

Draft

Elk Grove Sphere of Influence Amendment and Multi-Sport Park Complex Environmental Impact Report (SCH# 2015102067)



Prepared for:



Sacramento Local Agency
Formation Commission



City of Elk Grove

AECOM

June 2018

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ACRONYMS AND OTHER ABBREVIATIONS

°F	Fahrenheit
µg/m ³	micrograms per cubic meter
2007 SIP	2007 State Strategy for California's State Implementation Plan for Federal PM _{2.5} and 8-Hour Ozone Standards
2030 General Plan	Sacramento County General Plan of 2005–2030
AB	Assembly Bill
AC	Agricultural Cropland
ACS	American Community Survey
ACWA	Association of California Water Agencies
ADA	Americans with Disabilities Act
ADT	average daily traffic
af	acre-feet
afy	acre-feet per year
AG-80	Agricultural, 80-acre minimum
Allied Waste	Republic Services formally known as
amsl	above mean sea level
APN	Assessor Parcel Number
APSA	Aboveground Petroleum Storage Act
AQMPs	Air Quality Management Plans
AR-2	Agricultural-Residential, 2-acre minimum
ARB	California Air Resources Board
AWSC	All-Way Stop Control
B.P.	Before Present
BCI	Blackburn Consulting
BMP	best management practice
Board	California Air Resources Board
Btu	British thermal units
CAA	federal Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal EMA	California Emergency Management Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Occupational Safety and Health Administration
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALGreen Code	California Green Building Standards Code
CalRecycle	California Integrated Waste Management Board
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPSA	California Aboveground Petroleum Storage Act
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCSD	Cosumnes Community Service District
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDP	Census Designated Place
CEC	California Energy Commission
Central Sacramento County GMP	Central Sacramento County Groundwater Management Plan
CEQ	Council on Environmental Quality

CEQA	California Environmental Quality Act
CEQA Guidelines	California Environmental Quality Act Guidelines
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFC	Chlorofluorocarbons
CFD	Community Facilities District
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHABA	Committee of Hearing, Bio Acoustics, and Bio Mechanics
CHP	California Highway Patrol
City	City of Elk Grove
CIWMA	California Integrated Waste Management Act
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalents
Cortese list	California Department of Toxic Substances Control maintains a hazardous waste and substances site list
Cortese-Knox Act	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSD	Community Services District
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CWA	Clean Water Act
CWC	California Water Code
dB	decibels
dBA	A-weighted decibels
dBA/DD	A-weighted decibels per doubling of distance
dbh	diameter at breast height
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DEHP	di(2 ethylhexyl)phthalate
Delta	Sacramento–San Joaquin Delta
DOC	California Department of Conservation
DOF	California Department of Finance
DOF	Department of Finance
DOT	United States Department of Transportation
DPH	California Department of Public Health
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DPR	California Department of Pesticide Regulation
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
E. coli	Escherichia coli
ECOS	Environmental Council of Sacramento
EDD	Employment Development Department
EGMC	Elk Grove Municipal Code

EGUSD	Elk Grove Unified School District
EIR	Environmental Impact Report
EMA	California Emergency Management Agency
EMD	Environmental Management Department
EMT	emergency medical technicians
EPA	United States Environmental Protection Agency
EPAct	Energy Policy Act of 1992
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	federal Endangered Species Act
ESA	Phase I Environmental Site Assessment
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
Fazio water	Central Valley Project Water [Public Law 101-514]
fc	foot-candle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FHWA RD 77-108	FHWA Highway Traffic Noise Prediction Model
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GA-20	General Agricultural, 20-acre minimum
General Plan	<i>Elk Grove General Plan</i>
GHG	greenhouse gas
GIS	Geographic information system
GVGM	Great Valley Geomorphic Province
GWh	gigawatt hours
H ₂ S	Hydrogen Sulfide
Handbook	California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective
HCFCs	Hydrochlorofluorocarbons
HFCs	hydrofluorocarbons
High GWP	High Global Warming Potential
HMBPs	Hazardous Materials Management Business Plans
hp	horsepower
HSC	Health and Safety Code
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I-5	Interstate 5
IEPR	Integrated Energy Policy Report
II	Intensive Industrial
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
ISO	Insurance Services Office
ITS	intelligent transportation system
JPA	Joint Powers Authority
kBtu	British thermal units
kWh	million kilowatt-hours
LAFCo	Local Agency Formation Commission
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
L _{dn}	Day-Night Noise Level
LEAs	local enforcement agencies
L _{eq}	Equivalent Noise Level

LID	low impact development
L _{max}	Maximum Noise Level
L _{min}	Minimum Noise Level
LOS	level of service
LRA	Local Responsibility Area
LRP	Legally Responsible Person
M	magnitude
M-2	Heavy Industrial
Manual	Policy, Standards, and Procedures Manual
Master Plan	Elk Grove Bicycle, Pedestrian, and Trails Master Plan
MBH	thousand British thermal units
MBTA	Migratory Bird Treaty Act
MCLs	Maximum Contaminant Levels
MEP	maximum extent practicable
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MLS	Major League Soccer
MM therms	million therms
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	mineral resource zone
MS4s	Municipal Separate Storm Sewer Systems
MSDS	Material Safety Data Sheets
MSRs	municipal service reviews
MT	metric tons
MTCO _{2e}	metric tons of carbon dioxide equivalents
MTIP	Metropolitan Transportation Improvement Program
MTP	Metropolitan Transportation Plan
MW	megawatts
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NALs	numeric action levels
NEHRP	National Earthquake Hazards Reduction Program
NELs	numeric effluent limitations
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO ₂	nitrogen dioxide
NOC	notice of completion
NOP	notice of preparation
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	United States Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTR	National Toxics Rule
O ₃	ozone
OES	California Office of Emergency Services
OHWD	Omochumne-Hartnell Water District
OPR	California Office of Planning and Research
OSFM	Office of the State Fire Marshal

OSHA	Occupational Safety and Health Administration
P.E.	Professional Engineer
PAH	polycyclic aromatic hydrocarbons
Pb	Lead
PCBs	polychlorinated biphenyls
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM ₁₀	particulate matter with aerodynamic diameter less than 10 microns
PM _{2.5}	particulate matter with aerodynamic diameter less than 2.5 microns
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1969
POTW	Publicly Owned Treatment Works
ppb	parts per billion
ppd	pounds per day
ppm	parts per million
PPV	peak particle velocity
PRDs	Permit Registration Documents
Preserve	Cosumnes River Preserve
PUC	California Public Utilities Commission
RCA	Resources Conservation Act
RCRA	Resource Conservation and Recovery Act of 1976
REAP	Rain Event Action Plan
RHNA	Regional Housing Needs Assessment
RMS	root mean square
RRS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RUCS	Rural-Urban Connection Strategy
RWDs	reports of waste discharge
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SARA	Superfund Amendments and Reauthorization Act of 1986
SASD	Sacramento Area Sewer District formerly known as County Sanitation District-1
SB	Senate Bill
Scoping Plan	Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
SCWA	Sacramento County Water Agency
SENL	Single-Event [Impulsive] Noise Level
SEPA	Southeast Policy Area
SF ₆	Sulfur hexafluoride
SFNA	Sacramento Federal Nonattainment Area
SFPD	School Facilities Planning Division
SGMA	Sustainable Groundwater Management Act
SHMP	State Hazard Mitigation Plan
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	California Surface Mining and Reclamation Act of 1975
SMFD	Sacramento Metro Fire District
SMUD	Sacramento Municipal Utility District
SO ₂	sulfur dioxide
SOI	sphere of influence
SOIA	sphere of influence amendment
SO _x	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasure

SR	State Route
SRCSDD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSHCP	sphere of influence
SSSC	Side-Street Stop Control
STA	Sacramento Transportation Authority
State Clearinghouse	Governor's Office of Planning and Research
State SIP Strategy	2016 State Strategy for the State Implementation Plan
SVAB	Sacramento Valley Air Basin
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	Transportation Concept Report
TDF	travel demand forecasting
TDM	Transportation Demand Management Program
TFS	Tank Facility Statements
TRUs	transportation refrigeration units
TSCA	Toxic Substances Control Act
TSM	Transportation Systems Management
U.S.C.	United States Code
UBC	Uniform Building Code
UCMP	University of California, Berkeley Museum of Paleontology
UDA	Urban Development Area
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
UPA	Urban Policy Area
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USB	Urban Services Boundary
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	US Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration decibels
VELB	valley elderberry longhorn beetle
VMT	vehicle miles traveled
VOC	volatile organic compounds
WDRs	waste discharge requirements
WFA	Water Forum Agreement
Williamson Act	California Land Conservation Act of 1965
WPCP	Water Pollution Control Plan
WRF	Water Reclamation Facility
WSMP	Water Supply Master Plan
WTP	Water Treatment Plant
ZEV	zero emission vehicles
ZNE	zero net energy
Zone 40 WSIP	Zone 40 Water System Infrastructure Plan
Zone 41 UWMP	2015 Zone 41 Urban Water Management Plan
µin/sec	microinch per second

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Environmental Impact Report (EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the *Elk Grove SOI Amendment and Multi-Sport Park Complex*, also referred to in this EIR as “the proposed Project.” This document is prepared in conformance with CEQA (California Public Resources Code, Section 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000, *et seq.*).

ES.2 PROJECT SUMMARY

ES.2.1 PROJECT SETTING

The proposed Sphere of Influence Amendment Area (SOIA Area) is located southwest of the existing City of Elk Grove (City) boundary.¹ The area currently consists of approximately 561 acres of primarily agricultural land in unincorporated Sacramento County. The boundaries of the proposed SOIA Area are located south of Grant Line Road (near its intersection with Waterman Road) and east of the Union Pacific Railroad (UPRR) tracks and State Route 99 (SR 99), extending east to a point just east of the intersection of Grant Line Road and Mosher Road . The entire SOIA Area is within the Sacramento County Urban Services Boundary (USB).

ES.2.2 PROJECT DESCRIPTION

SPHERE OF INFLUENCE AMENDMENT

The SOIA Area is outside, but directly adjacent to Elk Grove’s existing City limits. The proposed Project would involve expanding the City’s SOI by approximately 561 acres, encompassing a City-owned 96-acre parcel and several adjacent parcels within the Sacramento County USB.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 includes provisions for amending SOIs. An SOI is defined by Government Code Section 56425 as “a plan for the probable physical boundary and service area of a local governmental agency, as determined by LAFCo....” and represents areas adjacent to the existing service area of a jurisdiction where services might reasonably be expected to be provided in the next 20 years. This would allow the City and other service providers to plan for future urbanization, but it does not authorize changes in land use or governance. Lands within an amended SOI would not be under the City’s jurisdiction until future development applications are received and requests for annexation of those parcels are approved by Sacramento LAFCo.

Future development within the proposed SOIA Area, but outside the multi-sports complex, would include commercial and industrial uses (271 acres) and mixed uses (118 acres). Development would occur based on

¹ In 2008, the City applied to Sacramento Local Agency Formation Commission (Sacramento LAFCo) for a Sphere of Influence Amendment (LAFC#04 08) to the south and east of its current boundary consisting of approximately 10,536 acres, which was subsequently closed and a new application (LAFC#09 10) submitted by the City for 7,869 acres. The City withdrew its application in 2013. Both of these larger areas included the proposed SOIA Area addressed by the current proposed project. This project is separate and distinct from the previous proposals.

market conditions; however, this EIR assumes that buildout would occur over a period of approximately 20 years. In total, the 271-acre commercial and industrial area could support more than 3.5 million square feet of commercial and industrial space and more than 10,000 employees, depending on future development applications. Access to these commercial and industrial areas would be from the entrance near the tournament fields (at Grant Line Road and Waterman Road) and the proposed Mahon Ranch Road, as well as internal roads.

MULTI-SPORT PARK COMPLEX

The proposed multi-sport park complex would provide training space and a competition venue for soccer and other field sports. The complex would provide tournament and practice fields, an indoor sports facility, a stadium, and fairgrounds.

The proposed multi-sport park complex site would be developed with multi-purpose sports fields and would include 12 full-size soccer fields (each 120 by 80 yards) and four training fields (each 80 by 50 yards). The fields would be designed primarily for soccer, but could accommodate other field sports and activities such as rugby, lacrosse, football, and marching band. The tournament area would also include amenity concourses for concession stands and restrooms. Support facilities for the fields would include a small sod farm (approximately 2 acres) for replacement turf, a maintenance shop for equipment and fertilizer, and a service yard with electrical equipment. The service yard also would provide space for solid waste storage bins.

A two-story, 20,833-square-foot, multi-use community support building would be built adjacent to the sports fields. The community support building would include a players' lounge, concession stands, kitchen, classroom/meeting space, restrooms, training and physical therapy spaces, conditioning space, locker rooms, and offices. The main entry would face the parking lot and a car/bus drop-off area. A second-level skydeck would provide views of the adjacent fields.

The complex's stadium/amphitheater would be located south of the multi-sport park complex site and would provide a venue for soccer and other field sport tournaments and other special events. One end of the field would be developed with a concert stage for performance events. The stage could also support high school and community college commencement exercises. The stadium would have a maximum capacity of approximately 9,000 seats. The venue would provide parking, locker rooms, a players' lounge, medical and training facilities, a box office, security offices, concession stands, a concert stage, restrooms, and storage space. The stadium would be illuminated with a combination of light configurations that would support sporting events and concerts, as well as accessory lighting of pedestrian areas and decorative building lighting.

The City envisions that the stadium, together with the tournament fields, would have the features necessary to host international, national, and regional tournament competitions, camps, clinics, and showcase events featuring professional and elite amateur soccer players. The stadium would be sized to support men's and women's professional soccer, as well as second- and third-division men's teams (e.g., United Soccer League). Sacramento's existing professional soccer team (Sacramento Republic FC) or another group could play in the Major League Soccer (MLS) league in the future. MLS programs, such as training, clinics, camps, and showcase events, call for facilities above and beyond the competition stadium. Should Sacramento secure an MLS franchise, the proposed sports complex could support the team with its ancillary facilities such as locker rooms, classrooms, and training facilities. The stadium may be constructed during a later phase of the multi-sport park complex.

A proposed fairgrounds and agrizone park would provide a 15-acre area for agricultural events, such as the Sacramento County Fair and regular agricultural showcase events. Its events would promote education and agritourism with a pavilion, arena, barn, and exposition buildings (total building area of approximately 175,000 square feet), as well as a working farm, an approximately 5-acre carnival area, and site-specific parking. The agrizone park would serve as a working farm and educational center. As a working farm, it would feature a variety of crops, cattle/ranching operations, and equestrian operations.

ES.3 PROJECT OBJECTIVES

The following objectives have been established for the proposed Project:

- ▶ Provide a sports training and competition venue space for residents of Elk Grove and surrounding areas.
- ▶ Complement existing sports facilities, such as those operated by the Cosumnes Community Services District.
- ▶ Relieve pressure on local community parks and sports facilities located in residential areas that are not designed to host tournaments.
- ▶ Provide space for agricultural events, such as the Sacramento County Fair.
- ▶ Provide future areas for commercial, industrial, and mixed-use development to improve the City's jobs-housing balance.
- ▶ Establish an expanded SOI that is consistent with relevant Sacramento LAFCo policies and standards.

ES.4 PERMITS AND OTHER APPROVALS

The proposed Project would require the following discretionary approvals and actions:

- ▶ *Sacramento LAFCo*: Approval of the SOIA, potential detachment from and approval of annexation to various special districts, and annexation to the City of the multi-sport park complex site and potentially some or all of the remaining SOIA Area.
- ▶ *City of Elk Grove*: Approval of a general plan amendment with land use designations (Public Open Space/ Recreation), rezoning, design review entitlement, and any required use permits for the multi-sport park complex.

Annexed portions of the site would be in the City's jurisdiction. Any proposed construction could require demolition and disposal of existing structures, grading and excavation, 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. Future development within the proposed SOIA Area will require various permits and other types of approvals from agencies with a purview over land use, air quality, biological resources, water quality, public services and utilities, and other topics.

ES.5 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 EIR.

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
3.2 Aesthetics			
3.2-1 Substantial degradation of existing visual character. Future development in the SOIA Area, including the multi-sport park complex, could degrade the existing visual character of the SOIA Area. Although future development would be required to comply with the City of Elk Grove's Municipal Code and General Plan, the development would entail a significant change from the existing visual character of the site.	S	No feasible mitigation measures	SU
3.2-2 Potential loss of trees of local importance. Future development in the SOIA Area, including the multi-sport park complex, may require removal of native and nonnative trees. Large trees are considered important aesthetic resources to the City of Elk Grove.	PS	Mitigation Measure 3.2 2: Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance. (City of Elk Grove) 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 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.	LTS
3.2-3 Light and glare effects from new lighting sources. Future developments in the SOIA Area, including the multi-sport park complex, could result in lighting and glare impacts. Nighttime lighting of the proposed multi-sport park complex could cause light spillover and contribute to skyglow, which could adversely affect nighttime views in the area.	PS	Mitigation Measure 3.2 3a: Minimize Over-Lighting (City of Elk Grove) 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: <ul style="list-style-type: none"> ▶ 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. 	LTS

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		<ul style="list-style-type: none">▶ 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.	
	PS	Mitigation Measure 3.2 3b: Minimize Glare (City of Elk Grove) 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.	LTS
3.3 Agricultural Resources			
3.3-1 Direct and indirect loss of agricultural land, including Farmland of Statewide Importance. Future development within the SOIA Area, including the multi-sport complex, could result in the direct conversion of agricultural land, including Farmland of Statewide Importance to nonagricultural urban uses.	PS	Mitigation Measure 3.3-1: Preserve Agricultural Land (LAFCo and the City of Elk Grove) 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	SU

Table ES-1 Summary of Project Impacts and Mitigation Measures			
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		<p>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 SOIA Area.</p> <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 SOIA Area, 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 SOIA Area; 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> <ul style="list-style-type: none">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.	

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		<p>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.</p> <p>f) An agricultural/wildlife habitat mitigation monitoring fee is required to cover the costs of administering, monitoring, and enforcing the document.</p> <p>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.</p> <p>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.</p> <p>City approval is required for the selection of farmland proposed for preservation.</p>	
3.3-2 Potential conflict with existing on-site and off-site Williamson Act contracts. Construction of the multi-sport complex project and future development within the SOIA Area identified for mixed uses would require cancellation of on-site Williamson Act contracts before their expiration date.	S	Mitigation Measure 3.3-2: Implement Mitigation Measure 3.3-1	SU
3.3-3 Conflict with existing off-site agricultural operations. Future development would locate urban land uses adjacent to existing off-site agricultural lands, which could impair adjacent agricultural activities, result in land use compatibility conflicts, and potentially result in the conversion of this land to nonagricultural land uses.	PS	Mitigation Measure 3.3 3: Prepare an Agricultural Land Use Compatibility Plan (City of Elk Grove) At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare an agricultural land use compatibility plan for the SOIA Area. 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.	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
3.4 Air Quality			
3.4-1 Potential generation of temporary, short-term, construction-related emissions of criteria pollutants and precursors. Construction associated with future development in the SOIA Area, including the multi-sport park complex, would generate emissions of criteria air pollutants or ozone precursors that could violate an ambient air quality standard or contribute substantially to an existing or predicted air quality violation by exceeding the SMAQMD daily construction emissions thresholds.	PS	Mitigation Measure 3.4-1a: Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices (City of Elk Grove) During construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, for those projects that exceed the applicable thresholds of significance for ROG, NOx, PM ₁₀ , or PM _{2.5} emissions, the City of Elk Grove shall require the following measures to mitigate construction emissions impacts, or other best practices recommended by SMAQMD at the time of construction. a. Basic Construction Emission Control Practices identified by the SMAQMD as listed below, or as they may be updated in the future: <ul style="list-style-type: none"> - 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, 	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>sections 2449(d) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.</p> <ul style="list-style-type: none"> - 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. <p>b. If, after application of the Basic Construction Emission Control Practices, emissions would still exceed relevant SMAQMD thresholds, implement the SMAQMD Enhanced Exhaust Control Practices as listed below, or as they may be updated in the future:</p> <ul style="list-style-type: none"> - Provide a plan, for approval by SMAQMD, demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average of 20 percent NO_x reduction and 45 percent particulate reduction compared to the most current California Air Resources Board (ARB) fleet average that exists at the time of construction. SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction. - Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. - Submit to SMAQMD a list of all equipment that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. - At least 48 hours prior to the use of heavy-duty off-road equipment, the project representative shall provide 	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.</p> <ul style="list-style-type: none">- Ensure that emissions from all off-road diesel powered equipment do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.- SMAQMD staff and/or other officials may conduct periodic site inspections to determine compliance.	
		<p>Mitigation Measure 3.4-1b: Use Off-Site Mitigation Fee for NO_x Emissions Generated by Construction (City of Elk Grove)</p> <p>If, after updates to scheduling for on-site construction and off-site improvements, the multi-sport park complex project would result in NO_x emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices, the City will participate in SMAQMD's off-site mitigation fee program. The mitigation fee will be set at a level that would bring NO_x emissions to a less-than-significant level (i.e., less than 85 lb/day). 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> <p>As projects in the SOIA Area outside the multi-sport park</p>	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		complex site are proposed, the City will assess the effectiveness of Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices for addressing NO _x emissions relative to SMAQMD threshold of significance. If, after development of project details and scheduling, any project within the SOIA Area would result in NO _x emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced 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 _x emissions to a less-than-significant level (i.e., less than 85 lb/day). 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.	
3.4-2 Generation of long-term operational emissions of criteria pollutants and precursors. Future development in the SOIA Area, including the multi-sport park complex project, would result in long-term emissions associated with operations of the proposed land uses that would exceed the SMAQMD thresholds of significance for VOC and NO _x . Thus operation-related emissions of criteria air pollutants and precursors would potentially violate or contribute substantially to an existing or projected air quality violation or conflict with air quality planning efforts.	S	Mitigation Measure 3.4-2: Implement Strategies to Reduce Potential Operational Emissions (City of Elk Grove) The City of Elk Grove shall require, as a part of the multi-sports park project and plans for development within the balance of the SOIA Area, the implementation of strategies to reduce operational ozone precursors. This can be in the form of an Air Quality Management Plan or another mechanism. The performance standard is to achieve a reduction in, or offset of operational ozone precursor emissions by at least 35 percent for the multi-sports park project and for development within the balance of the SOIA Area. The performance standard would be 15 percent for areas that have Land Use Designations under a future City General Plan update or amendment. Reduction strategies can include policies and emissions reduction measures demonstrating compliance with the City of Elk Grove's General Plan Conservation and Air Quality Element, including policies CAQ-29, CI-1, CI-3, CI-4, CI-5, and CI-7 and actions CAQ-29-Action 1 and CAQ-29-Action 2 of the City's General Plan (or equivalent policies as may be amended) and Elk Grove Climate Action Plan reduction measures TACM-4, TACM-5, TACM-6, and TACM-11 (or equivalent measures as may be	SU

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		amended), in addition to reduction measures recommended by the SMAQMD, which may include the use of offsets. The City will plan for safe and convenient pedestrian, bicycle, and transit access and mobility as a part of the multi-sports park project and plans for development within the balance of the SOIA Area. If the performance standard cannot be fulfilled with an Air Quality 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 when rezoning the property.	
3.4-3 Generation of Local Mobile-Source CO Emissions. Operations from development of the SOIA Area, including the multi-sport park complex, would not result in or substantially contribute to CO concentrations that would exceed the California 1-hour ambient-air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm.	LTS	No mitigation measures are required.	LTS
3.4-4 Exposure of sensitive receptors to toxic air contaminant emissions during construction. While the short-term construction of the proposed multi-sport park complex project would not result in the exposure of sensitive receptors to substantial concentrations of TAC emissions for an extended period of time, future development of the SOIA Area and off-site roadway improvements could expose sensitive receptors to substantial concentrations of TAC emissions.	PS	Mitigation Measure 3.4-4: Implement Mitigation Measure 3.4-1a	LTS
3.4-5 Exposure of sensitive receptors to toxic air contaminant emissions during operations. While the operation of the proposed multi-sport park complex project would not result in the exposure of sensitive receptors to substantial concentrations of TAC emissions for an extended period of time, future development within the balance of the SOIA Area and off-site roadway improvements could expose sensitive receptors to substantial concentrations of TAC emissions.	PS	Mitigation Measure 3.4-5: Implement Guidelines in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective (City of Elk Grove) The City of Elk Grove shall require, as a part of plans for development within the SOIA Area outside the multi-sports park complex project, require 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	LTS

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		<p>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>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.</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> <ul style="list-style-type: none">▸ 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;	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<ul style="list-style-type: none"> ▶ incorporating exhaust emission controls on mobile and/or stationary sources (e.g., filters, oxidizers); ▶ 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. 	
3.4-6 Exposure of sensitive receptors to objectionable odors. Future development in the SOIA Area, including the multi-sport park complex project, could result in short-term odorous emissions from diesel exhaust from on-site construction equipment would be temporary and intermittent in nature and dissipate rapidly from the source. The proposed multi-sport park complex project would not include the long-term operation of an odorous emission source and no substantial existing odor sources are adjacent to the site. However, it is possible that future development in the balance of the SOIA Area could involve odor sources.	PS	Mitigation Measure 3.4-6: Reduce Exposure of Sensitive Receptors to Odorous Emissions (City of Elk Grove). The City of Elk Grove shall require, as a part of plans for development within the SOIA Area outside the multi-sports park complex project, implementation of strategies to avoid exposure of sensitive receptors to objectionable odors. <ul style="list-style-type: none"> ▶ 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. 	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
3.5 Biological Resources			
<p>3.5-1 Loss of habitat for special-status plant species. The agricultural pond and ditches in the SOIA Area, including the multi-sport park complex site, provide marginally suitable habitat for the special-status plant species Sanford's arrowhead. This species could potentially be present and construction of the multi-sport park complex or future development of the SOIA Area could result in removal of habitat for this species.</p>	PS	<p>Mitigation Measure 3.5-1: Conduct Special-status Plant Surveys; Implement Compensatory Mitigation for Special-status Plants (LAFCo and the City of Elk Grove)</p> <p>Before any vegetation removal or ground-disturbing activities for construction of the multi-sport park complex project, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of Sanford's arrowhead:</p> <ul style="list-style-type: none"> ▶ Retain a qualified botanist to conduct protocol-level preconstruction special-status plant surveys for potentially occurring species following the CDFW rare plant survey protocols (CDFG 2009) 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. 	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"> ▶ 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"> - 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: <ul style="list-style-type: none"> ▪ 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. 	
3.5-2 Adverse effects on valley elderberry longhorn beetle habitat. Project-related activities in the SOIA Area, including the multi-sport park complex site, could result in adverse effects on VELB.	PS	Mitigation Measure 3.5-2a: Conduct VELB Surveys (LAFCo and the City of Elk Grove) Before any vegetation removal or ground-disturbing activities for construction of the multi-sport park complex site and off-site improvement areas, and at the time of submittal of any application to annex territory within the <i>SOIA</i> Area, the City of Elk Grove	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>shall require the following measure to mitigate the potential for impacts on VELB:</p> <p>A qualified biologist to 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' <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (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.</p>	
	PS	<p>Mitigation Measure 3.5-2b: Establish a Construction Buffer and Initiate Consultation with USFWS (LAFCo and the City of Elk Grove)</p> <p>If elderberry shrubs are detected with stems greater than 1 inch in diameter and with evidence of VELB occupancy in the multi-sport park complex site or in the balance of the SOIA Area or off-site improvement areas, the City of Elk Grove shall require the following measures to avoid, minimize, or mitigate effects on VELB, in accordance with USFWS' <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (USFWS 1999):</p> <ul style="list-style-type: none">▶ 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. <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</p>	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		obtained from the USFWS, and if compensatory mitigation is required according to the guidelines identified in USFWS' <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (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.	
3.5-3 Loss of nesting and foraging habitat for special-status and other protected raptors. Future development in the SOIA Area, including the construction of the multi-sport park complex, would result in conversion from agricultural land uses to urban land uses. This would result in loss of suitable nesting and foraging habitat for special-status raptors (Swainson's hawk, white-tailed kite, northern harrier, and burrowing owl) and common raptors protected under California Fish and Game Code and the MBTA. Loss of nesting and foraging habitat would contribute to a regional reduction in these essential habitats and may contribute to regional population declines of affected species. Future development in the SOIA Area, including the multi-sport park complex site, and off-site improvements required to support the Project, could also disturb active nests on or near the SOIA Area and off-site improvement areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.	S	<p>Mitigation Measure 3.5-3a: Avoid Direct Loss of Swainson's Hawk and Other Raptors (LAFCo and the City of Elk Grove)</p> <p>Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of nesting Swainson's hawks and other nesting raptors:</p> <ul style="list-style-type: none"> ▶ 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 SOIA Area or possible 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 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. 	LTS for other raptors SU for Swainson's Hawk

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">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.	
	S	Mitigation Measure 3.5-3b: Avoid Loss of Burrowing Owl (LAFCo and the City of Elk Grove) Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of burrowing owl: <ul style="list-style-type: none">To avoid, minimize, and mitigate potential impacts on	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>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 D of CDFW's <i>Staff Report on Burrowing Owl Mitigation</i> (2012) or the most recent CDFW protocols.</p> <ul style="list-style-type: none">▶ 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 (CDFW 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	

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SU = Significant and Unavoidable

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>do not recolonize the site before construction.</p> <ul style="list-style-type: none">▶ 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.	
	S	Mitigation Measure 3.5-3c: Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program (City of Elk Grove) Before construction of the multi-sport park complex project and	SU

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require 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 amended in the future.	
3.5-4 Loss and disturbance of nesting habitat for loggerhead shrike, Modesto song sparrow, and common nesting birds. Conversion from agricultural to urban land uses would result in loss and disturbance of potential nesting habitat for loggerhead shrike, Modesto song sparrow, and common birds protected under the MBTA. Future development in the SOIA Area, including the multi-sport park complex, and associated off-site improvement areas could disturb active nests on or near construction sites, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.	PS	Mitigation Measure 3.5-4: Avoid Direct Loss of Loggerhead Shrike and Protected Bird Nests (LAFCo and the City of Elk Grove) Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of protected bird nests: <ul style="list-style-type: none">▶ 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), conduct a preconstruction survey. The preconstruction survey shall be conducted by a qualified biologist before any activity occurring within 500 feet of suitable nesting habitat for any protected bird species. The survey shall be conducted within 14 days before vegetation removal, grading, and other ground-disturbing activities begin.▶ If an active nest of loggerhead shrike, song sparrow, other 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	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>qualified biologist, in consultation with CDFW.</p> <ul style="list-style-type: none">Monitoring of all protected 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 exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.	
3.5-5 Disturbance of nesting by tricolored blackbirds. Future development within the SOIA Area, including the multi-sport park complex, could result in loss of foraging habitat and disturb nesting colonies that might occur near the SOIA Area and off-site improvement areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs.	PS	<p>Mitigation Measure 3.5-5: Avoid Impacts on Tricolored Blackbird Colonies (City of Elk Grove)</p> <p>Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential impacts on nesting colonies of tricolored blackbirds:</p> <ul style="list-style-type: none">A qualified biologist shall conduct preconstruction surveys to determine if active tricolored blackbird nests are present within a 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 of nesting tricolored blackbird. Preconstruction surveys shall be conducted during the breeding season (March 1 through August 31). 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.If active nests are found within the project footprint or within 500 feet of any project-related activity, a 500-foot temporary buffer around the active nest shall be maintained until the young have fledged. A qualified biologist experienced with tricolored blackbird behavior shall monitor the nest throughout the nesting season and to determine when the young have fledged. The biologist will be on-site daily while construction-	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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 shall 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 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 tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).	
3.5-6 Potential for injury to or mortality of American badger. Conversion of the SOIA Area, including the multi-sport park complex, from agricultural to urban land uses could result in direct impacts to American badger.	PS	Mitigation Measure 3.5-6: Avoid Direct Loss of American Badgers (LAFCo and the City of Elk Grove) Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate impacts on American badger. <ul style="list-style-type: none">▶ 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, the 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.	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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.	
3.5-7 Disturbance, degradation, or removal of federally protected waters of the United States. Future development in the SOIA Area, including the multi-sport park complex, could convert agricultural lands to urban uses. This could result in the disturbance, degradation, and/or removal of federally protected wetlands or other waters of the U.S. If the Corps of US Corps of Engineers determines that aquatic features on the proposed multi-sport park complex project are jurisdictional, and if the balance of the SOIA Area or off-site improvement areas support jurisdictional waters of the U.S., Project-related activities could result in the loss of federal wetlands.	PS	Mitigation Measure 3.5-7: Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State (LAFCo and the City of Elk Grove) Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of waters: <ul style="list-style-type: none">▶ Conduct a delineation of waters of the United States according to methods established in the USACE wetlands delineation manual (Environmental Laboratories 1987) and Arid West Supplement (Environmental Laboratories 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 on-site 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 project applicant for each project requiring fill of waters shall replace or restore on a “no-net-loss” basis the function of all wetlands and other waters that would be removed as a result of implementing the respective project. 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	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>Section 401 and Section 404 permitting processes.</p> <ul style="list-style-type: none">▶ 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, project applicants shall obtain a USACE Section 404 Individual Permit and Central Valley RWQCB Section 401 water quality certification 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.▶ The project applicant shall have a qualified biologist 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	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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.	
3.5-8 Interference with wildlife nursery sites or migratory corridors. Future development of the SOIA Area, including the multi-sport park complex, could result in impacts on wildlife nursery sites, movement corridors or migratory routes.	LTS	No mitigation measures are required.	LTS
3.5-9 Conflicts with local policies and ordinances protecting biological resources. Development in the SOIA Area, including the multi-sport park complex site, and associated off-site improvement areas could conflict with the City's tree ordinance and policies outlined in the Elk Grove General Plan that apply to special-status species, wildlife habitats, streamside habitats, and agricultural open space.	PS	Mitigation Measure 3.5-9a: Implement Mitigation Measures 3.5-3c (Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program) and 3.5-7 (Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State) Mitigation Measure 3.5-9b: Implement Mitigation Measure 3.2-2 (Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance)	LTS
3.5-10 Conflicts with the provisions of an adopted habitat conservation plan. Development in the SOIA Area, including the multi-sport park complex, and associated off-site improvement areas in the future are not likely to conflict with the provisions of the SSHCP, if it is adopted before development in the SOIA Area.	LTS	No mitigation measures are required.	LTS
3.5-11 Loss of riparian habitat and sensitive natural communities. Possible future off-site improvements could result in loss of riparian habitat or other sensitive natural communities if they are present in off-site improvement areas and would be removed by Project development.	PS	Mitigation Measure 3.5-11: Avoid, Minimize, or Compensate for Loss of Riparian Habitat and Sensitive Natural Communities (City of Elk Grove) 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 improvement projects 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	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>appropriate if the features may be preserved on-site 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.</p> <p>If riparian habitat or other sensitive natural communities are present in off-site improvement areas and cannot feasibly be avoided, the project applicant shall coordinate with the City of Elk Grove and 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 on-site, habitat restoration off-site, or preservation and enhancement of existing habitat/natural community offsite. 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.</p> <p>If required, the project applicants shall obtain a Section 1602 streambed alteration agreement from CDFW and comply with all conditions of the agreement.</p>	
3.6 Cultural Resources			
3.6-1 Substantial adverse change in the significance of known historical resources. No historical or unique archaeological resources have been identified within the SOIA Area, including the multi-sport park complex site.	NI	No mitigation measures are required.	NI
3.6-2 Potential to cause a substantial adverse change in the significance of an unknown historical resource or unique archeological resource. Although no significant historical resource or unique archaeological resource are known to exist within the SOIA Area, it is possible that, during implementation of the multi-sport complex park project, potential future projects within the SOIA Area, or off-site improvements, previously	PS	<p>Mitigation Measure 3.6-2a: Conduct a Cultural Resources Inventory for Archaeological and/or Historic Architectural Resources (City of Elk Grove)</p> <p>Archaeology</p> <p>Prior to the approval of subsequent development projects in the SOIA Area, the City will require that a qualified cultural resources specialist conduct a survey and inventory for</p>	SU for SOIA Area outside the multi-sport park complex and LTS for multi-sport park complex

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
undiscovered cultural resources could be inadvertently exposed. Unless properly evaluated and managed, this could result in significant impact to one or more historical resource(s) or unique archaeological resource(s).		<p>archaeological resources that would include field survey, review of updated information from the North Central Information Center and other applicable data repositories, and updated Native American consultation. 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 significance for inclusion in or eligibility for the CRHR or local register.</p> <p>Historic Architecture</p> <p>Prior to the approval of subsequent development projects in the SOIA Area, 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</p>	

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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.	
	PS	Mitigation Measure 3.6-2b: Avoid Effects on Historical Resources (City of Elk Grove) Archaeology and Historic Architecture If the evaluation determines that a cultural resources site is an historical resource for the purposes of CEQA, the subsequent 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: <ul style="list-style-type: none">▶ 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 deposited with the appropriate museum or collection.	SU for SOIA Area outside the multi-sport park complex and LTS for multi-sport park complex

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
	PS	<p>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 (City of Elk Grove)</p> <p>Archaeology If previously unknown archaeological cultural resources (i.e., prehistoric sites, historical sites, and isolated artifacts) are discovered during 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. The project proponent shall be required to implement any mitigation deemed necessary for the protection of archaeological resources. The City shall consider mitigation recommendations presented by a professional archaeologist for any unanticipated discoveries. The City and the project applicant of the site where the discovery is made shall consult and agree on implementation of a measure or measures that the City deems feasible. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of archaeological cultural resources.</p> <p>Historic Architecture Not applicable</p>	SU for SOIA Area outside the multi-sport park complex and LTS for multi-sport park complex
3.6-3 Substantial adverse change to a tribal cultural resource. To date, no Tribal Cultural Resources have been identified within or adjacent to the SOIA Area, including the multi-sport park complex site.	NI	No mitigation measures are required.	NI
3.6-4 Disturbance of human remains. Although there is no evidence of human remains, if there are future ground-disturbing activities in the SOIA Area, including the multi-sport park complex site, or in off-site infrastructure improvement areas, this could adversely affect presently unknown burials.	PS	<p>Mitigation Measure 3.6-4: Halt Construction if Human Remains are Discovered and Implement Appropriate Actions (LAFCo and the City of Elk Grove)</p> <p>In accordance with California law and local policies described above, if human remains are uncovered during future ground-</p>	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>disturbing activities, future applicants within the SOIA Area 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.</p> <p>Upon the discovery of Native American remains, future applicants within the SOIA Area 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:</p>	

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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.	
3.7 Geology, Soils, Minerals, and Paleontological Resources			
3.7-1 Exposure to strong seismic ground shaking. Future development within SOIA Area, including the multi-sport park complex, would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	LTS	No mitigation measures are required.	LTS
3.7-2 Seismic-related ground failure. Future development within the SOIA Area, including the multi-sport park complex, could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. However, the California Geological Survey predicts low probability of strong seismic events in the vicinity of the SOIA Area, and existing regulations require structures are designed to minimize risk associated with liquefaction, lateral spreading, and collapse.	LTS	No mitigation measures are required.	LTS
3.7-3 Unstable soils. Future development within the SOIA Area, including the multi-sport park complex, could not result in the Project being 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. However, existing regulations such as the CBC, General Plan policies, and local ordinances require site investigations and sound design	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
practices, which would minimize these potential effects.			
3.7-4 Soil erosion or loss of topsoil. Future development within the SOIA Area, including the multi-sport park complex, could result in substantial soil erosion or the loss of topsoil. Implementation of existing regulations such as the CBC, local General Plan policies, and NPDES would reduce the potential for erosion and loss of topsoil as a result of construction activities associated with the potential for development from the proposed Project.	LTS	No mitigation measures are required.	LTS
3.7-5 Expansive soils. Future development within the SOIA Area, including the multi-sport park complex, could be located on expansive soil, creating substantial risks to life or property. However, existing requirements ensure site-specific studies and construction practices to avoid risks related to expansive soils.	LTS	No mitigation measures are required.	LTS
3.7-6 Damage to unknown paleontological resources. Future development within the SOIA Area, including the multi-sport park complex, or off-site improvements required to support future development within the SOIA Area could disturb previously unknown paleontological resources.	PS	Mitigation Measure 3.7-6: Avoid Impact to Unique Paleontological Resources (City of Elk Grove) <ul style="list-style-type: none"> ▸ Prior to the start of on- or off-site earthmoving activities that would disturb 1 acre of land or more within the Riverbank Formations, 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. 	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
3.8 Greenhouse Gas Emissions			
3.8-1 Contribution to significant climate change cumulative impact. GHG emissions attributable to possible future development within the SOIA Area, including the multi-sport park complex, during construction and operational phases is considered a cumulatively considerable contribution to the significant cumulative impact of climate change.	CC	Mitigation Measure 3.8-1: Achieve GHG Emissions Rate Consistent with State Guidance (City of Elk Grove) The City of Elk Grove shall require, as a part of the multi-sports park project and plans for development within the balance of the SOIA Area, the implementation of strategies to reduce GHG emissions. This will include an emissions estimate, suite of reduction strategies, which may include the use of verifiable offsets, and a monitoring mechanism consistent with recommendations of CEQA Guidelines Section 15183.5 for GHG reduction programs. This GHG reduction program for the SOIA Area can be accomplished through an update to the City's Climate Action Plan or a stand-alone GHG reduction program. The City will require that development in the SOIA Area comply with applicable GHG reduction strategies necessary to demonstrate that the SOIA Area would achieve a GHG emissions rate per service population that would be consistent with the emissions rate for land use-related emissions needed to achieve the State's emission targets for 2030 (Executive B-30-15 and SB 32) and 2050 (Executive Order S-3-05).	Cumulatively SU
3.9 Hazards and Hazardous Materials			
3.9-1 Routine transport, use, or disposal of hazardous materials. Future development in the SOIA Area, including the multi-sport park complex, could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during demolition, construction, or operation activities. However, compliance with applicable rules and regulation specifically designed to protect the public health through improved procedures for the handling of hazardous materials, better technology in the equipment used to transport these materials, and a more coordinated quicker response to emergencies, the impact related to the creation of significant hazards to the public through routine, transport, use, and disposal is less than significant .	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
3.9-2 Potential human health hazards from exposure to existing on-site hazardous material. Future development in the SOIA Area, including the multi-sport park complex, could expose construction workers to hazardous materials present on-site during construction activities and hazardous materials on-site could create an environmental or health hazard for later residents or occupants, if left in place.	PS	Mitigation Measure 3.9-2: Hazardous Materials Identification and Remediation (LAFCo and the City of Elk Grove) 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.	LTS
3.9-3 Upset and accident conditions. Future development in the SOIA Area, including the multi-sport park complex, could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions at involving the release of hazardous materials into the environment.	LTS	No mitigation measures are required.	LTS
3.9-4 Interfere with emergency response or evacuation plan. Future development in the SOIA Area, including the multi-sport park complex site, could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	PS	Mitigation Measure 3.9-4 Traffic Control Plans (City of Elk Grove) Implement traffic control plans for construction activities that may affect road rights-of-way during construction of future development and off-site improvements. The traffic control plans shall be designed to avoid traffic-related hazards and maintain emergency access during construction phases. The traffic control	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		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 affected agencies, as appropriate, for review and approval before approval of improvement plans, where future construction may cause impacts on traffic.	
3.9-5 Risks from wildfires. Future development in the SOIA Area, including the multi-sport park complex, would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.	LTS	No mitigation measures are required.	LTS
3.10 Hydrology and Water Quality			
3.10-1 Short-term degradation/violation of water quality standards during construction. Future development within the SOIA Area, including the multi-sport park complex, could degrade water quality and increase in stormwater or wastewater discharge during construction. This impact is considered potentially significant .	PS	Mitigation Measure 3.10-1: Implement Mitigation Measure 3.9 2 (City of Elk Grove and LAFCo)	LTS
3.10-2 Long-term degradation/violation of water quality standards during operation. Future development within the SOIA Area, including the multi-sport park complex, would not degrade water quality or violate water quality standards during operation. Implementation of requirements in the City's Storm Drainage Master Plan and federal and State regulations associated with confined animal and feeding operations would prevent water quality degradation during operation of the proposed Project.	LTS	No mitigation measures are required.	LTS
3.10-3 Depletion of groundwater supplies. Future development within the SOIA Area, including the multi-sport park complex, could require additional drinking and irrigation	PS	Mitigation Measure 3.10-3: Implement Mitigation Measure 3.15-1 (City of Elk Grove and LAFCo)	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
water that may be supplied via groundwater, resulting in a depletion of groundwater supplies.			
3.10-4 Erosion, siltation, downstream flooding, or increased stormwater runoff volumes. Future development within the SOIA Area, including the multi-sport park complex, would alter drainage patterns, increase stormwater runoff, and increase susceptibility to downstream flooding and/or erosion that is due to increased volumes or peak flows. Implementation of requirements in the Elk Grove Municipal Code, the City's Storm Drainage Master Plan, and General Plan policies would reduce this potential by requiring site drainage plans to address hydrologic impacts and incorporating runoff control measures and LID measures to minimize peak flows. However, final designs and specifications for the Project site have not been submitted to, or approved by the City showing that grading and erosion control measures have been incorporated into final plans.	PS	Mitigation Measure 3.10-4: Prepare and Implement a Land Grading and Erosion Control Plan (City of Elk Grove) Before grading permits are issued or earthmoving activities are conducted, a California Registered Civil Engineer shall be retained to prepare a land grading and erosion control plan per City of Elk Grove Municipal Code 16.44. The plan shall be submitted to the City Engineering Division for review and approval. The plan shall be consistent with the State's and City's NPDES permit and shall include the site-specific grading. The plan referenced above shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, 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. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion. The project applicant shall ensure that the construction contractor is responsible for securing a source of transportation and deposition of excavated materials.	LTS
3.10-5 Structures within flood hazard area. Future development in the SOIA Area, including the multi-sport park complex, could place structures within the 100-year flood hazard zone and could impede or redirect flood flows. Future development in the SOIA Area that is determined to be within 200-year floodplain would have to meet City requirements to protect development against flood damage.	PS	Mitigation Measure 3.10-5: Ensure Structures are Outside of the 100-Year Floodplain (City of Elk Grove) At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall verify that no habitable structures or structures that negatively obstruct the flow of water, including any structures in the agrizone portion of the multi-sport park complex, are proposed within the 100-year floodplain. Further, all development shall comply with applicable provisions of EGMC 16.50 (Flood Damage Prevention).	LTS
3.11 Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities			
3.11-1 Consistency with adopted Sacramento County or Elk Grove zoning or General Plan policies and land use designations. Future development in the SOIA Area, including	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
the multi-sport park complex, may be inconsistent with Sacramento County General Plan policies, Elk Grove General Plan policies, Sacramento County zoning ordinances, or City of Elk Grove zoning ordinances adopted for the purpose of avoiding or mitigating an environmental effect.			
3.11-2 Consistency with LAFCo Policies, Standards, and Procedures Guidelines. Future development within the SOIA Area, including the multi-sport park complex project, would be consistent with Sacramento LAFCo Policies, Standards, and Procedures Guidelines.	NI	No mitigation measures are required.	LTS
3.11-3 Consistency with the Metropolitan Transportation Plan/Sustainable Communities Strategy. Future development within the SOIA Area, including the multi-sport park complex project, may be inconsistent with the SACOG 2036 Metropolitan Transportation Plan/Sustainable Communities Strategy. However, this EIR analyzes full development of the multi-sport park complex, along with buildout of the balance of the proposed SOIA Area as if it fully developed, as well. There is no impact related to SACOG's 2016 MTP/SCS that is not addressed in the environmental topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.).	LTS	No mitigation measures are required.	LTS
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.	PS	Mitigation Measure 3.11-4: Implement Mitigation Measure 3.3-1	SU
3.11-5 Induce population growth. Because the population, housing, and employment growth that could be generated by the proposed Project was not accounted for in the City's General Plan or SACOG's 2016 MTP/SCS, the proposed Project could indirectly facilitate unplanned growth. However, this EIR analyzes full development of the multi-sport park complex, along with buildout of the balance of the proposed SOIA Area as if it fully developed, as well. There is no impact related to SACOG's 2016 MTP/SCS that is not addressed in the environmental topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.).	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
3.12 Noise			
3.12-1 Temporary, short-term exposure of sensitive receptors to construction noise. Short-term construction source noise levels could exceed the applicable City standards at nearby noise-sensitive receptors. In addition, if construction activities were to occur during more noise-sensitive hours, construction source noise levels could also result in annoyance and/or sleep disruption to occupants of existing and proposed noise-sensitive land uses and create a substantial temporary increase in ambient noise levels.	S	Mitigation Measure 3.12-1: Implement Noise-Reducing Construction Practices (City of Elk Grove) During construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate construction noise impacts. <ul style="list-style-type: none"> ▶ 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. 	SU

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>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.</p> <ul style="list-style-type: none"> ▶ 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. 	
<p>3.12-2 Temporary, short-term exposure of sensitive receptors to increased traffic noise levels from Project construction. Future development in the SOIA Area, including the multi-sport park complex project would result in temporary increases in on- and off-site roadway traffic noise associated with Project construction. Construction-generated traffic could expose sensitive receptors to noise levels along on- and off-site roadways that would not exceed the applicable noise standards and/or result in a substantial increase in ambient noise levels.</p>	LTS	No mitigation measures are required.	LTS
<p>3.12-3 Temporary, short-term exposure of sensitive receptors to potential groundborne noise and vibration from Project construction. Future development in the SOIA Area, including the multi-sport park complex project could expose sensitive receptors to groundborne noise and vibration levels that exceed applicable standards that could cause human disturbance or damage structures. Construction of future projects could cause a temporary, short-term disruptive vibration if construction activities were to occur near sensitive receptors.</p>	PS	<p>Mitigation Measure 3.12-3: Reduce Groundborne Noise and Vibration Levels at Sensitive Receptors and Buildings (LAFCo and the City of Elk Grove)</p> <p>During construction of off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate groundborne noise and vibration for off-site improvements within 60 feet of existing non-historical structures and within 25 feet of historic structures:</p> <ul style="list-style-type: none"> ▶ Route heavily loaded trucks away from residential streets where residences are within 60 feet of the edge of the roadway. 	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"> ▶ 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. <p>At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate groundborne noise and vibration for pile driving within 200 feet of any vibration-sensitive receptor, if required:</p> <ul style="list-style-type: none"> ▶ 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. 	

