Turbines in California. *Journal of Wildlife Management* 73:1062-1071.
- Smallwood, K. S. 2008. Wind power company compliance with mitigation plans in the Altamont Pass Wind Resource Area. *Environmental & Energy Law Policy Journal* 2(2):229-285.
- Smallwood, K. S., C. G. Thelander. 2008. Bird Mortality in the Altamont Pass Wind Resource Area, California. *Journal of Wildlife Management* 72:215-223.
- Smallwood, K. S. 2007. Estimating wind turbine-caused bird mortality. *Journal of Wildlife Management* 71:2781-2791.
- Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Ruge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. *Journal of Wildlife Management* 71:1513-1524.
- Cain, J. W. III, K. S. Smallwood, M. L. Morrison, and H. L. Loffland. 2005. Influence of mammal activity on nesting success of Passerines. *J. Wildlife Management* 70:522-531.
- Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 *in* Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.
- Morrison, M. L., K. S. Smallwood, and L. S. Hall. 2002. Creating habitat through plant relocation: Lessons from Valley elderberry longhorn beetle mitigation. *Ecological Restoration* 21: 95-100.
- Zhang, M., K. S. Smallwood, and E. Anderson. 2002. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. Pages 757-768 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), *Managing for Healthy Ecosystems*, Lewis Publishers, Boca Raton, Florida USA.
- Wilcox, B. A., K. S. Smallwood, and J. A. Kahn. 2002. Toward a forest Capital Index. Pages 285-298 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), *Managing for Healthy Ecosystems*, Lewis Publishers, Boca Raton, Florida USA.
- Smallwood, K.S. 2001. The allometry of density within the space used by populations of Mammalian Carnivores. *Canadian Journal of Zoology* 79:1634-1640.
- Smallwood, K.S., and T.R. Smith. 2001. Study design and interpretation of Sorex density estimates. *Annales Zoologici Fennici* 38:141-161.
- Smallwood, K.S., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2001. Suggested standards for science applied to conservation issues. *Transactions of the Western Section of the Wildlife Society* 36:40-49.
- Geng, S., Yixing Zhou, Minghua Zhang, and K. Shawn Smallwood. 2001. A Sustainable Agro-ecological Solution to Water Shortage in North China Plain (Huabei Plain). *Environmental Planning and Management* 44:345-355.

- Smallwood, K. Shawn, Lourdes Rugge, Stacia Hoover, Michael L. Morrison, Carl Thelander. 2001. Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. Pages 23-37 in S. S. Schwartz, ed., Proceedings of the National Avian-Wind Power Planning Meeting IV. RESOLVE, Inc., Washington, D.C.
- Smallwood, K.S., S. Geng, and M. Zhang. 2001. Comparing pocket gopher (*Thomomys bottae*) density in alfalfa stands to assess management and conservation goals in northern California. *Agriculture, Ecosystems & Environment* 87: 93-109.
- Smallwood, K. S. 2001. Linking habitat restoration to meaningful units of animal demography. *Restoration Ecology* 9:253-261.
- Smallwood, K. S. 2000. A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. *Environmental Management* 26, Supplement 1:23-35.
- Smallwood, K. S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. *Environmental Management* 24:421-435.
- Smallwood, K. S. 1999. Scale domains of abundance among species of Mammalian Carnivora. *Environmental Conservation* 26:102-111.
- Smallwood, K.S. 1999. Suggested study attributes for making useful population density estimates. *Transactions of the Western Section of the Wildlife Society* 35: 76-82.
- Smallwood, K. S. and M. L. Morrison. 1999. Estimating burrow volume and excavation rate of pocket gophers (*Geomyidae*). *Southwestern Naturalist* 44:173-183.
- Smallwood, K. S. and M. L. Morrison. 1999. Spatial scaling of pocket gopher (*Geomyidae*) density. *Southwestern Naturalist* 44:73-82.
- Smallwood, K. S. 1999. Abating pocket gophers (*Thomomys* spp.) to regenerate forests in clearcuts. *Environmental Conservation* 26:59-65.
- Smallwood, K. S. 1998. Patterns of black bear abundance. *Transactions of the Western Section of the Wildlife Society* 34:32-38.
- Smallwood, K. S. 1998. On the evidence needed for listing northern goshawks (*Accipiter gentilis*) under the Endangered Species Act: a reply to Kennedy. *J. Raptor Research* 32:323-329.
- Smallwood, K. S., B. Wilcox, R. Leidy, and K. Yarris. 1998. Indicators assessment for Habitat Conservation Plan of Yolo County, California, USA. *Environmental Management* 22: 947-958.
- Smallwood, K. S., M. L. Morrison, and J. Beyea. 1998. Animal burrowing attributes affecting hazardous waste management. *Environmental Management* 22: 831-847.
- Smallwood, K. S., and C. M. Schonewald. 1998. Study design and interpretation for mammalian