NI = No Impact

CC = Cumulatively Considerable

LTS = Less than Significant

S = Significant

PS = Potentially Significant

SU = Significant and Unavoidable

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">▶ 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 structures.▶ Pile driving required within a 285-foot radius of sensitive receptors or within 180 feet of a historic structure should use alternative installation methods, where possible (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers).	
3.12-4 Long-term traffic noise levels at existing noise-sensitive receivers. Future development in the SOIA Area, including the multi-sport park complex project would result in an increase in vehicle trips. The increased traffic volumes would result in a noticeable (3 dB or greater) increase in traffic noise along roadways in and within the vicinity of the proposed SOIA Area.	S	No feasible mitigation measure	SU
3.12-5 Land use compatibility of on-site sensitive receptors with future transportation noise levels. Future development would result in future traffic noise that could expose proposed new land uses to levels that exceed the City's standards. This traffic noise could result in annoyance and/or sleep disruption to nearby noise-sensitive receptors.	PS	Mitigation Measure 3.12-5: Improve Land Use Compatibility to Reduce Exposure of On-Site Sensitive Receptors to Traffic Noise (City of Elk Grove) Consistent with Noise Policy NO-8 and NO-9, or these policies as they may be updated in the future, the City will incorporate feasible strategies to improve land use/transportation noise compatibility, including, but not limited to the following strategies, as feasible: <ul style="list-style-type: none">▶ 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);	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"> install low-noise pavement, such as open-grade asphalt or rubberized asphalt. 	
3.12-6 Land use compatibility of on-site sensitive receptors to or generation of non-transportation noise levels in excess of local standards. Future development of new noise-sensitive land uses would occur within areas that either are currently affected by noise from non-transportation noise sources, or will be in the future. These non-transportation noise sources could exceed the applicable noise standards (hourly L_{eq} dBA) and result in a substantial increase in ambient noise levels.	S	<p>Mitigation Measure 3.12-6: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Non-Transportation Source-Generated Noise. (City of Elk Grove)</p> <p>The City of Elk Grove shall require discretionary projects to reduce potential exposure of sensitive receptors to non-transportation source-generated noise.</p> <p>To reduce potential long-term exposure of 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"> The proposed land uses shall be designed so that on-site mechanical equipment (e.g., 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 	SU

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>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.</p> <ul style="list-style-type: none">▶ 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. <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 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:</p> <ul style="list-style-type: none">▶ 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.	

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
3.13 Public Services and Recreation			
3.13-1 Increased demand for fire protection and emergency medical services. Future development of the SOIA Area, including the multi-sport park complex project, could increase demand for CCSO fire protection and emergency medical services. This could trigger the need for additional facilities, the construction and operation of which could result in impacts on the physical environment.	LTS	No mitigation measures are required.	LTS
3.13-2 Increased demand for law enforcement services. Future development of the SOIA Area, including the multi-sport park complex project, could increase demand for law enforcement services. Future development 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.	LTS	No mitigation measures are required.	LTS
3.13-3 Increased demand for schools. Future development of the SOIA Area could result in the generation of school-aged children that increases the demand for schools. Future project applicant/s would be required to pay all applicable State-mandated school impact fees to EGUSD and 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).	LTS	No mitigation measures are required.	LTS
3.13-4 Increased demand for parks and recreation facilities. The multi-sport park complex would include construction of new City parkland and recreational facilities. Future buildout of the SOIA Area, which could include new residences in the area designated for mixed use, could increase demand for parks and recreational facilities. Future development applicants would be required to dedicate parkland or pay development fees for parks and recreational facilities created by any new residential housing units.	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
3.14 Transportation/Traffic			
3.14-1 Conflict with an applicable transportation plan, ordinance, policy, or congestion management program. Future annexation and development activities within the proposed Project may generate new vehicle trips that may contribute to unacceptable traffic operations under existing plus Project conditions. This would conflict with an applicable transportation 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. This would also 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 for LOS LTS for VMT	Mitigation Measure 3.14-1: Improvements for Full Buildout of the SOIA Area, including the Multi-Sports Park Complex Project (City of Elk Grove). Implementation of the following improvements is recommended to provide acceptable, LOS D or better operations: Improvement 1 – Kammerer Road/Bruceville Road Intersection ‣ Installation of all-way stop control would provide acceptable LOS C operation in the AM peak hour. Improvement 2 – Grant Line Road/Waterman Road Intersection Provide the following lane configurations at the intersection: ‣ Two left-turn lane, one through lane, and one right-turn lane on the northbound approach ‣ One left-turn lane, one through lane, and two right-turn lanes on the southbound approach ‣ Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach ‣ Two left-turn lanes, three through lanes, and one right-turn lane on the westbound approach Improvement 3 – Grant Line Road/Mosher Road Intersection Install traffic signal control and provide the following lane configurations at the intersection: ‣ One left-turn lane, one through lane, and one right-turn lane on the northbound approach ‣ One left-turn lane, one through lane, and a right-turn lane on the southbound approach ‣ One left-turn lane, two through lanes, and one right-turn lane on the eastbound approach ‣ One left-turn lane, two through lanes, and one right-turn lane on the westbound approach Improvement 4 – Grant Line Road/Bradshaw Road Intersection ‣ Realign Bradshaw Road to intersect Grant Line Road at 90 degrees. Install traffic signal control and provide the following	LTS for LOS LTS for VMT

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		<p>lane configurations at the intersection:</p> <ul style="list-style-type: none"> - One left-turn lane, one right-turn lane on the southbound approach - One left-turn lane and one through lane on the eastbound approach - One through lane and one right-turn lane on the westbound approach <p>Improvement 5 – Grant Line Road/Elk Grove Boulevard Intersection</p> <p>Realign Elk Grove Boulevard to intersect Grant Line Road at 90 degrees. Install traffic signal control and provide the following lane configurations at the intersection:</p> <ul style="list-style-type: none"> ▶ One left-turn lane, one right-turn lane on the southbound approach ▶ One left-turn lane and one through lane on the eastbound approach ▶ One through lane and one right-turn lane on the westbound approach 	
3.14-2 Hazards due to a design feature. Future development activities within the SOIA Area, including the multi-sports park complex project, would not increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LTS	No mitigation measures are required.	LTS
3.14-3 Inadequate emergency access. Future development activities within the SOIA Area, including the multi-sports park complex project, would not result in inadequate emergency access.	LTS	No mitigation measures are required.	LTS
3.14-4 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Future development activities within the SOIA Area, including the multi-sports park complex project, may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, this impact is	PS	Mitigation Measure 3.14-4: Implement Mitigation Measure 3.4-2	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
considered potentially significant.			
3.15 Utilities and Service Systems			
3.15-1 Increased demand for water supplies and water system facilities. Future development within the SOIA Area, including the multi-sport park complex, would require new treated water supplies and construction of on-site and off-site water supply system facilities. SCWA would be the future water service provider to the SOIA Area. SCWA's existing water supplies would be adequate to meet the water demands of future development. On-site and off-site water system facilities necessary to serve future development have not been identified at this time.	PS	Mitigation Measure 3.15-1: Prepare a Plan for Service that Demonstrates Adequate Water Supplies and On-Site and Off-Site Water System Facilities are Available to Serve Future Development (LAFCo and the City of Elk Grove) At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare a Plan for Services as required by Government Code Section 56430, or its successor. The Plan for Services shall demonstrate 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, without adverse impacts to existing ratepayers. The Plan for Services shall demonstrate that the SCWA is a signatory to the Water Forum Agreement, that groundwater management would occur consistent with the Central Sacramento County Groundwater Management Plan, and that groundwater will be provided in a manner that ensures no overdraft will occur. The Plan for Services shall depict the locations and appropriate sizes of all on-site water system facilities to accommodate the amount of development identified for the annexation territory, demonstrate SCWA has modified its service area boundary to include the territory within its Zone 40 and Zone 41 service area, and demonstrate adequate SCWA off-site water facilities are available to accommodate the amount of development identified in the annexation territory or that fair share funding will be provided for the construction of new or expansion and/or improvement of existing off-site water system facilities with no adverse impacts on existing ratepayers.	LTS
3.15-2 Increased demand for wastewater collection, conveyance, and treatment facilities. Future development within the SOIA Area, including the multi-sport park complex, would require construction of on-site wastewater collection and conveyance facilities and construction of new and/or expansion of existing SASD and SRCSD facilities. Although the SRWTP would have capacity to treat wastewater generated by future	PS	Mitigation Measure 3.15-2: Prepare a Plan for Service that Demonstrates Adequate On-Site and Off-Site Wastewater Collection and Conveyance Facilities and Wastewater Treatment Facilities are (LAFCo and the City of Elk Grove) At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall provide a Plan	LTS

Table ES-1 Summary of Project Impacts and Mitigation Measures			
Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
development, verification of SRWTP treatment capacity to serve future development would still be required.		for Services that that depicts the locations and appropriate sizes of wastewater collection and conveyance facilities to accommodate the amount of development identified for the annexation territory. The Plan for Services shall demonstrate SASD and SRCSD have annexed the territory into their respective service areas. The Plan for Services shall demonstrates that SASD and SRCSD wastewater collection and conveyance facilities and that the SRWTP will have sufficient capacity to accommodate the amount of development identified for the annexation territory or that fair-share funding will be provided for the expansion and/or improvement of existing wastewater facilities, as needed, to accommodate the increase in demand resulting from development of the annexation territory with no adverse impact to existing ratepayers.	
3.15-3 Increased generation of solid waste and compliance with solid waste regulations. Future development in the SOIA Area, including the multi-sport park complex, would result in the increase generation of solid waste. The Kiefer Landfill, L and D Landfill, and Yolo County Landfill have sufficient permitted capacity to accommodate solid-waste disposal needs of future development would be required to comply with applicable federal, State, or local solid waste regulations.	LTS	No mitigation measures are required.	LTS
3.16 Energy			
3.16-1 Energy efficiency. Development in the SOIA Area, including the multi-sports park complex project, would increase demand for energy, including fuel, electricity, and natural gas. Future development will be required to comply with existing regulations that are designed to improve energy efficiency. It is possible that future development could cause the inefficient, wasteful, or unnecessary consumption of energy.	S	<p>Mitigation Measure 3.16-1a: Implement Mitigation Measures 3.4-2 and 3.8-1</p> <p>Mitigation Measure 3.16-1b: Incorporate Energy Conservation Strategies (City of Elk Grove)</p> <p>Incorporate strategies for direct energy conservation, as well as strategies that indirectly conserve energy into the design and construction of the multi-sport park complex, including, but not limited to:</p> <ul style="list-style-type: none"> ▶ 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; 	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"> 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. 	
3.16-2 New or expanded electrical and natural gas utilities. Development of the multi-sport park complex and future development of the SOIA Area would require construction of new on-site electrical and natural gas infrastructure. PG&E would need to provide natural gas infrastructure and SMUD would need to provide electrical infrastructure to the area, as necessary, to extend service into the SOIA Area. Existing infrastructure would be extended from developed areas in the vicinity to serve the multi-sport park complex and any future development of the SOIA Area.	PS	Mitigation Measure 3.16-2: Prepare Utility Service Plans that Demonstrate Adequate Electrical and Natural Gas Supplies and Infrastructure are Available before the Annexation of Territory within the SOIA (City of Elk Grove) At the time of submittal of any application to annex territory within the SOIA Area, 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

ES.6 ALTERNATIVES TO THE PROJECT

The CEQA Guidelines (Section 15126.6) require that an EIR describe a range of reasonable alternatives to the proposed project that could feasibly attain the basic objectives of the project and avoid and/or lessen the environmental effects of the project. Below is a summary of the alternatives to the proposed Project considered in Chapter 5, “Alternatives.”

ES.6.1 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.”

The 100-acre City-owned property currently consists of agricultural land and a small corrugated metal warehouse (no residences). The remainder of the SOIA Area also is in agricultural use, for crops and pasture. Two homes and multiple barns, sheds, and other agricultural structures are situated in the SOIA Area. For the purposes of this Alternative, development is assumed to occur consistent with the General Plan. Approximately 525 acres of the SOIA Area are designated in the General Plan as agriculture. Approximately 2 acres of the SOIA Area are designated in the General Plan as natural preserve. Approximately 41 acres of the SOIA Area are designated in the General Plan as intensive industrial, intended for manufacturing and related activities including research, processing, warehousing, and supporting commercial uses. Therefore, the No-Project Alternative for purposes of this analysis consists of continued agricultural use on 527 acres and intensive industrial development on 41 acres.

ES.6.2 REDUCED DENSITY/INTENSITY ALTERNATIVE

Another common alternative is an alternative that reduces the size of a proposed project. The 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 as planned. The front 20 to 30 acres of the City property would be employment uses along the frontage with Grant Line Road, with 70 acres of multi-sport park complex in the rear. There would be no stadium or separate land set aside for fairground use. The balance of the site would continue to be used for agriculture.

ES.7 AREAS OF CONTROVERSY

The CEQA Guidelines (Section 15123) require that the summary of an EIR identify areas of controversy known to the lead agency, including issues raised by agencies and the public. The following topics of interest were identified during circulation of the NOP. Each topic of interest that relates to a potential adverse physical environmental impact of the Project is addressed in this EIR.

- ▶ General concern regarding impacts on surrounding property owners
- ▶ Role of LAFCo approval of the SOIA versus subsequent project approvals
- ▶ LAFCo role in formulating project boundaries
- ▶ Concern that the SOI process is piecemealing

- ▶ Potential impacts of chemicals from past land uses on surrounding property owners and soccer players
- ▶ Concern regarding adequate water supply for the soccer fields and for adjacent agricultural uses given current drought
- ▶ Potential impacts of the soccer fields on groundwater supply
- ▶ Objections to CEQA guidelines for alternatives analysis
- ▶ Relationship between the SOIA and future General Plan amendment
- ▶ Project worst-case scenario should not be based on industrial zoning but on housing
- ▶ Potential concerns regarding project location in relation to the 100-year floodplain
- ▶ Capacity of area roadways to handle soccer stadium traffic
- ▶ Concerns regarding changes in population
- ▶ Concern that the public scoping meeting wasn't announced on the City website
- ▶ Time schedule for the EIR

Several comment letters were received from responsible and trustee agencies as defined in Section 21069 and 21070 of the CEQA Guidelines, and several letters were received from non-governmental organizations and citizens. Table ES-2 provides a synopsis of the comments and the area of the EIR in which LAFCo and the City have addressed the comments. Copies of the comment letters are provided in Appendix A.

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
<i>U.S. Army Corps of Engineers, Kathleen Dadey, Ph.D.</i>	
LAFCo should prepare a wetland delineation and submit it for verification.	Biological Resources
Range of alternatives should include alternatives that avoid impacts on wetlands and provide mitigation if no practicable alternatives exist.	Biological Resources
<i>Caltrans, District 3, Jeffery Morneau</i>	
A Multi-Modal Transportation Impact Analysis should be prepared to assess potential impacts on the SHS.	Transportation
Analysis should measure Vehicle Miles Traveled (VMT), trip distribution, and safety for all modes.	Transportation
Analysis should include SR 99 mainline, ramps, and intersections and mitigation should include Transportation Demand Management and Access Management projects and strategies that increase multimodal access and reduce VMT.	Transportation
Significant impacts on the SHS would be addressed by contributing to the I-5 Subregional Corridor Management Program (SCMP).	Transportation
<i>California Department of Fish and Wildlife, Tanya Sheya</i>	
Project description should include the whole action, including staging areas and access roads, and range of alternatives.	Project Description, Alternatives

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
EIR should describe existing biological conditions, including a complete and current analysis of species and sensitive habitats.	Biological Resources
Species-specific surveys should be conducted using CDFW-approved protocols, including an assessment for rare plants and natural communities.	Biological Resources
Project may result in direct, indirect, and cumulative impacts on resources including riparian and terrestrial habitats, and State-listed species.	Biological Resources, Cumulative Impacts
The EIR should disclose any potential “take” of State-listed species and if an Incidental Take Permit or consistency determination may be required	Biological Resources
The EIR should identify areas under CDFW’s jurisdiction per section 1602 of the Fish and Game Code and potential impacts.	Biological Resources
The EIR should provide a detailed analysis of how the Project will be consistent with the SSHCP.	Biological Resources
The EIR should address potential direct or indirect “take” of nongame nesting birds. Any mitigation measures should include species specific work windows, biological monitoring, installation of noise attenuation barriers, etc.	Biological Resources
<i>Capital Southeast Connector JPA, Tom Zlotkowski</i>	
Ensure that the variety of uses allowed under the proposed zoning and their resulting trip generation is evaluated for daily and peak travel.	Transportation
EIR should provide special attention to the various possible peak travel periods including for special events.	Transportation
Evaluate higher than normal truck traffic and consider traffic handling, physical geometry, and off-site circulation improvements.	Transportation
Evaluate special event traffic in conjunction with anticipated peak period background traffic from adjacent land uses and Connector study area traffic, as noted in 2012 Connector PEIR.	Transportation
Address special circulation needs for farming equipment.	Transportation
Adhere to Connector program Project Design Guidelines in development of circulation plans and mitigation measures.	Transportation
<i>Central Valley Regional Water Quality Control Board, Stephanie Tadlock</i>	
The EIR should account for the Basin Plan, antidegradation considerations, and whether the Project may require a permit from the Regional Board (Construction Storm Water General Permit, MS4 permit, Industrial Storm Water General Permit, Clean Water Act Section 404/401 permit, Waste Discharge Requirements, the Irrigated Lands Regulatory Program, Low or Limited Threat General NPDES Permit)	Project Description, Hydrology and Water Quality
<i>Environmental Council of Sacramento (ECOS), Rick Guerrero ECOS, Rob Burness Habitat 2020</i>	
Site location may generate added travel times and VMT for Elk Grove users and tournament participants and is not located near services such as hotels and restaurants.	Transportation
Project could induce commercial development – a growth-inducing impact.	Other CEQA-Required Analyses
Site will not be served by transit, resulting in transportation and air quality impacts, and will not provide an urban, game day experience.	Project Description, Transportation, Air Quality
EIR should consider alternative sites that will allow for shorter trips, closer proximity to services, and access to transit.	Project Description, Alternatives
The EIR should consider the site’s proximity to the Stone Lakes National Wildlife Refuge and Cosumnes River Preserve and impacts on wildlife.	Biological Resources
The EIR should consider the significance of the Project site as upland forage areas for species displaced by flooding adjacent to the Cosumnes River, such as Greater Sandhill Crane.	Biological Resources
The EIR should not use any of the previous SOIA EIR because of inaccuracies.	Biological Resources

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
The EIR should not rely too heavily on the CNDDDB which is incomplete and weighted toward nesting data rather than foraging or simple occurrence. The EIR should also consider data from eBird, the local Christmas counts, and from SLNWR and CRP	Biological Resources
Artificial lighting at night is cumulative and significant and the EIR should consider and evaluate the impact of lighting on wildlife.	Biological Resources
The EIR should evaluate the no project and alternative scenarios based on the negative impacts of light encroaching on the FEMA Floodplain limit, Deer Creek, Cosumnes River, and Cosumnes River Corridor.	Alternatives
Lighting should be limited in the amount of lighting and the period of operation.	Project Description
The EIR should evaluate the potential impacts of blue rich light on sky glow and its effects on biological mechanisms, including during cloudy conditions.	Biological Resources
Rodents are sensitive to stray light, which could affect prey availability for Swainson's hawk.	Biological Resources
The Project may not have sufficient funding and LAFCo will have no regulatory nexus to inhibit a typical low density sprawl development.	Project Description
The Project would induce growth into the important agricultural and natural open space areas south of the city. The Project should not be located in a biologically significant greenfield but in a more suitable infill site.	Other CEQA-Required Analyses, Alternatives
<i>Elk Grove Grasp, Lynn Wheat</i>	
LAFCo's policy on discouraging annexation of peninsula-shaped parcels is difficult for the public to understand and expands the original city application. The EIR should include an alternative with only the 100-acre city-owned property, because the additional 479 acres is growth-inducing and relies on speculative zoning.	Introduction, Project Description, Land Use, Alternatives, Other CEQA-Required Analyses
The EIR should address the proximity of the site to the propane tanks, which represent the largest above-ground storage of propane in the country, according to Suburban Propane, and the associated hazards.	Hazards and Hazardous Materials
The EIR should identify all federal, state, and local permits required for the Project.	Project Description
The EIR should not rely on outdated information from the previous Municipal Services Review.	Public Services, Utilities
The EIR should obtain updated information on water consumption and the ability of the service provider to serve the Project, taking into account the updated groundwater supply reporting requirements that will be required by the State.	Utilities
The EIR should include the traffic analysis of the City's Hazardous Waste Facility at full build out.	Comment not related to the proposed Project
Will all the costs to process the City's application to LAFCo be proportionally shared by the affected private property owners who will benefit from this application?	Comment not related to CEQA
<i>Elk Grove Unified School District, Kim Williams</i>	
The mixed-use land designation makes it difficult to project the potential impact of infill development on EGUSD. The EIR should use assumptions of RD-30 housing in the proposed commercial areas and residential development on the Mosher property.	Project Description
<i>Elk Grove Water District, Mark Madison</i>	
EGWD Service Area 2 is immediately adjacent to the SOIA Area and EGWD has an interest in providing retail water service for the Project by purchasing wholesale water from SCWA Zone 40 as is currently done for Service Area 2.	Project Description, Utilities
<i>George E. Phillips (Phillips Land Law, Inc.) for Mahon and Kautz</i>	
On November 23, 2015, Mahon and Kautz applied to Sacramento County to initiate a land use visioning process for 701 acres south of Grant Line Road and east of the proposed SOIA Area. The EIR should consider the impacts of the Project within this broader context.	Cumulative Impacts

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
The EIR should address impacts on land uses south of Grant Line Road that are subject to spillover effects, which will include pressure to develop these properties with land uses compatible with (or in support of) the sports park.	Land Use, Other CEQA-Required Analyses
The land use visioning process for the area to the east of the Project falls within the ambit of a “probable future Project.”	Cumulative Impacts
The EIR should evaluate growth-inducing effects consistent with <i>Banning Ranch Conservancy v. City of Newport Beach</i> .	Other CEQA-Required Analyses
<i>George E. Phillips (Phillips Land Law, Inc.) for Melba Mosher</i>	
While the Mosher property is included in the proposed SOIA, the EIR should evaluate the impact of the sports complex on the existing agricultural uses on Mosher Ranch, which is currently under a Williamson Act contract and is prime farmland. The NOP shows no effort to mitigate or reduce impacts on Mosher Ranch.	Agricultural Resources
The access road adjacent to the western property line of Mosher Ranch and the lighted parking field and sports fields will have an immediate negative impact on adjacent agricultural uses and the historic homestead at the southwest corner of the property.	Agricultural Resources
The EIR should address the Sacramento County General Plan Agricultural Element requirement of buffers to protect urban uses from noise and dust from agricultural production but also pressure to cease agricultural uses, and LAFCo policy to only approve reorganizations affecting prime farmland if the proposal will have no significant effect on other agricultural lands.	Agricultural Resources
The sports complex must avoid the impacts of a direct interface between the proposed entertainment and recreational uses and the adjacent agricultural land at Mosher Ranch. The stadium will result in large crowds (and noise, light, and traffic) will severely burden the ability of the Mosher Ranch to continue agricultural use.	Agricultural Resources
The sports complex should be designed with design features and mitigation measures including, but not limited to, setbacks, landscaping, lighting design and restrictions, and noise limitations.	Project Description, Agricultural Resources
The Mosher property is designated as mixed use in the proposed Project, but the EIR should consider existing agricultural uses.	Agricultural Resources
<i>Sacramento Regional County Sanitation District (Regional San), Sarennia Moore</i>	
Local sewer service would be provided by SASD. Conveyance to the Sacramento Regional Wastewater Treatment Plant would be provided by Regional San interceptors. The Project area would be within the LA Elk Grove expansion trunk shed. SASD trunk facilities in expansion sheds are typically constructed by the developer and reimbursed per the SASD ordinance.	Project Description, Utilities
The EIR should fully evaluate the environmental impacts that will require SASD and Regional San to increase its wastewater flow demands and the on-site and off-site impacts of constructing sanitary sewer facilities.	Project Description, Utilities
<i>County of Sacramento Department of Transportation, Matthew Darrow</i>	
Future urbanization will affect rural roadways adjacent to this urban growth and the County asks that the City of Elk Grove participate in bringing rural roadways up to current standards (lane widening, shoulder construction) when future annexation occurs.	Project Description, Transportation
The County requests that the City enter into a maintenance and operations agreement for public roadway infrastructure as well as shared public roadway facilities when future annexation occurs.	Project Description, Transportation
Frontage improvements should be the responsibility of future development projects.	Project Description
The County requests that the City enter into a cross jurisdictional reciprocal funding agreement with the County to address each other’s impacts and mitigation measures for development projects when future annexation occurs. The County’s impacted roadways should be mitigated to acceptable level of service standards and improvements should be installed to the County’s latest improvement standards.	Project Description, Transportation

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
The EIR traffic study should analyze all impacted roadways and intersections for existing and cumulative conditions, including Grant Line Road, Waterman Road, Mosher Road, etc. and associated intersections.	Project Description, Transportation, Cumulative Impacts
<i>Sacramento County Farm Bureau, Charlotte Mitchell</i>	
The EIR should evaluate the impacts of conversion of agricultural land to non-agricultural uses on the economic viability of the agricultural industry.	Agricultural Resources
The EIR should evaluate noise and aesthetics impacts on nearby agricultural operations within a 2 mile radius.	Agricultural Resources, Noise and Vibration, Aesthetics
<i>Sacramento County Department of Community Development, Leighann Moffitt</i>	
The County appreciates the acknowledgement in the NOP that the EIR will include analysis of the Project's potential impacts on the South Sacramento Habitat Conservation Plan.	Biological Resources
The EIR should include an alternative that provides a greater buffer between urban development and Sacramento County Urban Services Boundary (USB), which is intended to protect the County's natural resources from urban encroachment. This buffer could be used for habitat restoration and agricultural activities.	Alternatives
The County has begun a visioning process for the area south of Grant Line Road, which presents an opportunity to create a project with a unique relationship with agriculture and urban space. The applicant envisions high quality homes in a pastoral setting with adjacent agriculture and environmental buffers adjacent to the USB. The proposed sports complex and SOI land uses have the potential to impact the SoGL planning effort.	Cumulative Impacts
The EIR should evaluate the Project's noise, light, and aesthetic impacts on adjacent properties.	Noise and Vibration, Aesthetics
The Project should incorporate design features and mitigation measures to safeguard the high-intensity land uses and the adjacent properties in the SoGL project to guard against potential incompatibility.	Land Use, Cumulative Impacts
The EIR should evaluate potential growth-inducing impacts on surrounding properties.	Other CEQA-Required Analyses
The EIR should evaluate potential cumulative impacts, including the land use visioning process for SoGL.	Cumulative Impacts
<i>Sacramento Metropolitan Air Quality Management District (SMAQMD), Charlene McGhee</i>	
The EIR should analyze construction and operational emissions including nitrogen oxides, reactive organic gases, exhaust and fugitive dust particulate matter, greenhouse gas emissions, toxic air contaminants, and odors.	Air Quality and Greenhouse Gases
The Project may require an Air Quality Mitigation Plan. CAQ-30 of the Elk Grove General Plan typically requires a 15 percent emissions reduction. However, if the Project was not included in the land use assumptions for the current Metropolitan Transportation Plan or SIP, then the plan would require a 35 percent emissions reduction, as approved by LAFCo for other SOI amendments.	Air Quality and Greenhouse Gases
The EIR should address potential growth-inducing impacts.	Other CEQA-Required Analyses
The Project should consider good connections for all forms of transportation.	Transportation
The EIR should evaluate compliance with the current Elk Grove Climate Action Plan and updates.	Air Quality and Greenhouse Gases
<i>Sacramento Metropolitan Utility District, Rob Fererra</i>	
The EIR should address potential impacts related to relocated and/or new electrical infrastructure needed to support the SOIA and sports complex.	Project Description, Utilities

Table ES-2. Comments and EIR Sections that Address Comments	
COMMENT SYNOPSIS	EIR SECTION THAT ADDRESSES COMMENT
The proposed Project will increase electricity demand by approximately 33 megawatts (MW) and would require a new substation within the SOIA Area or upgrades to two existing substations outside the SOIA Area.	Project Description, Utilities
The construction contractor should add notes to design drawings to take all appropriate safety measures when working near or under SMUD power lines	Hazards and Hazardous Materials
<i>John Fletcher for Suburban Propane</i>	
City leaders must take into consideration the proximity of the propane tanks located at Suburban Propane.	Hazards and Hazardous Materials
The City should not allow fireworks displays at this property.	Hazards and Hazardous Materials
The proposal to site the Project near the liquefied propane storage terminal is flawed and misguided.	Hazards and Hazardous Materials
The vision and the scope of the Project are better suited to a different location.	Alternatives
The City of Elk Grove has been unduly influenced by a single report – “Review of Suburban Propane Hazards Analysis Studies and Evaluation of Accident Probabilities” by Quest Consultants (May 2003), and did not consider the results of other risk analyses.	Hazards and Hazardous Materials
Previous risk analyses did not take into account the possibility of intentional acts at the Suburban Propane facility.	Hazards and Hazardous Materials

ES.8 PUBLIC REVIEW OF THE DRAFT EIR

Upon completion of the draft EIR, the Sacramento LAFCo filed a notice of completion (NOC) with the Governor’s Office of Planning and Research to begin the public review period (Public Resources Code Section 21161). Concurrent with the NOC, this draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as to all parties requesting a copy of the draft EIR in accordance with Public Resources Code Section 21092(b)(3). During the public review period, the draft EIR, including the technical appendices, is available for review at the Sacramento LAFCo offices, located at the address provided below.

Written comments on this draft EIR should be addressed to:

Don Lockhart, AICP
Sacramento Local Agency Formation Commission
1112 I Street, Suite 100
Sacramento, CA 95814
Phone: (916) 874-6458
Fax: (916) 854-2939
Email: Don.Lockhart@SacLAFCo.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to comments will be prepared and made available for review at least 10 days before the public hearings, at which the certification of the final EIR will be considered. The comments and responses will be included as part of the record for consideration by the Commission and City Council.

1 INTRODUCTION

This chapter describes the Project background and the events leading to the City of Elk Grove's (City's) application to amend its sphere of influence (SOI) and construct the proposed Project, an overview of the California Environmental Quality Act (CEQA) process, the roles and responsibilities of the lead agencies, the content and organization of the environmental impact report (EIR), and the process and schedule for public and agency review of the draft EIR.¹

1.1 OVERVIEW OF THE CEQA PROCESS

1.1.1 PURPOSE AND AUTHORITY

This EIR includes both program-level and project-level analysis:

- ▶ The program-level components include the SOIA, detachment from and annexation to service providers, the General Plan Amendment, and rezoning.
- ▶ The Project-level component is the multi-sport park complex.

PROGRAM-LEVEL ANALYSIS

The EIR's program-level analysis is consistent with California Public Resources Code Sections 21093 and 21094 and CEQA Guidelines Sections 15152 and 15168. This EIR provides an evaluation of the potential environmental impacts of the proposed SOIA and future development in the SOIA Area. The potential direct, indirect, and cumulative environmental impacts of the proposed Project are analyzed in a way that is appropriate, given the level of detail provided to LAFCo in the SOIA application, in accordance with CEQA Guidelines Section 15146. This program-level or "programmatic" analysis relates to the broad environmental effects of future uses. It identifies performance standards and mitigation measures that would apply to subsequent projects. The program-level evaluation is warranted because no specific land use entitlements have been proposed in the areas that would be rezoned for commercial or industrial uses, or in the area to the northeast that the City proposes to designate for mixed-use development. However, the EIR acknowledges future urbanization of those areas as a connected action and evaluates the potential environmental effects of future development. Thus, this EIR provides the public and agency decision makers with information on the potential impacts of future development. Because part of the evaluation is programmatic, future applications for development within the SOIA Area may require a subsequent project-specific CEQA review.

PROJECT-LEVEL ANALYSIS

In addition to the programmatic analysis described above, the EIR also includes a more detailed, project-level analysis of the multi-sports park complex. The development proposal for this phase of the Project contains enough specificity for a site-specific, project-level environmental review under CEQA, and will allow the consideration of

¹ In 2008, the City of Elk Grove (City) applied to Sacramento Local Agency Formation Commission (Sacramento LAFCo) Sacramento Local Agency Formation Commission Sphere of Influence Amendment (LAFC#04 08) to the south and east of its current boundary consisting of approximately 10,536 acres, which was subsequently closed and a new application (LAFC#09 10) submitted by the City for 7,869 acres. The City withdrew its application in 2013. Both of these larger areas included the proposed SOIA Area addressed by the current proposed Project. This project is separate and distinct from the previous proposals.

discretionary approvals for this phase of the Project. The City's intent in evaluating this initial phase at a project level of detail is that no further environmental review (e.g., EIRs or negative declarations) will be required for additional regulatory approvals following approval of the Project, barring the occurrence of any of the circumstances described in Public Resources Code Section 21166.

LEAD AGENCY

CEQA Guidelines Section 15367 defines the lead agency as “the public agency which has the principal responsibility for carrying out or approving a project.” Sacramento LAFCo is the CEQA lead agency for the proposed SOIA. The City of Elk Grove is the lead agency for the City General Plan amendment and rezoning of the SOIA Area, and for design review and land use permitting for the multi-sport park complex. Therefore, in this case, LAFCo and the City have agreed to act as co-lead agencies.

1.1.2 LAFCo LEAD AGENCY AUTHORITY AND PROCEDURE

LAFCo's authority is defined in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Cortese-Knox Act). Section 56300 of the Government Code requires that each LAFCo establish policies to provide well-planned urban development, preservation of open space, and orderly formation of local agencies. Therefore, Elk Grove's proposed SOIA must be reviewed and approved by LAFCo (Government Code Section 56425[a]; Public Resources Code Section 21067). The Cortese-Knox Act contains the following specific “policy elements” for LAFCo review:

- ▶ Encourage orderly growth and development patterns (Section 56001).
- ▶ Discourage urban sprawl, preserve open-space and prime agricultural lands, efficiently provide government services, and encourage the orderly formation and development of local agencies based upon local conditions and circumstances (Section 56301).
- ▶ Guide development away from open space and prime agricultural land uses unless such action would not promote planned, orderly, and efficient development (Section 56377).

Thus, LAFCo has review authority for annexations to, or detachment from, cities or districts; formation or dissolution of districts; incorporation or disincorporation of cities; consolidation or reorganization of cities or districts; establishment of subsidiary districts; and development of, and amendments to, SOIs. LAFCo can approve, modify and approve, or deny applications and impose terms and conditions (Section 56885.5).

Sacramento LAFCo has adopted a Policy, Standards, and Procedures Manual (Manual) to guide its decision-making process on municipal annexations and other changes in municipal organization. The Manual includes both general standards for LAFCo decisions and standards specific to municipal annexations. LAFCo may make exceptions to its policies and standards if it determines that such exceptions are necessary because of unique circumstances or conflicts between general and specific standards; if the exceptions would result in improved quality or lower cost of services available; or if no feasible or logical alternative exists.

The factors considered by Sacramento LAFCo when reviewing a proposed SOIA are identified in Government Code Section 56425:

- (a) In order to carry out its purposes and responsibilities for planning and shaping the logical and orderly development and coordination of local governmental agencies subject to the jurisdiction of the commission to advantageously provide for the present and future needs of the county and its communities, the commission shall develop and determine the sphere of influence of each city and each special district, as defined by Section 56036, within the county and enact policies designed to promote the logical and orderly development of areas within the sphere.
- (b) Prior to a city submitting an application to the commission to update its sphere of influence, representatives from the city and representatives from the county shall meet to discuss the proposed new boundaries of the sphere and explore methods to reach agreement on development standards and planning and zoning requirements within the sphere to ensure that development within the sphere occurs in a manner that reflects the concerns of the affected city and is accomplished in a manner that promotes the logical and orderly development of areas within the sphere. If an agreement is reached between the city and county, the city shall forward the agreement in writing to the commission, along with the application to update the sphere of influence. The commission shall consider and adopt a sphere of influence for the city consistent with the policies adopted by the commission pursuant to this section, and the commission shall give great weight to the agreement to the extent that it is consistent with commission policies in its final determination of the city sphere.
- (c) If the commission's final determination is consistent with the agreement reached between the city and county pursuant to subdivision (b), the agreement shall be adopted by both the city and county after a noticed public hearing. Once the agreement has been adopted by the affected local agencies and their respective general plans reflect that agreement, then any development approved by the county within the sphere shall be consistent with the terms of that agreement.
- (d) If no agreement is reached pursuant to subdivision (b), the application may be submitted to the commission and the commission shall consider a sphere of influence for the city consistent with the policies adopted by the commission pursuant to this section.
- (e) In determining the sphere of influence of each local agency, the commission shall consider and prepare a written statement of its determinations with respect to each of the following:
 - (1) The present and planned land uses in the area, including agricultural and open-space lands.
 - (2) The present and probable need for public facilities and services in the area.
 - (3) The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.
 - (4) The existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.
 - (5) For an update of a sphere of influence of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, that occurs pursuant to subdivision (g) on or after July 1, 2012, the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within the existing sphere of influence.

- (f) Upon determination of a sphere of influence, the commission shall adopt that sphere.
- (g) On or before January 1, 2008, and every five years thereafter, the commission shall, as necessary, review and update each sphere of influence.
- (h) In determining a sphere of influence, the commission may assess the feasibility of governmental reorganization of particular agencies and recommend reorganization of those agencies when reorganization is found to be feasible and if reorganization will further the goals of orderly development and efficient and affordable service delivery. The commission shall make all reasonable efforts to ensure wide public dissemination of the recommendations.
- (i) When adopting, amending, or updating a sphere of influence for a special district, the commission shall establish the nature, location, and extent of any functions or classes of services provided by existing districts.
- (j) When adopting, amending, or updating a sphere of influence for a special district, the commission may require existing districts to file written statements with the commission specifying the functions or classes of services provided by those districts.

1.1.3 LAFCo CEQA POLICIES

POLICIES, STANDARDS, AND PROCEDURES MANUAL

Sacramento LAFCo's Policies, Standards, and Procedures Manual contains policies and procedures for implementing CEQA review and a list of standards for determining the significance of environmental impacts. The applicable policies for CEQA review and SOIA proposals are listed below (Sacramento LAFCo 2007).

Chapter III, "LAFCo General Policies"

- ▶ **Policy 1.** The LAFCo will encourage participation in its decision-making process. LAFCo will contact community members through community councils, give published notice, and, where LAFCo determines appropriate, give mailed notice to the owners of property within 500 feet of a project site.
- ▶ **Policy 2.** LAFCo will encourage communication on actions among the County, cities, and special districts.
- ▶ **Policy 5.** The CEQA requires that LAFCo assess the environmental consequences of its actions and decisions, and take actions to avoid or minimize a project's adverse environmental impacts, if feasible, or approve a project despite significant effects because it finds overriding considerations exist. To comply with CEQA, the LAFCo will take one or more of the following actions:
 - a. At its discretion, approve a project without changes if environmental impacts are insignificant;
 - b. Require an applicant to modify a project;
 - c. Establish mitigating measures as a condition of its approval of the proposal;
 - d. Deny the proposal because of unacceptable adverse environmental impacts;
 - e. Approve the project despite its significant effects by making findings of overriding concern.
- ▶ **Policy 7.** LAFCo will favorably consider those applications which improve the balance between jobs and housing.

Chapter IV, “General Standards”

Section A. Spheres of Influence

- ▶ **Standard A.3.** The LAFCo will require that any agency making a proposal for action through LAFCo must have an updated Master Service Element [municipal services review] of its Spheres of Influence Plan. The LAFCo will approve a proposal only if the proposed service provider is the most efficient provider of services with an acceptable cost, as demonstrated in the provider’s Master Service Element.

Section B. Conformance with Applicable General and Specific Plans

- ▶ **Standard B.1.** LAFCo will approve changes of organization of reorganization only if the proposal is consistent with the General Plan and applicable Specific Plans of the applicable planning jurisdiction.
- ▶ **Standard B.2.** For purposes of the above policy, the applicable jurisdiction is as follows:
 - a. For annexations to a city, the applicable jurisdiction is the city to which annexation is proposed;
 - b. For applications for annexation to or detachment from a district all of whose territory lies within an adopted Sphere of Influence of a city, the General Plans of the city;
 - c. For an application for annexation to a special district for lands outside an adopted city Sphere of Influence, the Sacramento County General Plan.
 - d. For an application for annexation or detachment from a district whose territory lies in both the city and the unincorporated area of the county, the General Plan of the city unless the project lies outside of the city’s Sphere of Influence; and
 - e. For application for incorporations, this standard is inapplicable.
- ▶ **Standard B.3.** For the purposes of this standard, the proposal shall be deemed consistent if the proposed use is consistent with the applicable General Plan designation and text, the applicable General Plan is legally adequate and internally consistent and the anticipated types of services to be provided are appropriate to the land use designated for the area.

Section E. Agricultural Land Conservation

- ▶ **Standard E.1.** LAFCo will approve a change of organization or reorganization, which will result in the conversion of prime agricultural land in open space use to other uses only if the Commission finds that the proposal will lead to the planned, orderly and efficient development of an area. For purposes of this standard, a proposal leads to the planned, orderly and efficient development of an area only if all of the following criteria are met:
 - a. The land subject to the change of organization or reorganization is contiguous to either lands developed with an urban use or lands which have received all discretionary approvals for urban development.
 - b. The proposed development of the subject lands is consistent with the Spheres of Influence Plan, including the Master Services Element of the affected agency or agencies.

- c. Development of all or a substantial portion of the subject land is likely to occur within five years. In the case of very large developments, annexation should be phased whenever feasible. If the Commission finds phasing infeasible for the specific reasons, it may approve annexation if all or a substantial portion of the subject land is likely to develop within a reasonable period of time.
- d. Insufficient vacant non-prime lands exists within the applicable Spheres of Influence that are planned, accessible, and developable for the same general type of use.
- e. The proposal will have no significant adverse effect on the physical and economic integrity of other agricultural lands. In making this determination, LAFCo will consider the following factors:
 - (1) The agricultural significance of the subject and adjacent areas relative to other agricultural lands in the region.
 - (2) The use of the subject and the adjacent areas.
 - (3) Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of adjacent or nearby agricultural land, or will be extended through or adjacent to, any other agricultural lands which lie between the project site and existing facilities.
 - (4) Whether natural or man-made barriers serve to buffer adjacent or nearby agricultural land from the effects of the proposed development.
 - (5) Applicable provisions of the General Plan open space and land use elements, applicable growth-management policies, or other statutory provisions designed to protect agriculture.
- **Standard E.2.** LAFCo will not make the affirmative findings that the proposed development of the subject lands is consistent with the Spheres of Influence in the absence of an approved Sphere of Influence Plan. LAFCo will not make the affirmative findings that sufficient non- prime land exists within the Spheres of Influence Plan unless the applicable jurisdiction has:
 - a. Identified within its Spheres of Influence all “prime agricultural land” as defined herein.
 - b. Enacted measures to preserve prime agricultural land identified within its Sphere of Influence for agricultural use.
 - c. Adopted as part of its General Plan specific measures to facilitate and encourage infill development as an alternative to development of agricultural lands.

Section F. Application of the California Environmental Quality Act to Changes of Organization or Reorganization and Spheres of Influence

The following standards will apply to LAFCo’s implementation of the California Environmental Quality Act (“CEQA”) in reviewing requests for changes of organization or reorganization and spheres of influence.

- **Standard F.1.** In general, LAFCo will function as a Lead Agency in situations where:
 - a. LAFCo is the first agency in time to act;

- b. The primary decision relates to a change of organization or reorganization or sphere of influence;
 - c. The applicant agency is unable to act as the Lead Agency; or
 - d. There are no underlying land use approvals involved.
- **Standard F.2.** The Executive Officer shall have the authority to prepare or cause to be prepared the appropriate environmental documentation. LAFCo will not act upon any proposal for a change of organization until environmental documentation has been completed which adequately addresses the requirements of CEQA. The Executive Officer of LAFCo shall serve as LAFCo's Environmental Coordinator and shall make an environmental determination per the requirements of CEQA.
- **Standard F.3.** LAFCo shall use its authority to comment on the Notice of Preparation and the EIR to ensure that an EIR prepared by another agency on a project which LAFCo will review complies with standard number 4 listed below. If the Lead Agency fails to notify LAFCo through the Notice of Preparation or provide substantially equivalent notification, LAFCo may assume the lead agency role (CEQA Guidelines Sections 15052, 15096). Applicants for projects which will require LAFCo approval are encouraged to consult with LAFCo early in the application process and independently notify LAFCo of the initiation of environmental review.
- **Standard F.4.** In preparing an Initial Study for a project subject to LAFCo review, LAFCo will generally consider the project to have the potential to significantly affect the environment if one or more of the following situations exists:
- a. Any of the circumstances referred to in Appendix G of the state CEQA Guidelines exist.
 - b. If buildout of the project may result in the capacity of any public service or facility being exceeded or substantially affected. For purposes of this provision, public facilities or services include, but are not limited to: sewage disposal, water service, flood control facilities, drainage facilities, law enforcement, fire protection, school, parks, libraries, gas and electric service and solid waste disposal. A public service or facility shall be considered "substantially affected" if the additional demand generated by the project would result in the facility or service exceeding 110 percent of its design capacity, or 120 percent of the available capacity.
 - c. If the project would physically divide an existing community or other area having identifiable social and economic homogeneity.
 - d. If the project is inconsistent with the applicable Spheres of Influence and no amendment is applied for.
 - e. If the project has substantial growth-inducing potential because it would result in:
 - (1) extending a major roadway into an undeveloped area;
 - (2) extending a sewer trunk line to a substantial area not currently served;
 - (3) extending water service to a substantial area not currently served;
 - (4) providing electric service to a substantial area not currently served;

- (5) providing or requiring flood control or other public facility which will protect the public safety so as to permit new development in an area substantially larger than the proposed project;
 - (6) providing any other public service or facility to a substantial area which could not grow without such service; and
 - (7) encouraging or fostering growth in a substantial area.
- f. If the project, in conjunction with other past, present and reasonably foreseeable future projects would result in significant cumulative environmental impacts.
 - g. If the project would result in substantial noncontiguous urban development.
 - h. If the project would conflict with open space goals and policies of a community.
- **Standard F.5.** An EIR completed on a project subject to LAFCo review shall contain a discussion of the following topics:
 - a. County-wide or cumulative impacts which concern LAFCo.
 - b. Where the EIR identifies significant effects, a description of the range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project. The range of alternatives to be considered shall include, at a minimum, the “no-action” alternative, alternative boundary locations, and a discussion of using other agencies to provide the facility or service proposed to be provided as a result of the proposed change of organization or reorganization.

Chapter V, “Specific Standards by Type of Action”

Section H. Sphere of Influence Plans

A Sphere of Influence plan is a plan for the probable, ultimate physical boundaries and service areas of a local agency. This section of the LAFCo Policies and Standards sets forth the required contents of a Sphere of Influence Plan, the procedures for submittal and approval of Sphere of Influence Plans and amendments thereto, and the use of Sphere of Influence Plans in LAFCo determinations.

- **Standard H.1:** The Sphere of Influence Plan for all government agencies within the LAFCo’s jurisdiction, shall contain the following:
 - a. A map defining the probable boundary of its service area;
 - b. A statement of the present and planned land uses in the area, including agricultural and open space lands;
 - c. The present and probable need for public facilities and services in the area;
 - d. The present capacity of public facilities and adequacy of public services, which the agency provides or is authorized to provide;
 - e. The existence of any relevant social or economic communities of interest in the area; and

- f. With respect to all cities, sewer districts, water districts, community service districts, drainage districts, and multi-purpose districts within the jurisdiction of Sacramento LAFCo, a Master Services Element as defined in paragraph H.2 below. Other agencies may prepare a Master Services Element.

► **Standard H.2.** A Master Service Element shall contain the following:

- a. A projection of the geographic extent of service capabilities during the next 20 years denominated in 5-year increments. In the case of cities, a shorter time frame may be appropriate if the applicable General Plan has a shorter planning period.
- b. Projected level of service capabilities in the same time frames and geographical areas.
- c. Actual and projected costs of services to consumers. This shall include a statement of actual and projected allocation of the cost of services between existing and new residents.
- d. The Service Element shall contain sufficient information concerning current and projected capital improvement programs, revenues, costs, rate structures and financing, and other information necessary to support the projected service capabilities for those areas set forth in the element.

► **Standard H.3.** LAFCo may, at its discretion, designate a geographic area beyond the Sphere of Influence as an Area of Concern to the local agency. An Area of Concern is a geographic area beyond the Sphere of Influence in which land use decisions or other governmental actions of the County impact directly or indirectly upon the local agency. For example, a development project outside the limits or Sphere of Influence of a local agency may result in that local agency providing services or adjusting its planning assumptions.

► **Standard H.4.** LAFCo will adopt, amend, or revise Sphere of Influence Plans after a public hearing and pursuant to the procedures set forth in sections 56427 and 56428 of the Cortese-Knox Act. Sphere of Influence Plans shall be revised as necessary, but in all cases at least every five years.

► **Standard H.10.** In the case of a Sphere of Influence Plan which contains a Master Services Element, if the evidence demonstrates that an agency is unable to provide an adequate level of service within a portion of its ultimate service area boundaries, the Sphere of Influence Plan shall be amended pursuant to the procedures for periodic review such that the ultimate service boundaries are consistent with the Master Services Element. If the Master Services Element projections demonstrate an adequate level of service beyond the ultimate service boundary, the Sphere of Influence Plan may be amended accordingly.

Section I. Amendments to Spheres of Influence

► **Standard I.1.** The LAFCo will generally treat a proposed amendment to an agency's Sphere of Influence similarly to an application for approval of a Sphere of Influence. The LAFCo's policies will be applied to applications planned for the mid- to long-range future. For that reason, each of the following sets of policies will apply to applications for amendment to Spheres of Influence:

- a. General policies;
- b. Specific policies and standards for annexations to cities and special districts; and
- c. Specific policies and standards for amendments for amendments to Spheres of Influence.

- ▶ **Standard I.2.** The Sphere of Influence Master Services Element must be current before additions to a Sphere of Influence will be approved by LAFCo.
- ▶ **Standard I.3.** The Sphere of Influence amendments shall precede applications for annexations.
- ▶ **Standard I.7.** A phased plan for annexation of Sphere of Influence territory should be included in the Sphere of Influence proposal.
- ▶ **Standard I.8.** No amendments to a Sphere of Influence Plan will be approved unless a Master Services Element of the Sphere of Influence Plan exists that has been prepared by a local agency and adopted by LAFCo if required.
- ▶ **Standard I.10.** The LAFCo will approve a proposed amendment to a Sphere of Influence only if the subject agency will be the most logical and prospectively most efficient provider of services to the subject territory.

LAFCo DEFINITION OF OPEN SPACE

Sacramento LAFCo uses the following criteria to define open space:

- ▶ According to Section 56059, “Open Space,” of the Cortese-Knox Act, open space means any parcel or area of land or water which is substantially unimproved and devoted to an open-space use, as defined in Section 65560.
- ▶ Section 65560 of the *Planning, Zoning, and Development Laws 2011* (OPR 2010) further defines Open Space as follows:
 - (a) “Local open-space plan” is “the open-space element of a county or city general plan adopted by the board or council....”
 - (b) “Open-space land” is any parcel or area of land or water that is essentially unimproved and devoted to an open-space use as defined in this section, and that is designated on a local, regional or state open-space plan as any of the following:
 - (1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
 - (2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
 - (3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation

and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.

- (4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

1.2 SCOPE OF THE EIR

Pursuant to Section 15082 of the CEQA Guidelines, Sacramento LAFCo and the City of Elk Grove prepared a Notice of Preparation (NOP) and provided copies directly by mail and through the Governor's Office of Planning and Research (State Clearinghouse) to CEQA responsible and natural resource trustee agencies, involved federal agencies, local municipalities, interested persons, organizations, agencies, and landowners. The NOP was circulated for a 30-day public review and comment period. The NOP is contained in Appendix A of this draft EIR. In response, LAFCo and the City received comments on the scope and content of the EIR, as summarized below. The comment letters are listed in Table 1-1 and provided in Appendix A of this draft EIR.

During the 30-day comment period, LAFCo and the City held public scoping meetings on November 4 and 12, 2015. At the LAFCo meeting, one resident provided verbal comments. The Elk Grove public scoping meeting was held in a workshop format. The verbal comments provided at both meetings are summarized in Appendix A.

Table 1-1 Notice of Preparation Comment Letters			
Status	Affiliation	Signatory	Date
Public Agencies	U.S. Army Corps of Engineers	Kathleen Dadey, Ph.D.	10/28/15
	California Department of Fish and Wildlife	Tanya Sheya	11/20/15
	Capital Southeast Connector Joint Powers Authority	Tom Zlotkowski	11/23/15
	Central Valley Regional Water Quality Control Board	Stephanie Tadlock	11/17/15
	Elk Grove Unified School District	Kim Williams	11/23/15
	Elk Grove Water District	Mark Madison	11/19/15
	Sacramento Regional County Sanitation District	Sarena Moore	10/26/15
	County of Sacramento Department of Transportation	Matthew Darrow	11/2/15
	Sacramento County Farm Bureau	Charlotte Mitchell	11/23/15
	Sacramento County Department of Community Development	Leighann Moffitt	11/23/15
	Sacramento Metropolitan Air Quality Management District	Charlene McGhee	11/23/15
	Sacramento Municipal Utility District	Rob Ferrera	11/13/15
Private Organizations and Individuals	Environmental Council of Sacramento (ECOS)	Rick Guerrero, ECOS	11/23/15
		Rob Burness, Habitat 2020	
	Elk Grove Grasp	Lynn Wheat	11/19/15
	Mahon and Kautz	George E. Phillips (Phillips Land Law, Inc.)	11/23/15
	Melba Mosher	George E. Phillips (Phillips Land Law, Inc.)	11/23/15
	Suburban Propane	Law Office of John R. Fletcher	11/20/15
Source: Data compiled by AECOM in 2016			

Based on the NOP responses and review by the Sacramento LAFCo and City of Elk Grove, the lead agencies have determined that there could be significant environmental impacts involving the following resource areas and they require further analysis in the EIR:

- | | | |
|--|--|----------------------------------|
| ▶ Aesthetics | ▶ Greenhouse Gas Emissions | ▶ Noise and Vibration |
| ▶ Agricultural Resources | ▶ Hazards and Hazardous Materials | ▶ Public Services and Recreation |
| ▶ Air Quality | ▶ Hydrology and Water Quality | ▶ Transportation |
| ▶ Biological Resources | ▶ Land Use, Population, Housing, Environmental Justice, and Unincorporated Disadvantaged Communities | ▶ Utilities and Service Systems |
| ▶ Cultural Resources | | ▶ Energy |
| ▶ Geology, Soils, Minerals, and Paleontology | | |

1.3 ENVIRONMENTAL ISSUES DETERMINED NOT TO BE SIGNIFICANT

Based on the NOP responses and review by LAFCo and the City of the proposed Project and the resources at the site and in the region, no impacts would occur in the following areas and the lead agencies have determined that no further analysis is required. An explanation of the reason(s) that each issue has been determined not to be significant is provided in the section indicated in parentheses.

- ▶ Substantial Adverse Effect on a Scenic Vista (Aesthetics)
- ▶ Features within a State Scenic Highway (Aesthetics)
- ▶ Conflict with Existing Zoning for Agricultural Use (Agricultural Resources)
- ▶ Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land, Timberland, or Timberland Zoned Timberland Production (Agricultural Resources)
- ▶ Result in the Loss of Forest Land or Conversion of Forest Land to Nonforest Use (Agricultural Resources)
- ▶ Expose People or Structures to Surface Fault Rupture (Geology, Soils, Minerals, and Paleontological Resources)
- ▶ Expose People or Structures to Landslides (Geology, Soils, Minerals, and Paleontological Resources)
- ▶ Have Soil Unsuitable for Septic Systems (Geology, Soils, Minerals, and Paleontological Resources)
- ▶ Loss of Known or Locally Important Minerals (Geology, Soils, Minerals, and Paleontological Resources)
- ▶ Emit Hazardous Emissions or Handle Hazardous Materials, Substances, or Waste within One-Quarter Mile of a School (Hazards and Hazardous Materials)
- ▶ Result in a Safety Hazard for People in a Project Area Located within 2 Miles of a Public Airport (Hazards and Hazardous Materials)
- ▶ Levee or Dam Failure (Hydrology and Water Quality)

- ▶ Seiche, Tsunami, and Mudflow (Hydrology and Water Quality)
- ▶ Physically Divide an Established Community (Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities)
- ▶ Conflict with any Applicable Habitat Conservation Plan (Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities)
- ▶ Displace Substantial Numbers of People or Existing Housing (Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities)
- ▶ Adversely Affect a Low-Income or Minority Population or Disadvantaged Unincorporated Community (Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities)
- ▶ Excessive Noise from an Airport (Noise and Vibration)
- ▶ 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 (Transportation)

1.4 ORGANIZATION OF THE EIR

As required by CEQA, the EIR describes existing conditions and evaluates the potential environmental effects of the proposed Project and a reasonable range of alternatives, including the No Project Alternative. It addresses the proposed Project's direct, reasonably foreseeable indirect, and cumulative effects. The EIR identifies feasible mitigation measures, if available, to reduce potentially significant impacts.

This draft EIR is organized into the following main sections:

- ▶ **Executive Summary.** This section orientates the reader to the LAFCo-specific matters of jurisdiction and concern. It also includes a summary of the proposed Project and alternatives addressed in the draft EIR, as well as a summary of the proposed Project's environmental impacts, required mitigation measures, and level of significance after mitigation.
- ▶ **Chapter 1, "Introduction."** This chapter provides an introduction and overview describing the Project background, objectives, agency roles and responsibilities, and organization of the EIR.
- ▶ **Chapter 2, "Project Description."** This chapter includes a detailed description of the proposed Project, including its location and components, as well as its construction and operation. The Project Description distinguishes between programmatic and project-level elements. It also describes the intended uses of the draft EIR, potential responsible agencies, and the needed permits and approvals.
- ▶ **Chapter 3, "Environmental Impact Analysis."** This chapter analyzes the environmental impacts of the proposed Project. Impacts are organized into major topic areas. Each topic area includes a description of the environmental setting, methodology, significance criteria, impacts, mitigation measures, and significance after mitigation. The following specific environmental topics are addressed in Chapter 3:

- **Aesthetics**—The EIR evaluates existing visual conditions and the potential impacts on scenic vistas, scenic resources, and visual character that may result from development of the sports complex and future development in the proposed commercial, industrial, and mixed-use areas.
- **Agricultural Resources**—The EIR describes existing agricultural resources and evaluates potential impacts from conflicts with existing zoning or Williamson Act contracts, conversion of prime farmland as defined by Government Code Section 56064, and from conversion to urban uses of lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and any lands within a Farmland Security Zone.
- **Air Quality**—The EIR discusses the regional and local air quality setting and quantifies Project-related air pollutant emissions. Emissions of criteria pollutants are compared with the significance thresholds developed by the Sacramento Metropolitan Air Quality Management District. The impact analysis also evaluates potential human health risks from the proximity of air emissions sources, such as State Route 99 and the Union Pacific Railroad line.
- **Biological Resources**—The EIR defines the biological resources in the SOIA Area and surrounding habitats and evaluates potential effects on wetlands, other sensitive natural communities (e.g., oak woodlands, heritage and landmark trees), and special-status species (e.g., raptors and other migratory birds). This section also addresses the relationship between the proposed Project and the draft South Sacramento Habitat Conservation Plan.
- **Cultural Resources**—The EIR describes existing cultural resources and evaluates potential impacts on those resources, including the potential to affect undiscovered resources during excavation and grading. The EIR also documents consultation with California Native American tribes to assess potential impacts on tribal cultural resources, as required by Assembly Bill 52.
- **Geology, Soils, Minerals, and Paleontology**—The EIR describes the geological setting and potential environmental effects on geological, soil, mineral, and paleontological (fossil) resources. This section outlines design measures and best management practices to minimize impacts on people or structures from seismic activity. The EIR also identifies any potential impacts from loss of mineral resources and on undiscovered fossils.
- **Greenhouse Gases**—The EIR presents the current state of climate change science and GHG emissions sources in California; summarizes applicable regulations; and describes Project-generated GHG emissions and their contribution to global climate change.
- **Hazards and Hazardous Materials**—The EIR identifies potential impacts from the transport, use, or disposal of hazardous materials; risk of upset or accident conditions from releases of hazardous materials; impairment of an adopted emergency response or evacuation plan; and exposure to wildland fires.
- **Hydrology and Water Quality**—The EIR evaluates hydrologic and water quality conditions and potential short-term construction-related effects on water quality from stormwater runoff, as well as longer term effects on stormwater drainage and maintenance effects on water quality (e.g., fertilizers). This section also evaluates potential impacts on groundwater supply and on surface water hydrology from the addition of impervious surfaces associated with future commercial and industrial development. This

section outlines the design features (e.g., types of playing surfaces) and stormwater retention features required to minimize impacts related to flooding, and the proposed Project's consistency with regional flood protection planning.

- **Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities**—The EIR describes existing land uses and evaluates the potential for conflicts with existing, adopted land use and natural resource plans or regulations (such as the adopted *Elk Grove General Plan* and *Sacramento County General Plan* and the proposed *South Sacramento Habitat Conservation Plan*). This section identifies the SOIA Area as being within the County's Urban Services Boundary (USB), or the ultimate boundary of the urban area in unincorporated Sacramento County. Pursuant to LAFCo requirements, this section also addresses potential impacts on open space resources, as defined in Government Code Section 65560, and consistency with the Sacramento Area Council of Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy. This section documents the existing population, housing, and employment conditions in the city of Elk Grove and Sacramento County. The EIR evaluates the potential of the proposed Project to induce substantial population growth by adding housing and through future development of parcels zoned for commercial and industrial uses included in the Project. Pursuant to LAFCo requirements, the EIR also evaluates the potential effects of the Project and municipal service provider reorganizations on environmental justice (the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and provision of public services) and historically underserved and environmentally overburdened communities, including "disadvantaged unincorporated community" effects.
- **Noise**—The EIR describes existing noise and vibration conditions and the potential impacts of construction and future sporting events and commercial and industrial uses. Project noise levels from traffic, as well as planned uses are estimated, accounting for intervening topography, noise barriers, and distance, and are compared with existing ambient noise levels and applicable noise standards and local noise ordinances.
- **Public Services and Recreation**—The EIR analyzes existing public services and potential increases in demand, and evaluates whether those demands would require new facilities (e.g., schools, fire protection, and law enforcement), the construction or operation which could result in significant environmental impacts. This section also considers the effects of annexation into service providers' service jurisdictions, such as the Cosumnes Community Services District, on the potential to require new facilities. The EIR incorporates information from the draft Municipal Services Review, which identifies needed water and sewer extensions within the existing Sacramento County USB. The EIR also evaluates impacts related to recreational facilities, including indirect effects on existing facilities.
- **Transportation**—The EIR evaluates existing traffic conditions and potential traffic impacts related to travel demand; a conflict with applicable transportation plans, ordinances, or policies; conflicts with applicable congestion management plans; hazards due to a design feature or incompatible use; inadequate emergency access; or conflicts with adopted plans, policies, or programs regarding public transit, bicycle, or pedestrian facilities.
- **Utilities**—The EIR describes existing utility systems, such as for water supply, stormwater drainage, wastewater treatment, and solid waste disposal. The focus of analysis is whether the Project would require

expansion or extension of utilities, the construction or operation of which could have a significant environmental impact. This section discusses annexing the SOIA Area into new utility provider jurisdictions and incorporates information from the municipal services review submitted with the City's SOIA application, which identifies needed water and sewer extensions (e.g., Sacramento Area Sewer District) within the existing Sacramento County USB.

- **Energy**—The EIR describes current electricity and natural gas utility providers, estimates Project energy consumption, and evaluates whether the proposed Project would affect local or regional energy supplies, peak energy demand, energy resources, transportation energy use, and compliance with energy standards.
- ▶ **Chapter 4, “Cumulative Effects.”** This chapter discusses the cumulative effects associated with the proposed Project, in conjunction with past, present, and future projects.
- ▶ **Chapter 5, “Alternatives to the Proposed Project.”** This chapter compares the impacts of the proposed Project with two alternatives: the No Project Alternative and a Reduced Size Alternative. An environmentally superior alternative is identified.
- ▶ **Chapter 6, “Other CEQA Considerations.”** This chapter provides a summary of significant environmental impacts, significant and unavoidable impacts, effects found not to be significant and growth-inducing effects.
- ▶ **Chapter 7, “List of Preparers.”** This chapter contains a list of preparers of the EIR.
- ▶ **Chapter 8, “References.”** This chapter contains the list of references used in preparing the draft EIR.
- ▶ **Appendices:** The appendices include all notices and other procedural documents pertinent to the draft EIR, as well as technical material prepared to support the analysis.

1.5 REVIEW OF THE DRAFT EIR

Upon completion of the draft EIR, the Sacramento LAFCo filed a notice of completion (NOC) with the Governor's Office of Planning and Research to begin the public review period (Public Resources Code Section 21161). Concurrent with the NOC, this draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as to all parties requesting a copy of the draft EIR in accordance with Public Resources Code Section 21092(b)(3). During the public review period, the draft EIR, including the technical appendices, is available for review at the Sacramento LAFCo offices, located at the address provided below.

Written comments on this draft EIR should be addressed to:

Don Lockhart, AICP
Sacramento Local Agency Formation Commission
1112 I Street, Suite 100
Sacramento, CA 95814
Phone: (916) 874-6458
Fax: (916) 854-2939
Email: Don.Lockhart@SacLAFCo.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to comments will be prepared and made available for review at least 10 days before the public hearings, at which the certification of the final EIR will be considered. The comments and responses will be included as part of the record for consideration by the Commission and City Council.

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2 PROJECT DESCRIPTION

2.1 INTRODUCTION

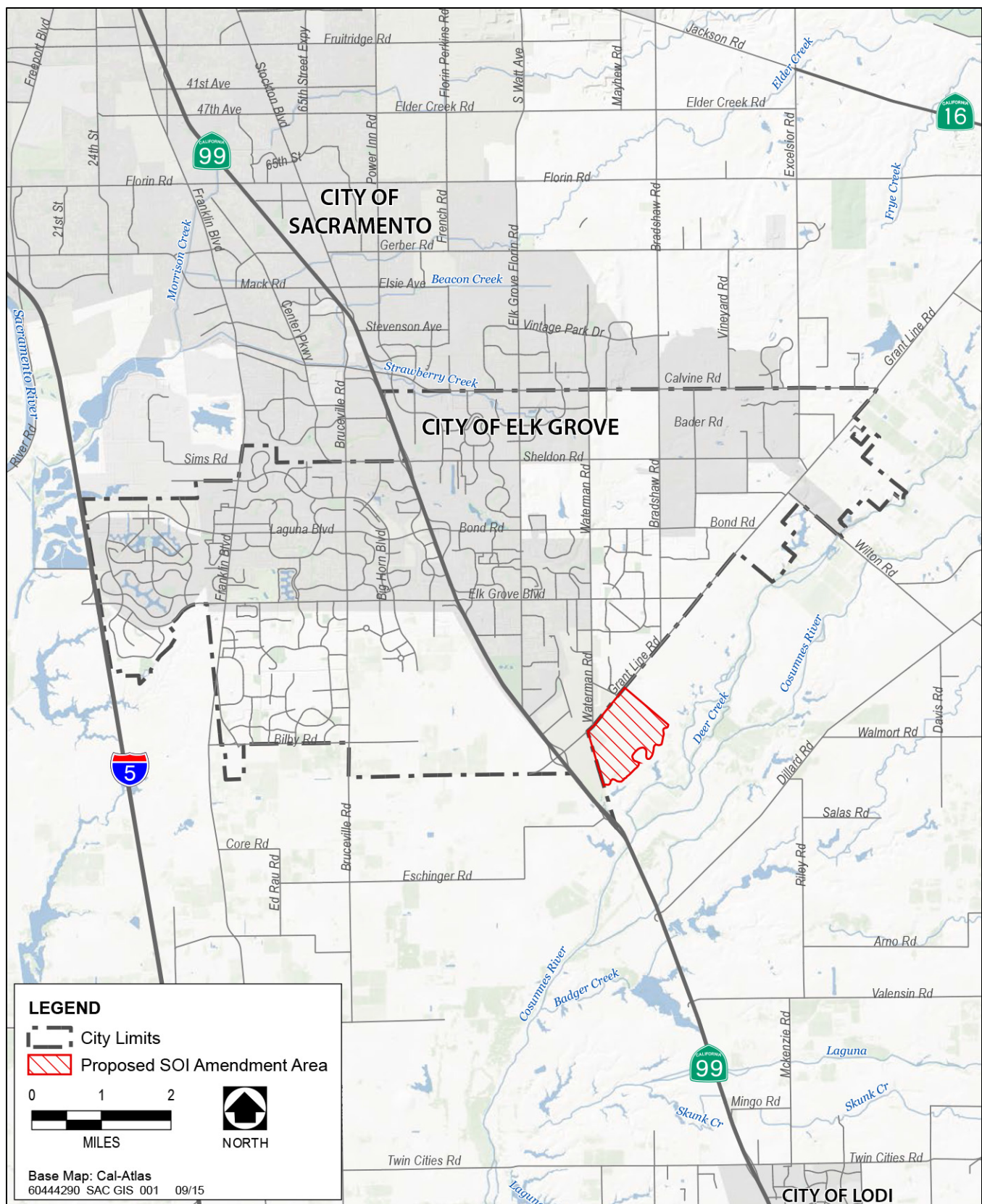
The City of Elk Grove (City) is located in the southwestern part of Sacramento County. Exhibit 2-1 depicts the proposed Project's regional location southwest of the existing City of Elk Grove boundary. The area currently consists of approximately 561 acres of agricultural land in unincorporated Sacramento County. Exhibit 2-2 shows the boundaries of the proposed sphere of influence amendment (SOIA) area, which 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 99 (SR 99). The SOIA Area extends east to the area near Grant Line Road's intersection with Mosher Road and south to the Sacramento County Urban Services Boundary (USB) (which roughly follows the Cosumnes River/Deer Creek Floodplain). The SOIA Area is outside the 100-year floodplain of Deer Creek and the Cosumnes River, with the exception of two small areas (Exhibit 2-2). These areas are adjacent to the proposed fairgrounds area and would not be graded or developed as a part of the proposed Project.

2.2 PROJECT BACKGROUND

Elk Grove has the largest youth soccer league in the California Youth Soccer Association, with more than 6,000 players. Teams currently play at fields operated by the Cosumnes Community Services District, as well as other sites including local schools. The facilities can support league play and practices, but were not designed for tournaments. Other facilities are available in the Sacramento region; however, most of these facilities are too small for tournaments, lack a stadium for events, lack training and medical facilities, or are closed to the public. Thus, the area has an unmet demand for soccer fields and tournament venues. Moreover, the City recognizes the effects of current soccer events on neighborhoods and the need for additional parks, recreation, and open space as both the population and the popularity of soccer and other field sports continue to grow.

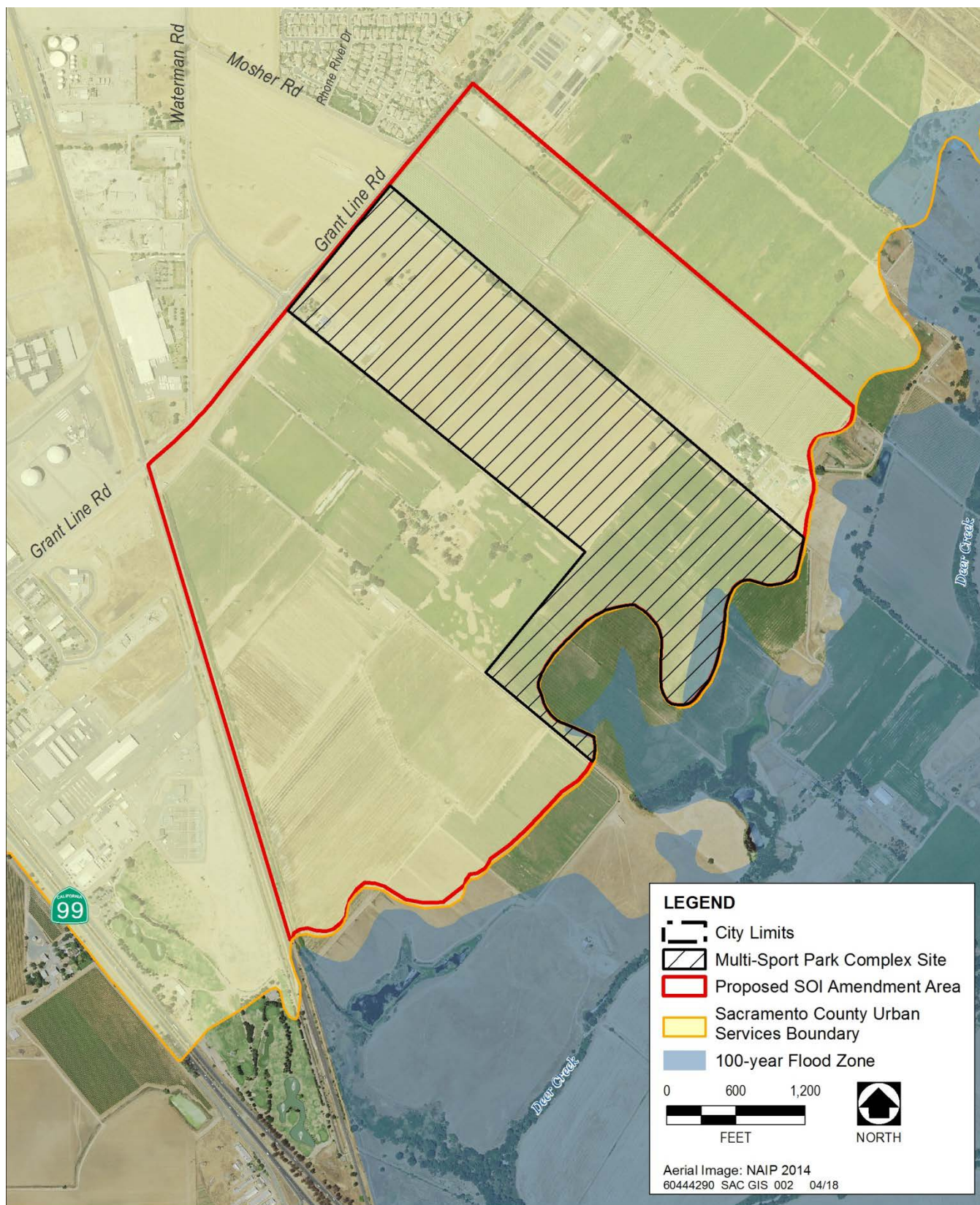
The City also is interested in providing a venue for agricultural events and education, including fairs, such as the Sacramento County Fair. The City recognizes that the majority of county fair participants are from the southern areas of Sacramento County.

Based on this unmet need, the City purchased a parcel adjacent to the City limits on Grant Line Road in 2014. The City needed property with a minimum of 100 acres and proximity to urban services and a major transportation corridor. The selected parcel is accessible from SR 99 and would accommodate the multi-sport park complex envisioned by the City. Because the City would prefer to operate the sports complex under its own jurisdiction, the City approached the Sacramento Local Agency Formation Commission (LAFCo) regarding an SOIA and the item was discussed at LAFCo's February 4, 2015, Commission meeting. The City and LAFCo discussed the proposed boundaries of the SOIA and received public comment, including from neighboring property owners. At this meeting, LAFCo determined that the City should include adjoining lands within its SOIA application so that the amendment area would not form a peninsula, bringing the total acreage to approximately 561 acres.



Source: Sacramento County 2014; data adapted by AECOM in 2018

Exhibit 2-1 Regional Location



Source: Sacramento County 2014; data adapted by AECOM in 2018

Exhibit 2-2 Proposed Sphere of Influence Amendment Area

The City prepared an application to LAFCo for an SOIA (including a draft municipal services review) and reorganization (annexation and related detachments). The City also is preparing plans for the multi-sport park complex, which would require an amendment to the *Elk Grove General Plan* (General Plan), rezoning, design review, and a use permit. These agency decisions and actions constitute a project subject to review under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.). LAFCo and the City also resolved to prepare jointly the required CEQA documentation, which addresses:

- (1) LAFCo's action on the SOIA;
- (2) City and LAFCo actions related to rezoning and annexation; and,
- (3) the City's actions related to the proposed sports complex, as well as rezoning of the SOIA.

2.3 PROJECT OBJECTIVES

The following objectives have been established for the proposed Project:

- ▶ Provide a sports training and competition venue space for residents of Elk Grove and surrounding areas.
- ▶ Complement existing sports facilities, such as those operated by the Cosumnes Community Services District.
- ▶ Relieve pressure on local community parks and sports facilities located in residential areas that are not designed to host tournaments.
- ▶ Provide space for agricultural events, such as the Sacramento County Fair.
- ▶ Provide future areas for commercial, industrial, and mixed-use development to improve the City's jobs-housing balance.
- ▶ Establish an expanded SOI that is consistent with relevant Sacramento LAFCo policies and standards.

2.4 EXISTING LAND USES

The approximately 561 acres in the proposed SOIA Area are primarily developed with agricultural uses, including crops and pasture. There are several structures in the SOIA Area, including two home sites and multiple barns and sheds. Located directly adjacent are Grant Line Road to the north, the UPRR tracks to the west, agricultural lands to the east, and Deer Creek to the south (Exhibit 2-2).

The SOIA Area is not currently serviced by municipal water or wastewater services, although it is within Sacramento County's USB. The area is flat and is drained by a ditch that follows Elk Grove's southwestern boundary, conveying urban runoff from areas north of Grant Line Road and agricultural runoff from the SOIA Area. This ditch also drains agricultural areas to the southwest between the SOIA Area and Deer Creek.

2.4.1 LAND USE DESIGNATIONS

Sacramento County's General Plan land use designations for the SOIA Area are described in Section 3.11, "Land Use and Planning," of this Environmental Impact Report (EIR) and include:

- ▶ General Agricultural, 20-acre minimum (GA-20);

- ▶ Agricultural Cropland (AC); and
- ▶ Intensive Industrial (II).

The current Sacramento County zoning designations for the site include:

- ▶ Agricultural, 80-acre minimum (AG-80);
- ▶ Heavy Industrial (M-2); and
- ▶ Agricultural-Residential, 2-acre minimum (AR-2).

The City of Elk Grove began preparing a comprehensive update to its General Plan in July 2015. On June 23, 2017, the City released a Notice of Preparation (NOP) for the *Environmental Impact Report for the City of Elk Grove General Plan Update* (State Clearinghouse No. 2017062058) circulated for a 30-day public review period (City of Elk Grove 2017).¹ A public draft General Plan update and Draft EIR are anticipated to be available in early 2018. Adoption of the General Plan update and certification of the Final EIR is anticipated later in 2018. The update is intended to ensure that “the guiding policy document remains a useful tool, keeps pace with change, and provides workable solutions to current and future issues” (City of Elk Grove 2017).

The NOP for the General Plan Update shows the SOIA Area as a portion of the “East Study Area.” According to the NOP, within the Study Areas identified on the Land Use Diagram, future uses may be developed in accordance with annexation policies identified in the General Plan and are subject to more detailed planning (e.g., specific plan). For more details on the General Plan Update, refer to Section 3.11, “Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities,” of this EIR.

2.5 SURROUNDING LAND USES

Existing land uses surrounding the SOIA Area range from industrial to undisturbed riparian habitat. The area to the west includes the UPRR tracks with commercial and industrial uses beyond. Grant Line Road forms the SOIA Area’s northern boundary, with commercial and industrial developments to the northwest and residential development to the northeast between Waterman Road and Mosher Road. (The areas north of Grant Line Road and west of the UPRR tracks are located within the existing Elk Grove City limits.) Areas to the east are rural residential, with commercial uses fronting on Grant Line Road and the now-closed Sunset Skyranch Airport grounds beyond. The rural communities of Sheldon and Wilton are located approximately 4.1 and 4.6 miles, respectively, to the northeast. The area to the south is agricultural and includes the 100-year floodplain of the Cosumnes River and Deer Creek.

2.6 PROJECT CHARACTERISTICS

As stated in Chapter 1.0, “Introduction,” of this EIR, this EIR includes a program-level, or “first-tier,” analysis for future development, consistent with Public Resources Code Sections 21093 and 21094 and CEQA Guidelines Sections 15152 and 15168. In addition to the programmatic analysis described above, the EIR also includes a more detailed Project-level analysis of the initial phase of the proposed Project.

¹ The notice of preparation for the *Environmental Impact Report for the City of Elk Grove General Plan Update* is available at: http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Environmental%20Review/GPU_NOP_final_2017-06-19.pdf.

This section describes Project components and actions as shown in Table 2-1 and explains whether they are Project- or program-level components (Exhibit 2-3). The program-level components include the SOIA, detachment from and annexation to service providers, the General Plan Amendment, and rezoning. The Project-level component is the multi-sport park complex.

Table 2-1 Anticipated LAFCo and City Actions	
Anticipated LAFCo Actions	Anticipated City Actions
Sphere of Influence Amendment for City	Approval of an General Plan Amendment
Detachment from CSA No. 1 (Street Lighting)	Approval of Rezoning
Detachment from CSA No. 11 (Supplemental Police)	Approval of a Major Design Review for Capital Improvement Program Project
Annexation to Sacramento Area Sewer District	Issuance of subsequent Improvement Plans and Building Permits
Annexation to Sacramento County Regional Sanitation District	
Annexation to the City of the multi-sport park complex site and potentially some or all of the remaining SOIA Area	

2.6.1 TERMINOLOGY

Throughout this EIR, the following terms are used to describe the proposed Project and the Project location.

- ▶ To refer to the entire 561-acre Project site, or the location of the program-level actions, the term “SOIA Area” is used. The program-level components include the SOIA, detachment from and annexation to service providers, the General Plan Amendment, and rezoning.
- ▶ To refer to the 171-acre site of the proposed multi-sport park complex, the term “multi-sport park complex site” is used.
- ▶ To refer to the program-level actions and potential impacts resulting from those actions, the term “future development within the SOIA Area” is used.
- ▶ To refer to the Project-level action and potential impacts resulting from the development of the multi-sport park complex, the term “multi-sport park complex project” or “multi-sport park complex” is used.

2.6.2 PROGRAM-LEVEL ACTIONS

SPHERE OF INFLUENCE AMENDMENT

The SOIA Area is outside, but directly adjacent to Elk Grove’s existing City limits (Exhibit 2-1). The proposed Project would involve expanding the City’s SOI by approximately 561 acres within the Sacramento County USB (Exhibit 2-2).