- carnivore density estimates. *Oecologia* 113:474-491.
- Zhang, M., S. Geng, and K. S. Smallwood. 1998. Nitrate contamination in groundwater of Tulare County, California. *Ambio* 27(3):170-174.
- Smallwood, K. S. and M. L. Morrison. 1997. Animal burrowing in the waste management zone of Hanford Nuclear Reservation. Proceedings of the Western Section of the Wildlife Society Meeting 33:88-97.
- Morrison, M. L., K. S. Smallwood, and J. Beyea. 1997. Monitoring the dispersal of contaminants by wildlife at nuclear weapons production and waste storage facilities. *The Environmentalist* 17:289-295.
- Smallwood, K. S. 1997. Interpreting puma (*Puma concolor*) density estimates for theory and management. *Environmental Conservation* 24(3):283-289.
- Smallwood, K. S. 1997. Managing vertebrates in cover crops: a first study. *American Journal of Alternative Agriculture* 11:155-160.
- Smallwood, K. S. and S. Geng. 1997. Multi-scale influences of gophers on alfalfa yield and quality. *Field Crops Research* 49:159-168.
- Smallwood, K. S. and C. Schonewald. 1996. Scaling population density and spatial pattern for terrestrial, mammalian carnivores. *Oecologia* 105:329-335.
- Smallwood, K. S., G. Jones, and C. Schonewald. 1996. Spatial scaling of allometry for terrestrial, mammalian carnivores. *Oecologia* 107:588-594.
- Van Vuren, D. and K. S. Smallwood. 1996. Ecological management of vertebrate pests in agricultural systems. *Biological Agriculture and Horticulture* 13:41-64.
- Smallwood, K. S., B. J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., *Raptors in human landscapes*. Academic Press, London.
- Erichsen, A. L., K. S. Smallwood, A. M. Commandatore, D. M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D. M. Bird, D. E. Varland, and J. J. Negro, eds., *Raptors in human landscapes*. Academic Press, London.
- Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. *J. Raptor Research* 29:172-178.
- Smallwood, K. S. and W. A. Erickson. 1995. Estimating gopher populations and their abatement in forest plantations. *Forest Science* 41:284-296.
- Smallwood, K. S. and E. L. Fitzhugh. 1995. A track count for estimating mountain lion *Felis*

- concolor californica* population trend. *Biological Conservation* 71:251-259
- Smallwood, K. S. 1994. Site invasibility by exotic birds and mammals. *Biological Conservation* 69:251-259.
- Smallwood, K. S. 1994. Trends in California mountain lion populations. *Southwestern Naturalist* 39:67-72.
- Smallwood, K. S. 1993. Understanding ecological pattern and process by association and order. *Acta Oecologica* 14(3):443-462.
- Smallwood, K. S. and E. L. Fitzhugh. 1993. A rigorous technique for identifying individual mountain lions *Felis concolor* by their tracks. *Biological Conservation* 65:51-59.
- Smallwood, K. S. 1993. Mountain lion vocalizations and hunting behavior. *The Southwestern Naturalist* 38:65-67.
- Smallwood, K. S. and T. P. Salmon. 1992. A rating system for potential exotic vertebrate pests. *Biological Conservation* 62:149-159.
- Smallwood, K. S. 1990. Turbulence and the ecology of invading species. Ph.D. Thesis, University of California, Davis.