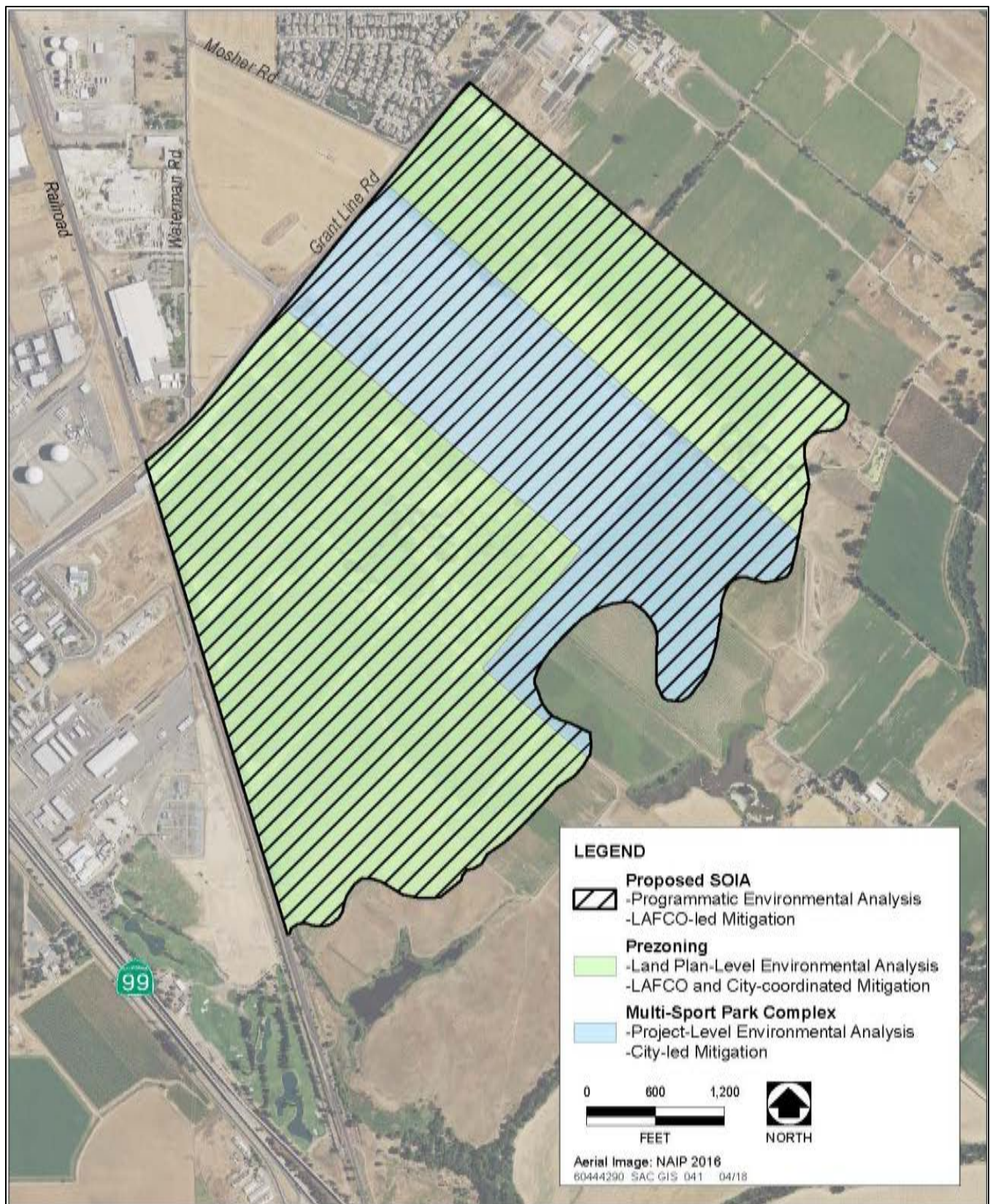


Exhibit 2-3 Programmatic and Project-Level Analysis

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 includes provisions for amending SOIs. An SOI is defined by Government Code Section 56425 as “a plan for the probable physical boundary and service area of a local governmental agency, as determined by LAFCo....” and represents areas adjacent to the existing service area of a jurisdiction where services might reasonably be expected to be provided in the next 20 years. This would allow the City and other service providers to plan for future urbanization (see “Elk Grove General Plan Amendment and Rezoning” below), but it does not authorize changes in land use or governance. Lands within an amended SOI would not be under the City’s jurisdiction until future development applications are received and requests for annexation of those parcels are approved by Sacramento LAFCo.

DETACHMENT AND ANNEXATION FROM SERVICE PROVIDERS

As shown in Table 2-1, the proposed Project would require detachment from CSA No. 1 (Street Lighting) and CSA No. 11 (Supplemental Police). The proposed SOIA would be annexed into Sacramento Area Sewer District (SASD) and Sacramento County Regional Sanitation District. LAFCo would consider approval of these detachments and annexations at the same time as the consideration of the proposed SOIA.

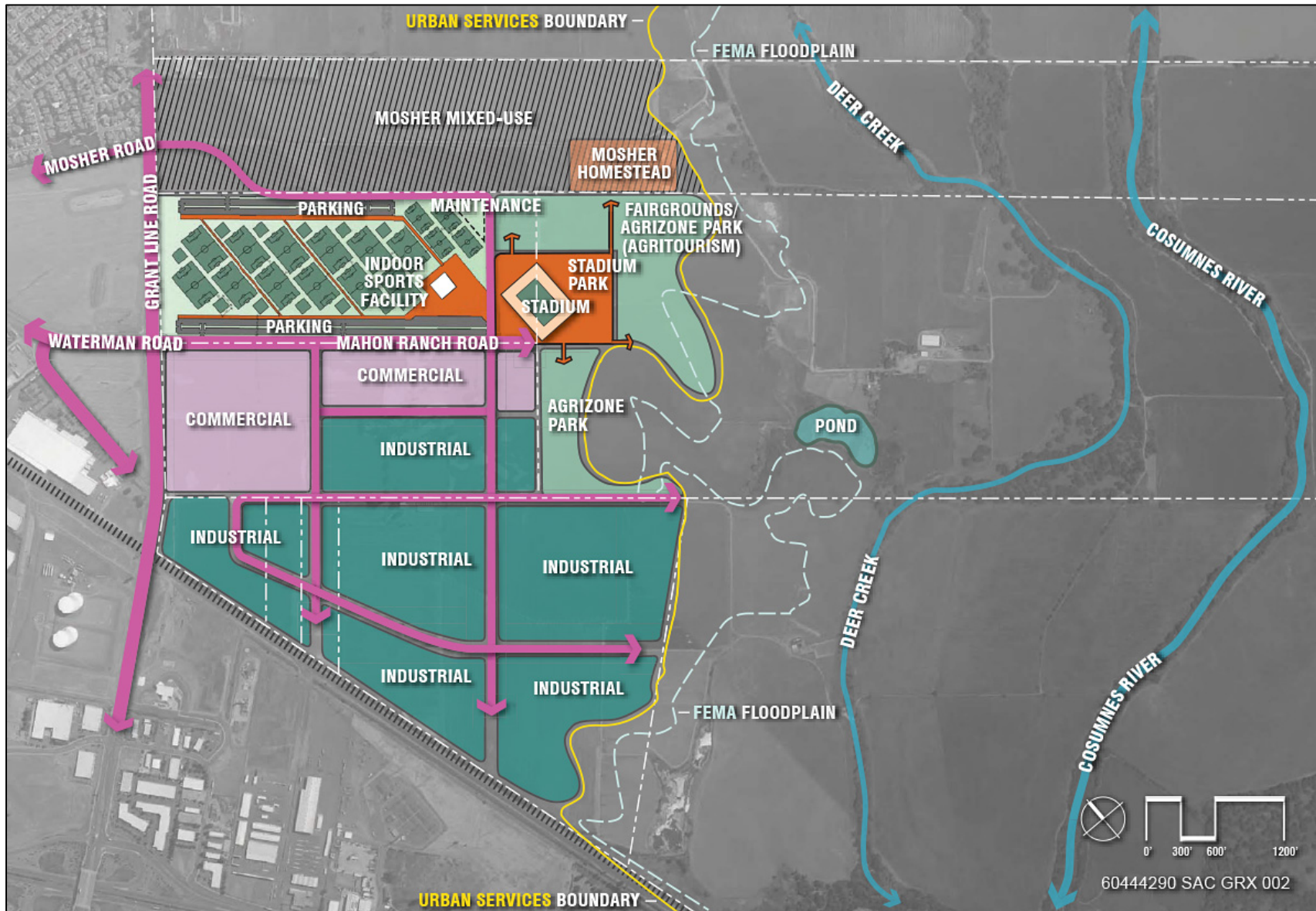
ELK GROVE GENERAL PLAN AMENDMENT AND PREZONING

Exhibit 2-4 illustrates the proposed land uses for the SOIA Area. Development of the SOIA Area consistent with this land use diagram would require an amendment to the City’s General Plan. The City would be the lead agency for a General Plan amendment to provide designated land uses for the SOIA Area, adoption of rezoning, and design review.

As summarized in Table 2-2 and shown in Exhibit 2-4, the 171-acre multi-sport park complex would be designated as Public Open Space/Recreation and rezoned Commercial Open Space. Lands to the southwest with frontage on Grant Line Road would be designated in the General Plan as Commercial/Office and Light Industrial and rezoned General Commercial and Light Industrial. Lands adjacent to the UPRR tracks would be designated in the City General Plan as Light Industrial and Heavy Industrial and rezoned Light Industrial and Heavy Industrial, respectively. Properties in the northwestern portion of the SOIA Area are contemplated for mixed-use development and no specific zoning district designation is proposed at this time.

As stated previously, the proposed Project does not include land use change or development proposals other than the multi-sports complex – these areas are contemplated for commercial, industrial, and mixed-use development. This EIR evaluates the potential impacts of those uses at a programmatic level based on the proposed rezoning and the assumptions contained in the City’s SOIA application, which are based on City General Plan land use designations and zoning categories.

Future development in the SOIA Area, but outside the multi-sports complex would include commercial and industrial uses (271 acres) and mixed uses (118 acres). Development would occur based on market conditions; however, this EIR assumes that buildout would occur over a period of approximately 20 years. In total, the 271-acre commercial and industrial area could support more than 3.5 million square feet of commercial and industrial space and more than 10,000 employees, depending on future development applications. Access to these commercial and industrial areas would be from the entrance near the tournament fields (at Grant Line Road and Waterman Road) and the proposed Mahon Ranch Road (Exhibit 2-4), as well as internal roads.



Source: Prepared by LPA for City of Elk Grove 2015

Exhibit 2-4 Planned Land Uses for Full Buildout of the Sphere of Influence Amendment Area

Table 2-2 Proposed Elk Grove General Plan Designations and Prezoning			
Lands	Acres	Proposed General Plan Designation	Proposed Zoning (Prezoning)
Multi-Sport Park Complex			
APN 134-0190-009 (City of Elk Grove), 10251 Grant Line Road	96 +/-	Public Open Space/Recreation	Commercial Open Space (C-O)
APN 134-0190-003 (Mahon), 10171 Grant Line Road	75 +/-	Public Open Space/Recreation	(Outdoor Commercial Recreation)
Commercial/Industrial			
APN 134-0190-010 (Kendrick), 10313 Grant Line Road	93 +/-	Commercial/Office Light Industrial	General Commercial (GC) Light Industrial (LI)
Industrial			
APNs 134-0190-013, 029, 030, and 032 (Cypress Abbey)	178 +/-	Light Industrial and Heavy Industrial, respectively	Light Industrial (LI) and Heavy Industrial (HI), respectively
Mixed Use			
APN 134-0190-002 (Mosher), 10161 Grant Line Road	118 +/-	unknown	unknown
Total	561 +/-		
Notes: APN = Assessor's Parcel Number			
Source: City of Elk Grove 2015. Acreage information is based upon County Assessor data and City GIS mapping.			

Commercial and Industrial

The Kendrick lands are situated directly southwest of the City property and are 100± acres. The City anticipates the ultimate development of these lands with commercial (approximately 60-75 percent) and industrial uses (approximately 35-40 percent) (Table 2-3). An internal circulation system would be developed to support the property, as described in more detail in Section 3.14, “Transportation,” of this EIR.

Table 2-3 Proposed Prezoning of Kendrick Parcel Near Grant Line Road (APN 134-0190-010)					
Land Use	Approximate Gross Acreage	Assumed Employees per Acre	Assumed Floor Area Ratio	Total Employees	Total Building Square Footage
Commercial	65	30	0.30	1,950	849,420
Industrial	35	38	0.30	1,330	457,380
TOTAL	100	—	—	3,280	1,306,800
Source: City of Elk Grove 2015					

The Cypress Abbey lands are located just east of the UPRR tracks and adjacent to the Kendrick and Mahon properties. These lands are intended for development with industrial uses. Access to the site would be provided from an extension of the public street system developed for the multi-sport park complex and Kendrick lands. For purposes of this Project, this site is assumed to have the following development potential: (Table 2-4).

Table 2-4 Proposed Rezoning of Cypress Abbey Parcels near the Union Pacific Railroad Tracks (APN 134-0190-013, 029, 030, and 032)					
Land Use	Approximate Gross Acreage	Assumed Employees per Acre	Assumed Floor Area Ratio	Total Employees	Total Building Square Footage
Industrial	185	38	0.30	7,030	2,417,580
Source: City of Elk Grove 2015					

Mixed-Use

The Mosher lands have been included in this application to ensure advanced planning of compatible uses occurs between these lands and the balance of the Project. The City has not identified any preferred or targeted land uses for the property and the City's General Plan only identifies the site as an "Urban Study Area." Therefore, a "mixed use" designation is proposed that assumes the potential for a wide range of land uses after further study. Land use planning would occur after further study, zoning, and design review to ensure that the proposed uses are compatible with the sports complex and other surrounding lands. Future applications for development in this area may require additional environmental analysis.

The SASD, when completing master planning analysis for new growth areas with undefined development plans, uses a standard of six equivalent units per gross acre. Applying this assumption to the 118± acres that make up the Mosher property yields a potential capacity of 708 equivalent units. Wastewater flows are typically determined based on the proposed land use and associated densities or development intensities. Equivalent units are used to translate between different land uses and create a common metric for calculating demand. One equivalent unit or equivalent single-family unit represents wastewater demand from a typical single family home. This land use assumption does not mean that there will be 708 single-family units, only that the relative service demands would be equivalent to approximately 708 dwelling units. Regional San uses the same assumption (6 equivalent units per acre) for industrial development (Regional San 2010).

2.6.3 PROJECT-LEVEL EVALUATION OF THE MULTI-SPORT PARK COMPLEX

The proposed multi-sport park complex would provide training space and a competition venue for soccer and other field sports. The complex would provide tournament and practice fields, an indoor sports facility, a stadium, and fairgrounds. It would be constructed on a property owned by the City and portions of a parcel to the southeast of the City-owned property. The total land area for the multi-sport park complex is approximately 171 acres.

TOURNAMENT AND PRACTICE FIELDS

Exhibit 2-5 provides a conceptual site plan for the multi-sport complex site, which would be developed with multi-purpose sports fields and would include 12 full-size soccer fields (each 120 by 80 yards) and four training fields (each 80 by 50 yards). The fields would be designed primarily for soccer, but could accommodate other field sports and activities such as rugby, lacrosse, football, and marching band. The tournament area would also include amenity concourses for concession stands and restrooms.



Source: Prepared by LPA

Exhibit 2-5 Conceptual Site Plan for the Elk Grove Multi-Sport Park Complex Tournament Fields

The spaces between the fields would be landscaped (including trees) and could include small shade structures. Pathways from the parking areas to and between the fields would be paved (a minimum of 40 feet wide) to enable both spectator movement and emergency vehicle access. Fencing and netting would separate the fields from the parking areas, and the tournament field area would have perimeter fencing.

The site perimeter would provide a parcourse (outdoor exercise equipment) and a trail for running and hiking. The parcourse would be open to both facility users and the general public.

The full-size fields would be illuminated with a sports field lighting system installed on poles between the fields that would be designed and constructed to minimize glare on adjacent roadways and properties. A lighting control system would ensure that only the fields being used would be lit.

Support facilities for the fields would include a small sod farm (approximately 2 acres) for replacement turf, a maintenance shop for equipment and fertilizer, and a service yard with electrical equipment. The service yard also would provide space for solid waste storage bins.

COMMUNITY SUPPORT BUILDING

A two-story, 20,833-square-foot, multi-use community support building would be built adjacent to the sports fields. The community support building would include a players' lounge, concession stands, kitchen, classroom/meeting space, restrooms, training and physical therapy spaces, conditioning space, locker rooms, and offices. Exhibit 2-6 provides building elevation drawings. The main entry would face the parking lot and a car/bus drop-off area. A second-level skydeck would provide views of the adjacent fields.

STADIUM/AMPHITHEATER

The complex's stadium/amphitheater would be located south of the multi-sport park complex site and would provide a venue for soccer and other field sport tournaments and other special events. One end of the field would be developed with a concert stage for performance events (Exhibit 2-7). The stage could also support high school and community college commencement exercises. The stadium would have a maximum capacity of approximately 9,000 seats. The venue would provide parking, locker rooms, a players' lounge, medical and training facilities, a box office, security offices, concession stands, a concert stage, restrooms, and storage space. The stadium would be illuminated with a combination of light configurations that would support sporting events and concerts, as well as accessory lighting of pedestrian areas and decorative building lighting.

The City envisions that the stadium, together with the tournament fields, would have the features necessary to host international, national, and regional tournament competitions, camps, clinics, and showcase events featuring professional and elite amateur soccer players. The stadium would be sized to support men's and women's professional soccer, as well as second- and third-division men's teams (e.g., United Soccer League). Sacramento's existing professional soccer team (Sacramento Republic FC) or another group could play in the Major League Soccer (MLS) league in the future. MLS programs, such as training, clinics, camps, and showcase events, call for facilities above and beyond the competition stadium. Should Sacramento secure an MLS franchise, the proposed sports complex could support the team with its ancillary facilities such as locker rooms, classrooms, and training facilities. The stadium may be constructed during a later phase of the multi-sport park complex.



Exhibit 2-6 Community Support Building Conceptual Elevation Drawings



Exhibit 2-7 Multi-Sport Park Complex—Stadium/Amphitheater Rendering

FAIRGROUNDS/AGRIZONE PARK

The proposed fairgrounds and agrizone park would provide a 15-acre area for agricultural events, such as the Sacramento County Fair and regular agricultural showcase events. The fairgrounds and agrizone park would be located between the multi-sport park complex site and the urban services boundary (Exhibit 2-4). Its events would promote education and agritourism with a pavilion, arena, barn, and exposition buildings (total building area of approximately 175,000 square feet), as well as a working farm, an approximately 5-acre carnival area, and site-specific parking. The agrizone park would serve as a working farm and educational center. As a working farm, it would feature a variety of crops, cattle/ranching operations, and equestrian operations that would:

- ▶ inform area residents on farming and farming practices;
- ▶ highlight sustainable farming and ranching practices and their interaction with wildlife;
- ▶ educate area residents on opportunities and practices for growing their own food; and
- ▶ serve as a venue for unique events such as Western barbeques, holiday gatherings, and other seasonal events.

PARKING

The sports complex (tournament fields) would provide approximately 1,160 parking spaces (Exhibit 2-4). The number of spaces was developed assuming that some game participants and spectators would arrive or depart concurrently. The stadium/amphitheater would support 9,000 attendees, event participants, and workers, and would require approximately 3,700 parking spaces. To support a county fair and other events, such as concerts and rodeos, the fairgrounds and agrizone park would require a cumulative total of approximately 6,300 parking spaces (i.e., all the parking provided by the sports fields, stadium, and fairgrounds combined).

SITE ENTRANCE AND LANDSCAPING

The site entrance would be at Mahon Ranch Road, which would be constructed at the intersection of Grant Line Road and New Waterman Road, with secondary access to the northeast where turns would be limited to right in/right out (Exhibit 2-4). The site entrance would include monument signage, gabion walls, and landscaping with trees and shrubs and would be mulched with bark mulch to conserve water. The stainless-steel mesh gabions would be filled with stone, which would be found on-site to the extent practicable or procured from a local source. Landscaping throughout the site would be irrigated with drip irrigation. Turf and landscape irrigation would be equipped with soil moisture detection devices so that the irrigation system would shut off during wet weather.

SPORTS COMPLEX CONSTRUCTION

To ensure that this EIR evaluates a reasonable worst-case scenario for potential construction impacts, the following description of the construction process is based on the existing conceptual design and conservative assumptions regarding the sizes and types of facilities. For example, the description assumes that the tournament fields would be constructed during a single construction season, whereas a phased approach would spread construction, and related truck trips and air emissions, over two or more construction periods. The steps required for construction are described below.

Site Preparation—Site preparation would include clearing the existing vegetation, trees, and drainage and utility structures; relocating an existing corrugated metal building; erecting perimeter security fencing; establishing

construction access gates and roads; and installing erosion and sedimentation controls in compliance with State and City requirements.

Grading—The site is flat farmland and is gradually sloped toward the intersection of Grant Line Road and Waterman Road. The site would be graded to maintain existing elevations and support a drainage system that slopes toward Grant Line Road. Grading and excavation would balance cut and fill so that no large import or export of soil would be required. Sports field grading would require temporarily removing and stockpiling topsoil and grading subsurface soils to facilitate drainage, either across each field or from the midline of each field to the sidelines. After grading, the contractor would roll and compact the subgrade and replace the topsoil.

Irrigation and Drainage—Existing drainage is a series of earth channels that drain to a roadside ditch that flows to the south along Grant Line Road. Grass fields would be outfitted with in-ground irrigation systems and sprinklers. The midways between fields would be equipped with piped drainage, catch basins, and a series of drywells to promote infiltration. Pipelines would be installed in trenches excavated with a ditch witch or backhoe. The fields and parking lots would drain to stormwater retention basins near Grant Line Road that would be sized and excavated to ensure no increase in the site’s peak runoff rate.

Field Installation—The contractor would use excavators and spreaders to apply topsoil and soil amendments to create approximately 4 to 6 inches of topsoil, and would then install sod or plant grass seed covered with mulch and fertilizer to promote dense growth and minimize erosion. The contractor would use a roller to compact the soil.

Several of the fields may be constructed with artificial turf. In these cases, the subgrade would be covered with a base material consisting of stone, followed by installation and sewing of the turf sections and application of “infill” consisting of fine-grained material (e.g., sand) and rubber particles for player traction and padding.

Community Support Building—The community support building would be a pre-engineered, metal building constructed using structural steel columns and roof beams. The exterior would consist of masonry, lightweight cladding braced to the steel frame, and a metal roof. The siding (cladding) would be a recycled and/or sustainable manufactured wood siding product. The building’s exterior would meet or exceed current California Title 24 energy conservation requirements for insulation and solar reflection and would use high-performance insulated (glazed) glass. The building would be designed to require a minimum of interior finishes (paints and varnishes). The heating, ventilation, and air conditioning system would be a pad-mounted exterior central chiller and hot water plant, with an approximately 120-ton air-cooled chiller and a 2,000-MBH (thousand British thermal units per hour) natural gas-fired boiler. The community support building would require a 6-inch sanitary sewer connection and 3-inch domestic water connection, 4-inch sprinkler water connection, and 2-inch natural gas connection.

Stadium/Amphitheater—Stadium construction would consist of erecting bleachers and lighting and installing an additional full-size sports field. Bleacher construction would require installing concrete support pads and aluminum seating and a prefabricated press box. A public address system would be mounted on lighting poles and on the press box.

Parking—Parking for the tournament and practice fields would be constructed primarily along the southwest property line of the multi-sport park complex site, consistent with Chapter 23.58 of the Elk Grove Municipal Code. The landscaping and lighting would be consistent with the City’s development standards and design guidelines. An overflow parking area would be constructed along the northeast property line. The parking areas

would be constructed in full during initial construction of the tournament fields, or in phases as parking is needed with the addition of the stadium. The overflow parking area would be upgraded during later phases as additional fields and the stadium are completed. Additional parking would be constructed at the stadium and fairgrounds.

Access/Roadways—The initial access road for the tournament and practice fields would be constructed from the existing intersection of Grant Line Road and Waterman Road. This driveway would run along the southwestern edge of the multi-sport park complex site and would be upgraded to a City street (Mahon Ranch Road) that would provide access to the stadium and fairgrounds. A new exit to Grant Line Road (north) would be constructed along the northeast property line as part of a later phase (Exhibit 2-4).

Lighting—Lighting would comply with the City’s design guidelines. It would be designed and installed to provide adequate field lighting for players and spectators while minimizing off-site effects. Construction would require excavating, pouring concrete foundations, erecting steel poles, and installing lighting fixtures. The lighting control system would include dimmer switches, allowing full brightness during tournaments and dimming for other events that would not require full brightness. The controls would also turn off lights that would not be needed at unused fields.

Stormwater Management—The Project would include stormwater quality measures (best management practices) to minimize pollutant discharges as required by the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* and the City. These best management practices would include using vegetated swales and stormwater planters (rain gardens) in landscaped parking lot medians and streets. Vegetated swales would have a sandy subsurface layer to remove sediments while stormwater planters would include a subsurface layer of biotreatment soil to promote pollutant removal. These systems would include subsurface piping, overflow drains, and drywells to remove sediment and promote infiltration, and would ultimately drain to two stormwater detention basins that would control the peak runoff rate and allow sediments to settle before stormwater discharge.

ENERGY

Power for the initial stages of construction, such as for lighting and small equipment, would be provided by temporary on-site generators. As construction progresses, power would be provided by constructing a temporary power line and temporary portable substation. Sacramento Municipal Utility District (SMUD) has determined that the sports complex could be served from the 69-kilovolt 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.

CONSTRUCTION SCHEDULE/PHASING

The multi-sport park complex would be completed in phases starting with the tournament fields and parking, including the gravel overflow parking areas to the northwest. Construction of the tournament fields could be completed in phases, with construction of approximately half of the fields completed during Year 1 and the remainder constructed during a second construction season. Later construction phases could include construction of the practice fields, paving of the gravel overflow parking lot, and construction of the stadium and fairgrounds.

GENERAL AND EVENT OPERATIONS

The multi-sport park complex would host sports tournaments, stadium sports and entertainment events, and agricultural/educational events. The sports fields would operate from approximately 7 a.m. to 11 p.m. (with training from 8 a.m. to 10 p.m.), whereas the stadium would operate from approximately 12 noon until 11 p.m.

The sports fields would support as many as 1,760 players, coaches, and spectators, as well as officials and site workers. With additional groups awaiting the start of their games, the site population would be an estimated 2,740 people (players, spectators, and workers). Given the potential for fairs, concerts, and rodeos, the largest attendance for any single day would be approximately 22,000 people over the course of a day. The City estimates that approximately 16,500 people could be present on-site at the same time.

Site operations would include maintenance, which would include mowing, repairing, watering, fertilizing, and aerating the fields. Grass fields may be taken off-line on a rotating basis to allow the grass to recover after heavy use. Site workers would also operate the field lighting to ensure that only the fields being used are lit. Site operations would also involve coordinating events at the sports fields, stadium, and fairgrounds to ensure that the site's capacity is not exceeded and that the events have adequate workers, security, police, and other services. Site workers would keep the sports complex clean and would coordinate collection and disposal of solid waste, both grass clippings from the tournament fields and solid waste from the stadium's food services and fairgrounds.

The fairgrounds would host agricultural events, potentially including the Sacramento County Fair and rodeos, and the agrizone park would host agricultural and education events. Fairs and rodeos would include rides, equestrian events, livestock shows, tents, concessions, and a traditional midway with games and rides. Agricultural events may include a farmers' market, agricultural education, and school field trips.

2.6.4 UTILITIES

Site utilities would be provided in coordination with LAFCo's municipal services review (under a separate cover).² The City's preliminary plan assumes that the following utilities would be constructed for the proposed Project.

WATER SUPPLY AND INFRASTRUCTURE

Omoichumne-Hartnell Water District provides irrigation water to the Project site and would continue to provide nonpotable irrigation water for the sports fields and fairgrounds service after future development occurs that requires potable water supplies.

Sacramento County Water Agency (SCWA) is the designated municipal and industrial water provider for the majority of the SOIA Area. Domestic water could be provided by SCWA's Zone 40 through a 12-inch main from Waterman Road along Mahon Ranch Road.

² The Cortese-Knox-Hertzberg Local Government Reorganization Act requires completion and Commission acceptance of a Sacramento County Water Agency (MSR) to assess the adequacy of required infrastructure and services capacity and means of financing prior to any modification of an SOI boundary. The MSR is not a project subject to CEQA review.

WASTEWATER COLLECTION, CONVEYANCE, AND TREATMENT

SASD would provide wastewater collection and conveyance service. Sacramento Regional County Sanitation District would provide wastewater treatment service for the SOIA Area. The southwest portion of the SOIA Area is located within the SASD and the Sacramento Regional County Sanitation District service areas. Annexation to the SASD SOI and the Sacramento Regional County Sanitation District SOI would be required prior to service to the remainder of the SOIA Area.

STORMWATER DRAINAGE

The SOIA Area currently drains via overland runoff and drainage ditches to Deer Creek and the Cosumnes River. Stormwater drainage for the multi-sport park complex would be constructed by the City to serve the tournament fields, stadium, and parking lots. SCWA would provide future stormwater drainage facilities to the remainder of the SOIA Area.

ELECTRICITY AND NATURAL GAS

The SOIA Area would include extension of electricity services by SMUD and natural gas by Pacific Gas and Electric Company.

2.7 INTENDED USES OF THIS DRAFT EIR

This draft EIR was prepared by Sacramento LAFCo and the City to evaluate the potential environmental impacts of the proposed Project. Pursuant to Section 15367 of the CEQA Guidelines, Sacramento LAFCo is the lead agency for the SOI amendment and the City is the lead agency for the required general plan amendment and rezoning, as well as the design review and use permit for the sports complex. Thus, both agencies would take discretionary actions that require compliance with CEQA. Several agencies may serve as responsible and trustee agencies pursuant to Sections 15381 and 15386 of the CEQA Guidelines. These agencies may include but are not limited to the following:

- ▶ United States Army Corps of Engineers
- ▶ United States Fish and Wildlife Service
- ▶ California Department of Fish and Wildlife
- ▶ Central Valley Regional Water Quality Control Board
- ▶ Sacramento County Water Agency (SCWA)
- ▶ Sacramento Area Sewer District (SASD)
- ▶ Sacramento Regional County Sanitation District
- ▶ Sacramento Metropolitan Air Quality Management District

2.8 PERMITS AND APPROVALS

The proposed Project would require the following approvals and actions:

- ▶ *Sacramento LAFCo*: Approval of the SOIA, potential detachment from and approval of annexation to various special districts, and annexation to the City of the multi-sport park complex site and potentially some or all of the remaining SOIA Area.

- *City of Elk Grove:* Approval of a general plan amendment with land use designations (Public Open Space/ Recreation), rezoning, design review entitlement, and any required use permits for the multi-sport park complex.

Annexed portions of the site would be in the City's jurisdiction. Any proposed construction could require demolition and disposal of existing structures, grading and excavation, 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. Future development within the proposed SOIA Area will require various permits and other types of approvals from agencies with a purview over land use, air quality, biological resources, water quality, public services and utilities, and other topics. In addition, SCWA intends to use details on water supply calculations and infrastructure requirements provided in this EIR for the SOIA Area to approve an amendment to the existing Zone 40 WSMP.

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3 ENVIRONMENTAL IMPACT ANALYSIS

3.1 APPROACH TO ENVIRONMENTAL ANALYSIS

The California Environmental Quality Act Guidelines (CEQA Guidelines) require the environmental analysis for an EIR to include an evaluation of impacts associated with a proposed project and to identify mitigation for any potentially significant impacts. CEQA Guidelines Section 15126.2(a) states:

An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.

3.1.1 SECTION FORMAT AND CONTENTS

The environmental setting, impacts, and required mitigation measures for the proposed Project are organized by issue area, corresponding to topics in the CEQA Environmental Checklist (CEQA Guidelines Appendix G, as amended). Each section follows the same format:

- ▶ The “**Environmental Setting**” subsection provides an overview of the existing physical environmental conditions (i.e., the environmental baseline) for each issue area at the time this analysis was prepared. The environmental baseline at the time of the release of the NOP (October 2015) is the context against which potential Project impacts are evaluated.
- ▶ The “**Regulatory Framework**” subsection identifies the federal, State, regional, and local plans, policies, laws, regulations, and ordinances that are relevant to each issue area. This subsection describes required permits and other approvals necessary to implement the proposed Project.
- ▶ The “**Environmental Impacts and Mitigation Measures**” subsection presents the following information:
 - The “**Methodology**” subsection describes the methods, process, procedures, and assumptions used to formulate and conduct the impact analysis.
 - The “**Thresholds of Significance**” subsection identifies the criteria established by the lead agency to define at what level an impact would be considered significant. Criteria may be defined by a lead agency based on examples found in CEQA or the CEQA Guidelines, scientific and factual data relative to the lead agency jurisdiction, views of the public in the affected area, the policy/regulatory environment of affected jurisdictions, or other factors.

- If applicable, the “**Issues Not Discussed Further**” subsection identifies issues for which the proposed Project would not affect the physical environment. An explanation is provided of how the determination of “no impact” was reached. These issues are not discussed further in the impact analysis that follows.
- The “**Impact Analysis**” subsection first presents a summary of the environmental impact conclusions. The impact analysis then presents an assessment of the potential direct and indirect impacts of the proposed Project and specifies why impacts are found to be “significant and unavoidable,” “significant,” “potentially significant,” or “less than significant” (see Section 3.1.2 Terminology Used in the EIR) or why there is no environmental impact.

If there is found to be a potentially significant impact, mitigation measures are provided, where available and feasible. The measures are numbered to correspond with the impacts they mitigate. In accordance with Public Resources Code Section 21081.6(b), mitigation measures must be fully enforceable through permit conditions, agreements, other legally binding instruments, or by incorporating the measures into the project design. Section 15370 of the CEQA Guidelines defines mitigation as:

- ▶ avoiding the impact altogether by not taking a certain action or parts of an action;
- ▶ minimizing impacts by limiting the degree of magnitude of the action and its implementation;
- ▶ rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- ▶ reducing or eliminating the impact over time by preservation and maintenance operation during the life of the action; or
- ▶ compensating for the impacts by replacing or providing substitute resources or environments.

Where no feasible mitigation is available to reduce impacts to a less-than-significant level, the impacts are identified as significant and unavoidable. (The analysis of cumulative impacts is presented in Chapter 4. An analysis of growth-inducing impacts is presented in Chapter 6.)

3.1.2 TERMINOLOGY USED IN THIS EIR

This EIR uses the following terminology to denote the significance of environmental impacts of the proposed Project:

- ▶ **No impact** would occur if the construction, operation, and maintenance of the proposed Project would not have any direct or indirect effects on the environment. It means that no change from existing conditions would result. This impact level does not require mitigation.
- ▶ A **less-than-significant impact** is one that is not a substantial and adverse change in the physical environment. This impact level does not require mitigation, even if feasible mitigation measures are available.
- ▶ A **significant impact** is defined by Public Resources Code Section 21068 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” Mitigation measures or alternatives to the proposed Project must be identified, where applicable and feasible, in an attempt to avoid, minimize, or reduce the magnitude of significant impacts.

- ▶ A ***potentially significant impact*** is one that, if it were to occur, would be considered a significant impact, as described above; however, the occurrence of the impact cannot be immediately determined with certainty. For CEQA purposes, a potentially significant impact is treated (i.e., mitigated) as if it were a significant impact.
- ▶ A ***significant and unavoidable impact*** is a substantial or potentially substantial adverse effect on the environment that cannot be reduced to a less-than-significant level even with implementation of feasible mitigation. A project with significant and unavoidable impacts could proceed, but the lead agency would be required to required (i) to conclude in findings that there are no feasible means of substantially lessening or avoiding the significant impact in accordance with CEQA Guidelines Section 15091(a)(3) and (ii) to prepare a statement of overriding considerations, in accordance with CEQA Guidelines Section 15093, explaining why the CEQA lead agency has chosen to proceed with the project in spite of the potential for significant impacts.

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3.2 AESTHETICS

Aesthetic or visual resources are the natural and human-built features of the landscape that contribute to the public's appreciation and enjoyment of the aesthetic environment. This section describes the aesthetic and visual qualities of the SOIA Area and provides a qualitative evaluation of potential impacts on the area's visual character, scenic vistas, and scenic resources, as well as potential impacts from light and glare. Where the impacts would be potentially significant, mitigation measures are identified and described.

3.2.1 ENVIRONMENTAL SETTING

VISUAL CHARACTER OF THE SOIA AREA

The visual character of the SOIA Area is primarily defined by its use as an agricultural area. The proposed SOIA Area has been irrigated cropland or pastureland for decades. The primary visual features of the SOIA Area are related to cropland and grazing, although there are also several remnant oak trees (Exhibit 3.2-1). The SOIA Area has two rural residences with barns, sheds, and agricultural structures that are not easily visible from Grant Line Road because they are set back and shielded by ornamental trees and shrubs (Exhibit 3.2-2). The SOIA Area has frontage on Grant Line Road, which was recently widened, with an intersection added at Waterman Road. Several electrical transmission lines cross the area and local power lines are present on the SOIA Area. The SOIA Area has no rock outcroppings and no historic buildings within a State scenic highway.

VISUAL CHARACTER OF THE SURROUNDING AREA

The SOIA Area is located at the edge of the existing City of Elk Grove boundary and the visual character of the area is mixed. The area along Grant Line Road between the site and the State Route 99 corridor is primarily commercial and includes warehouses and stores that support the area's residential uses (e.g., warehouses, auto body shops) and the south area's agricultural economy (e.g., a John Deere dealership). The City's solid waste transfer station and a gas station are located south of Grant Line Road. The elevated section of Grant Line Road at the grade separation at the Union Pacific Railroad (UPRR) tracks is a prominent visual feature looking west from the three-way intersection at Waterman Road (Exhibit 3.2-3). To the northeast, there is a single-family residential development between Waterman Road and Mosher Road (Exhibit 3.2-4). Farther to the northeast along Grant Line Road (but not visible from the SOIA Area) are a mix of commercial (e.g., plant nursery), agricultural (e.g., vineyards), and rural residential uses. The former Sunset Skyranch Airport is located approximately a mile to the northeast, but is not visible from the SOIA Area. To the northwest along Waterman Road is Suburban Propane, with two prominent white propane storage tanks.

The visual character of the area south of the SOIA Area is defined by open space and agriculture, with distant views of undisturbed riparian habitat along Deer Creek and the more distant Cosumnes River. This pastoral landscape is typical of areas around Elk Grove and rural communities, such as Sheldon and Wilton, located approximately 4 to 5 miles to the east. The Cosumnes River is the only undammed river on the western slope of the Sierra Nevada. The riparian habitat along the creek and river provides textures and colors not commonly found in the urban environment (City of Elk Grove 2003a). Distant views of the Sierra Nevada and Coast Ranges are available on clear days (see Exhibit 3.2-5).



Exhibit 3.2-1 View of Multi-Sport Park Complex Site Looking South from Grant Line Road.



Exhibit 3.2-2 View of Residential Uses with Agricultural Structures in the SOIA Area.



Exhibit 3.2-3 View of Grant Line Road Grade Separation at UPRR Tracks.



Exhibit 3.2-4 View of Residential Development between Waterman Road and Mosher Road.

VIEWS OF THE SOIA AREA

Because the area has little or no topographical relief and the adjacent areas are farmland, industrial, or protected floodplain, the primary public views of the SOIA Area are from Grant Line Road. The SOIA Area is visible to motorists traveling along Grant Line Road or walking on the new sidewalks installed as part of the UPRR grade separation. Motorists traveling east have views of the SOIA Area after crossing over the elevated portion of Grant Line Road at the UPRR grade separation, for approximately 0.65 mile. Exhibits 3.2-5a and 3.2-5b show existing views of the SOIA Area from the downgrade of the overpass and from the Grant Line Road/Waterman Road intersection, looking directly at the site of the proposed multi-sport park complex. The SOIA Area is also visible to motorists traveling west on Grant Line Road approaching the intersection with Waterman Road and the UPRR grade separation. Exhibits 3.2-6a and 3.2-6b show views from the northeast corner of the SOIA Area and from the northeast corner of the multi-sport park complex site.

LIGHT AND GLARE

The SOIA Area is primarily in agricultural use and has only two rural residences. There are few on-site sources ambient light and there are no sources of glare. Light sources are located primarily along the northern boundary of the SOIA Area and include Grant Line Road's street lighting and vehicles, and adjacent commercial and industrial uses to the northwest.

3.2.2 REGULATORY FRAMEWORK

FEDERAL AND STATE PLANS, POLICIES, REGULATIONS, AND LAWS

No federal or State plans, policies, regulations, or laws apply to the potential aesthetic or visual impacts of the proposed Project. For example, there are no National or California Wild and Scenic Rivers in the area. The nearest California Scenic Highway (State Route 160) is located approximately 9 miles from the site in Yolo County.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

The only regional or local regulations or plans that apply to the potential aesthetic or visual impacts of the proposed Project are the goals and policies of the City's General Plan and provisions of the Elk Grove Municipal Code, Design Review Ordinance, and Design Guidelines, as described below.

Elk Grove General Plan

With regard to aesthetics, the City General Plan includes focused goals to:

- ▶ preserve the large oak and other tree species that are important to Elk Grove's historic and aesthetic character;
- ▶ retain areas identified on the land use map for 2-acre and larger lots as rural through land use and infrastructure controls; and
- ▶ maintain 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.



Exhibit 3.2-5a View of the SOIA Area from Elevated Portion of Grant Line Road.



Exhibit 3.2-5b View of the SOIA Area from the Intersection of Grant Line Road and Waterman Road.



Exhibit 3.2-6a View of the Northeast Corner of the Proposed Multi-Sport Park Complex Site from Grant Line Road.



Exhibit 3.2-6b View of the Northeast Corner of the Proposed Mixed-Use Area from Grant Line Road.

The following policies of the City General Plan are related to aesthetics.

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 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.

Land Use Element

- ▶ **Policy LU-35:** The City of Elk Grove shall require that new development—including commercial, office, industrial, and residential development—is of high quality and reflects the City's desire to create a high quality, attractive, functional, and efficient built environment.
- ▶ **Policy LU-36:** Signs should be used primarily to facilitate business identification, rather than the advertisement of goods and services. Sign size limits and locations should be designated consistent with this policy.
- ▶ **Policy LU-37:** Require the construction of "City of Elk Grove" signage and landscape treatments at major entrances to the city.
- ▶ **Policy LU-38:** Reduce the unsightly appearance of overhead and aboveground utilities.

Elk Grove Municipal Code

Title 19, "Trees," Chapter 19.12, "Tree Preservation and Protection"

The City of Elk Grove prioritizes the preservation of existing trees and the historic and aesthetic character of the community, as described in the City General Plan. The City's tree ordinance contains provisions to preserve existing trees through the development review process and a process for tree replacement where preservation is not reasonably possible. The City focuses on landmark trees, secured trees, and trees of local importance. Landmark trees are those that have been determined and designated, by resolution of the City Council, to be of high value to the community due to the species, size, age, form, historical significance, or some other professional criterion. Secured trees are those that are retained during the course of review and approval of a discretionary development project and trees planted as a result of a discretionary development project to satisfy a mitigation requirement. Trees of local importance are those with a diameter at standard height of six inches or greater of the following species: Coast live oak (*Quercus agrifolia*); Valley oak (*Quercus lobata*); Blue oak (*Quercus douglasii*); Interior live oak (*Quercus wislizenii*); Oracle oak (*Quercus X moreha*); California sycamore (*Platanus racemosa*); and California black walnut (*Juglans hindsii*).

The tree ordinance requires that mitigation for the loss shall be provided at a ratio of one new inch diameter at standard height of tree for each inch diameter at standard height lost, unless an alternative mitigation is approved . Mitigation options (Section 19.12.160) include on-site or off-site replacement, payment of an in-lieu fee, preservation of existing trees, or on-site or off-site relocation.

Elk Grove Zoning Code

The Elk Grove Zoning Code (Elk Grove Municipal Code Title 23) provides development standards that address building mass, setbacks, landscaping, lighting, and signage to achieve an aesthetically pleasing appearance. Chapter 23.56 addresses lighting specifically. The verbatim excerpt from Chapter 23.56 presented below is relevant to the proposed Project.

23.56.030 Multifamily and nonresidential outdoor lighting standards.

Except as otherwise specified herein, outdoor lighting standards listed below apply to all new multifamily residential and nonresidential development. The designated approving authority may grant exceptions to the shielding requirements, maximum level of illumination, and height of outdoor light fixtures for outdoor recreation facilities on park sites with the finding that the light impacts do not create a public nuisance for abutting residential property.

- A. **Shielding Required.** Except as otherwise exempt, all multifamily and nonresidential outdoor lighting shall be constructed with full shielding. 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.
- B. **Level of Illumination.** During hours of darkness, the minimum and average maintained foot-candles of light shall be consistent with the provisions listed below. A point-by-point photometric calculation listing the number, type, height, and level of illumination of all outdoor lighting fixtures shall be required in conjunction with the development permit application and prior to issuance of a building permit or site improvement plans to ensure compliance with these provisions.
 - 1. Parking lots, driveways, trash enclosures/areas, public phones, and group mailboxes shall be illuminated with a minimum maintained one (1 fc) foot-candle of light and an average not to exceed four (4 fc) foot-candles of light.
 - 2. Pedestrian walkways shall be illuminated with a minimum maintained one-half (0.5 fc) foot-candle of light and an average not to exceed two (2 fc) foot-candles of light.
 - 3. Exterior doors of nonresidential structures shall be illuminated during the hours of darkness with a minimum maintained one (1 fc) foot-candle of light, measured within a five (5' 0") foot radius on each side of the door at ground level.
 - 4. In order to minimize light trespass on abutting residential property, illumination measured at the nearest residential structure or rear yard setback line shall not exceed the moon's potential ambient illumination of one-tenth (0.1 fc) foot-candle.

- C. **Maximum Height of Freestanding Outdoor Light Fixtures.** The maximum height of freestanding outdoor light fixtures for development abutting residential property shall be twenty (20' 0") feet. However, the designated approving authority may grant exceptions to this height restriction in conjunction with design review if the proposed lighting plan has negligible light glare and spill impacts on adjoining residential properties. Otherwise, the maximum height for freestanding outdoor light fixtures shall be thirty (30' 0") feet.
- D. **Type of Illumination.** All new outdoor lighting fixtures shall be energy efficient with a rated average bulb life of not less than ten thousand (10,000) hours.
- E. **Hours of Illumination.** Automatic timing devices shall be required for all new outdoor light fixtures with off hours (exterior lights turned off) between 10:00 p.m. and 6:00 a.m. However, outdoor lights may remain on during the required off hours when:
 - 1. The hours of operation of the associated use extend into the required off hours (lighting may stay on during the hours of operation of the use);
 - 2. Illuminating flags representing country, state, or other civic entity (also see EGMC [Elk Grove Municipal Code] Section 23.62.090(B)(4)); and
 - 3. Functioning as security lighting (e.g., illuminating a pathway, building entry, etc.).
- F. **Outdoor Sports Field/Outdoor Performance Area Lighting.**
 - 1. The mounting height of outdoors sports field and outdoor performance area lighting fixtures shall be reviewed on a case-by-case basis by the designated approving authority.
 - 2. 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.
- G. **Architectural/Landscape Lighting.** Outdoor light fixtures used to illuminate architectural and landscape features shall use a narrow cone of light for the purpose of confining the light to the object.
- H. **Sign Lighting.** The artificial illumination of signs, both from an internal or external source, shall be designed to eliminate negative impacts on surrounding rights-of-way and properties, and shall comply with EGMC Chapter 23.62, Signs on Private Property.

23.56.040 Lighting prohibited.

The following outdoor light fixtures shall be prohibited as specified below. Existing light fixtures legally permitted or authorized prior to adoption of this chapter may be maintained.

- A. Neon tubing or band lighting along building structures as articulation.
- B. Searchlights.

- C. Illumination of entire buildings. Building illumination shall be limited to security lighting and lighting of architectural features authorized by the designated approving authority in conjunction with the required development permit(s).
- D. Roof-mounted lights except for security purposes with motion detection and full shielding so that the glare of the light source is not visible from any public right-of-way.
- E. Any light that imitates or causes visual interference with a traffic signal or other necessary safety or emergency light.

Elk Grove Design Review Ordinance and Design Guidelines

The City Design Review Ordinance (Elk Grove Municipal Code Section 23.16.080) and corresponding Elk Grove Design Guidelines established a design review process and guidelines for site planning, architecture, lighting, and landscaping, as well as preservation of significant natural features and compatibility with surrounding property.

The City strongly encourages incorporating natural features and using landscaping to reduce the potential impacts of lighting from parking areas, and that landscaping be designed to maximize screening and buffering between adjacent uses.

3.2.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The visual impact analysis is based on:

- ▶ an inventory (including field observations and photography) of the visual features that compose the existing landscape;
- ▶ an assessment of the character and quality of the visual resources in the context of the character of the visual landscape; and
- ▶ an analysis of the proposed Project's impacts that considers the changes that would result, based on renderings and similar developments in the area and the sensitivity of viewers (i.e., residents, motorists) to those changes.

The evaluation accounts for compliance with the City's Design Guidelines, temporary and permanent visual impacts on scenic resources and visual character, and the potential to create a new source of light and glare.

The aesthetic quality of a community is composed of visual resources, which are those physical features that make up the visible landscape, including landform (topographic variation), land cover (water, vegetation), and the built environment. Impacts are evaluated using views from key viewpoints. Any assessment of visual quality is subjective and depends on perspective and opinions regarding whether an alteration of the visual character may be adverse or beneficial. Effects on the visual environment are generally defined in terms of:

- ▶ a project's visual characteristics and potential visibility,
- ▶ the extent to which the project would change the perceived visual character and quality of the environment, and

- ▶ the expected level of sensitivity that the viewing public may have in areas where project would alter existing views.

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, as amended. The proposed Project would have a significant impact related to aesthetics 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;
- ▶ substantially degrade the existing visual character or quality of the site and its surroundings; or
- ▶ create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

ISSUES NOT DISCUSSED FURTHER

LAFCo and the City of Elk Grove have determined that the following CEQA issues are not significant; therefore, no further environmental evaluation is presented in this EIR.

- ▶ **Substantial Adverse Effect on a Scenic Vista**—A scenic vista is a public viewpoint that provides expansive views of highly valued scenery or landscapes. Neither Sacramento County nor the City of Elk Grove has officially designated scenic vistas in the SOIA Area or that could be adversely affected by development within the SOIA Area. Therefore, no impact would occur, and these resources are not evaluated further.
- ▶ **Features 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 160 south of Sacramento, approximately 9 miles away, and the SOIA Area is not visible from the scenic highway segment. Therefore, no impact would occur, and these resources are not evaluated further.

IMPACT ANALYSIS

IMPACT 3.2-1	<i>Substantial degradation of existing visual character. Future development in the SOIA Area, including the multi-sport park complex, could degrade the existing visual character of the SOIA Area. Although future development would be required to comply with the City of Elk Grove's Municipal Code and General Plan, the development would entail a significant change from the existing visual character of the site. This impact would be significant.</i>
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The City General Plan (City of Elk Grove 2015) was used to define scenic resources for this EIR as views of the area's rural character, including the large lots, agricultural uses, and large trees that once typified the entire community. The City's vision as expressed in the General Plan is to value and retain the rural portions of the community, which provide a scenic backdrop. However, the City's policies related to rural aesthetic character are

focused on the rural areas designated on the City's Land Use Policy Map (City of Elk Grove 2015, LU-11). The proposed SOIA Area is 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 proposed SOIA Area and most of the areas designated for Rural Residential development by the City.

The areas that would be rezoned for commercial, industrial, and mixed-use development currently support agricultural uses consistent with the visual character of undeveloped areas surrounding Elk Grove. As described above, the SOIA Area's rural character is visible to motorists on Grant Line Road, with expansive scenic views of agricultural areas and distant views of the Cosumnes River floodplain, which are more visible driving to the northeast toward Sheldon (Exhibits 3.2-5a and 3.2-5b). The site of the proposed Project provides agricultural views typical of the region.

Commercial buildings and mixed-use developments and related signage, landscaping, electrical substation/s, and other above ground supportive infrastructure would alter the existing visual character in the SOIA Area and views of the SOIA Area from public viewing locations. Although viewers within the SOIA Area would retain agricultural views to the south, 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. The commercial area would have frontage on Grant Line Road; however, the industrial area would be only distantly visible from elevated areas of Grant Line Road and would be located adjacent to existing commercial/industrial areas and the UPRR tracks. Views of new development would be prominent as motorists and visitors to the multi-sport park complex and other areas cross the UPRR tracks and approach the intersection of Grant Line Road with Waterman Road and drive northeast. Existing structures would be demolished and removed. Adding commercial uses with frontage on Grant Line Road would change the site's visual character to a more urban environment. These views could be at least partially blocked by landscaping.

As future applications for developments within the SOIA Area 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 would minimize the impact of future development by requiring applicants to comply with City General Plan policies, zoning regulations, and Design Guidelines. The Elk Grove Design Guidelines 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 be located at the rear of buildings and the City would emphasize review of the building entryways and landscaping.

Off-site improvements to roads, sewer lines, drainage facilities, and water lines would also be required to serve future development in the SOIA Area. Although it cannot be determined where these improvements would be located or how extensive the disturbance would be, it is possible that these improvements could change the visual character of an area. Installation of water, sewer, and drainage facilities would mostly create temporary visual impacts, rather than long-term impacts, but transportation infrastructure would be above ground, and permanently visible.

Exhibit 3.2-7 provides a rendering of the multi-sport park complex entrance. These features would alter the existing views of agricultural and natural areas. Many areas inside the multi-sport park complex would retain agricultural views and scenic views of the pastoral landscape adjacent to Deer Creek and the Cosumnes River, but

views toward the multi-sport park complex from Grant Line Road would change substantially. The proposed multi-sport park complex would have frontage on Grant Line Road and would introduce structural elements into the landscape that would detract from the existing visual qualities of the existing agricultural open space. Foreground views of the multi-sport park complex's entrance, landscaping, and signage would be available as motorists, pedestrians, transit users, and cyclists approach the intersection of Grant Line Road and Waterman Road and move to the northeast. Exhibit 3.2-9 provides a computer-generated rendering of the City's conceptual design of the multi-sport park complex's front entrance (tournament fields only), signage, landscaping, and street trees.



Exhibit 3.2-7 Rendering of Multi-Sport Park Complex Entrance



Exhibit 3.2-8 Rendering of Multi-Sport Park Complex Stadium



Source: LPA

Exhibit 3.2-9 Rendering of Elk Grove Multi-Sport Park Complex (Daytime)

Rather than unobstructed views of agricultural lands, the valley floor, the Cosumnes River, and distant foothills, views from along Grant Line Road would consist of the multi-sport park complex's frontage and the stadium in the middle of the multi-sport park complex (Exhibit 3.2-8). Motorists and visitors to the site would initially see landscaping and the site's entrance and signage. These features would be designed consistent with that of a sports venue and would have high visibility. For motorists driving east (Exhibits 3.2-6a and 3.2-6b), this impact would be limited in that the existing expansive views of agricultural lands and the valley floor near the Cosumnes River would be visible only at an acute angle.

Temporary fencing may be used at the site and along pipeline alignments needed to extend utilities. Construction materials, excavated soils, and parked vehicles and trailers would temporarily alter visual conditions; however, these conditions would be temporary and intermittent as construction of the multi-sport park complex progresses. The same type of temporary construction effects are anticipated during buildout of the balance of the proposed SOIA Area, as well.

Construction of the multi-sport park complex would be subject to the City's Zoning Ordinance and design review, and would comply with the City General Plan, Elk Grove Municipal Code, and Elk Grove Design Guidelines. 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 Municipal Code 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, the City would construct parking lots away from Grant Line Road and would use street trees and on-site landscaping to shield views of the tournament fields and blend with the area's existing rural character and the transition between commercial and rural residential areas (see Exhibit 3.2-9).

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 multi-sport park complex and future development in the proposed SOIA Area to be an improvement. However, the impact of future development within the SOIA Area, including the multi-sport park complex and 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 SOIA Area. 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, this impact would be **significant and unavoidable**.

IMPACT 3.2-2	Potential loss of trees of local importance. <i>Future development in the SOIA Area, including the multi-sport park complex, may require removal of native and nonnative trees. Large trees are considered important aesthetic resources to the City of Elk Grove. This impact would be potentially significant.</i>
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Future development in the SOIA Area, including the multi-sport park complex and any required off-site improvements, may propose to remove native trees. The areas around the two existing homes (Exhibit 3.2-2) and the edges of the parcels have existing trees, and construction of new access roads, buildings, parking, and utilities may necessitate their removal. According to the City General Plan (Policy CAQ-8), Elk Grove considers certain trees an important aesthetic resource that should be retained or mitigated through replacement, relocation, or payment of a fee. Through Elk Grove's design review and tree ordinance, the City would evaluate whether existing trees can be preserved or mitigated.

The City will engage in more detailed land use planning and project-level environmental review for future projects within the SOIA Area outside the multi-sport park complex site. As a part of this planning and environmental review, the City will evaluate site planning to preserve trees. If trees cannot be preserved, future projects would be subject to compensation requirements for tree removal consistent with the City's tree ordinance.

Construction of the multi-sport park complex could require the removal of trees. The central area of the multi-sport park complex site has six native oaks (Exhibit 3.2-1) and the area around the on-site warehouse building has a mix of native and nonnative trees. Construction of the fields and the site entrance and landscaping would likely require removal of some or all of these trees. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.2-2: Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance. (City of Elk Grove)

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 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

Future development in the SOIA Area, including the multi-sport park complex, and associated off-site improvements would be subject to consistency findings with the Elk Grove General Plan and compliance with the City’s Municipal Code that pertain to preservation of, and compensation for the loss of trees. Implementation of Mitigation Measure 3.2-2, which would require replacement of trees, would reduce this impact to **less than significant**.

IMPACT 3.2-3 *Light and glare effects from new lighting sources. Future developments in the SOIA Area, including the multi-sport park complex, could result in lighting and glare impacts. Nighttime lighting of the proposed multi-sport park complex could cause light spillover and contribute to skyglow, which could adversely affect nighttime views in the area. This impact would be **potentially significant**.*

Skyglow is artificial lighting from urbanized uses that alters the rural landscape and, in sufficient quantity, lights up the nighttime sky, thus reducing the darkness of the night sky and the visibility of the stars. The SOIA Area currently supports agricultural uses and has few sources of ambient light other than the adjacent rural residences, lighting of Grant Line Road, and adjacent land uses in Elk Grove. Future development would introduce street, parking lot, and building lighting over several hundred acres, which could be substantial sources of light and glare. Commercial and mixed-use developments would have frontage on Grant Line Road and would be potential sources of light and glare. However, much of the SOIA Area would not be visible from along Grant Line Road, and lighting installed in the central and southern areas (e.g., industrial areas near the UPRR tracks) would be visible only from the multi-sport park complex and the southern portions of adjacent parcels. In addition, off-site improvements may be required for future development, which could contribute to the light and glare.

Future development within the SOIA Area would be within the City’s jurisdiction and applicable City General Plan policies and regulations. To minimize lighting effects, the City would 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. Future projects 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 future development within the SOIA Area.

For evening events, the multi-sport park complex would require night lighting. Exhibit 3.2-10 provides a computer-generated rendering of the sports fields illuminated for nighttime games. Lighting would be limited to 1 hour after the end of a game or event. Although lighting would be designed to minimize spillover effects, lighting of this larger area during tournaments that use all or most of the fields could cause some spillover into adjacent areas. Furthermore, bright lighting of the multi-sport park complex, particularly during tournaments, would contribute to skyglow.



Source: LPA

Exhibit 3.2-10 Rendering of Elk Grove Multi-Sport Park Complex (Nighttime)

Constructing the tournament fields and stadium with shielded and downward-facing lights, as encouraged by the City zoning regulations and Design Guidelines, would minimize lighting effects. Lighting effects would also be minimized during site operation by turning off the lights for sports fields that are not in use, and by emphasizing the use of fields at the southern end of the site, farther from the residential areas north of Grant Line Road. Similarly, lighting effects on adjacent agricultural parcels and future mixed-use areas would be minimized by buffer zones landscaped with trees. Thus, the multi-sport park complex's skyglow effects would be limited, similar to the effects of a high school football stadium, and of shorter duration than the effects of numerous commercial and industrial uses in Elk Grove that are brightly illuminated all night.

While the City's existing code requirements and policies would minimize impacts, potential lighting and glare impacts for the multi-sport park complex site and the balance of the proposed SOIA Area are considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.2-3a: Minimize Over-Lighting (City of Elk Grove)

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 (City of Elk Grove)

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.

Significance after Mitigation

The distance between areas rezoned for commercial, industrial, and mixed use, and compliance with the Elk Grove General Plan policies and the Elk Grove Design Guidelines would reduce impacts from nighttime lighting. With implementation of Mitigation Measure 3.2-3a and Mitigation Measure 3.2-3b, the City of Elk Grove would reduce impacts from nighttime lighting and glare by requiring that pole heights and light shielding are designed and scheduled to minimize spillover, skyglow, and glare. Thus, this impact would be reduced to **less than significant**.

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3.3 AGRICULTURAL RESOURCES

This section addresses agricultural resources within the proposed SOIA Area and surrounding areas. It describes Sacramento County's agricultural land uses; describes the significance, quality, and extent of agricultural land on-site and within the county, including Important Farmland; and describes the factors that could potentially contribute to the conversion of irrigated agricultural land to non-irrigated uses.

3.3.1 ENVIRONMENTAL SETTING

Sacramento County is the state's 25th largest in terms of agricultural production. The gross valuation for all agricultural commodities produced in Sacramento County in 2015 was approximately \$470 million, which represents a 6.4 percent decrease from the adjusted 2014 figure of \$502 million, a record high. Wine grapes had the highest crop value (\$128 million) and represent almost a third of Sacramento County's production value. Milk production is the number two commodity at \$49 million, followed by pears (\$40 million), poultry (\$39 million), and aquaculture (\$33 million) (Sacramento County Agricultural Commissioner 2015).

SACRAMENTO COUNTY FARMLAND CONVERSION

The Important Farmland classifications established by the California Department of Conservation (DOC)—Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance—identify the land's suitability for agricultural production by considering the physical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. (See Section 3.3.2, "Regulatory Framework," for detailed descriptions of Important Farmland classifications.)

Table 3.3-1 summarizes acreages of agricultural land in Sacramento County between 2004 and 2016 and shows the net change in acreage over that 10-year period. The Department of Conservation estimated that Sacramento County included 372,090 acres of agricultural land in 2006, of which 215,113 acres (57.8 percent) were classified as Important Farmland and 156,977 acres (42.2 percent) were classified as Grazing Land (DOC 2006). Overall, the total acreage of Important Farmland decreased by approximately 3.7 percent over the 10 years between 2006 and 2016 and the total acreage of agricultural land decreased by 3.2 percent (Table 3.3-1).

Table 3.3-1 Summary of Agricultural Land Conversion in Sacramento County							
Important Farmland Category	Acres				Net Change (2006–2016)	Net Change (2010–2016)	Net Change (2014–2016)
	2006	2010	2014	2016			
Prime Farmland	106,667	97,476	91,568	90,691	-17.6	-7.5	-0.9
Farmland of Statewide Importance	51,217	45,264	43,105	43,342	-18.2	-4.4	0.5
Unique Farmland	15,268	15,076	15,125	15,540	1.8	3.1	2.7
Farmland of Local Importance	41,961	53,928	58,852	57,910	38.0	7.4	-1.6
Important Farmland Subtotal	215,113	211,744	208,650	207,483	-3.7	-2.1	-0.6
Grazing Land	156,977	155,822	153,452	153,174	-2.5	-1.7	-0.2
Agricultural Land Total	372,090	367,566	362,102	360,657	-3.2	-1.9	-0.4
Sources: DOC 2006, 2010, 2016a							

The Department of Conservation field reports for Sacramento County identify the factors contributing to changes in agricultural land uses. Between 2004 and 2008, most of the conversion of irrigated Important Farmland (i.e., Prime Farmland, Farmland of Statewide Importance, or Unique Farmland) was to urban land uses in the cities of Elk Grove, Rancho Cordova, Folsom, and Galt, and in the Natomas area of Sacramento (DOC 2014a). By 2010, idling of irrigated farmland became a major factor in the conversion of Important Farmland, exceeding the effect of urbanization.

According to the Department of Conservation's most recent 2016 Field Report, Conversion of Important Farmland to Other Land resulted from land that was left idle for three or more update cycles, the construction of rural residences and commercial uses, and restoration of Twitchell Island (DOC 2016b). Conversions of Important Farmland to Urban Land resulted from development of new homes in the cities of Elk Grove, Rancho Cordova, and Sacramento; new commercial uses in the city of Sacramento; and new homes, sports fields, and the addition of a new spillway in the city of Folsom. Conversely, Important Farmland increased mainly from new vineyards and orchards in the southern part of Sacramento County (DOC 2016b).

The Sacramento County Important Farmland map, published by Department of Conservation's Division of Land Resource Protection, designates the multi-sport park complex site as Farmland of Statewide Importance and Farmland of Local Importance (DOC 2014b). Exhibit 3.3-1 shows the farmland classifications for the proposed SOIA Area and surrounding area.

WILLIAMSON ACT

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land (within agricultural preserves) for agricultural and open space purposes.¹ The amount of land in Sacramento County under Williamson Act contract (see Section 3.2.3) 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 (DOC 2016c).

The nonrenewal process is the most common mechanism for termination of Williamson Act contracts, and most Williamson Act contracts are terminated through this process. In Sacramento County as of 2015, approximately 10,306 acres were in some stage of the nonrenewal process and the amount of contract land terminated through nonrenewal expirations totaled approximately 1,123 acres (DOC 2016c).

Urban development of Williamson Act lands before contract expiration requires cancelling the contracts pursuant to California Government Code Section 51282 (see Section 3.3.2, "Regulatory Framework").

FARMLAND SECURITY ZONE

There are no Farmland Security Zone properties in the vicinity of the SOIA Area. Sacramento County does not participate in the Farmland Security Zone program (DOC 2016d).

¹ Sacramento County does not participate in the expanded version of the Williamson Act, known as the Farmland Security Zone Act.

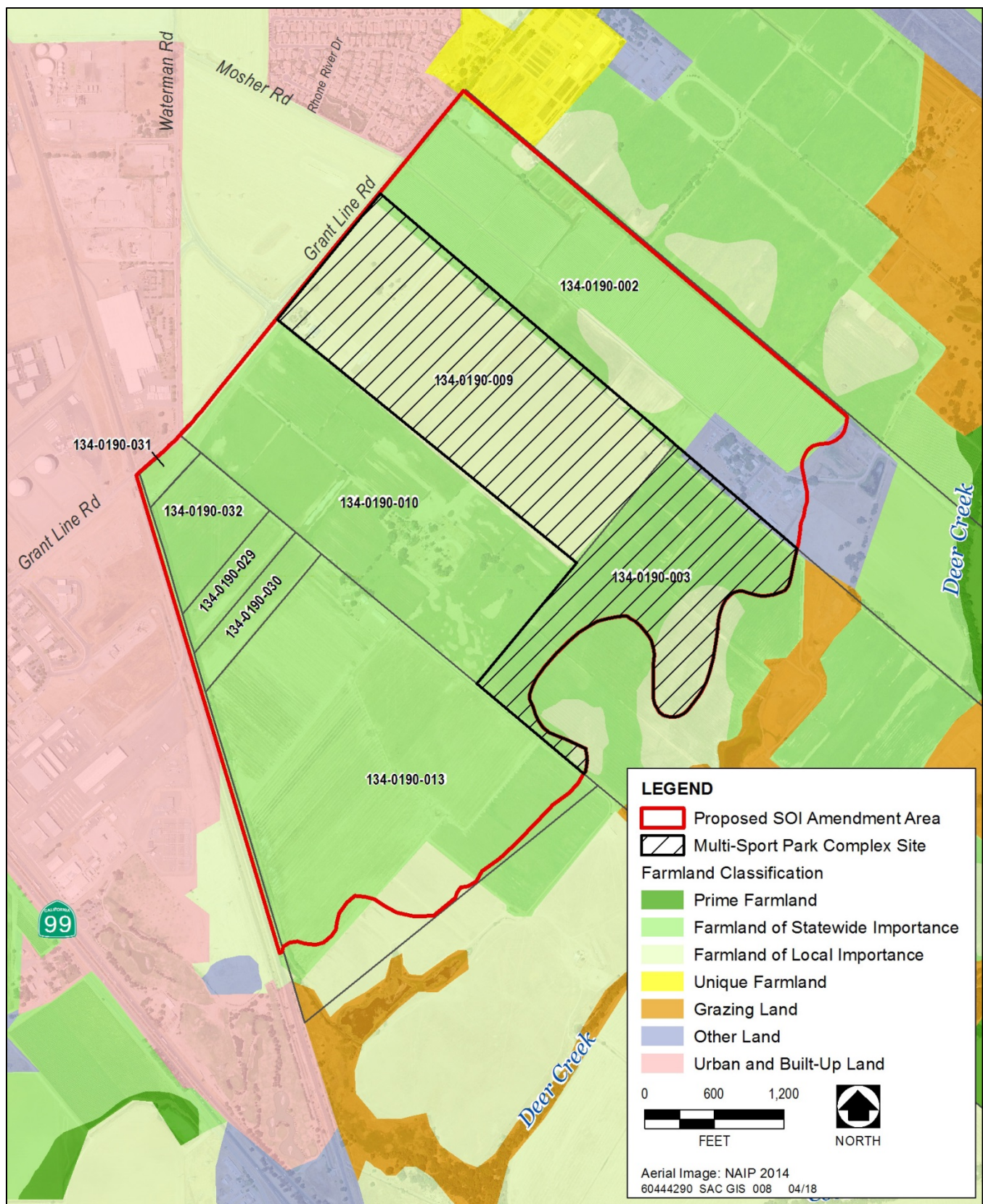


Exhibit 3.3-1 Important Farmland Map

EXISTING AGRICULTURAL USES IN THE SOIA AREA

The SOIA Area is within unincorporated Sacramento County and supports a range of agricultural uses, including oats and grass for hay crops, seasonal row crops, and irrigated pasture.

Important Farmland

According to the Sacramento County Important Farmland map, published by the California Department of Conservation's Division of Land Resource Protection (DOC 2014b), approximately 553 acres of the Project site is designated as Important Farmland. Of this total, 424 acres of the proposed SOIA Area is designated as Farmland of Statewide Importance and 129 acres is Farmland of Local Importance (Exhibit 3.3-1). In addition, active agricultural fields in the vicinity of the SOIA Area are designated as Farmland of Statewide Importance or Farmland of Local Importance, as well.

Approximately 14 acres of the SOIA Area, including the Mosher Ranch, is designated as Other Land. Approximately 1 acre of land in the SOIA Area is designated as Urban and Built-Up Land.

Williamson Act

Assessor's parcel numbers (APNs) 134-0190-003 and 134-0190-002 consist of a total of 462 acres under Williamson Act contracts (Exhibit 3.3-2). Of this total, approximately 179 acres are within the SOIA Area and are under Williamson Act contracts (Table 3.3-2). Additional lands under Williamson Act contracts are located north and east of the SOIA Area.

Table 3.3-2 Williamson Act Contracts in the Proposed SOIA Area		
Contract Number	APN	Acreage
70-AP-015	134-0190-003	63
70-AP-034	134-0190-002	116
Total		179
Note: APN = Assessor's Parcel Number Sources: DOC 2009, 2015		

Agricultural Zoning

The SOIA Area is located within unincorporated Sacramento County within its Urban Services Boundary (USB). The USB defines the ultimate boundary of urban development and is intended to be permanent, allowing modification only under special circumstances.

The majority of the SOIA Area and adjacent parcels are designed in the County's General Plan as Agricultural Cropland and zoned by the County as AG-80 (Agricultural, 80-acre minimum). 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).

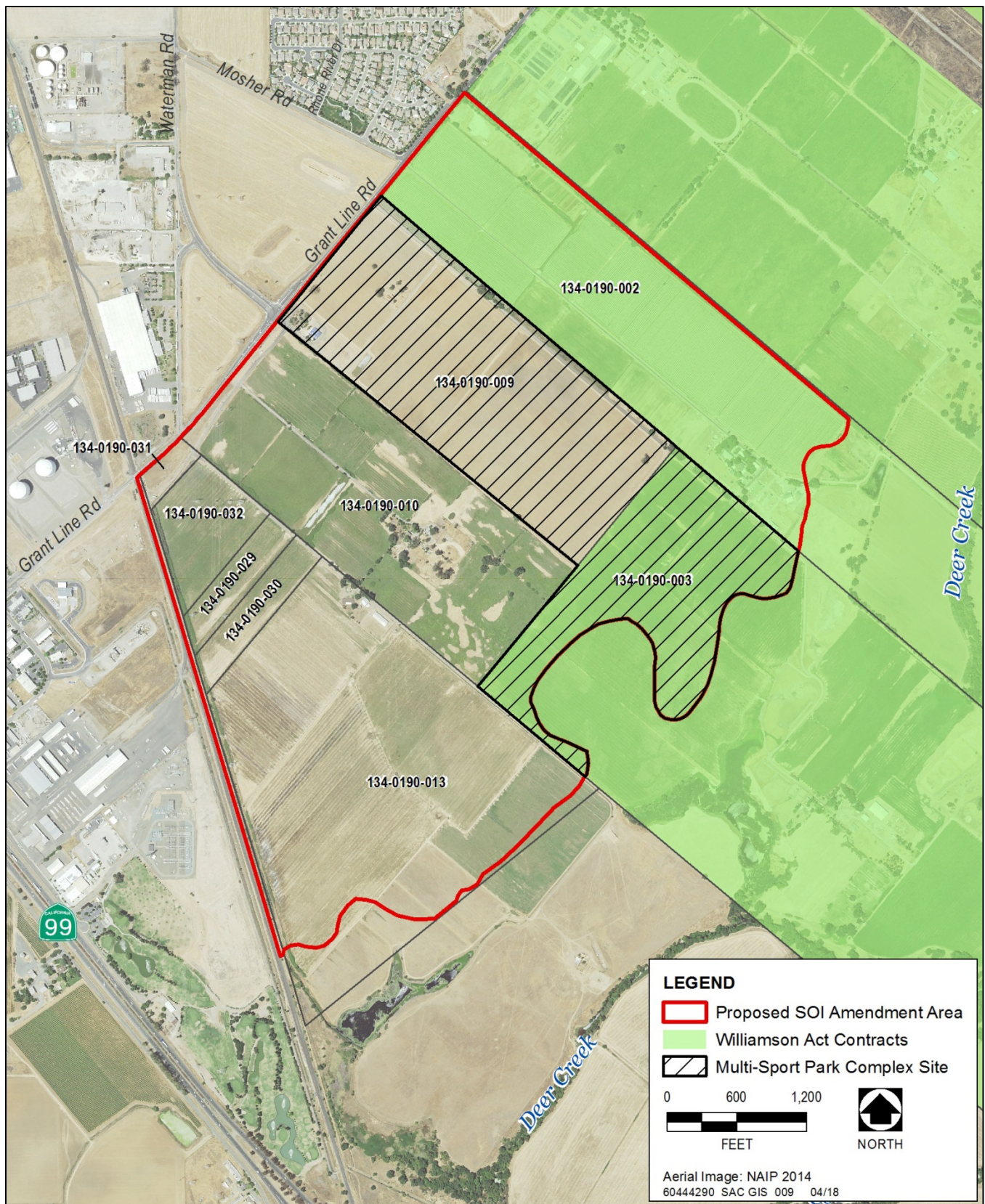


Exhibit 3.3-2 Williamson Act Contract Map

The northwest corner of the SOIA Area is zoned by the County as Agricultural-Residential, 2-acre minimum (AR-2). In general, AR-2 zoning is intended to limit development to low-density concentrations of single-family dwellings, limit permitted nonresidential uses, regulate the development of land when not served with both public water supply and public sewerage facilities, and avoid undue population concentrations and overcrowding (Sacramento County 2015).

3.3.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws pertaining to agriculture are applicable.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Important Farmland Inventory System and Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established by the State of California in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Soil Conservation Service (now NRCS). The intent of the U.S. Soil Conservation Service was to produce agricultural resource maps, based on soil quality and land use across the nation. The California Department of Conservation sponsors the FMMP and establishes agricultural easements in accordance with Public Resources Code Sections 10250–10255.

The California Department of Conservation FMMP maps are updated every 2 years using aerial photographs, a computer mapping system, public review, and field reconnaissance. The following list describes the categories mapped by the California Department of Conservation:

- ▶ **Prime Farmland**—Land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.
- ▶ **Farmland of Statewide Importance**—Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.
- ▶ **Unique Farmland**—Land of lesser quality soils used for the production of the state’s leading agricultural cash crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California.
- ▶ **Farmland of Local Importance**—Land that is of importance to the local agricultural economy, as defined by each county’s local advisory committee and adopted by its board of supervisors. For Sacramento County, Farmland of Local Importance are lands which do not qualify as Prime, Statewide, or Unique designation but are currently irrigated crops or pasture or nonirrigated crops; lands that would be Prime or Statewide designation and have been improved for irrigation but are now idle; and lands which currently support confined livestock, poultry operations, and aquaculture.
- ▶ **Grazing Land**—Land with existing vegetation that is suitable for grazing.

- ▶ **Urban and Built-Up Lands**—Land that is used for residential, industrial, commercial, institutional, and public utility structures and for other developed purposes.
- ▶ **Land Committed to Nonagricultural Use**—Land that has a permanent commitment to development but has an existing land use of agricultural or grazing lands.
- ▶ **Other Lands**—Land that does not meet the criteria of any of the previously described categories and generally includes low-density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined-animal agriculture facilities, strip mines, borrow pits, and vacant and nonagricultural land surrounded on all sides by urban development.

Important Farmland is classified by the California Department of Conservation as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Under CEQA, the designations for Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are defined as “agricultural land” or “farmland” (Public Resources Code Sections 21060.1 and 21095; State CEQA Guidelines Appendix G).

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.

Williamson Act

The California Land Conservation Act of 1965 (the “Williamson Act”) enables local governments to form contracts with private landowners to promote the continued use of the relevant land in agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. Local governments receive an annual subvention (subsidy) of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

The Williamson Act empowers local governments to establish “agricultural preserves” consisting of lands devoted to agricultural uses and other compatible uses. When such preserves are established, the locality may offer agricultural landowners the option of annually renewable contracts that restrict the land to agricultural use for at least 10 years. (The contract is in effect for 10 years following the first date upon which the contract is not renewed.) In return, the landowner is guaranteed a tax rate based on the land’s value as agricultural/open space use, rather than its development potential.

Cancellation of a Williamson Act contract involves an extensive review and approval process, and the landowner may be required to pay a fee of up to 12.5% of the property value. The local jurisdiction approving the cancellation must make *either one* of the following findings:

- ▶ The cancellation is consistent with the purpose of the California Land Conservation Act (Section 51282[a][1] of the California Government Code).
- ▶ The cancellation is in the public interest (Government Code Section 51282[a][2]).

To support a finding that the cancellation of a Williamson Act contract is consistent with the purpose of the California Land Conservation Act, all of the following subfindings must be made:

- ▶ The cancellation is for land on which a notice of nonrenewal has been served in accordance with Section 51245 of the California Government Code.
- ▶ Cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- ▶ Cancellation is for an alternative use that is consistent with the applicable provisions of the city or county general plan.
- ▶ Cancellation will not result in discontinuous patterns of urban development.
- ▶ No proximate noncontracted land is both available and suitable for the use to which it is proposed the contracted land be put, or development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

To support the finding that the cancellation of a Williamson Act contract is in the public interest, both of the following subfindings must be made:

- ▶ Other public concerns substantially outweigh the objectives of the Williamson Act.
- ▶ No proximate noncontracted land is both available and suitable for the use to which it is proposed the contracted land be put, or development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

Sacramento County Local Agency Formation Commission

The proposed Project would be subject to the following standards from the Policies, Standards, and Procedures Manual (Sacramento Local Agency Formation Commission [LAFCo] 2007) related to agricultural resources. The

SOIA is not a change of organization. The following standards in Section E, “Agricultural Land Conservation,” of Chapter V: “General Standards” would apply:

- ▶ **Standard E.1.** LAFCo will approve a change of organization or reorganization, which will result in the conversion of prime agricultural land in open space use to other uses, only if the Commission finds that the proposal will lead to the planned, orderly, and efficient development of an area. For purposes of this standard, a proposal leads to the planned, orderly, and efficient development of an area only if all of the following criteria are met:
 - a. The land subject to the change of organization or reorganization is contiguous to either lands developed with an urban use or lands which have received all discretionary approvals for urban development;
 - b. The proposed development of the subject lands is consistent with the Spheres of Influence Plan, including the Master Services Element of the affected agency or agencies;
 - c. Development of all, or a substantial portion of, the subject land is likely to occur within five years. In the case of very large developments, annexation should be phased whenever feasible. If the Commission finds phasing infeasible for the specific reasons, it may approve annexation if all or a substantial portion of the subject land is likely to develop within a reasonable period of time;
 - d. Insufficient vacant, non-prime lands exists within the applicable Spheres of Influence that are planned, accessible, and developable for the same general type of use;
 - e. The proposal will have no significant adverse effect on the physical and economic integrity of other agricultural lands. In making this determination, LAFCo will consider the following factors:
 - 1. The agricultural significance of the subject and adjacent areas relative to other agricultural lands in the region;
 - 2. The use of the subject and the adjacent areas;
 - 3. Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of adjacent or nearby agricultural land, or will be extended through or adjacent to, any other agricultural lands which lie between the project site and existing facilities;
 - 4. Whether natural or man-made barriers serve to buffer adjacent or nearby agricultural land from the effects of the proposed development; and
 - 5. Applicable provisions of the General Plan open space and land use elements, applicable growth-management policies, or other statutory provisions designed to protect agriculture.
- ▶ **Standard E.2.** LAFCo will not make the affirmative findings that the proposed development of the subject lands is consistent with the Spheres of Influence in the absence of an approved Sphere of Influence Plan. LAFCo will not make the affirmative findings that sufficient non- prime land exists within the Spheres of Influence Plan unless the applicable jurisdiction has:
 - a. Identified within its Spheres of Influence all “prime agricultural land” as defined herein;

- b. Enacted measures to preserve prime agricultural land identified within its Sphere of Influence for agricultural use; and
- c. Adopted as part of its General Plan specific measures to facilitate and encourage infill development as an alternative to development of agricultural lands.

Elk Grove General Plan

The following policies from the *Elk Grove General Plan* Conservation and Air Quality Element (City of Elk Grove 2015) are related to agricultural resources.

- ▶ **Policy CAQ-2:** The loss of agricultural productivity on lands designated for urban uses within the city limits as of January 2004 is accepted as a consequence of the development of Elk Grove. As discussed in the Land Use Element, the City’s land use concept for the Planning Area outside the 2004 city limits anticipates the retention of significant areas of agricultural production outside the current city limits.
- ▶ **Policy CAQ-3:** The City of Elk Grove considers the only mitigation for the loss of agricultural land to consist of the creation of new agricultural land in the Sacramento region equal in area, productivity, and other characteristics to the area that would be lost due to development. The protection of existing agricultural land through the purchase of fee title or easements is not considered by the City to provide mitigation, since programs of this type result in a net loss of farmland.
- ▶ **Policy CAQ-4:** While agricultural uses are anticipated to be phased out within the city limits, the City recognizes the right of these uses to continue as long as individual owners/farmers desire. The City shall not require buffers between farmland and urban uses, relying instead on the following actions to address the impacts of farming on urban uses:
 - **CAQ-4-Action 1:** Implement the City’s “Right to Farm” ordinance.²
 - **CAQ-4-Action 2:** Prospective buyers of property adjacent to agricultural land shall be notified through the title report that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the City’s right-to-farm ordinance.

As discussed further in Section 3.11, “Land Use, Population, Housing, Employment, Environmental Justice, and Unincorporated Disadvantaged Communities,” of this EIR, the City of Elk Grove is currently updating its General Plan. The City intends to include an annexation strategy as a part of this update process that provides policies related to providing buffers between urban development and active agricultural operations. In addition, the City currently intends to retain areas located in the 100-year or 200-year floodplain for agriculture, if the agricultural use is economically viable and would not result in the islanding of higher-density land uses (City of Elk Grove 2017).

City of Elk Grove Municipal Code Chapter 14.05

Chapter 14.05, “Agricultural Activities,” of the City of Elk Grove Municipal Code ensures that agricultural operations that are operated in a manner consistent with proper and accepted customs and standards are allowed to

² The “Right to Farm” ordinance referenced in this General Plan policy is now referred to as the “Agricultural Activities” ordinance.

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. It also includes notification and mediation procedures for cases in which agricultural activities are not being conducted in a reasonable manner, or when the operator of an agricultural operation is not using currently acceptable methods in the conduct of the farm.

3.3.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The evaluation of the potential impacts of the proposed Project on agricultural resources was based on a review of field conditions, aerial photographs, and policy guidance from the City and Sacramento LAFCo's Policies, Standards, and Procedures (Sacramento LAFCo 2007).

The Important Farmland Map for Sacramento County, produced by the Department of Conservation Division of Land Resource Protection (DOC 2014c); the Williamson Act Contract Map (DOC 2009) for Sacramento County; and Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act, definition of prime farmland were used to evaluate the agricultural significance of the lands on the Project site. Geographic information system (GIS) data were used to determine the potential acreage of impacts on designated farmland.

Appendix G of the CEQA Guidelines focuses the analysis on conversion of agricultural land on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

According to Government Code Section 56668, Sacramento LAFCo must evaluate effects on maintaining the physical and economic integrity of agricultural lands based on five factors identified in Standard E.1 below, and this EIR has considered all of the factors outlined in that policy below.

- ▶ **Factor 1.** The agricultural significance of the subject and adjacent areas relative to other agricultural lands in the region.
 - **Discussion 1.** As discussed in Section 3.3.1, "Environmental Setting," and displayed in Exhibit 3.3-1, the SOIA Area and surrounding areas contain lands classified as Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, with 553 acres or approximately 98 percent of the SOIA Area categorized under one of these classifications.
- ▶ **Factor 2.** The use of the subject and adjacent areas.
 - **Discussion 2.** As described previously, the SOIA Area are used primarily for grain crops and pasture. Surrounding land uses north and east are substantially similar to uses in the SOIA Area. South and west of the SOIA Area is residential, commercial, and industrial development. Surrounding uses are disclosed and considered in the EIR analysis.
- ▶ **Factor 3.** Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of adjacent or nearby agricultural land, or will be extended through or adjacent to any other agricultural lands which lie between the project site and existing facilities.

- **Discussion 3.** The Adequate public services and facilities would be required to serve development in the SOIA Area (see Section 3.13, “Public Services and Recreation,” and Section 3.15, “Utilities and Service Systems,” for further discussion). Possible growth-inducing effects of the proposed SOIA are discussed in Chapter 6 of this EIR, “Other CEQA Considerations.”
- ▶ **Factor 4.** Whether natural or man-made barriers serve to buffer adjacent or nearby agricultural lands from the effects of the proposed development.
 - **Discussion 4.** Areas south and east of the SOIA Area consist of floodplains that would buffer adjacent or nearby agricultural lands from potential impacts of future, indirect growth within the SOIA Area.
- ▶ **Factor 5.** Applicable provisions of the General Plan open space and land use elements, applicable growth-management policies, or other statutory provisions designed to protect agriculture.
 - **Discussion 5.** The City of Elk Grove General Plan policies are provided in the Regulatory Framework subsection. In addition, a General Plan consistency analysis is provided in Section 3.11 of this EIR, “Land Use and Planning, Population, Housing, and Environmental Justice,” for project consistency with the County of Sacramento General Plan, the City of Elk Grove General Plan, and the Sacramento LAFCo policies and standards in Table 3.11-1, Table 3.11-2, and Table 3.11-3, respectively. The City’s General Plan update identifies the SOIA Area within the East Study Area. The East Study Area is identified for future development of residential, commercial, and industrial uses as well as development of the multi-sports complex.

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, as amended. The proposed Project would have a significant impact related to agriculture and forestry 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

- ▶ **Conversion of Prime Farmland**—Based on the Sacramento County Important Farmland map, none of the SOIA Area is designated as Prime Farmland (Exhibit 3.3-1). The SOIA area 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. In addition, 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). Therefore, 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. This issue is not evaluated further in this EIR.
- ▶ **Conflict with Existing Zoning for Agricultural Use**—The SOIA Area is zoned by the County as AG-80 (Agricultural, 80-acre minimum) and AR-2 (Agricultural-Residential, 2-acre minimum). The AG-80 zoning designation is intended to promote long-term agricultural use and the AR-2 zoning designation is intended to limit development to low-density concentrations of single-family dwellings. The proposed Project would include prezoning portions of the SOIA Area to Commercial Open Space, General Commercial, Light Industrial, and Heavy Industrial. These changes would permit development of the multi-sport park complex, as well as future commercial, industrial, and mixed uses. With approval of the proposed Project and prezoning, the proposed Project would not conflict with zoning for agricultural use (see Section 3.11, “Land Use and Planning and Population, Housing, and Employment,” for further discussion). Therefore, this issue is not evaluated further in this EIR.
- ▶ **Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land, Timberland, or Timberland Zoned Timberland Production**—The SOIA Area 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 EIR.
- ▶ **Result in the Loss of Forest Land or Conversion of Forest Land to Nonforest Use**—The SOIA Area 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 EIR.

IMPACT ANALYSIS

IMPACT 3.3-1	Direct and indirect loss of agricultural land, including Farmland of Statewide Importance. <i>Future development within the SOIA Area, including the multi-sport complex, could result in the direct conversion of agricultural land, including Farmland of Statewide Importance to nonagricultural urban uses. This impact is considered potentially significant.</i>
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Based on analysis of the Sacramento County Important Farmland map (DOC 2014c), approximately 424 acres of the SOIA Area is designated as Farmland of Statewide Importance to nonagricultural uses. In addition, active agricultural fields adjacent to the SOIA Area are designated as Farmland of Statewide Importance (Exhibit 3.3-1).

Future 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 SOIA Area and these parcels are actively farmed and designated as Farmland of Statewide Importance. The portions of these parcels outside of the SOIA boundary would be transected and 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 difficult or infeasible. 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.

Because the proposed Project would result in the conversion of Farmland of Statewide Importance and active agricultural lands within the SOIA Area, this impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-1: Preserve Agricultural Land (LAFCo and the City of Elk Grove)

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 SOIA Area.

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 SOIA Area, 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 SOIA Area; 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 future development that could occur within the SOIA Area, this approach would not create new farmland to replace farmland that would be lost. There is no additional feasible mitigation. The impact is **significant and unavoidable**.

IMPACT 3.3-2	Potential conflict with existing on-site and off-site Williamson Act contracts. <i>Construction of the multi-sport complex project and future development within the SOIA Area identified for mixed uses would require cancellation of on-site Williamson Act contracts before their expiration date. This impact is considered significant.</i>
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Approximately 179 acres of the SOIA Area consist of agricultural lands under existing Williamson Act contracts. Portions of the multi-sport park complex site, as well as the area being identified for future development of mixed uses would occur on contracted land (APNs 134-0190-003 and 134-0190-002). Cancellation of these Williamson

Act contracts before their expiration date would be required before construction of the multi-sport park complex project and future development within the SOIA Area identified for mixed use.

Contract cancellation requests would be submitted as development applications are received and in conjunction with tentative map approval, subsequent project-specific CEQA review, 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 (see Section 3.3.2, “Regulatory Framework”).

Lands north and east of the SOIA Area are under Williamson Act contracts and are currently under cultivation (Exhibit 3.3-2). These areas are located in unincorporated Sacramento County and beyond the County’s USB. As stated above, the USB defines the ultimate boundary of urban development and is intended to be permanent, allowing modification only under special circumstances. In addition, these lands are not within the County’s Urban Policy Area, which defines the area expected to receive urban levels of public infrastructure and services within the 20-year planning period of the Sacramento County General Plan. The agrizone park proposed as part of the multi-sports complex project would be located between the multi-sport park complex site and the urban services boundary. It would provide a buffer between the Project site and agricultural uses to the east within the 100-year floodplain. Therefore, it is not anticipated that future development would result in cancellations of Williamson Act contracts on adjacent lands.

For the reasons described above, future development would directly result in cancellation of Williamson Act contracts before construction of the multi-sport park complex project and future development within the SOIA Area identified for mixed use. Therefore, this impact is considered **significant**.

Mitigation Measures

Mitigation Measure 3.3-2: Implement Mitigation Measure 3.3-1

Significance after Mitigation

Implementation of Mitigation Measure 3.3-1, as noted above, 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. The impact is **significant and unavoidable**.

IMPACT 3.3-3 **Conflict with existing off-site agricultural operations.** *Future development would locate urban land uses adjacent to existing off-site agricultural lands, which could impair adjacent agricultural activities, result in land use compatibility conflicts, and potentially result in the conversion of this land to nonagricultural land uses. This impact is considered **potentially significant**.*

The SOIA Area and surrounding parcels support a range of agricultural uses, including oats and grass for hay crops, seasonal row crops, and irrigated pasture. The multi-sports complex project would include field sports, an indoor sports facility, a stadium, and agrizone park and fairgrounds. The agrizone park would serve as a working

farm and educational center. As a working farm, it would feature a variety of crops, cattle/ranching operations, and equestrian operations. The agrizone park would be located between the multi-sport park complex site and the USB (see Exhibit 2-4 in Chapter 2, “Project Description”). The agrizone park would not result in conflicts with off-site agricultural operations south of the multi-sports complex site.

Future development in the SOIA Area, but outside the multi-sports complex would include commercial and industrial uses (271 acres) and mixed uses (118 acres), which could include commercial, office, residential, public, and other land uses. Industrial uses could abut ongoing agricultural activities south and southeast of the SOIA Area. Industrial land uses are generally not considered sensitive to agricultural operations and do not result in conflicts with agricultural uses. However, future development of residential land uses could occur in the SOIA Area within the parcel designated for mixed uses (APN 134-0190-002). Residential uses are sensitive to agricultural operations and c conflicts with on-going agricultural operations north and northeast of the SOIA Area 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 (Sokolow 2003). Urban development could generate air pollution that could be harmful to crops, in certain instances. Urban activities can result in vandalism and the introduction of domestic animals that may disturb certain agricultural activities. Development would add vehicular traffic in areas where agricultural equipment uses roads, which could make it somewhat more difficult to move agricultural equipment. Prospective buyers of property adjacent to agricultural land shall be notified through the title report that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the City’s Agricultural Activities ordinance (General Plan Policy CAQ-4-Action 2)). 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.

It is not known whether there would be agricultural operations at the time of development in adjacent areas or if the type of agricultural operations would be prone to pressure to convert resulting from urban development, or whether future urban development would be of the type that could create pressure to convert agricultural lands. For example, residential uses typically create more pressure to convert adjacent agricultural lands than employment-generating uses. This makes it difficult to understand potential impacts on adjacent agricultural lands.

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) and notifying buyers of the inconvenience or discomfort resulting from accepted farming activities as per provisions of the City's right-to-farm ordinance (General Plan Policy CAQ-4-Action 2). However, implementing these General Plan actions does not preclude the possibility that if future urban development of the SOIA Area 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 Measures

Mitigation Measure 3.3-3: Prepare an Agricultural Land Use Compatibility Plan (City of Elk Grove)

At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare an agricultural land use compatibility plan for the SOIA Area. 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.

Significance after Mitigation

Implementation of Mitigation Measures 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.

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.

3.4 AIR QUALITY

This section describes the existing air quality in the vicinity of the SOIA Area, including the multi-sport park complex site, and as relevant to the proposed Project, as well as potential air quality impacts. This section describes the analysis methodology, as well as relevant laws and regulations pertaining to air quality. The descriptions and environmental analyses in this section are based on review of the Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment, the Sacramento LAFCo Policies, Standards, and Procedures Guidelines; the Sacramento County General Plan and Zoning Ordinance Code; the City of Elk Grove General Plan and Zoning Ordinance Code; the City of Elk Grove Climate Action Plan, and the SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2016).

3.4.1 ENVIRONMENTAL SETTING

TOPOGRAPHY, CLIMATE, AND METEOROLOGY

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Ambient concentrations of air pollutants are determined by the amount of emissions released by pollutant sources and the ability of the atmosphere to transport and dilute such emissions. Terrain, wind, atmospheric stability, and the presence of sunlight all affect transport and dilution. Therefore, existing air quality conditions in the Project area are influenced by topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources (discussed separately below).

The SOIA Area is within the Sacramento Valley Air Basin (SVAB). In general, the SVAB is relatively flat and bounded by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay Area.

The mountain ranges surrounding the SVAB reach heights of 6,000 feet and beyond at peaks, creating a physical barrier to airflow, which leads to the entrapment of locally generated air pollutants when meteorological conditions are unfavorable for transport and dilution, as well as pollution that might otherwise be transported northward on prevailing winds from the Sacramento Metropolitan area. Although a significant portion of the SVAB is located at an elevation of more than 1,000 feet above sea level, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers and high summer temperatures, create a high potential for air pollution problems.

Poor air movement occurs most frequently in fall and winter when high-pressure cells are present over the Project area and meteorological conditions are stable. The lack of surface winds during these periods, combined with the reduced vertical flow caused by less surface heating, reduces the influx of air and results in the concentration of pollutants. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground. The winds and unstable atmospheric conditions associated with the passage of winter storms result in periods of low air pollution and excellent visibility. Precipitation and fog also tend to reduce or limit some pollutant concentrations. However, between winter storms, high pressure and light winds contribute to low-level temperature inversions and stable atmospheric conditions, resulting in the concentration of air pollutants.

May through October is ozone season in the SVAB and is characterized by poor air movement in the mornings and the arrival of the Delta sea breeze from the southwest in the afternoons (SMAQMD 2016a). In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between volatile organic compounds (VOC) and oxides of nitrogen (NO_x), which in turn result in ozone formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, during approximately half of the time from July to September, a phenomenon known as the Schultz Eddy prevents this from occurring. The Schultz Eddy phenomenon causes the wind pattern to shift southward, blowing air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the air basin and contributes to violations of the ambient air quality standards.

The region has a Mediterranean climate, characterized by hot, dry summers and cool, rainy winters. Periods of dense and persistent low-level fog are characteristic of SVAB winter weather. The local meteorology of the Project area is represented by measurements recorded at the Sacramento Executive Airport weather station (Station 047630). The normal annual precipitation, which occurs primarily from November through March, is approximately 17.24 inches (WRCC 2016a). More than half the total annual precipitation falls during the winter rainy season (November–February), typically as a result from air masses that move in from the Pacific Ocean and travel across California from west to the east. The inland location and surrounding mountains typically confine the area from much of the ocean breezes that keep the coastal regions moderate in temperature. July temperatures range from an average minimum of 58.2°F to an average maximum of 92.7°F (WRCC 2016a). January temperatures range from an average minimum of 37.8°F to an average maximum of 53.5°F (WRCC 2016a). Characteristic of SVAB winter months are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry-land flows from the north. The predominant wind direction and speed is from the south at approximately 8.0 mph, as measured at the Sacramento International Airport, approximately 2 miles northwest of the proposed Project site (WRCC 2017b, 2017c).

CRITERIA AIR POLLUTANTS

The United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) have identified six air pollutants as being indicators of ambient air quality: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM), and lead. PM is further refined to distinguish between particulates with an aerodynamic diameter less than 10 microns (PM₁₀) and that with an aerodynamic diameter less than 2.5 microns (PM_{2.5}). Because the ambient air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.” In general, the State of California standards are more stringent – particularly for ozone and particulate matter (PM₁₀ and PM_{2.5}) – than the federal standards. The following section provides a brief description of the criteria air pollutants, including its source types and health effects along with the most current attainment designations and monitoring data for the Project area.

Ozone

Ozone is a colorless gas that is odorless at ambient levels. It exists primarily as a beneficial component of the ozone layer in the upper atmosphere (stratosphere), shielding the earth from harmful ultraviolet radiation emitted by the sun, and as a pollutant in the lower atmosphere (troposphere).

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 VOC and NO_x in the presence of sunlight. VOC emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_x includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO₂, and others, typically resulting from the combustion of fuels.

VOC and NO_x emissions are both considered critical in ozone formation. Therefore, the rate of ozone production can be limited by either VOC or NO_x. When there is a lower production rate of NO_x, indicating that NO_x is scarce, the rate of ozone production is NO_x-limited. Under these circumstances, ozone could be most effectively reduced by lowering current and future NO_x emissions, rather than lowering VOC. Rural areas tend to be NO_x-limited, while areas with a dense urban population tend to be VOC-limited. Both VOC and NO_x reductions provide ozone benefits in region, but the Sacramento Federal Nonattainment Area (SFNA) exhibits a NO_x-limited regime and therefore NO_x reductions are more effective than VOC reductions on a tonnage basis (SMAQMD et al. 2017). 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. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry.

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Emissions of the ozone precursors VOC and NO_x have decreased over the past several years. According to the most recently published California Air Resources Board Almanac, emission levels of NO_x and VOC in Sacramento Metropolitan Area are projected to continue to decrease through 2035, largely due to more stringent motor vehicle standards and cleaner burning fuels, as well as due to rules for control of VOC from various industrial coating and solvent operations (ARB 2013).

Carbon Monoxide

CO is a colorless and odorless gas that, in the urban environment, is primarily produced by the incomplete combustion of carbon in fossil fuels, most commonly from mobile (transportation) sources. In fact, 77 percent of the nationwide CO emissions are from mobile sources. The other 23 percent consists of CO emissions from wood-burning stoves, incinerators, and industrial sources. Relatively high concentrations are typically found near crowded intersections and along heavily used 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 to 600 feet) of heavily traveled roadways. Vehicle 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, 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 associated with exposure to high CO concentrations, typically only attainable 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 2016a).

Nitrogen Dioxide

NO₂ is one of a group of highly reactive gases known as oxides of nitrogen, or NO_x. NO₂ is formed when ozone reacts with NO in the atmosphere and is listed as a criteria pollutant because NO₂ is more toxic than NO. The major human-made sources of NO₂ are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. The combined emissions of NO and NO₂ are referred to as NO_x and reported as equivalent NO₂. Because NO₂ is formed and depleted by reactions associated with photochemical smog (ozone), the NO₂ concentration in a particular geographical area may not be representative of the local NO_x emission sources. NO_x also react 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 NO₂. Breathing air with a high concentration of NO₂ can lead to respiratory illness. Short-term exposure can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO₂ 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 sub-groups (EPA 2016b).

Sulfur Dioxide

SO₂ is one component of the larger group of gaseous sulfur oxides (SO_x). SO₂ is used as the indicator for the larger group of SO_x, as it is the component of greatest concern and found in the atmosphere are much higher concentrations than other gaseous SO_x. SO₂ 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 SO₂ exposure pertain to the upper respiratory tract. On contact with the moist mucous membranes, SO₂ produces sulfurous acid, which is 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 SO₂ (EPA 2016c).

SO₂ also reacts with water, oxygen, and other chemicals to form sulfuric acids, contributing to the formation of acid rain. SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other SO_x, 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

PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of 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 area-wide sources of PM_{2.5} and PM₁₀ are fugitive dust, especially from roadways, agricultural operations, and construction and demolition. Sources of PM₁₀ also include crushing or grinding operations. Sources of PM_{2.5} also include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. While exhaust emissions from mobile sources contribute only a very small portion of directly emitted PM_{2.5} and PM₁₀ emissions, they are a major source of VOC and NO_x, which undergo reactions in the atmosphere to form particulate matter, known as secondary particles. These secondary particles make up the majority of particulate matter pollution.

The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that 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 and even death. The adverse health effects associated with PM₁₀ depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAH), and other toxic substances adsorbed onto fine particulate matter (referred to as the “piggybacking effect”), or with fine dust particles of silica or asbestos. Effects related to short- and long-term exposure to elevated concentrations of PM₁₀ include respiratory symptoms, aggravation of respiratory and cardiovascular diseases, a weakened immune system, and cancer (WHO 2016). PM_{2.5} 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_{2.5} decreased in the Sacramento Metropolitan Area between 2000 and 2010, but are projected to increase very slightly through 2035. Similarly, emissions of diesel PM (DPM) decreased from 2000 through 2010 due to 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. EPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. Lead emissions have significantly decreased due to 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 quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of lead on the respiratory system.

Monitoring Station Data and Attainment Area Designations

Health-based air quality standards have been established for criteria pollutants by EPA at the national level and by ARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. In addition to criteria pollutants, California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 3.4-1 presents the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). These health-based pollutant standards are reviewed on a legally prescribed frequency and revised as new health and welfare effects data warrant. Each standard is based on a specific averaging time over which the concentration is measured. Different averaging times are based upon protection of short-term, high-dosage effects or longer-term, low-dosage effects. NAAQS may be exceeded no more than once per year; CAAQS are not to be exceeded.

Concentrations of criteria air pollutants are measured at several monitoring stations in the SVAB. Table 3.4-2 summarizes the air quality data from the closest stations to the SOIA Area that measure various criteria air pollutants for the most recent 3 years of complete data (2014–2016). As shown below, the 8-hour ozone concentration exceeded the NAAQS in all three monitoring years. The 24-hour $PM_{2.5}$ NAAQS was estimated to be exceeded multiple once in 2015, but not at all in 2014 and 2016. No exceedances have been registered for NO_2 nor PM_{10} near the SOIA Area for the last 3 years. Monitoring stations in the proximity of the SOIA Area have not monitored for CO or SO_2 in the past 3 years.

Both ARB and EPA use this type of monitoring data to designate areas according to attainment status for criteria air pollutants published by the agencies. The purpose of these designations is to identify areas with air quality problems and thereby initiate planning efforts for improvement.

The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or re-designated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

In contrast to attainment, a “nonattainment” designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).

Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 3.4-3, Sacramento County currently meets NAAQS for all criteria air pollutants except ozone and the 24-hour $PM_{2.5}$ standard. Sacramento County meets the CAAQS for all criteria air pollutants except ozone, PM_{10} , and $PM_{2.5}$.

The SMAQMD is currently considering adoption of the Sacramento Federal Ozone Nonattainment Area Redesignation Substitution Request for the 1-Hour Ozone Standard,” which includes all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties (SMAQMD 2018).

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Ozone ^k	1 hour	0.09 ppm (180 µg/m ³)	–	Same as primary standard
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (147 µg/m ³)	
Respirable particulate matter (PM ₁₀) ^f	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	–	
Fine particulate matter (PM _{2.5}) ^f	24 hours	–	35 µg/m ³	Same as primary standard
	Annual arithmetic mean	12 µg/m ³	12 µg/m ³	15 µg/m
Carbon monoxide (CO)	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m ³)	–	
Nitrogen dioxide (NO ₂) ^g	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary standard
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	None
Sulfur dioxide (SO ₂) ^h	Annual Arithmetic Mean	–	0.030 ppm (for certain areas) ^h	–
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^h	–
	3 hours	–	–	0.5 ppm (1,300 µg/m ³)
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	–
Lead ^{i,j}	30-day average	1.5 µg/m ³	–	–
	Calendar quarter	–	1.5 µg/m ³ (for certain areas) ⁱ	Same as primary standard
	Rolling 3-month average	–	0.15 µg/m ³	
Visibility-reducing particles ^k	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 µg/m ³		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)		
Vinyl chloride ⁱ	24 hours	0.01 ppm (26 µg/m ³)		

Notes: mg/m3 = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, 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 of Title 17 of the California Code of Regulations.

^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standards.

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

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

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

^f On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

^g 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. California standards are in units of ppm. To directly

compare the national 1-hour standard to the California standards the units can be converted from 100 ppb to 0.100 ppm.

^h On June 2, 2010, a new 1-hour SO₂ 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 SO₂ national standards (24-hour and annual) remain in effect until 1 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. 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 of 0.075 ppm.

ⁱ ARB 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.

^j The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 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 standards are approved.

^k In 1989, ARB 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 the "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

^k On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

Source: ARB 2017a

Table 3.4-2 Summary of Annual Ambient Air Quality Data Near the SOIA Area			
	2014	2015	2016
OZONE			
Elk Grove-Bruceville Road Monitoring Station (approx. 6.5 miles southwest of the Project site)			
Maximum 8-hour concentration (ppm) (2008/2015 national)	0.072/0.072	0.082/0.082	0.072/0.072
Maximum 1-hour concentration (ppm) (state)	0.089	0.091	0.089
Number of days 8-hour standard exceeded (2008/2015 national)	0/1	1/2	0/1
Number of days 1-hour standard exceeded (state)	0	0	0
CARBON MONOXIDE (CO)			
Not Available			
NITROGEN DIOXIDE (NO₂)			
Elk Grove-Bruceville Road Monitoring Station (approx. 6.5 miles southwest of the Project site)			
Maximum 1-hour concentration (ppm) (state/national)	54/54	29/29	27/27
Number of days state standard exceeded (state/national)	0/0	0/0	0/0
Annual average (ppm)	5	5	—
SULFUR DIOXIDE (SO₂)¹			
Not Available			
FINE PARTICULATE MATTER (PM_{2.5})			
Elk Grove-Bruceville Road Monitoring Station (approx. 6.5 miles southwest of the Project site)			
Maximum 24-hour concentration (µg/m ³)(state/national) ²	52.2/—	36.5/—	30.9/—
Number of days national standard exceeded (measured/estimated) ³	0/0.0	1/0.3	0/0.0
State annual average (µg/m ³)	10.5	12.3	9.4
RESPIRABLE PARTICULATE MATTER (PM₁₀)			
Sacramento Branch Center Road #2 Monitoring Station (approx. 12 miles north of the Project site)			
Maximum 24-hour concentration (µg/m ³) (state/national) ³	46.0/45.0	45.0/44.0	44.0/45.0
Number of days state standard exceeded (measured/estimated) ⁴	0/0.0	0/0.0	0/0.0
Number of days national standard exceeded (measured/estimated) ⁴	0/0.0	0/0.0	0/0.0
Annual Average (state/national) ³	18.6/18.1	19.5/19.0	18.9/18.6
Notes: µg/m ³ = micrograms per cubic meter; ppm = parts per million; — = data not available			
¹ After 2013, sulfur dioxide has not been monitored at any station in SVAB.			
² State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on local conditions while national statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are generally more stringent than the national criteria.			
³ Measured days are those days on which an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. The number of estimated days represents a mathematically estimate of those days on which concentrations would have been greater than the level of the standard had each day been monitored. The number of days above the standard is not necessarily the number of violations of the standard for the year.			
Source: ARB 2017a			

Table 3.4-3 Sacramento County Attainment Designations		
Pollutant	Federal Standard	California Standard
Ozone (O ₃) ¹	Nonattainment (1-hour) ¹ Classification = Severe	Nonattainment (1-hour) Classification = Serious ²
	Nonattainment (8-hour) ³ Classification = Severe-15	Nonattainment (8-hour)
	Nonattainment (8-hour) ⁴ Classification = Severe-15	
Particulate Matter – 10 microns (PM ₁₀)	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (Annual)
Particulate Matter – 2.5 microns (PM _{2.5})	Nonattainment (24-hour)	(No Standard for 24-hour)
	Unclassified/Attainment (Annual)	Nonattainment (Annual)
Carbon Monoxide (CO)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment (1-hour)	Attainment (1-hour)
	Unclassified/Attainment (Annual)	Attainment (Annual)
Sulfur Dioxide (SO ₂) ⁵	(Attainment Pending) (1-hour)	Attainment (1-hour)
		Attainment (24-hour)
Lead (Pb)	Unclassified/Attainment (3-month rolling average)	Attainment (30-day average)
Hydrogen Sulfide (H ₂ S)	No Federal Standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing particles		Unclassified (8-hour)
Notes:		
¹ Air quality meets Federal 1-hour Ozone standard (77 FR 64036). EPA revoked this standard, but some associated requirements still apply. The SMAQMD attained the standard in 2009. SMAQMD has requested EPA recognize attainment to fulfill the requirements.		
² Per Health and Safety Code (HSC) § 40921.5(c), the classification is based on 1989–1991 data, and therefore does not change.		
³ 1997 Standard.		
⁴ 2008 Standard.		
⁵ Cannot be classified.		
Source: SMAQMD 2017a		

TOXIC AIR CONTAMINANTS

In addition to criteria pollutants, both federal and State air quality regulations also focus on toxic air contaminants (TACs). A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may otherwise pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their toxicity or health risk may pose a threat to public health even at low concentrations. TACs can be separated into carcinogens and noncarcinogens, based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur.

According to the *California Almanac of Emissions and Air Quality* (ARB 2009), most of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (i.e., DPM). Other TACs for which data are available that pose the greatest existing ambient

risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

DPM differs from other TACs because it is not a single substance, but is a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, type of lubricating oil, and presence or absence of an emission control system. Unlike the other TACs, no ambient monitoring data are available for DPM because no routine measurement method currently exists. However, emissions of DPM are forecasted to decline; it is estimated that emissions of DPM in 2035 will be less than half those in 2010, further reducing statewide cancer risk and non-cancer health effects (ARB 2016 b).

ODORS

The ability to detect odors varies considerably among the population and is subjective. Some individuals have the ability to smell minute quantities of specific substances while others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person (e.g., from a fast-food restaurant or bakery) may be perfectly acceptable to another. Unfamiliar odors may be more easily detected and likely to cause complaints than familiar ones.

Several examples of common land use types that generate substantial odors include wastewater treatment plants, landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. In addition, agricultural activities in the area can cause odors, such as dairy operations; horse, cattle, or sheep (livestock) grazing; fertilizer use; and aerial crop spraying.

Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects, such as stress.

NEARBY SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. 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 residences, 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 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 the majority of the workers tend to stay indoors most of the time.

Adjacent to the western boundary of the SOIA Area 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 between Waterman Road and Mosher Road. Areas to the east are rural residential, with commercial and industrial uses fronting on Grant Line Road and the now-closed Sunset Skyranch Airport grounds beyond. The area to the south is agricultural. The nearest sensitive receptors are residents to the northeast that are approximately 150 feet from the northern border of the SOIA Area.

3.4.2 REGULATORY FRAMEWORK

EPA, California Air Resources Board (ARB), the Sacramento Air Quality Management District (SMAQMD), and Sacramento County are responsible for regulating air quality in the vicinity of the Project site. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both State and local regulations may be more stringent. The regulatory framework surrounding criteria air pollutants, TACs, and odor emissions is described separately below.

CRITERIA AIR POLLUTANTS

Federal Plans, Policies, Regulations, and Laws

The primary legislation that governs federal air quality regulations is the Clean Air Act (CAA), first enacted in 1970 and with the most recent amendments by congress enacted in 1990. The act delegates primary responsibility for clean air to EPA. EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to State and local agencies. Under the act, EPA has established the NAAQS for seven potential air pollutants: CO, O₃, NO₂, PM₁₀ and PM_{2.5}, SO₂, and lead (as shown above in Table 3.3-1). The purpose of the NAAQS is two-tiered: primarily to protect public health, and secondarily to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property). The CAA also requires each state to prepare an air quality control plan, referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments and to determine whether implementing them will achieve ambient air quality standards. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area.

State Plans, Policies, Regulations, and Laws

ARB is responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required ARB to establish CAAQS. ARB has also established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter, in addition to the above-mentioned criteria air pollutants regulated by EPA. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals. The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practicable date. The act specifies that local air districts should focus particular attention on reducing the

emissions from transportation and areawide emission sources and provides districts with the authority to regulate indirect sources.

ARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare Air Quality Attainment Plans or Air Quality Management Plans (AQMPs), and submit them to ARB for review, approval, and incorporation into the applicable SIP. ARB also maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both State and federal agencies. During the past decade, federal and State agencies have imposed numerous requirements on the production and sale of gasoline in California. 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. As such, engine manufacturers are now required to meet after-treatment-based exhaust standards for NO_x 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. ARB has also adopted control measures for DPM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

California's adopted 2007 State Strategy for California's SIP for Federal PM_{2.5} and 8-Hour Ozone Standards (2007 SIP) was submitted to EPA as a revision to the SIP in November 2007 (ARB 2011). In July 2011, ARB approved revisions to the 2007 SIP that updated the ARB rulemaking calendar, made adjustments to transportation conformity budgets, revised reasonable further progress tables and associated reductions for contingency purposes, and updated actions to identify advanced emission control technologies (ARB 2011). In 2008, the EPA strengthened the 8-hour ozone standard to 75 parts per billion (ppb). Sixteen areas in California were designated nonattainment in 2012. In 2012, EPA also strengthened the annual PM_{2.5} standard to 12 micrograms per cubic meter (µg/m³). EPA designated four areas in California as nonattainment for this standard. The Air Resources Board (ARB or Board) released the Revised Proposed 2016 State Strategy for the State Implementation Plan (State SIP Strategy), describing the proposed commitment to achieve the reductions necessary from mobile sources, fuels, and consumer products to meet federal ozone and PM_{2.5} standards over the next 15 years (ARB 2017b).

Local Plans, Policies, Regulations and Laws

Sacramento Metropolitan Air Quality Management District

The SMAQMD attains and maintains air quality conditions in all of Sacramento County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. SMAQMD inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA. The clean-air strategy of SMAQMD includes the preparation of plans and programs for the attainment of ambient air-quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The rules and regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

All projects within SMAQMD's jurisdictional area are subject to SMAQMD rules and regulations in effect at the time of construction. Specific SMAQMD rules that could be applicable to the proposed Project may include, but are not limited to, the following:

- ▶ **Rule 201:** General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may be required to obtain permit(s) from SMAQMD before equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact SMAQMD early to determine whether a permit is required and to begin the permit application process. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine greater than 50 horsepower must have a SMAQMD permit or ARB portable-equipment registration.
- ▶ **Rule 402:** Nuisance. A developer and proposed project cannot emit any quantities of air contaminants or other materials that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or that would endanger the comfort, repose, health, or safety of any persons or the public; or that would cause or have natural tendency to cause injury or damage to business or property.
- ▶ **Rule 403:** Fugitive Dust. The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site.
- ▶ **Rule 411:** Water Heaters, Boilers, and Process Heaters Rated Less than 1,000,000 Btu per Hour. If a proposed project would install units (i.e., boilers, steam generators, and process heaters) fired on gaseous or nongaseous fuels with a rated heat input capacity less than 1 million British thermal units (Btu) per hour, the unit is required to comply with the NO_x and CO emissions standards.
- ▶ **Rule 442:** Architectural Coatings. The developer or contractor is required to use coatings that comply with the content limits for volatile organic compounds (VOCs) specified in the rule.
- ▶ **Rule 453:** Cutback and Emulsified Asphalt Paving Materials. The developer or contractor is required to use asphalt paving materials that comply with the VOC content limits specified in the rule.

In addition, the SMAQMD recommends that all construction projects include Basic Construction Emission Control Practices, as outlined in the *SMAQMD CEQA Guide* (SMAQMD 2016a), and that any projects with construction mitigation requirements must reduce emissions from off-road equipment. If modeled construction-generated emissions for a project are not reduced to SMAQMD's threshold of significance by application of these standard construction mitigation measures, then payment of a mitigation fee may be assessed to achieve the remaining mitigation necessary.

City of Elk Grove General Plan

The following policies from the *Elk Grove General Plan* Conservation and Air Quality Element (City of Elk Grove 2015) are related to air quality resources.

- ▶ **Policy CAQ-26.** It is the policy of the City of Elk Grove to minimize air pollutant emissions from all City facilities and operations to the extent feasible and consistent with the City's need to provide a high level of public service.

- ▶ **Policy CAQ-27.** The City shall promote energy conservation measures in new development to reduce on-site emissions and power plant emissions. The City shall 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 CAQ-30.** All new development projects which have the potential to result in substantial air quality impacts shall incorporate design, construction, and/or operational features to 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 CAQ-30.** 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 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The discussion below presents the methods used for the air quality analysis and how the significance of the proposed Project’s air quality impacts was determined. Potential air quality impacts associated with short-term construction and long-term operations were evaluated in accordance with SMAQMD-recommended and ARB-approved methodologies.

Construction and operational emissions were compared with the applicable thresholds of significance (described below) to determine potential impacts. SMAQMD’s significance thresholds serve as a proxy for determining whether the Project could violate air quality standards, cause a substantial contribution to an existing or projected air quality violation, and/or conflict with any applicable air quality plan.

As discussed in Chapter 2, “Project Description,” the EIR provides a project-level evaluation of the multi-sport park complex project and program-level review for the balance of lands in the SOIA area that would be developed in the future based on future development applications.

Emissions were modeled using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 (CAPCOA 2016) and the Road Construction Emissions Model Version 8.1.0 (SMAQMD 2016). Appendix B presents the modeling inputs and results.

For the multi-sport park complex, project-specific construction parameters, including construction schedule and construction equipment type, quantity and intensity of use were input into the CalEEMod user interface in lieu of model default data. The Road Construction Emissions Model was used to estimate emissions associated with the extension of water and wastewater utility lines and transportation improvements. Where project-specific information was not available, default parameters provided by each model were used. Construction-related emissions are compared with the applicable SMAQMD thresholds of significance. Following construction, operation of the multi-sport park complex would generate air pollutant emissions. CalEEMod was used to estimate these long-term operational emissions, as well as emissions associated with area and energy sources (i.e., natural gas combustion, landscape maintenance, periodic architectural coating, and consumer products. Project-

specific trip generation rates and were based upon the information from the traffic study prepared in support of this EIR, as well as trip generation rates provided by the Institute of Transportation Engineers Traffic Engineering Handbook associated with land uses similar to the multi-sport park complex.

For evaluation of emissions associated with possible future development within the SOIA Area, beyond that of the multi-sport park complex development, emissions for construction and operations were evaluated based on the planned land uses and relative acreages, as detailed in Table 2-2, Proposed Elk Grove General Plan Designations and Prezoning. As the timeline for development is unknown, it was assumed that 25 percent of the total land uses could be constructed within a single year, in accordance with SMAQMD suggested methodology for program-level analysis.

Mobile sources would involve vehicle trips, including construction trucks and passenger cars. The analysis of mobile-source emissions compares the gross mobile-source emissions (primarily generated by recreational users of the multi-sport park complex) with the SMAQMD thresholds of significance for operations. CO impacts were evaluated using the screening-level procedures provided by SMAQMD (2016a).

The impact analysis does not directly evaluate airborne lead. Neither construction nor future operations would generate quantifiable lead emissions because of regulations that require unleaded fuel and that prohibit lead in new building materials.

TAC emissions associated with Project construction that could affect surrounding areas are evaluated qualitatively. The potential for operations to expose residents to TAC emissions that would exceed applicable health standards is also discussed qualitatively.

Lastly, SMAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis must determine if the proposed Project would result in excessive nuisance odors, as defined under California Code of Regulations, Health and Safety Code Section 41700, Air Quality Public Nuisance.

THRESHOLDS OF SIGNIFICANCE

Air quality impacts would be considered significant if they would exceed the following thresholds of significance, which are based on Appendix G of the CEQA Guidelines and SMAQMD's *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2016a). According to 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
- ▶ create objectionable odors 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. Thus, pursuant to the SMAQMD-recommended thresholds (SMAQMD 2016 a, 2016c) for evaluating project-related air quality impacts, the Project's impacts would be considered significant if the Project would:

- ▶ generate construction-related criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended daily thresholds of 85 pounds per day (lb/day) for NO_x, 80 lbs/day of PM₁₀, 82 lbs/day of PM_{2.5}, or result in or substantially contribute (at a level equal to or greater than 5 percent of a CAAQS) to a violation of a CAAQS;
- ▶ generate long-term regional criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended daily thresholds of 65 lb/day of VOC or NO_x, 80 lbs/day of PM₁₀, 82 lbs/day of PM_{2.5}, or result in a violation of the CAAQS or result in or substantially contribute (at a level equal to or greater than 5 percent of a CAAQS) to a violation of a CAAQS;
- ▶ contribute to localized concentrations of air pollutants at nearby receptors that would exceed applicable ambient air quality standards; or
- ▶ expose sensitive receptors to excessive nuisance odors, as defined under SMAQMD Rule 402 (see, "Regulatory Framework," above).

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 objectionable 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 if a project's impacts would be significant at the project-level (i.e., exceed any of the thresholds listed above), it could also be considered significant on a cumulative level (SMAQMD 2016a). Chapter 4 of this EIR addresses cumulative impacts in detail.

IMPACTS ANALYSIS

- | | |
|--------------------------------|--|
| <p>IMPACT
3.4-1</p> | <p>Potential generation of temporary, short-term, construction-related emissions of criteria pollutants and precursors. <i>Construction associated with future development in the SOIA Area, including the multi-sport park complex, would generate emissions of criteria air pollutants or ozone precursors that could violate an ambient air quality standard or contribute substantially to an existing or predicted air quality violation by exceeding the SMAQMD daily construction emissions thresholds. This impact may be potentially significant.</i></p> |
|--------------------------------|--|

Construction emissions are described as “short-term” or temporary in duration but have the potential to adversely affect air quality. Construction would result in temporary emissions of VOC, NO_x, PM₁₀, and PM_{2.5}. These activities would include site preparation (e.g., excavation, grading, and clearing); exhaust emissions from use of off-road equipment, material delivery, and construction worker commutes; asphalt paving; and application of architectural coatings.

For the multi-sport park complex project, construction is assumed to occur over two phases. Phase 1 would include the practice and tournament fields and parking. Phase 2 would include the community support building, stadium/amphitheater, and fairgrounds/agrizona park and parking. Each phase would include site preparation and grading, followed by below- and at-grade construction activities, and finally above-grade construction. The phases of construction are not anticipated to overlap. The site is anticipated to be a balanced site (i.e., construction will not require substantial import of fill or removal of excavated material).

Ozone precursor emissions of VOC and NO_x are associated primarily with construction equipment exhaust and the application of architectural coatings. As discussed above, SMAQMD has not adopted a construction emissions threshold for VOC. However, a mass emission threshold of 85 lb/day for construction emissions applies to NO_x.

PM emissions are associated primarily with fugitive dust generated during site preparation and grading and vary depending on the soil silt content, soil moisture, wind speed, acreage of disturbance, vehicle travel to and from the construction site, and other factors. PM emissions are also generated by equipment exhaust and re-entrained road dust from vehicle travel on paved and unpaved surfaces.

Table 3.3-4 summarizes the maximum daily emissions of VOC, NO_x, PM₁₀, and PM_{2.5} associated with each phase of each construction of the multi-sport park complex project. Refer to Appendix B for model output files and assumptions. As shown in Table 3.4-4, the modeled daily emissions generated by construction would exceed the SMAQMD-recommended threshold of significance for NO_x and therefore would violate or contribute substantially to an existing or projected air quality violation. Therefore NO_x emissions associated with construction of the multi-sport park complex project could result in a **potentially significant** impact.

Future development of the balance of the SOIA Area is assumed to begin after completion of the multi-sport park complex project and continue for approximately 20 years, but the specific timing of construction activities each year is unknown. In accordance with SMAQMD recommended methodology, it is conservatively assumed that 25 percent of all construction could take place within a single year. Due to the size of the SOIA Area and variability of land uses, as well as the uncertainty of the construction timing, it was assumed that different types of construction activities (i.e., site grading, trenching, asphalt paving, building construction, and application of architectural coatings) could occur simultaneously at various locations within the SOIA Area. Modeling of construction emissions was conducted for the year 2021, as this is assumed to be the earliest year during which construction would occur for the future development of the SOIA Area. Off-site roadway improvements, as described in the traffic analysis (Section 3.14, “Transportation”) were also modeled and assumed to overlap in time with future development of the SOIA Area.

Table 3.4-4 Summary of Modeled Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Precursors				
Portion of Construction Phase	Maximum Daily Emissions (lb/day)			
	VOC	NO _x	PM ₁₀	PM _{2.5} ²
Phase 1				
<i>Site Prep and Grading</i>	5.01	54.82	15.13	3.71
<i>Below- and At-Grade Construction</i>	8.31	75.77	3.95	3.60
<i>Above-Grade Construction</i>	17.41	144.45	27.25	8.49
<i>Off-Site Utility Improvements</i>	13.00	138.88	21.74	9.29
Phase 2				
<i>Site Prep and Grading</i>	4.3	47.9	3.9	2.1
<i>Below- and At-Grade Construction</i>	6.3	61.2	3.2	3.0
<i>Above-Grade Construction</i>	5.9	31.5	5.1	2.8
Maximum daily emissions	17.41	144.45	27.25	9.29
SMAQMD significance threshold	-	85	80	82
Exceeds Threshold?	-	Yes	No	No
Notes: lb/day = pounds per day; NO _x = oxides of nitrogen; PM ₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM _{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; VOC = volatile organic compounds; SMAQMD = Sacramento Metropolitan Air Quality Management District.				
Source: Data compiled by AECOM in 2017; see Appendix B for detailed modeling assumptions, outputs, and results.				

Table 3.4-5 summarizes the maximum daily emissions of VOC, NO_x, PM₁₀, and PM_{2.5} associated with construction for future development of the SOIA Area. Refer to Appendix B for model output files and assumptions. As shown in Table 3.4-5, the modeled daily emissions generated by construction would not exceed the SMAQMD-recommended threshold of significance. However, as the duration and intensity of specific construction activities associated with future development of the SOIA Area are unknown, emissions generated as a result could exceed SMAQMD thresholds and therefore would violate or contribute substantially to an existing or projected air quality violation. Therefore, emissions associated with construction of the multi-sport park complex could result in a **potentially significant** impact.

Table 3.4-5 Summary of Modeled Maximum Daily Construction-Related Emissions of Criteria Air Pollutants and Precursors for Future Development of the SOIA Area				
Portion of Construction Phase	Maximum Daily Emissions (lb/day)			
	VOC	NO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions¹	54.7	56.4	14.6	6.6
SMAQMD significance threshold	-	85	80	82
Exceeds Threshold?	-	No	No	No
Notes: lb/day = pounds per day; NO _x = oxides of nitrogen; PM ₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM _{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; VOC = volatile organic compounds; SMAQMD = Sacramento Metropolitan Air Quality Management District.				
¹ Maximum annual construction emissions are representative of the earliest construction year (2021) assuming that each type of construction activity (i.e., grading, asphalt paving, building construction, and architectural coatings) would take place simultaneously at various locations of the Project site. Per SMAQMD CEQA Guidelines recommendations for construction projects that will last more than 4 years, it is assumed that 25 percent of the total land uses would be constructed in a single year.				
Source: Data compiled by AECOM in 2017; see Appendix B for detailed modeling assumptions, outputs, and results.				

Mitigation Measures

Mitigation Measure 3.4-1a: Implement the SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices (City of Elk Grove)

During construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, for those projects that exceed the applicable thresholds of significance for ROG, NO_x, PM₁₀, or PM_{2.5} emissions, the City of Elk Grove shall require the following measures to mitigate construction emissions impacts, or other best practices recommended by SMAQMD at the time of construction.

- a. Basic Construction Emission Control Practices identified by the SMAQMD as listed below, or as they may be updated in the future:
 - 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.
 - 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 relevant SMAQMD thresholds, implement the SMAQMD Enhanced 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 to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average of 20 percent NO_x reduction and 45 percent particulate reduction compared to the most current California Air Resources

Board (ARB) fleet average that exists at the time of construction. SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

- Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- Submit to SMAQMD a list of all equipment that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
- At least 48 hours prior to the use of heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
- Ensure that emissions from all off-road diesel powered equipment do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
- SMAQMD staff and/or other officials may conduct periodic site inspections to determine compliance.

Mitigation Measure 3.4-1b: Use Off-Site Mitigation Fee for NO_x Emissions Generated by Construction (City of Elk Grove)

If, after updates to scheduling for on-site construction and off-site improvements, the multi-sport park complex project would result in NO_x emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices, the City will participate in SMAQMD's off-site mitigation fee program. The mitigation fee will be set at a level that would bring NO_x emissions to a less-than-significant level (i.e., less than 85 lb/day). 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.

As projects in the SOIA Area outside the multi-sport park complex site are proposed, the City will assess the effectiveness of Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices for addressing NO_x emissions relative to SMAQMD threshold of significance. If, after

development of project details and scheduling, any project within the SOIA Area would result in NO_x emissions that exceed the SMAQMD threshold of significance, even after implementation of the Basic Construction Emission Control Practices and Enhanced 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_x emissions to a less-than-significant level (i.e., less than 85 lb/day). 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

PM emissions are below the SMAQMD emissions thresholds. Implementation of the Mitigation Measure 3.4-1a would further reduce PM emissions. Implementation of SMAQMD's Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices, as required by Mitigation Measure 3.4-1a, and payment of an off-site mitigation fee to off-set construction-generated NO_x emissions, if needed, as required by Mitigation Measure 3.4-1b, would reduce emissions of NO_x associated with future development in the SOIA Area, including the multi-sport park complex, to levels that do not exceed SMAQMD's threshold of significance of 85 lb/day. Thus, this impact would be **less than significant with mitigation**.

IMPACT 3.4-2 **Generation of long-term operational emissions of criteria pollutants and precursors.** *Future development in the SOIA Area, including the multi-sport park complex project, would result in long-term emissions associated with operations of the proposed land uses that would exceed the SMAQMD thresholds of significance for VOC and NO_x. Thus operation-related emissions of criteria air pollutants and precursors would potentially violate or contribute substantially to an existing or projected air quality violation or conflict with air quality planning efforts. This impact may be significant.*

Future operations of developed land uses within the SOIA Area, including implementation of the multi-sport park complex, would include new development, including buildings, structures, paved areas, roadways, utilities, and other improvements. Outside of the proposed multi-sport park complex, future development within the SOIA Area was modeled based on assumed industrial, commercial, and mixed-uses, as outlined in Chapter 2 of this EIR, "Project Description." These uses would generate criteria air pollutant and precursor emissions from mobile and area sources. Mobile sources include vehicle trips coming to, and leaving from the planned land uses. Area sources include, but are not limited to, natural gas combustion for water and space heating, hearth (fireplace) operation within residences, landscape maintenance equipment, and periodic architectural coatings. While construction emissions are considered short-term and temporary, operational emissions are considered long-term and occur for the lifetime of the Project. Therefore, operational emissions have greater potential to affect the attainment status of an air basin, particularly as a result of increased traffic from additional development.

As shown in Table 3.4-6, the total operational emissions of the multi-sport park complex project would exceed SMAQMD thresholds for VOC and NO_x. As shown in Table 3.4-7, the total operational emissions of full buildout of the entire SOIA Area, including the multi-sport park complex project would exceed SMAQMD thresholds for VOC and NO_x, PM₁₀ and PM_{2.5}. Refer to Appendix B for model output files and assumptions.

Table 3.4-6 Summary of Modeled Maximum Daily Long-Term Operational Emissions of Criteria Air Pollutants and Precursors¹ for the Multi-Sport Park Complex				
Emissions Source	Daily Emissions (lbs/day)			
	VOC	NO _x	PM ₁₀	PM _{2.5}
Area	114.28	5.82E-03	1.40E-04	1.40E-04
Energy	0.99	9.03	0.71	0.71
Mobile	7.37	30.46	5.28	1.74
Total Operational Emissions²	122.65	39.49	6.00	2.45
SMAQMD Thresholds of Significance	65	65	80	82
Exceeds Thresholds?	Yes	No	No	No
Notes: lbs/day = pounds per day; ROG = reactive organic gases; NO _x = oxides of nitrogen; PM ₁₀ = respirable particulate matter; PM _{2.5} = fine particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District				
¹ Operational emissions were modeled for year 2020 and 2021, as the soccer fields and parking lots would be constructed and operational in 2020, while the remainder of the multi-sport park complex would be constructed and operational following completion of the soccer fields.				
² Total emissions may not add correctly due to rounding.				
Source: Data compiled by AECOM in 2017; see Appendix B for detailed modeling assumptions, outputs, and results.				

Table 3.4-7 Summary of Modeled Maximum Daily Long-Term Operational Emissions of Criteria Air Pollutants and Precursors¹ for Full Buildout of the SOIA Area²				
Emissions Source	Daily Emissions (lbs/day)			
	VOC	NO _x	PM ₁₀	PM _{2.5}
Area	236.96	6.91E-01	3.28E-01	3.28E-01
Energy	4.85	43.73	3.38	3.38
Mobile	257.56	1128.96	700.46	192.40
Total Operational Emissions²	499.37	1173.38	704.17	196.10
SMAQMD Thresholds of Significance	65	65	80	82
Exceeds Thresholds?	Yes	Yes	Yes	Yes
Notes: lbs/day = pounds per day; ROG = reactive organic gases; NO _x = oxides of nitrogen; PM ₁₀ = respirable particulate matter; PM _{2.5} = fine particulate matter; SMAQMD = Sacramento Metropolitan Air Quality Management District				
¹ Operational emissions were modeled for year 2022.				
² Total emissions are inclusive of operational emissions associated with the multi-sport park complex.				
³ Total emissions may not add correctly due to rounding.				
Source: Data compiled by AECOM in 2017; see Appendix B for detailed modeling assumptions, outputs, and results.				

The multi-sport park complex project would incorporate several strategies for direct energy conservation, as well as other sustainability measures (e.g., conserving water and natural resources) that indirectly conserve energy, such as the energy required to provide potable water. As described in Mitigation Measure 3.16-2, these strategies include:

- recycled building materials that minimize energy-intensive generation and shipping/transport of new materials;

- ▶ energy-efficient lighting, including a lighting control system with dimmer switches to minimize the energy expended for unused fields;
- ▶ water-efficient landscaping and irrigation systems to minimize the energy consumption associated with water supply systems;
- ▶ energy-efficient buildings, including complying with California Energy Commission Title 24 requirements for energy-efficient roofing and insulation; and
- ▶ conservation of existing trees and plant new trees to provide shade and minimize watering requirements..

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 the multi-sport park complex and full buildout of the entire SOIA Area, including the multi-sport park complex project, 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 (City of Elk Grove)

The City of Elk Grove shall require, as a part of the multi-sports park project and plans for development within the balance of the SOIA Area, the implementation of strategies to reduce operational ozone precursors. This can be in the form of an Air Quality Management Plan or another mechanism. The performance standard is to achieve a reduction in, or offset of operational ozone precursor emissions by at least 35 percent for the multi-sports park project and for development within the balance of the SOIA Area. The performance standard would be 15 percent for areas that have Land Use Designations under a future City General Plan update or amendment. Reduction strategies can include policies and emissions reduction measures demonstrating compliance with the City of Elk Grove's General Plan Conservation and Air Quality Element, including policies CAQ-29, CI-1, CI-3, CI-4, CI-5, and CI-7 and actions CAQ-29-Action 1 and CAQ-29-Action 2 of the City's General Plan (or equivalent policies as may be amended) and Elk Grove Climate Action Plan reduction measures TACM-4, TACM-5, TACM-6, and TACM-11 (or equivalent measures as may be amended), in addition to reduction measures recommended by the SMAQMD, which may include the use of offsets. The City will plan for safe and convenient pedestrian, bicycle, and transit access and mobility as a part of the multi-sports park project and plans for development within the balance of the SOIA Area.

If the performance standard cannot be fulfilled with an Air Quality 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 when rezoning the property.

Significance after Mitigation

Mitigation Measure 3.3-2 would assist in reducing operational air quality impacts and is similar to the City's Policy CAQ-30, which requires an emissions reduction of 15 percent or greater for new development projects. In

the past, for projects that are not a part of a city or county's existing general plan, SMAQMD has recommended a target of a 35 percent reduction in ozone precursor emissions when a significance threshold would be exceeded. The performance standard would be 15 percent for areas that have Land Use Designations under a future City General Plan update or amendment. LAFCo and the City cannot demonstrate at this time that future development within the SOIA Area, including the multi-sport park complex, would be able to meet the performance standard for ozone precursor emissions. The multi-sports park project and development of the SOIA Area could involve operational air pollutant emissions that still exceed SMAQMD thresholds. There is no additional feasible mitigation available that would avoid this impact. The impact is **significant and unavoidable**.

IMPACT 3.4-3 *Generation of Local Mobile-Source CO Emissions. Operations from development of the SOIA Area, including the multi-sport park complex, would not result in or substantially contribute to CO concentrations that would exceed the California 1-hour ambient-air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm. The impact is considered less than significant.*

CO concentration is a direct function of vehicle idling time and, thus, traffic flow conditions. Under stagnant meteorological conditions, CO concentrations near congested roadways and/or intersections may reach unhealthy levels that adversely affect nearby sensitive land uses.

Local mobile-source CO concentrations were assessed using a screening-level procedure provided by SMAQMD (SMAQMD 2016a). SMAQMD recommends a two-tiered screening approach to determine whether traffic would cause a potential CO hotspot at affected intersections. 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 level of service (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 Project conditions for the multi-sports park project, according to the traffic analysis (see Section 3.14 of this EIR, "Transportation"), all affected intersections would operate at LOS of D or better with implementation of the multi-sport park complex project. Traffic generated by operations of the multi-sport park complex would not result in deterioration of intersection level of service and would not contribute additional traffic to an intersection that already operates at LOS of E or F.

Given SMAQMD recommended first-tier screening criteria are met, the low level of traffic, and improved vehicle emission standards for CO, the multi-sport park complex project would not violate air quality standards for CO. Therefore, this impact is **less than significant**.

Under existing plus full development of the SOIA Area, including the multi-sports park project, 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 SOIA Area. However, the most vehicles per hour that any affected intersection would experience would be just under 2,400 vehicles per hour during peak hour. This is substantially less than the SMAQMD second tier screening criteria of 31,600 vehicles per hour. In addition, the future development within the SOIA Area 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. Therefore, future development of the SOIA Area would meet all recommended second tier screening criteria and this impact is **less than significant**.

It should also be noted that with implementation of proposed roadway improvements identified in the traffic analysis, the future development of the SOIA Area would not result in deterioration of intersection level of service and would not contribute additional traffic to an intersection that already operates at LOS of E or F, and the first tier screening criteria would also be met.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.4-4 *Exposure of sensitive receptors to toxic air contaminant emissions during construction. While the short-term construction of the proposed multi-sport park complex project would not result in the exposure of sensitive receptors to substantial concentrations of TAC emissions for an extended period of time, future development of the SOIA Area and off-site roadway improvements could expose sensitive receptors to substantial concentrations of TAC emissions, and this impact would be **potentially significant**.*

Sensitive receptors during construction activities within the SOIA Area could include employees and users of the multi-sport park complex or other land uses already constructed, as well as the existing residents on the north side of Grant Line Road. There is potential for these receptors to be in close proximity to construction activities. However, as construction activities would take place throughout the SOIA Area, which is greater than 500 acres, the majority of construction activities would not take place within several hundred feet of sensitive receptors. Existing off-site residents would only be within close proximity (as near as 115 feet [35 meters]) to construction activities associated with the mixed-use planned land use on the Mosher lands at the northeast of the SOIA Area.

Duration associated with any given construction activity at a specific location within the SOIA Area would be temporary. If within close proximity to construction activities, employees or users of already constructed land uses within the SOIA Area would only be exposed while within the SOIA Area during work hours or other temporary and intermittent periods. 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 of the Mosher property, and primarily those closest to 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).

In addition, it is important to note that emissions from construction equipment would be reduced over the period of development of the SOIA Area. 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_x 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_x 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.

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**.

For the multi-sport park complex project, construction would generate DPM emissions from the use of off-road diesel-powered equipment required for grading and excavation, paving, and other construction activities. These activities may expose nearby receptors to TACs, including residents in adjacent areas; the nearest residence is located approximately 500 feet (150 meters) east of the multi-sport park complex site. This would particularly be the case during grading, which involves using the largest number of equipment at heavy loads (i.e., graders, scrapers, dozers). Most DPM emissions associated with material delivery trucks and construction worker vehicles would occur off-site. For this analysis, DPM is considered to be less than or equal to 10 micrometers in diameter. Therefore, PM₁₀ represents the upper limit for DPM emissions associated with construction of the proposed Project.

As described in Impact 3.4-1, PM emission concentrations consisting of both PM exhaust and fugitive PM dust, generated by construction activity would be mitigated to less than significant by Mitigation Measure 3.4-1. However, diesel exhaust emissions of NO_x during construction would exceed SMAQMD's threshold of significance of 85 lb/day (Table 3.4-4).

Receptor dose is the primary factor used to determine health risk and is a function of exposure concentration and duration. However, even in intensive phases of construction, there would not be substantial pollutant concentrations, with the potential exception of the immediate vicinity of the construction site, as concentrations of mobile-source DPM emissions are typically reduced by approximately 60 percent at a distance of around 300 feet (100 meters) (Zhu et al. 2002). Residences are no less than 500 feet (150 meters) from the eastern perimeter of the Project site and construction activities would be dispersed. In addition, construction of the fields and adjacent parking would be in closest proximity to the residents. Construction activities associated with Phase 2 of the multi-sport park complex project would take place further east, approximately 2,500 feet (260 meters) from the residents across Grant Line Road. At this distance, dispersion would have reduced the DPM to negligible levels.

As noted above, construction of the fields and adjacent parking would be in closest proximity to sensitive receptors. This construction is proposed as part of Phase 1 of construction of the multi-sport park complex, and would last approximately 15 months. As a result, the exposure of sensitive receptors to construction emissions would be short term, intermittent, and temporary in nature. 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 or substances in the environment and the extent to which a person is exposed to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for such an individual are higher if a fixed exposure occurs over a longer period of time. Health effects from TACs are often described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs (OEHHA 2015). Construction activities for the multi-sport park complex project are anticipated to last approximately 15 months. Even during this period of time, construction activities would vary in activity and equipment intensity, and would take place throughout the entirety of the project site. It is not anticipated that individual receptors would be exposed to substantial TAC emissions from the proposed project for longer than 15 months. In addition, the project would implement Mitigation Measure 3.4-1, which would help reduce construction-related TAC emissions. If the duration of construction activities near a sensitive receptor was for the entirety of 15 months, which is not anticipated, then the exposure would be approximately 4 percent of the total exposure period used for typical health risk calculations (i.e., 30 years).

Because the construction activities that could result in TAC emissions would be temporary, in combination with the dispersive properties of DPM and prevailing winds being directed away from sensitive receptors in the area, as well as the fact that PM emissions would be less than SMAQMD emission thresholds, short-term construction would not expose sensitive receptors to DPM emission levels that would result in a health hazard. As a result, this impact for the multi-sport park complex project would be **less than significant**.

Mitigation Measures

Mitigation Measure 3.4-4: Implement Mitigation Measure 3.4-1a

Significance after Mitigation

Implementation of the Mitigation Measure 3.4-1 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_x 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_x 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 existing regulations mitigation, the impact is considered **less than significant**.

IMPACT 3.4-5 *Exposure of sensitive receptors to toxic air contaminant emissions during operations. While the operation of the proposed multi-sport park complex project would not result in the exposure of sensitive receptors to substantial concentrations of TAC emissions for an extended period of time, future development within the balance of the SOIA Area and off-site roadway improvements could expose sensitive receptors to substantial concentrations of TAC emissions, and this impact would be **potentially significant**.*

Future development of the SOIA Area is assumed to include mixed-use, commercial, and industrial uses. Residential land uses do not typically generate substantial TAC emissions. Commercial land uses may potentially include stationary sources of TACs, such as dry-cleaning establishments and diesel-fueled back-up generators. Land uses that are more likely to generate substantial TAC emissions include industrial land uses that involve stationary sources and manufacturing processes. Stationary sources that may emit TACs would be subject to SMAQMD Rules and Regulations. As described above, ARB's Handbook provides guidance concerning land use compatibility with regard to sources of TAC emissions (ARB 2005). The recommendations relevant to the future development of the SOIA Area 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).

Proposed development within the SOIA Area 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 SOIA Area 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/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 diesel PM 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 diesel PM levels at these locations. Existing and potential future sensitive land uses could be exposed to diesel exhaust PM emissions on a recurring basis.

It is also possible that future development within the SOIA Area would include stationary sources of TACs, such as 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, as described above within the discuss of “Regional and Local Programs for Toxic Air Contaminants.” 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.

Future development of the SOIA Area could result in the operation of new land uses that would expose sensitive receptors to adverse impacts associated with operational TAC emissions.

Because the exact location of potential operational sources of TACs within the proposed land use designations of the SOIA Area 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**.

The proposed multi-sport park complex would not include the siting of any sources of TACs, and therefore would not result in the locating of sources of TACs in close proximity to sensitive receptors. Operations of the multi-sport park complex would result in the increase of daily traffic trips to and from the multi-sport park complex site.

ARB’s *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides guidance concerning land use compatibility with regard to sources of TAC emissions (ARB 2005). The handbook offers recommendations for siting sensitive receptors near uses associated with TACs (e.g., freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, industrial facilities). While the handbook is advisory and not regulatory, it offers the following recommendation that is pertinent to the proposed Project:

- ▶ 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.

While implementation of the multi-sport park complex project is not siting new sensitive land uses, the above buffer distances are used to evaluate the potential risk to the existing residences from an increase in daily traffic trips near the residences along Grant Line Road. As discussed in the traffic analysis (see Section 3.14 of this EIR, “Transportation”), existing plus multi-sport park complex project conditions would result in a less than 700 vehicles per hour during peak hours at Grant Line Road between Waterman Road and Elk Grove Boulevard, the intersections surrounding the residential development at Mosher Road. In addition, existing plus multi-sport park complex project conditions not result in any of the affected intersections operating at LOS E or F. Therefore, the operations of the multi-sport park complex would not result in the exposure of sensitive receptors to TACs that exceed the recommended thresholds. As a result, this impact would be **less than significant**.

Mitigation Measures

Mitigation Measure 3.4-5: Implement Guidelines in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective (City of Elk Grove)

The City of Elk Grove shall require, as a part of plans for development within the SOIA Area outside the multi-sports park complex project, require 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.

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.

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);
- 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.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-5 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, this impact would be reduced to a **less-than-significant** level.

IMPACT 3.4-6 *Exposure of sensitive receptors to objectionable odors. Future development in the SOIA Area, including the multi-sport park complex project, could result in short-term odorous emissions from diesel exhaust from on-site construction equipment would be temporary and intermittent in nature and dissipate rapidly from the source. The proposed multi-sport park complex project would not include the long-term operation of an odorous emission source and no substantial existing odor sources are adjacent to the site. However, it is possible that future development in the balance of the SOIA Area could involve odor sources. This impact is considered **potentially significant**.*

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 SOIA Area would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

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) (described in the regulatory setting above), 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**.

Industries and/or facilities that are likely to emit objectionable odors include wastewater treatment plants, landfills, composting facilities, petroleum refineries, and manufacturing plants. The multi-sport park complex project would not include any of these types of facilities. Other minor sources of odor that could be generated during operations include landscaping equipment. These activities would take place intermittently and the nearby sensitive receptors are located approximately 500 feet away. Due to the fact that any potential odors would be temporary and disperse rapidly with distance from the source, operational-generated odors would not result in the frequent exposure of receptors to objectionable odor emissions. This impact would be **less than significant**.

Future development of the SOIA Area 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 SOIA Area. Future development within the SOIA Area could result in the siting of sensitive receptors that would be exposed to these odor sources. Lands to the southwest with frontage on Grant Line Road would be designated in the City General Plan as Commercial/Office and Light Industrial and zoned General Commercial and Light Industrial. Lands adjacent to the Union Pacific Railroad tracks would be designated in the City General Plan as Light Industrial and Heavy Industrial and zoned Light Industrial and Heavy Industrial, respectively. The parcel to the northwest would be designated for mixed use but would not be zoned as part of the proposed Project. It is not known at this time what specific development would be implemented and if any development would generate objectionable odors. Therefore, future development of the SOIA Area 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 (City of Elk Grove).

The City of Elk Grove shall require, as a part of plans for development within the SOIA Area outside the multi-sports park complex project, implementation of 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 project-level CEQA review and siting measures imposed would avoid conflicts between odor emissions and sensitive receptors. This impact would be **less than significant**.

3.5 BIOLOGICAL RESOURCES

This section addresses biological resources known or with the potential to occur in the SOIA Area, including the multi-sport park complex site. The analysis includes a description of the existing environmental conditions at the time the Notice of Preparation was issued in October 2015, the methods used for assessment, the impacts associated with implementing the proposed Project, and mitigation measures proposed to reduce potentially significant impacts. This section also includes a brief overview of relevant federal, State, and local laws and regulations pertaining to biological resources in Sacramento County and the City of Elk Grove.

The biological resource information presented in this section is based on the Biological Resources Assessment prepared by Hunting Environmental (City of Elk Grove 2017), which was developed based on the following sources: previous studies conducted on or near the SOIA Area; biological resource databases, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), and the California Native Plant Society (CNPS) Inventory; the Sacramento County General Plan and General Plan Environmental Impact Report (EIR) (Sacramento County 2010, 2011); the City of Elk Grove General Plan, General Plan Background Report, and General Plan EIR (City of Elk Grove 2003a, 2003b, 2015). Reconnaissance-level site surveys of the entire SOIA area were conducted on July 15 and 16, 2015. An additional habitat assessment focused on the multi-sport park complex site was conducted on June 16, 2016 and August 11, 2017. The Biological Resources Assessment (City of Elk Grove 2017) is included as Appendix C. Information from the Biological Resources Assessment was augmented with an updated search of the CDFW CNDDDB (CNDDDB 2017), and with information from the draft South Sacramento Habitat Conservation Plan (SSHCP) species accounts (County of Sacramento et al. 2017a).

3.5.1 ENVIRONMENTAL SETTING

The SOIA Area is located in southern Sacramento County within the Great Central Valley Region of the California Floristic Province. It is within the Sacramento River watershed. The Cosumnes River is approximately 0.5 miles to the east and its tributary, Deer Creek, is less than 0.25 miles to the east. The Sacramento–San Joaquin Delta (Delta) begins approximately 9 miles southwest of the SOIA Area.

The SOIA Area is mostly flat, with an elevation range of roughly 47 to 55 feet above mean sea level (amsl). The elevation of the SOIA Area gently increases from the western edge to the east of the SOIA Area, with gentle sloping down from the southeastern edge of the SOIA Area. The multi-sport park complex site has mostly constant topography, with an elevation range of roughly 50 to 54 feet amsl. Surface water in the SOIA Area flows into a network of agricultural drainage ditches found throughout the interior of the SOIA Area. Most of the water in the ditches is pumped groundwater. The network of ditches is interconnected through a variety of culverts. The ditches eventually converge and flow into a roadside ditch along Grant Line Road. One ditch within the multi-sport park complex site overflows into an agricultural pond that is located on-site.

The SOIA Area is near many lands with conservation easements supporting wildlife, including the United States Fish and Wildlife Service (USFWS) Stone Lakes Wildlife Refuge (approximately 6 miles to the northwest of the SOIA Area and the Cosumnes River Preserve (Preserve), with its eastern land holding lying approximately 2 miles south of the SOIA Area.

Stone Lakes National Wildlife Refuge consists of two large permanent lakes in a network of vernal pool grassland, seasonally flooded agricultural lands, and managed wetlands that provide feeding and resting habitat

for thousands of migrating birds along the Pacific Flyway, as well as habitat for several special-status plant and animal species.

The Preserve consists of approximately 45,859 acres of wildlife habitat and agricultural lands owned by seven land-owning partners. The Cosumnes River is one of the last large rivers in the Central Valley with relatively natural and unregulated stream flows that vary from winter-spring flood flows to reduced summer flows. The Preserve supports tens of thousands of migratory waterfowl and waterbirds, and about half of the Central Valley's wintering population of greater sandhill cranes (Cosumnes River Preserve 2008). Neo-tropical migratory songbirds, Swainson's hawks, and numerous special-status-species also occur at the Preserve.

VEGETATION

Vegetative communities are assemblages of plant species that occur in the same area and are defined by species composition and relative abundance. The SOIA Area is characterized by four vegetative communities: urban/disturbed, cropland (including oats and grass for hay crops, and seasonal row crops), irrigated pasture, and aquatic features (an agricultural pond and agricultural ditch) (Figure 6, Appendix C). The multi-sport park complex site is characterized by two vegetative communities: urban/disturbed and cropland.

Urban/Disturbed

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 SOIA Area include valley oak (*Quercus lobata*), redwoods (*Sequoia sempervirens*), eucalyptus (*Eucalyptus* sp.), various pines (*Pinus* sp.), 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 (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), cliff swallow (*Hirundo pyrrhonota*), northern mockingbird (*Mimus polyglottus*), and common ground dove (*Columbina passerina*).

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.

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, Swainson's hawk, white-tailed kites, and various passerines.

Aquatic Features

An agriculture pond and agriculture ditch occur within the multi-sport park complex site (see Appendix C, Figure 6). Agriculture pond features are characterized by man-made depressions in the ground that hold ponded water. Dominant plant species in the pond include lettuce (*Lactuca* sp.), broadleaf cattail (*Typha* sp.), and tall flatsedge (*Cyperus eragrostis*). Agriculture ditch features are characterized by flashy, ephemeral flows of stormwater runoff from roads and adjacent uplands. Vegetation in this aquatic feature is different from the surrounding uplands. Dominant species include tall flatsedge, broadleaf cattail, willow (*Salix* sp.), blackberry (*Rubus* sp.), horseweed (*Conyza* sp.), floating primrose-willow (*Ludwigia peploides*), parrot feather (*Myriophyllum aquaticum*), and Bermuda grass (*Cynodon dactylon*). Vegetation in the ditches is characterized by a mix of upland plants and hydrophytic species similar to those found in swales. Species composition in the ditches is dependent on hydroperiod.

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).

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).

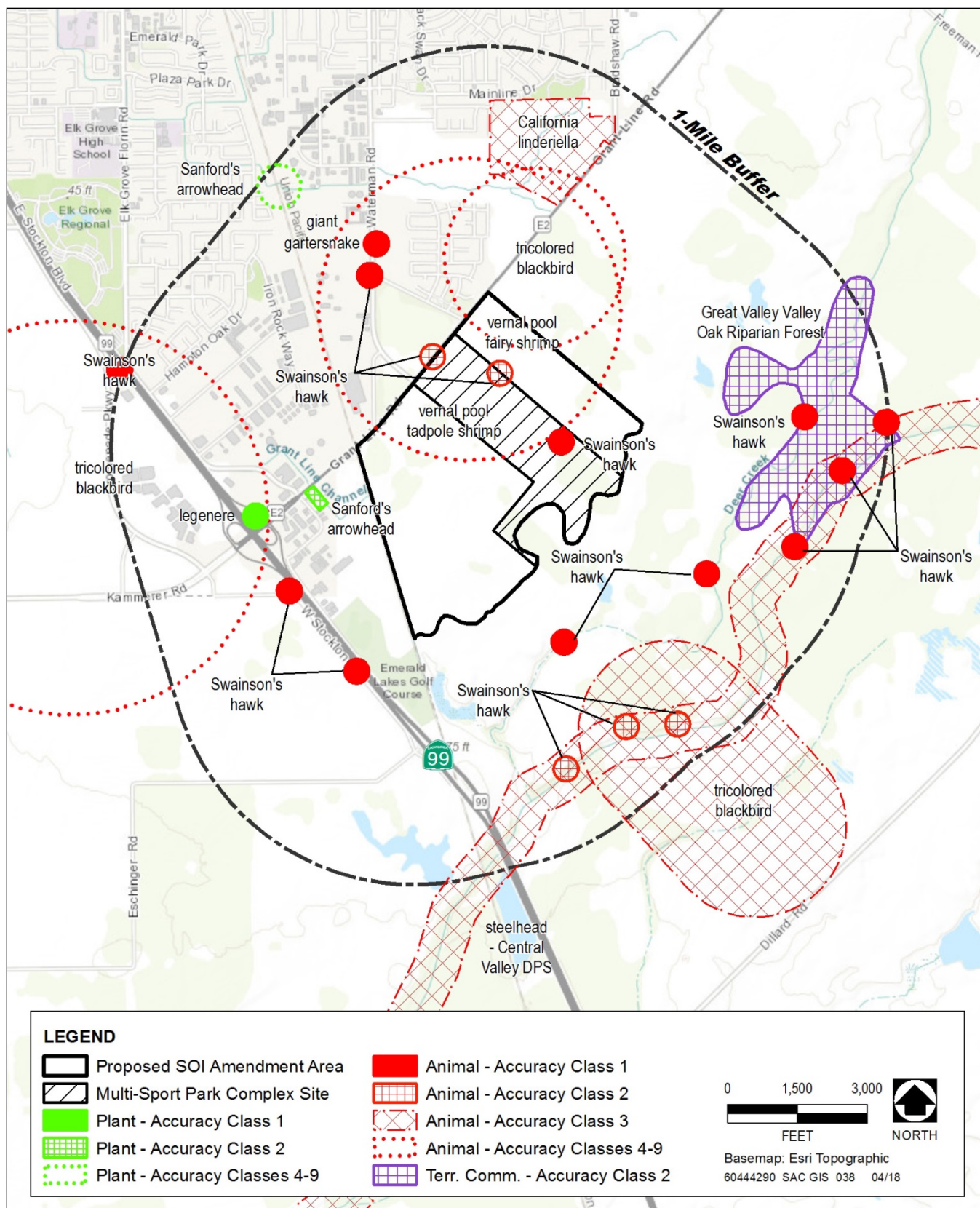
All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW’s CNDDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, 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.

A list of special-status species that could potentially occur SOIA Area or vicinity, provided suitable habitat conditions were present, was developed through review of available background reports; previous studies conducted in or near the SOIA Area; 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 (City of Elk Grove 2017). Exhibit 3.5-1 depicts CNDDDB occurrence data within 1 mile of the SOIA Area.

Special-Status Plants

One special-status plant was determined to have the potential to occur within the SOIA Area. This species is described below. Additional information regarding the status and potential for special-status plants potentially affected by Project-related activities can be found in Table 3.5-1.



Source: CNDDDB 2017

Exhibit 3.5-1 CNDDDB Occurrence Data within 1 mile of the SOIA Area

Sanford's Arrowhead (Sagittaria sanfordii)

Sanford's arrowhead is a California endemic and has a CNPS rare plant rank of 1B.2. This species has no federal or State listing. Sanford's arrowhead is a perennial rhizomatous herb that blooms between May and October. It is typically found in assorted shallow freshwater marshes and swamps at elevations ranging from sea level to 2,133 feet (650 meters) amsl. Sanford's arrowhead is threatened by grazing, development, recreational activities, nonnative plants, road widening, and channel alteration and maintenance.

Sanford's arrowhead is typically found in marshes and swamps; however, this species has been recorded in channels throughout Elk Grove. There are two records of Sanford's arrowhead within 1 mile of the SOIA Area and a total of seven previous occurrences within 5 miles of the SOIA Area.

According to the USFWS Wetland Mapper, there are two seasonal wetlands in the SOIA Area. These features may provide suitable habitat for Sanford's arrowhead. In addition, agricultural ditches that are located within the SOIA Area and the multi-sport park complex site may provide suitable habitat for this species. Specifically, within the multi-sport park complex site, two ditches (D1 and D8) appear to hold water long enough to support this species.

This species may occur within the SOIA Area and multi-sport park complex site due to the presence of potential suitable habitat and previous occurrences in the vicinity.

Special-Status Wildlife

Based on the results of the database queries, nine special-status wildlife species have the potential to occur in the SOIA Area. Each species considered in the impact analysis is described below, with descriptions based on data obtained from the CDFW's California Wildlife Habitat Relationships System Life History Accounts and Range Maps, as well as other published data sources, as cited.

Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)

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. Specifically, its range includes the upper Sacramento Valley to the central San Joaquin Valley (USFWS 1999). VELB's 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 seven occurrences for VELB in the 9-quadrangle search area. One elderberry shrub was observed in the multi-sport park complex site. Figure 8 (Appendix C) shows the location of the elderberry shrub within the multi-sport park complex site. This shrub had three stems approximately 1 inch in diameter; no exit holes were observed. Focused surveys for elderberry shrubs were conducted only in the multi-sport park complex site. Elderberry shrubs may occur elsewhere on the SOIA Area. Therefore, VELB may be present in the SOIA Area in other locations.

Giant Garter Snake (Thamnophis gigas)

Giant garter snake is a state and federally listed threatened species. It inhabits wetlands habitats in the Central Valley of California. Giant garter snakes have been extirpated from the majority of their historic range due to the loss and fragmentation of wetland habitats in the Central Valley. Habitats in which this snake can be found include agriculture wetlands, irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. The snake also relies on adequate water during the active season, emergent herbaceous wetland vegetation for escape and foraging habitat, grassy banks and openings in waterside vegetation for basking, and higher elevation upland habitat for cover and refuge from flooding. Food for giant garter snakes consists of small fishes, tadpoles, and frogs.

There are five records of giant garter snake within a 5-mile radius of the SOIA Area and one record within 1 mile of the SOIA Area. However, the aquatic features located on the SOIA Area do not provide suitable habitat for this species. This species is highly aquatic and the agricultural ditches do not contain water long enough to provide suitable habitat for giant garter snake (City of Elk Grove 2017).

In addition, the ditches are not hydraulically connected to any extant population of giant garter snake. Water in the SOIA Area includes groundwater that flows off-site and, through agricultural ditches, flows into Deer Creek. These ditches are dry for most of the year and do not provide suitable habitat for giant garter snake. The SOIA Area is surrounded by various barriers (i.e., roads, railroad, rivers) preventing the movement of new individuals to the SOIA Area, if water were present. Therefore, it is extremely unlikely that giant garter snake would be present on the SOIA Area or multi-sport park complex site. For these reasons, giant garter snake is not included in the impact analysis.

Tricolored Blackbird (Agelaius tricolor)

The tricolored blackbird is a Candidate endangered species; it has no federal status. Tricolored blackbirds require open water and protected nesting substrate, such as flooded, spiny, or thorny vegetation. In the Central Valley, they prefer to nest in emergent wetlands with dense bulrush or cattails, but will also nest in dense thickets of blackberry, willow, wild rose (*Rosa californica*), or tall herbs. This species forages in pastures and other agricultural lands, including stored grains associated with dairies, as well as in shrublands and annual grasslands.

There are four records of tricolored blackbird within 1 mile of the SOIA Area, and a total of 19 occurrences have been recorded within a 5-mile radius of the SOIA Area (CNDDDB 2017). Dense blackberry vegetation was observed along ditches in the ditches in the multi-sport park complex site. It is likely that there are more patches of blackberry in the greater SOIA Area that could support nesting colonies of tricolored blackbirds. The seasonal wetlands that are mapped by the USFWS Wetland Mapper may support cattails and tules which provide habitat for this species. The agricultural lands in the proposed multi-sport park complex site and the SOIA Area provide suitable foraging habitat for tricolored blackbirds. This species may occur within the SOIA Area due to the presence of suitable habitat and previous occurrences in the vicinity.

Loggerhead Shrike (Lanius ludovicianus)

The loggerhead shrike is a California species of concern; it has no federal status. This species is present all year throughout most of California. Loggerhead shrikes occur everywhere in California except the forested coastal slope and ranges, the Klamath and Siskiyou Mountains, the Sierra Nevada, the southern Cascades, and the high

Transverse Ranges. They require short grasses or bare ground areas for hunting, as well as tall shrubs or trees for hunting perches and nests. They also use sharp branches, thorns, or barb-wire to impale and store their prey.

There are no nearby occurrences of loggerhead shrike; however, the pasture and cropland in the SOIA Area provides suitable foraging habitat for this species. The loggerhead shrike may occur within the SOIA Area due to the suitable foraging habitat located in the SOIA Area.

Burrowing Owl (Athene cunicularia)

The burrowing owl is a California species of concern; it has no federal status. Burrowing owls prefer nesting in mammal burrows in open areas of dry, open rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and along the edges of human-disturbed lands. This species can also be found inhabiting golf courses, airports, cemeteries, vacant lots, and road embankments with friable soils for nesting. The elevation range for this species extends from 200 feet (60 meters) below mean sea level to 12,000 feet (3,636 meters) amsl at the Dana Plateau in Yosemite.

There are no records of burrowing owls within 1 mile of the SOIA Area; however, there are a total of six previous occurrences within 5 miles of the SOIA Area (CNDDDB 2017). Ground squirrel burrows were observed in the multi-sport park complex site. The culverts in the multi-sport park complex site and SOIA Area provide suitable burrowing habitat for burrowing owls. Suitable foraging habitat is present in almost the entirety of the SOIA Area. This species may occur within the multi-sport park complex site and SOIA Area due to the presence of potential suitable habitat and previous occurrences in the vicinity of the SOIA Area.

Swainson's Hawk (Buteo swainsoni)

Swainson's hawks are listed as threatened by the State of California; the species has no federal listing. Swainson's hawks are typically complete migrants in that they breed in North America and winter in South America. They typically arrive at their breeding grounds in early to mid-April and begin their southern migration in early September. The majority of breeding Swainson's hawk occurs in two distinct populations in California—the Great Basin and the Central Valley—although they can be found in desert, shrub steppe, grassland, and agricultural habitats across the state. This species is not an obligate riparian species; the correlation with riparian habitat is variable and dependent on the availability and distribution of suitable nest sites in proximity to high-value foraging habitat.

High-value foraging habitat is largely a function of prey abundance and availability. Different crop types support different levels of prey abundance, and the timing of tilling and harvest affects prey availability within each crop type. Alfalfa fields contain low prey abundance, but prey is accessible throughout the growing season because of the low stature of this crop type. Tomato and beet crops support a high prey density, but because of crop heights and density, prey access is limited to harvest periods. Fallow fields along with dry and irrigated pastures also provide important foraging habitat, whereas vineyards, mature orchards, and cotton fields contain low prey abundance and availability.

There are 13 records of Swainson's hawks within 1 mile of the SOIA Area, and a total of 67 previous records occur within 5 miles of the SOIA Area (CNDDDB 2017). The cropland community in the multi-sport park complex site and SOIA Area provides suitable foraging habitat for this species. Large trees in the SOIA Area provide potential nesting habitat, and one valley oak in the multi-sport park complex site contained two large stick nests

that have the potential to be Swainson's hawk nests. At least three individuals were observed flying over the multi-sport park complex site during the July 16, 2015, site visit.

White-Tailed Kite (Elanus leucurus)

The white-tailed kite has no State or federal listing but is considered fully protected by the CDFW. This species can be found in association with the herbaceous and open stages of a variety of habitat types. The white-tailed kite is found year-round in both the coastal zones and the lowlands of the Central Valley in California. Nests are constructed near the top of dense oaks, willows, or other tree stands located adjacent to foraging areas. The species forages in undisturbed open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kites are seldom observed more than 0.5 mile from an active nest during the breeding season (CNDDB 2017).

There are no records of white-tailed kite within 1 mile of the SOIA Area; however, there is one previous occurrence within 5 miles of the SOIA Area (CNDDB 2017). The cropland community in the multi-sport park complex site and SOIA Area provides suitable foraging habitat, and the trees provide suitable nesting habitat. This species may occur in the SOIA Area due to the presence of potentially suitable nesting and foraging habitat, as well as the presence of nearby occurrences.

American Badger (Taxidea taxus)

The American badger is a California species of concern; it has no federal listing. This species is found throughout most of the state. They are most common in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. American badgers are carnivorous and eat a wide variety of prey items, including rodents, reptiles, insects, birds, and carrion. Burrows are dug into friable soil for cover. Badgers will often reuse old burrows (CNDDB 2017).

American badgers are likely to occur throughout the Central Valley, but have been documented in only a few locations in southern Sacramento County (County of Sacramento et al. 2017a). Their overall distribution, abundance, and population structure are not well known in the region. The SSHCP species account for American badger notes that the presence of badgers has not been established by extensive surveys, and that it is assumed that most of the suitable habitat for badgers in the region is not occupied (County of Sacramento et al. 2017a).

The closest record for badgers is located approximately 8 miles west of the SOIA Area. Suitable soil for the construction of burrows and the presence of numerous ground squirrel burrows located throughout the multi-sport park complex site and SOIA Area suggest that American badgers have the potential to occur within the SOIA Area.

Western Red Bat (Lasiurus blossevillii)

The western red bat is a California species of concern; it has no federal status. The western red bat is solitary and roosts in foliage, sheltering in the day on the underside of overhanging leaves of broadleaf tree communities (County of Sacramento et al. 2017a). It most often roosts individually; however, females with dependent young roost together and multiple individuals are sometimes found in clusters during migration (e.g., roosting in the same tree). Pups are born from late spring to early summer (County of Sacramento et al. 2017a). Red bats appear to be strongly associated with riparian habitats, particularly mature stands of cottonwood/sycamore (Pierson et al. 2004). Other habitat types that have been identified as used for roosting include blue oak woodland, blue oak savanna, mine tailing, riparian woodlands, valley oak riparian woodlands and mixed riparian woodland (County

of Sacramento et al. 2017a). Seasonal movements of western red bats are poorly understood, but this species is likely at its highest densities in the Central Valley during July and August, and then declines in the fall; coastal record of red bats increase in winter (Pierson et al. 2004). Habitat requirements in Sacramento County may include open water for drinking and foraging, undisturbed foliage roost sites that provide protection from predators, and structurally diverse vegetation that supports a diversity of insect prey (County of Sacramento et al. 2017a). Water features may also be a vital habitat component because bats often drink immediately after emergence and water is an important source of concentrated insects (County of Sacramento et al. 2017a).

There are no records of Western red bat within a 15-mile radius of the SOIA Area. The SOIA area does not support riparian habitat or dense, structurally diverse stands of vegetation, nor are permanent aquatic features present. While red bats have been recorded using agricultural lands for foraging and roosting, these agricultural lands are typically orchards that are in close proximity to riparian habitat rather than croplands or irrigated pasture. Therefore, it is unlikely that western red bats would be present on the SOIA Area or multi-sport park complex site. For these reasons, western red bats are not included in the impact analysis.

Northern Harrier (Circus cyaneus)

The northern harrier is a California species of concern; it has no federal status. This species breeds mainly in large, undisturbed areas of wetlands and grasslands with low, thick vegetation. Breeding habitat consists of lightly grazed meadows, old fields, and dry upland habitats. Northern harriers breed and forage in a variety of open habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered perches from where they can scan for prey. Northern harriers nest on the ground, mainly in patches of dense, often tall, vegetation in undisturbed areas. Cropland habitats are also used for foraging and nesting. These can include alfalfa, grain, and other low-growing croplands. Northern harriers feed on a wide variety of vertebrates, primarily small rodents and songbirds (Shuford and Gardali 2008).

The open agriculture land (grain crops and irrigated pasture) provides suitable foraging habitat. The presence of numerous small mammal burrows and songbirds on the multi-sport park complex site and SOIA Area also provides ample prey items for northern harriers. Due to the disturbed nature of the cropland and the active use of the pastureland by cattle, it is highly unlikely that suitable nesting habitat occurs within the SOIA Area. However, this species may occur in the SOIA Area due to the presence of potentially suitable foraging habitat.

Sensitive Habitats

Sensitive Natural Communities

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 and is protected under Elk Grove Municipal Code Chapter 16.130, Swainson's Hawk Impact Mitigation Fees. No other sensitive natural communities were identified in the SOIA Area.

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.

A preliminary jurisdictional determination was conducted on the multi-sport park complex site on July 16, 2015 and June 16, 2016 (Appendix C). No delineation was conducted on the SOIA Area, but this area supports multiple agricultural ditches. These ditches appear to interconnect and flow off the SOIA Area and into Deer Creek, and ultimately into the Cosumnes River. In addition, the USFWS National Wetland Inventory identified freshwater emergent wetlands and freshwater ponds in the SOIA Area.

The wetland delineation of the multi-sport park complex site identified a total of 1.19 acres of nonjurisdictional features including an agricultural pond and multiple agricultural ditches. Based on aerial review and field investigations, it was determined that water in the multi-sport park complex site comes from a pump located on-site. Although these features drain in to a ditch on Grant Line Road and eventually into Deer Creek, these features are primarily agricultural ditches sustained through groundwater pumping. These features are likely nonjurisdictional since, without the pump, there would be no water (City of Elk Grove 2017). A concurrence letter has been drafted to submit to the United States Army Corps of Engineers (USACE). However, there is no concurrence as of the writing of this document (Appendix C).

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Plants					
Watershield <i>Brasenia schreberi</i>	—	—	2.B3	Freshwater marshes and swamps; 0 to 7,000 feet elevation; blooms June–September.	Unlikely to occur, suitable habitat not present. Entire area has been converted to agricultural uses. No seasonal wetlands or vernal pools observed on-site. The only documented occurrence in Sacramento County is a 1976 record from the Stone Lakes National Wildlife Refuge west of I-5.
Bristly sedge <i>Carex comosa</i>	—	—	2B.1	Lake margin marshes; -15 to 3,300 feet elevation; blooms May–September.	Unlikely to occur, suitable habitat not present. Some agricultural water features hold standing water for prolonged periods of time; however, features are man-made, dominated by weedy species and their hydroperiods are inconsistent because of agricultural runoff. No known occurrences in vicinity of SOIA Area.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Succulent owl's clover <i>Castilleja campestris</i> ssp. <i>succulent</i>	T	E	1B.1	Vernal pools; often in acidic conditions; 80 to 2,500 feet elevation; blooms April–May.	Unlikely to occur, suitable habitat not present. Entire area has been converted to agricultural uses. No seasonal wetlands or vernal pools observed on-site.
Bolander's water hemlock <i>Cicuta maculata</i> var. <i>bolanderi</i>	–	–	2B.1	Freshwater and brackish marshes, mostly along banks of tidal creeks; 0 to 650 feet elevation; blooms July–September.	Unlikely to occur; some agricultural water features hold standing water for prolonged periods of time and support patchy emergent vegetation; however, features are man-made, dominated by weedy species, and their hydroperiods are inconsistent because of agricultural runoff. Furthermore, the species is known only from coastal and Delta waterways west of I-5.
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	–	–	2B.2	Freshwater marshes and swamps; 50 to 1,000 feet elevation; blooms July–October.	Unlikely to occur; some agricultural water features hold standing water for prolonged periods of time and support patchy emergent vegetation; however, features are man-made, dominated by weedy species, and their hydroperiods are inconsistent because of agricultural runoff. Furthermore, there is only one reported occurrence from Sacramento County and it is an unconfirmed record from the Elk Grove area. Nearest confirmed occurrence is from Merced County.
Dwarf downingia <i>Downingia pusilla</i>	–	–	2B.2	Vernal pools or other seasonal wetlands in annual grasslands; below 1,500 feet elevation; blooms March–May.	Unlikely to occur; there are no vernal pools or other seasonal wetlands in the SOIA Area that provide suitable habitat for this species.
Bogg's Lake hedge hyssop <i>Gratiola heterosepala</i>	–	E	1B.2	Lake margin marshes and swamps, vernal pools, and other seasonal wetlands, primarily in clay soils; 30 to 8,000 feet elevation; blooms April–August.	Unlikely to occur; some agricultural water features hold standing water for prolonged periods of time and support patchy emergent vegetation; however, features are man-made, dominated by weedy species, and their hydroperiods are inconsistent because of agricultural runoff. There are no vernal pools or other seasonal wetlands in the SOIA Area.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i>	–	–	1B.2	Margins of freshwater marshes, wet riverbanks, and on low, peat islands in sloughs of the Delta; 0 to 400 feet elevation; blooms June–September.	Unlikely to occur; outside species range, and suitable habitat not present.

Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Northern California black walnut <i>Juglans hindsii</i>	–	–	1B.1	Riparian scrub, woodland, and forest.	Unlikely to occur; no suitable habitat is present. Although this species is widely cultivated in California as rootstock for English walnut, there are only three native populations still present. This species is widely naturalized in cismontane woodland habitat, which is not present in the SOIA Area.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	–	–	1B.2	Mesic valley, foothill grasslands, vernal pool margins, and wet chaparral or woodland. Found at 100 to 715 feet elevation; blooms March–May.	Unlikely to occur; no vernal pools or wetted woodland/chaparral areas in the SOIA Area.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	–	–	1B.2	Freshwater and brackish marshes, usually along the edges. Found in the San Joaquin Delta region at 0 to 15 feet elevation; blooms May–September.	Unlikely to occur; suitable habitat not present and the species is known to occur only from lower elevations in Delta waterways.
Greene's legenere <i>Legenere limosa</i>	–	–	1B.1	Relatively deep and wet vernal pools (Witham 2006:39); below 3,000 feet elevation; blooms April–June.	Unlikely to occur; there are no vernal pools or other seasonal wetlands in the SOIA Area that provide suitable habitat for this species.
Heckard's peppergrass <i>Lepidium latipes</i> var. <i>latipes</i>	–	–	1B.2	Alkaline flats in valley and foothill grassland; 6 to 656 foot elevation. Bloom: March–May	Unlikely to occur; there is no suitable habitat for this species.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	–	R	1B.1	Flooded tidal zones on mud-banks and flats along erosional creek-banks, sloughs, and rivers with freshwater marsh, brackish marsh, or riparian scrub influenced by saline water; 0 to 35 feet elevation; blooms April–November.	Unlikely to occur; no suitable habitat conditions for this species, which is known only from tidally influenced waterways.
Delta mudwort <i>Limosella australis</i>	–	–	2B.1	Intertidal mudflats in freshwater and brackish marshes and riparian scrub; 0 to 10 feet elevation; blooms May–August.	Unlikely to occur; no suitable habitat conditions for this species, which is known only from lower elevations in tidally influenced Delta waterways.
Slender Orcutt grass <i>Orcuttia tenuis</i>	T	E	1B.1	Vernal pools; 100 to 5,800 feet elevation; blooms May–October.	Unlikely to occur; there are no vernal pools or other seasonal wetlands in the SOIA Area that provide suitable habitat for this species.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	E	E	1B.1	Vernal pools; 95 to 325 feet elevation; blooms April–July.	Unlikely to occur; there are no vernal pools or other seasonal wetlands in the SOIA Area that provide suitable habitat for this species.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Sanford's arrowhead <i>Sagittaria sanfordii</i>	–	–	1B.2	Shallow freshwater marshes and swamps; below 2,200 feet elevation; blooms May–October.	Could occur; suitable habitat may be present. Several records of this species in waterways throughout Elk Grove; however, identification is suspect as plant is easily confused with weedy water plantain (<i>Alisma</i> sp.).
Marsh skullcap <i>Scutellaria galericulata</i>	–	–	2B.2	Freshwater marshes and swamps, meadows and seeps; 0 to 7,000 feet elevation; blooms June–September.	Unlikely to occur; some agricultural water features hold standing water for prolonged periods of time and support patchy emergent vegetation; however, features are man-made, dominated by weedy species, and their hydroperiods are inconsistent because of agricultural runoff. No known occurrences of this species in vicinity of the SOIA Area. The only records of this species in Sacramento County are from the Snodgrass slough area northeast of Walnut Grove.
Side-flowering skullcap <i>Scutellaria lateriflora</i>	–	–	2B.2	Freshwater marshes and swamps, meadows and seeps; 0 to 7,000 feet elevation; blooms June–September.	Unlikely to occur; some agricultural water features hold standing water for prolonged periods of time and support patchy emergent vegetation; however, features are man-made, dominated by weedy species, and their hydroperiods are inconsistent because of agricultural runoff. The only records of this species in Sacramento County are an 1892 record from Bouldin Island and a current record from Delta Meadows River Park. There are no known occurrences east of I-5.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	–	–	1B.2	Brackish and freshwater marshes along the banks of sloughs and other waterways; 0–10 feet elevation; blooms May–November.	Unlikely to occur; no suitable habitat conditions for this species and the species is generally known from lower elevations in Delta waterways.
Saline clover <i>Trifolium hydrophilum</i>	–	–	1B.2	Salt marshes and in alkaline soils in moist valley and foothill grasslands and vernal pools; 0 to 1,000 feet elevation; blooms April–June.	Unlikely to occur; suitable habitat is not present in the SOIA Area.
Invertebrates					
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	–	–	Found in vernal pools and ephemeral wetlands distributed throughout the Central Valley, including Sacramento County.	Unlikely to occur; suitable habitat is not present. No vernal pools are located in the SOIA Area.

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Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	—	—	Generally grows in riparian woodlands and upland habitats of the Central Valley. Current distribution in the Central Valley from Shasta County to Fresno County.	Likely to occur; one elderberry shrub was observed in the multi-sport park complex site.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	—	—	Ephemeral wetland habitats, including vernal pools. Distributed throughout Central Valley and San Francisco Bay area.	Unlikely to occur; no vernal pools are located in the SOIA Area.
Fish					
Delta smelt <i>Hypomesus transpacificus</i>	T	E	—	Spawning areas include the Sacramento River below Sacramento, Mokelumne River system, Cache Slough, the Delta, and Montezuma Slough.	Unlikely to occur; suitable habitat is not present.
River lamprey <i>Lampetra ayresii</i>	—	SSC	—	Clean, gravelly riffles in permanent streams for adults, while ammocoetes require sandy backwaters or stream edges, where water quality is continuously high and temperatures do not exceed 25°C.	Unlikely to occur; suitable habitat is not present.
Hardhead <i>Mylopharodon conocephalus</i>	—	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. Though spawning may occur in pools, runs, or riffles, the bedding area will typically be characterized by gravel and rocky substrate.	Unlikely to occur; suitable habitat is not present.
Central Valley Steelhead <i>Oncorhynchus mykiss irideus</i>	T	—	—	Spawning habitat = gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Nonspawning = estuarine, marine waters	Unlikely to occur; suitable habitat is not present.

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Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Central Valley spring-run chinook salmon/Winter-run chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	T	T	—	Spawning habitat = fast moving, freshwater streams and rivers. Juvenile habitat = brackish estuaries. Nonspawning = marine waters	Unlikely to occur; suitable habitat is not present.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	—	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.	Unlikely to occur; suitable habitat is not present.
Longfin smelt <i>Spirinchus thaleichthys</i>	C	T SSC	—	Adults and juveniles require salt or brackish estuary waters. Spawning takes place in freshwater over sandy-gravel substrates, rocks, and aquatic plants.	Unlikely to occur; suitable habitat is not present.
Amphibians					
California tiger salamander, central population <i>Ambystoma californiense</i>	T	T	—	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.	Unlikely to occur; SOIA Area is north of the Consumes River. There are no known occurrences north of the Consumes River (CNDDB 2017).
Foothill yellow-legged frog <i>Rana boylei</i>	—	SSC	—	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. From sea level to 6,700 feet.	Unlikely to occur; there are no streams, pools, or ephemeral waters with nearby woodlands onsite.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
California red-legged frog <i>Rana draytonii</i>	T	SSC	—	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. From sea level to 5,000 ft.	Unlikely to occur; there are no streams, pools, or ephemeral waters with nearby woodlands onsite.
Western spadefoot toad <i>Spea hammondi</i>	—	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.	Unlikely to occur; there are no streams, pools, or ephemeral waters with nearby woodlands onsite.
Reptiles					
Western pond turtle <i>Emys marmorata</i>	—	SSC	—	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. Found at elevations from sea level to over 5,900 feet.	Unlikely to occur; there are irrigation ditches present but they do not contain sufficient water or vegetation or adjacent woodlands to support turtles.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Giant garter snake <i>Thamnophis gigas</i>	T	T	—	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. Endemic to valley floor wetlands.	Unlikely to occur; the ditches in the SOIA Area do not hold water throughout most of the year (City of Elk Grove 2017). The ditches are also not hydraulically connected to extant populations.
Birds					
Tricolored blackbird <i>Agelaius tricolor</i>	—	CE	—	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.	Could occur; suitable nesting and foraging habitat is present in blackberry that is located in ditches and agriculture fields.
Golden eagle <i>Aquila chrysaetos</i>	—	P	—	Uncommon resident and migrant throughout California, except center of Central Valley. Habitat typically rolling foothills, mountain areas, sage- juniper flats, desert.	Unlikely to occur; suitable habitat is not present.
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	SSC	—	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.	Unlikely to occur; suitable habitat is not present. History of site disturbance at site precludes this species from existing here.
Burrowing owl <i>Athene cunicularia</i>	—	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 onsite; however, presence of suitable habitats results in potential for future colonization.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area				
Species	Status ¹			Potential for Occurrence
	USFWS	CDFW	CRPR	
Swainson's Hawk <i>Buteo swainsoni</i>	–	T	–	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.
Mountain plover <i>Charadrius montanus</i>	–	SSC	–	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
Vaux's swift <i>Chaetura vauxi</i>	–	SSC	–	Redwood and Douglas fir habitats with nest sites in large hollow trees and snags, especially tall, burnt-out stubs.
Northern harrier <i>Circus cyaneus</i>	–	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.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T	E	–	Large, dense tracts of riparian woodland with well-developed understories. Occurs in deciduous trees or shrubs. Prefers willow, but will also nest in orchards adjacent to streams in Sacramento Valley. Restricted to moist habitats along slow-moving waterways during breeding season.
White-tailed kite <i>Elanus leucurus</i>	–	P	–	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.
Lesser sandhill crane/ <i>Grus canadensis Canadensis</i> (wintering)	–	SSC	–	Annual and perennial grassland habitats, moist croplands with rice or corn stubble, and open, emergent wetlands.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Greater sandhill crane <i>Grus canadensis tabida</i> (nesting and wintering)		T, P	–	Annual and perennial grassland habitats, moist croplands with rice or corn stubble, and open, emergent wetlands. Typically nests in mounds of wetland plants or hummocks in remote portions of extensive wetlands. Sometimes nests in grass-lined depressions on dry sites.	Could occur; the SOIA Area provides suitable, but non-high value, foraging habitat (County of Sacramento et al. 2017a). No roosting habitat is present; nearest known roost sites are 2 miles from the SOIA Area. Does not breed in California's Central Valley.
Bald eagle <i>Haliaeetus leucocephalus</i>	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.	Unlikely to occur; suitable habitat is not present; there are no large water bodies nearby or suitable nest spots.
Least bittern <i>Ixobrychus exilis</i>	–	SSC	–	Large, freshwater wetlands with dense emergent vegetation.	Unlikely to occur; no wetlands are present in the SOIA Area.
Loggerhead shrike <i>Lanius ludovicianus</i>	–	SSC	–	Breeds in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground.	Could occur; suitable foraging habitat is present, but nesting habitat is not present due to highly disturbed nature of site.
California black rail <i>Laterallus jamaicensis coturniculus</i>		T, P	–	Yearlong resident of saline, brackish, and fresh emergent wetlands.	Unlikely to occur; there are no wetlands or brackish features in the SOIA Area.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	–	SSC	–	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.	Unlikely to occur; there are no wetlands or brackish features in the SOIA Area.
Purple martin <i>Progne subis</i>	–	SSC	–	Numerous suitable nest cavities, open air space above nest sites, and aerial insect prey.	Unlikely to occur; suitable nesting habitat is not present in the SOIA Area.
Bank swallow <i>Riparia riparia</i>	–	T	–	Riparian areas with sandy, vertical bluffs or riverbanks. Also nest in earthen banks and bluffs, as well as sand and gravel pits	Unlikely to occur; there are no riparian or riverbank areas present in the SOIA Area.
Yellow warbler <i>Setophaga occidentalis</i>	–	SSC	–	Riparian vegetation along streams and in wet meadows. Willow cover and Oregon ash important predictors of abundance in northern California pits.	Unlikely to occur; suitable habitat is not present. No riparian vegetation or moist meadows that occur onsite.
California least tern <i>Sternula antillarum browni</i>	E/P	E	–	Nests and roosts in colonies on open beaches, forage near shore ocean waters and in shallow estuaries and lagoons.	Unlikely to occur; the SOIA Area is not near estuaries or ocean waters.

Table 3.5-1 Special-Status Species Known or Reported and Potential for Occurrence in the SOIA Area					
Species	Status ¹			Habitat and Blooming Period	Potential for Occurrence
	USFWS	CDFW	CRPR		
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	–	SSC	–	Nest in marshes with tall, emergent vegetation (e.g., tules and cattails) adjacent to deepwater.	Unlikely to occur; no marshland or associate deepwater present in the SOIA Area.
Mammals					
Western red bat <i>Lasiurus blossevillii</i>	–	SSC	–	Strongly associated with riparian habitats, particularly mature stands of cottonwood/sycamore; also found in blue oak woodland and savanna; open water important for foraging; solitary and roosts in foliage.	Unlikely to occur; SOIA does not support riparian habitat or dense stands of vegetation for roosting; cropland and irrigated pasture do not provide suitable foraging habitat.
Riparian bush rabbit <i>Sylvilagus bachmani riparius</i>	E	E	–	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.	Unlikely to occur; the SOIA Area is outside the species' range.
American badger <i>Taxidea taxus</i>	–	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.
<p>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</p> <p>¹ Legal Status Definitions</p> <p>USFWS:</p> <p>E = Endangered</p> <p>T = Threatened</p> <p>D = Delisted</p> <p>CDFW:</p> <p>E = Endangered</p> <p>T = Threatened</p> <p>CE = Candidate Endangered</p> <p>P = Protected</p> <p>SSC = State Species of Special Concern</p> <p>Potential for Occurrence Definitions:</p> <p>Unlikely to occur: Species is unlikely to be present in the SOIA Area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.</p> <p>Could occur: Suitable habitat is available in the SOIA Area; however, there are little to no other indicators that the species might be present.</p> <p>Known to occur: The species, or evidence of its presence, was observed in the SOIA Area during reconnaissance surveys, or was reported by others.</p> <p>Sources: CNDDDB 2017; CNPS 2017, cited in City of Elk Grove 2017</p>					

3.5.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

Pursuant to the ESA (16 United States Code [U.S.C.] Section 1531 et seq.), USFWS has regulatory authority over species listed or proposed for listing as endangered or threatened. USFWS and the National Marine Fisheries Service have authority over projects that may result in take of a species listed as threatened or endangered under ESA (i.e., a federally listed species). In general, persons subject to ESA (including private parties) are prohibited from “taking” endangered or threatened fish and wildlife species on private property, and from “taking” endangered or threatened plants in areas under federal jurisdiction or in violation of state law.

Under Section 9 of the ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take.

The take prohibition of ESA Section 9 applies only to listed species of fish and wildlife. Section 9(a)(2)(B) describes federal protection for endangered plants. In general, ESA does not protect listed plants located on nonfederal land (i.e., areas not under federal jurisdiction), unless such species are already protected by State law.

Section 7 of the ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed species and designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features essential to the conservation of a listed species and that may require special management considerations or protection. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroying or adversely modifying designated critical habitat.

For projects where federal action is not involved and take of a listed species may occur, a project proponent may seek an incidental take permit under section 10(a) of the ESA. Section 10(a) of ESA allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan that ensures minimization and mitigation of impacts associated with the take.

Section 404 of the Clean Water Act

Section 404 of the federal CWA requires a project applicant to obtain a permit from USACE before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land, or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the

delineation criteria may be jurisdictional under Section 404 of CWA pending USACE and United States Environmental Protection Agency (EPA) review.

As part of the review of a project, USACE must ensure compliance with applicable federal laws, including EPA's Section 404(b)(1) Guidelines. USACE regulations require that impacts to waters of the United States are avoided and minimized to the maximum extent practicable, and that unavoidable impacts are compensated (33 Code of Federal Regulations [CFR] 320.4[r]).

In 2008, USACE and EPA issued regulations governing compensatory mitigation for activities authorized by permits issued by USACE (33 CFR 332). The rule establishes a preference for the use of mitigation banks because they provide established wetland habitats that have already met success criteria thereby reducing some of the risks and uncertainties associated with compensatory mitigation involving creation of new wetlands that cannot yet demonstrate functionality at the time of project implementation. The rule also establishes a preference for providing compensatory mitigation within the affected watershed. Ideally, compensatory mitigation would take place at a mitigation bank within the same watershed as the waters to be replaced. If mitigation banks are not available within the affected watershed, then compensatory mitigation involving creation or restoration within the affected watershed may be preferable to using a mitigation bank outside the affected watershed.

Section 401 Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate State agency stating that the intended dredging or filling activity is consistent with the State's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine Regional Water Quality Control Boards (RWQCBs). Mitigation to achieve no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in Title 50 of the CFR, Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Endangered Species Act

CESA (California Fish and Game Code Section 2050, et seq.) directs State agencies not to approve projects that would jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of a species. Furthermore, CESA states that reasonable and prudent alternatives shall be developed by CDFW, together with the project proponent and any state lead agency, consistent with conserving the species, while at the same time maintaining the project purpose to the greatest extent possible. Under CESA, project-related impacts of the authorized take must be minimized and fully mitigated, and adequate funding to implement those mitigation measures and monitor compliance with

and the effectiveness of the measures must be ensured. Standard CESA issuance requirements can include land acquisition, permanent protection and management, and/or funding in perpetuity of compensatory lands.

A “take” of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include “harm” or “harass” as is included in the federal act. As a result, the threshold for a take under CESA may be higher than under ESA because habitat modification is not necessarily considered take under CESA. The take of State-listed species incidental to otherwise lawful activities requires a permit, pursuant to Section 2081(b) of CESA. The State has the authority to issue an incidental take permit under California Fish and Game Code Section 2081, or to coordinate with USFWS during the Section 10(a) process to make the federal permit consistent with CESA.

As under federal law, listed plants have considerably less protection than fish and wildlife under State law. The California Native Plant Protection Act (California Fish and Game Code Section 19000 et seq.) allows landowners to take listed plant species from, among other places, a canal, lateral ditch, building site, or road, or other right-of-way, provided that the owner first notifies CDFW and gives the agency at least 10 days to retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity.

“Stream” is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFW’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (California Water Code Section 13000, et seq.) requires that each of the state’s nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB’s jurisdiction includes federally protected waters, as well as areas that meet the definition of “waters of the state.” Waters of the state is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally regulated under Section 401 provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB.

California Fish and Game Code – Fully Protected Species

Four sections of the California Fish and Game Code (Fish and Game Code Sections 3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFW has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

California Fish and Game Code – Protection of Bird Nests and Raptors

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 (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal and failure of nesting attempts, resulting in loss of eggs and/or young. These violations can be caused by disturbance of nesting pairs by nearby human activity.

LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

The Conservation Element of the Elk Grove General Plan (City of Elk Grove 2015) outlines policies and actions aimed at reducing development impacts on native and nonnative habitats, plants, and animals. The Parks, Trails, and Open Space Element ensures that the City's desires and/or needs for parks, recreation, and open space are recognized and addressed. The following General Plan policies may be relevant to future projects that could be developed in the future within the proposed SOIA Area.

- ▶ **Policy CAQ-8:** Large trees (both native and nonnative) are an important aesthetic (and, in some cases, biological) resource. Trees that function as an important part of the City's or neighborhood's aesthetic character or 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 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 that were removed.
 - Trees that cannot be protected shall be replaced either onsite or offsite as required by the City.
 - **CAQ-8-Action 1** When reviewing native or non-native trees for preservation, considering the following criteria: Aesthetic value; Biological value; Shade; Water quality benefits; Runoff reduction; Air quality (pollutant reduction); Health of the tree(s); Suitability for preservation in place; Safety hazards posed by the tree(s);
 - **CAQ-8-Action 2** Develop a list of trees which shall be considered generally exempt from preservation. These may include trees, which pose a threat to public safety, to native trees, or to natural habitat.
 - **CAQ-8-Action 3** Develop a list of trees which may be used when providing replacement trees for the loss of native and non-native trees.

- **CAQ-8-Action 4** Implement the City's Tree Preservation Ordinance.
 - **CAQ-8-Action 5** Amend the City's Tree Preservation Ordinance to conform with the policies of this General Plan and to expand protection to non-native trees.
 - **CAQ-8-Action 6** Develop a list of trees that should not be planted due to their invasive nature (that is, their ability to escape cultivation or to dominate natural areas) and provide this information to the public and the development community.
 - **CAQ-8-Action 7** Retain the services of a qualified arborist(s) under contract to the City to provide information to decision-makers and staff on the suitability of trees for preservation.
 - **CAQ-8-Action 8** Consider the use of revised standard roadway cross-sections which do not require the removal of trees in order to provide additional roadway capacity.
- **Policy CAQ-9:** Wetlands, vernal pools, marshland and riparian (streamside) areas are considered 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 areas occurs, which may be accomplished by avoidance, revegetation, and restoration onsite or creation of riparian habitat corridors.
- **CAQ-9-Action 1** As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs. Mitigation should occur within the same watershed as the impact, where feasible.
 - **CAQ-9-Action 2** Coordinate with the CDFW and the USFWS in the review of development projects.
- **Policy CAQ-10:** Consider the adoption of habitat conservation plans for rare, threatened, or endangered species.
- **CAQ-10-Action 1** As appropriate, work with the County of Sacramento and other agencies on a Habitat Conservation Plan or other mechanism to implement this policy.
- **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 occur, based on City biological resource mapping and data provided in the General Plan EIR or other technical material, and 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. "Special-status" species are generally defined as species considered to be rare, threatened, or endangered, or otherwise protected under local, state, and/or federal policies, regulations, or laws.
- **CAQ-11 Action 1** The City shall 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 based on City biological resource mapping and data provided in the General Plan EIR or other technical material. The biological resources evaluation shall determine the presence/absence of these special-status plant and animal species on the site. The surveys associated with the evaluation shall be conducted during the appropriate seasons for proper identification of the species. Such evaluation will consider the potential for significant impact on special-status plant and animal species, and will identify

feasible mitigation measures to mitigate such impacts to the satisfaction of the City and appropriate governmental agencies (e.g., USFWS, CDFW, and USACE) where necessary (e.g., species listed under CESA and/or ESA). Mitigation measures may include, but are not limited to, the following:

- For special-status plant species: On- or off-site preservation of existing populations from direct and indirect impacts, seed and soil collection or plant transplant that ensures that the plant population is maintained.
 - For special-status animal species: avoidance of the species and its habitat as well as the potential provision of habitat buffers, avoidance of the species during nesting or breeding seasons, replacement or restoration of habitat on- or off-site, relocation of the species to another suitable habitat area, payment of mitigation credit fees.
 - Participation in a habitat conservation plan.
- **Policy CAQ-17:** The City recognizes the value of naturally vegetated stream corridors, commensurate with flood control and public acceptance, to assist in removal of pollutants, provide native and endangered species habitat and provide community amenities.
- **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 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
 - 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.

- **PTO-15-Action 1** Consider the establishment of a citywide fee and/or assessment system which would provide funding for the purchase of open space land or easements and the maintenance of these areas.
- **Policy PTO-18:** To the extent possible, retain natural drainage courses in all cases where preservation of natural drainage is physically feasible and consistent with the need to provide flood protection.

Elk Grove Municipal Code

Title 16, “Swainson’s Hawk” Chapter 16.130, “Swainson’s Hawk Impact Mitigation Fees”

The City of Elk Grove recognizes that the continued expansion of urban uses into agricultural lands will, absent mitigation, result in a significant reduction of Swainson’s hawk foraging habitat. The City has determined that the most effective means of mitigating such loss of foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre ratio. Pursuant to this chapter, preservation should occur prior to the

onset of development activities that cause the impact (i.e., land clearing and grading) and project proponents should be responsible for locating and acquiring appropriate land or legal instruments (such as conservation easements) that will ensure its preservation as Swainson's hawk foraging habitat in perpetuity. Because it may be infeasible to acquire easements for less than 40 acres, proponents of projects less than 40 acres have the option to mitigate impacts to Swainson's hawk foraging habitat through payment of an impact mitigation fee that will provide funds to acquire available land with suitable Swainson's hawk foraging habitat values.

City Municipal Code Chapter 16.130, Swainson's Hawk Impact Mitigation Fees, 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.

Title 19, "Trees," Chapter 19.12, "Tree Preservation and Protection"

The City of Elk Grove prioritizes the preservation of existing trees and the historic and aesthetic character of the community, as described in the City's General Plan. The City's tree ordinance contains provisions to preserve existing trees through the development review process and a process for tree replacement where preservation is not reasonably possible

The City focuses on landmark trees, secured trees, and trees of local importance. Landmark trees are those that have been determined and designated, by resolution of the City Council, to be of high value to the community due to the species, size, age, form, historical significance, or some other professional criterion. Secured trees are those that are retained during the course of review and approval of a discretionary development project and trees planted as a result of a discretionary development project to satisfy a mitigation requirement. Trees of local importance are those with a diameter at standard height of six inches or greater of the following species: Coast live oak (*Quercus agrifolia*); Valley oak (*Quercus lobata*); Blue oak (*Quercus douglasii*); Interior live oak (*Quercus wislizenii*); Oracle oak (*Quercus X moreha*); California sycamore (*Platanus racemosa*); and California black walnut (*Juglans hindsii*).

The tree ordinance requires that mitigation for the loss shall be provided at a ratio of one new inch diameter at standard height of tree for each inch diameter at standard height lost, unless an alternative mitigation is approved. Mitigation options (Section 19.12.160) include on-site or off-site replacement, payment of an in-lieu fee, preservation of existing trees, or on-site or off-site relocation.

South Sacramento County Draft Habitat Conservation Plan

The SOIA is located within the proposed SSHCP area and Sacramento County is a plan partner. The City of Elk Grove is not a SSHCP plan partner.

The draft SSHCP is intended to provide a streamlined process for incidental take authorization under both ESA and CESA, permitting under Section 404 of the federal CWA and quality certification under Section 401 of the CWA, and lake and streambed alteration agreements under Section 1602 of the Fish and Game Code. The SSHCP would provide strategies to conserve habitat for special-status plant and wildlife species that are covered under the plan. If adopted, it would serve as a multi-species, multi-habitat conservation plan addressing the biological

impacts of future urban development within the Urban Services Boundary (USB) in the southern portion of the county.

The Plan Area is functionally divided into two components: inside and outside of an Urban Development Area (UDA). The SOIA Area is located within the UDA. Exhibit 3.5-2 shows the location of the SOIA Area in relation to the UDA boundary, and habitat types in the SOIA Area. Inside the UDA is where all proposed urbanization will occur, and therefore, where most incidental take will occur. There will also be some habitat preservation within the UDA. The “inside the UDA” component totals 67,618 acres within the Plan Area. Geographically, the UDA is the portion of the Sacramento County USB, the incorporated Cities of Rancho Cordova and Galt, and Galt’s Sphere of Influence that are also within the Plan Area. The Plan Area component located outside of the UDA totals 250,038 acres. No urban development is covered under the SSHCP outside of the UDA. A limited amount of incidental take is requested for specific infrastructure projects and for species conservation activities proposed outside of the UDA.

The emphasis of the draft SSHCP is to secure large, interconnected blocks of habitat that focus on protecting intact subwatersheds, while minimizing edge effects and maximizing heterogeneity. Habitat losses within the USB would be offset primarily through the establishment of large preserves outside the USB, but core and satellite preserves may be established within the USB. As currently conceived, land developers that convert habitat within the USB would pay a defined per-acre fee to mitigate impacts. These fees would be used to protect, restore, maintain, and monitor habitat.

The process for developing the draft SSHCP was initiated in 1992, predating the 2000 incorporation of the City of Elk Grove. A public review draft of the SSHCP and Implementing Agreement, accompanying joint draft Environmental Impact Statement/draft EIR, and draft Aquatic Resources Program, was released on June 2, 2017, opening a 90-day public comment period that ended September 5, 2017. Public hearings will be held on proposed adoption of the final SSHCP, final EIS/EIR, final Aquatic Resources Program, and final Implementing Agreement in fall and winter of 2017–2018, and an Incidental Take Permit is expected to be issued in Spring 2018 (County of Sacramento et al. 2017a).

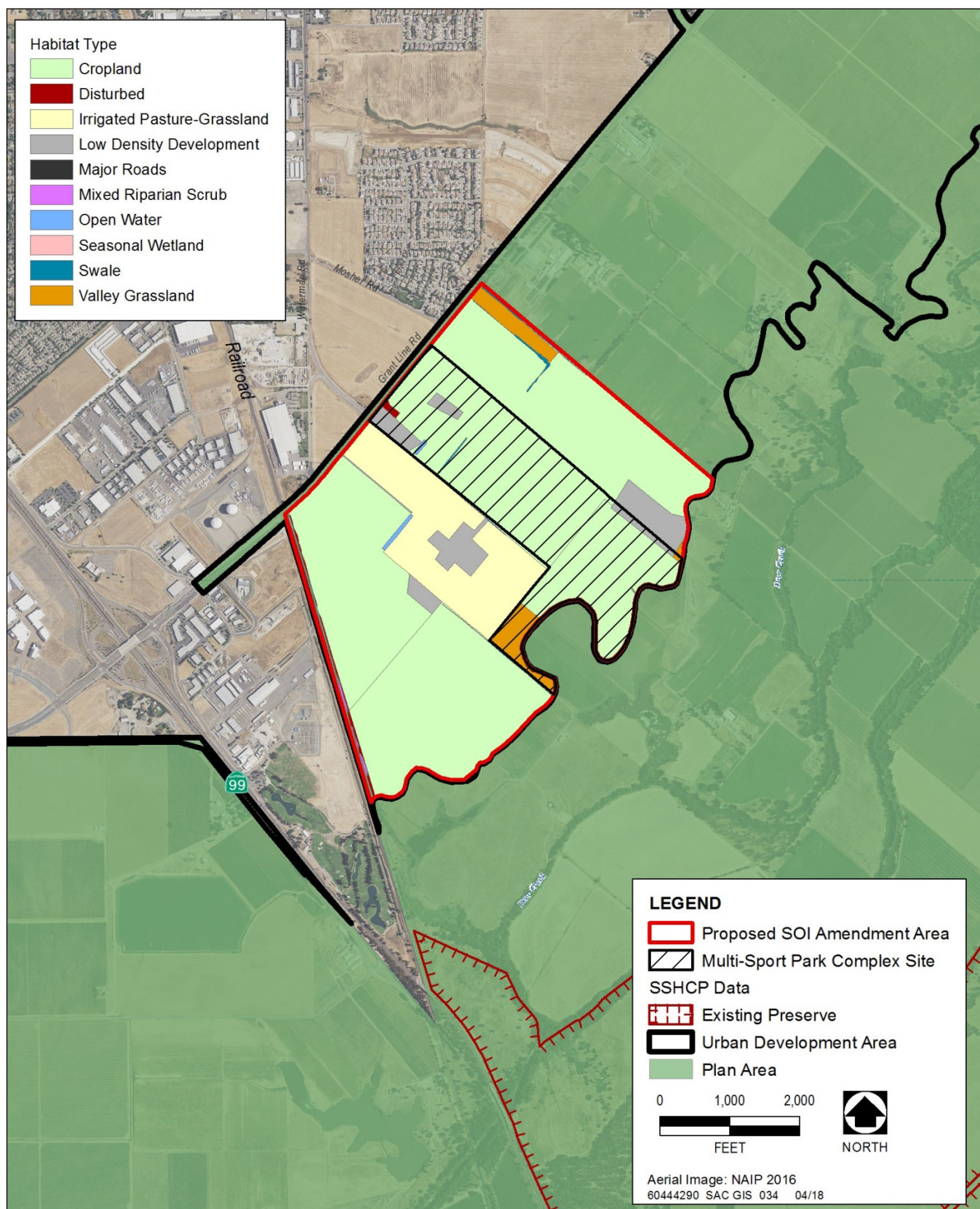
3.5.3 IMPACT ASSESSMENT

METHODOLOGY

This section discusses impacts on special-status natural communities and species as a result of implementation of the SOIA (programmatic-level impact assessment) and construction and operation of the multi-sport park complex project (project-level impact assessment).

The impact analysis for the multi-sport park complex project is based on preliminary designs developed by the City and summarized in the SOIA to LAFCo. The balance of future development in the SOIA Area is not addressed in any development proposal. The environmental analysis is based on an assumption that, conservatively, the entire SOIA Area is potentially subject to development.

Potential impacts on biological resources were determined by mapping and quantifying common and sensitive habitats (i.e., aquatic habitats), and evaluating potential effects on common and special-status species that could result from loss of these habitats and other potential direct and indirect effects. For purposes of the biological resources analysis, it was assumed that all existing habitat in the SOIA Area could eventually be converted to



Source: County of Sacramento et al. 2017a

Exhibit 3.5-2 Location of the SOIA Area in Relation to the UDA Boundary

developed land uses. Potential impacts associated with possible future off-site improvement areas are characterized generally since the design and location for off-site improvements is not known.

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 result in 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.** *The agricultural pond and ditches in the SOIA Area, including the multi-sport park complex site, provide marginally suitable habitat for the special-status plant species Sanford's arrowhead. This species could potentially be present and construction of the multi-sport park complex or future development of the SOIA Area could result in removal of habitat for this species. This impact is considered **potentially significant**.*

Surveys of the multi-sport park complex site found marginal habitat for Sanford's arrowhead in the agricultural pond and ditches. Similar habitat could occur in agricultural aquatic features elsewhere in the SOIA Area. Sanford's arrowhead is typically found in marshes and swamps; however, this species has been recorded in channels throughout Elk Grove in ditches and canals. The potential for this species to be present is relatively low because agricultural aquatic features in the SOIA Area are subject to heavy disturbance from managed hydrology, channel dredging, and vegetation management; however, the potential presence of this species cannot be ruled out. There is one record of Sanford's arrowhead within 1 mile of the SOIA Area and seven previous occurrences within 5 miles (CNDDB 2017). Because of the proximity of known occurrences and the presence of suitable

habitat in the SOIA Area, Sanford's arrowhead may be adversely affected by Project-related activities. Loss of Sanford's arrowhead present in development areas would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.5-1: Conduct Special-status Plant Surveys; Implement Compensatory Mitigation for Special-status Plants (LAFCo and the City of Elk Grove)

Before any vegetation removal or ground-disturbing activities for construction of the multi-sport park complex project, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of Sanford's arrowhead:

- Retain a qualified botanist to conduct protocol-level preconstruction special-status plant surveys for potentially occurring species following the CDFW rare plant survey protocols (CDFG 2009) 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.

Significance after Mitigation

Development in the SOIA Area under the City of Elk Grove's jurisdiction that requires discretionary action, would require General Plan consistency findings, including consistency with Policy CAQ-11 and CAQ-11 Action 1, which suggest that the City will assess special-status plant species occurrences and seek to preserve or mitigate impacts to such species. In addition, implementation of Mitigation Measure 3.5-1 would reduce impacts on potentially-occurring special-status plant species because future project applicants would be required to identify special-status plant or other appropriate measures and implement appropriate avoidance, minimization and mitigation measures. With enforcement of the above mitigation, the impact is **less than significant with mitigation**.

IMPACT 3.5-2 **Adverse effects on valley elderberry longhorn beetle habitat.** *Project-related activities in the SOIA Area, including the multi-sport park complex site, could result in adverse effects on VELB. This impact is considered potentially significant.*

There are seven records of VELB in the nine-quadrangle search area (CNDDDB 2017). One elderberry shrub was observed in the multi-sport park complex site during the site surveys with three stems approximately 1 inch in diameter. No exit holes indicating potential presence of VELB were observed in the stems. Elderberry plants without stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity (USFWS 1999). However, if construction of the multi-sport park complex project does not occur for several years, additional elderberry could establish that could grow to a size sufficient to support VELB.

Surveys for elderberry shrubs and VELB were not conducted elsewhere in the SOIA Area, so the presence of elderberry shrubs and VELB in the SOIA Area cannot be ruled out because elderberry shrubs and VELB can occur in isolated, scattered locations in agricultural areas. VELB has been recorded in the nearby Cosumnes River/Deer Creek riparian corridor, and the entire SSHCP plan area is considered to be within the range of VELB, particularly since isolated elderberry shrubs can occur almost anywhere (County of Sacramento et al.). Because of the potential for loss of elderberry shrubs supporting VELB as a result of construction of the multi-sport park complex project and future development in the balance of the SOIA Area, this impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-2a: Conduct VELB Surveys (LAFCo and the City of Elk Grove)

Before any vegetation removal or ground-disturbing activities for construction of the multi-sport park complex site and off-site improvement areas, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measure to mitigate the potential for impacts on VELB:

- A qualified biologist to 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 (LAFCo and the City of Elk Grove)

If elderberry shrubs are detected with stems greater than 1 inch in diameter and with evidence of VELB occupancy in the multi-sport park complex site or in the balance of the SOIA Area or off-site improvement areas, the City of Elk Grove shall require the following measures 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.

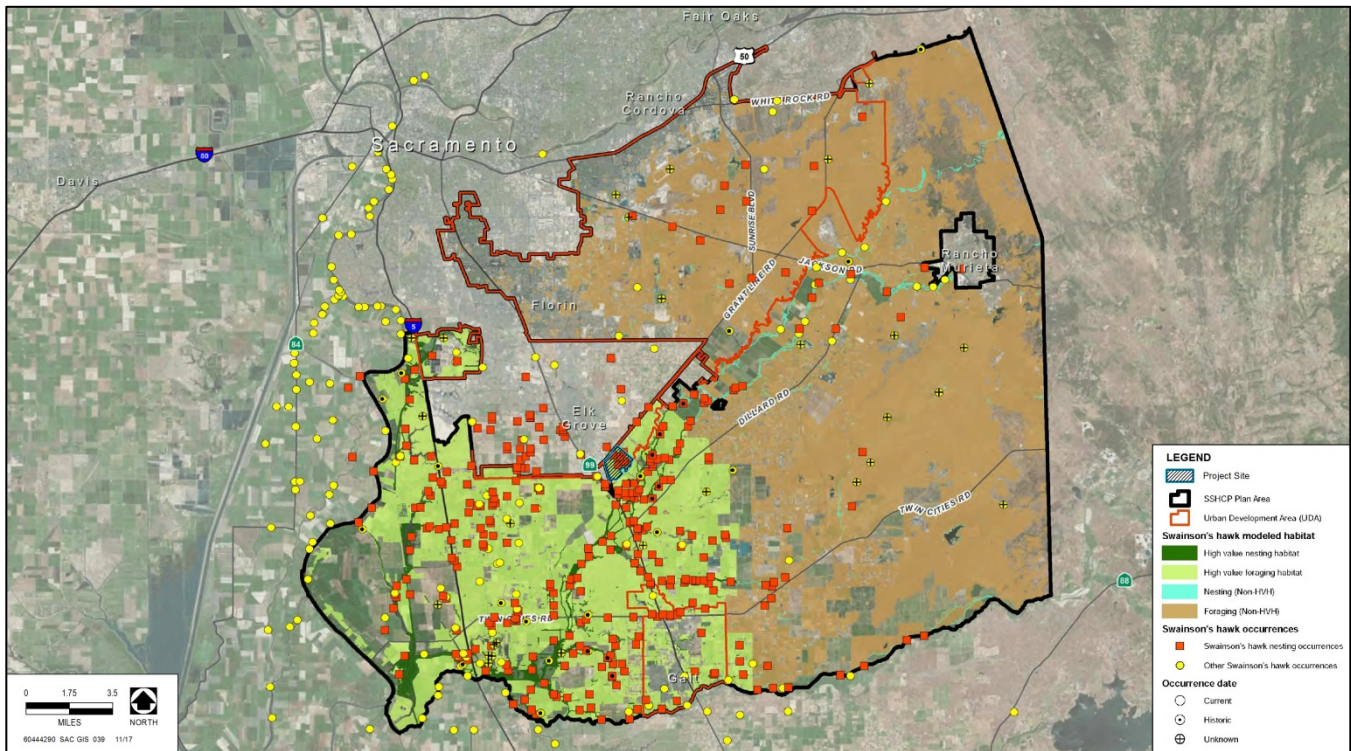
Significance after Mitigation

With implementation of Mitigation Measures 3.5-2a and 3.5-2b, elderberry shrubs in the SOIA Area and off-site improvement areas that could support VELB would be identified and avoided and protected before construction activities occurred, or would be mitigated in accordance with USFWS guidelines. In addition, for development in the proposed SOIA Area under the City of Elk Grove's jurisdiction that requires discretionary action, the City will be required to make General Plan consistency findings, including consistency with Policy CAQ-11 and CAQ-11 Action 1, which suggest that the City will assess special-status wildlife species occurrences and seek to preserve or mitigate impacts to such species and their habitats. With enforcement of the above mitigation, future development would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT 3.5-3 **Loss of nesting and foraging habitat for special-status and other protected raptors.** *Future development in the SOIA Area, including the construction of the multi-sport park complex, would result in conversion from agricultural land uses to urban land uses. This would result in loss of suitable nesting and foraging habitat for special-status raptors (Swainson's hawk, white-tailed kite, northern harrier, and burrowing owl) and common raptors protected under California Fish and Game Code and the MBTA. Loss of nesting and foraging habitat would contribute to a regional reduction in these essential habitats and may contribute to regional population declines of affected species. Future development in the SOIA Area, including the multi-sport park complex site, and off-site improvements required to support the Project, could also disturb active nests on or near the SOIA Area and off-site improvement areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. This impact is considered significant.*

Converting land in the SOIA Area from agricultural to urban land uses would result in removal of approximately 561 acres of cropland that provides suitable foraging habitat for Swainson's hawk, white-tailed kite, northern harrier, and burrowing owl. 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. Exhibit 3.5-3 shows Swainson's hawk occurrences in relation to the SOIA Area. There have been 13 occurrences of Swainson's hawks reported within 1 mile of the SOIA Area and one occurrence of white-tailed kite has been reported within 5 miles (City of Elk Grove 2017). There have been six records of burrowing owl within 5 miles of the SOIA Area (CNDDB 2017).

The draft SSHCP (County of Sacramento et al. 2017a) modeled the SOIA Area as high-value foraging habitat for Swainson's hawk and also as foraging habitat for white-tailed kite. 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 SOIA Area is not modeled in the draft SSHCP as either wintering or nesting habitat for western burrowing owl. Following the ultimate conversion of the SOIA Area to urban uses, the SOIA Area would retain zero foraging habitat value for all of these special-status raptor species.



Source: County of Sacramento et al. 2017a: Figure 3-25

Exhibit 3.5-3 Swainson's Hawk Occurrences in Relation to the SOIA Area

Swainson's hawks generally nest within 2 miles of suitable foraging habitat, which consists of alfalfa, disked fields, fallow fields, dry-land pasture, beets, tomatoes, irrigated pasture, grains, other row crops, and uncultivated grasslands (Estep 1989; Estep Environmental Consulting, 2009a, 2009b). In southern Sacramento County, Swainson's hawk nest territories are aggregated in the south-central part of the county and river bottom lands associated with the Cosumnes River, Deer Creek, and Dry Creek (County of Sacramento et al. 2017a). The concentration of Swainson's hawk nesting territories in region reflects the proximity of high-quality foraging habitat to suitable nesting habitat available along these waterways. Conversion of 84 acres of cropland resulting from construction of the multi-sport park complex site, and potential loss of up to 412 acres (408 acres of irrigated pasture and 6 acres of cropland) in the SOIA Area 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 future development of the SOIA Area and off-site improvement areas is considered a **potentially significant** impact on Swainson's hawk, special-status raptors and other nesting raptors.

In addition, future off-site improvements to roads, sewer lines, drainage facilities, and water lines could result in additional losses of suitable nesting and foraging habitat for raptors in the vicinity of the SOIA Area. All raptors and their active nests, including common species, are protected under Section 3503.5 of the California Fish and Game Code. Common raptors that could nest on or near the SOIA Area and off-site improvement areas include red-tailed hawk and American kestrel and these species were observed foraging in the SOIA Area during reconnaissance surveys. Vegetation removal, grading, and other construction activities associated with development 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.

Future development in the SOIA Area, including the multi-sport park complex, 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 located on or near the SOIA Area and off-site improvement areas, resulting in nest abandonment by adult birds and abandonment of chicks and eggs, causing mortality. Direct and indirect impacts on active raptor nests or burrows are considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-3a: Avoid Direct Loss of Swainson's Hawk and Other Raptors (LAFCo and the City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures 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 SOIA Area or possible 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 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 (LAFCo and the City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures 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 D 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 (City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require 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.

Significance after Mitigation

Implementing Mitigation Measures 3.5-3a, 3.5-3b, and 3.5-3c would reduce significant impacts on white-tailed kite, northern harrier, burrowing owl, and other raptors because it would ensure that these species are not disturbed during nesting so that Project 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 the project applicant 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.

In addition, development occurs in the proposed SOIA Area under the City of Elk Grove's jurisdiction that requires discretionary action will require General Plan consistency findings, including consistency with Policy CAQ-11 and CAQ-11 Action 1, which suggest that the City will assess special-status wildlife species occurrences and seek to preserve or mitigate impacts to such species and their habitats.

However, even with mitigation measures such as those outlined above, the impact on Swainson's hawk loss of high-value foraging habitat resulting from construction of the multi-sport park complex site (84 acres of cropland) and eventual conversion foraging habitat in the balance of the SOIA Area (412 acres of irrigated pasture and cropland) 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 in the SOIA Area 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. The impact on Swainson's hawk would remain **significant and unavoidable**.

With enforcement of the above mitigation, future development in the multi-sport park complex site and the balance of the SOIA Area 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 loggerhead shrike, Modesto song sparrow, and common nesting birds.** *Conversion from agricultural to urban land uses would result in loss and disturbance of potential nesting habitat for loggerhead shrike, Modesto song sparrow, and common birds protected under the MBTA. Future development in the SOIA Area, including the multi-sport park complex, and associated off-site improvement areas could disturb active nests on or near construction sites, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. This impact is considered **potentially significant**.*

The multi-sport park complex site contains approximately 84 acres of cropland. The balance of the SOIA Area contains 6 acres of cropland and approximately 408 acres of irrigated pasture habitat. Both cropland and irrigated pasture provides suitable foraging habitat these species, as well as other migratory species. There are no nearby occurrences of mountain plover, northern harrier, or loggerhead shrike; however, the SOIA Area provides nesting and/or foraging habitat for all three species. In addition, possible future off-site improvements to roads, sewer lines, drainage facilities, and water lines could result in additional losses of suitable nesting habitat in the vicinity of the SOIA Area. It is possible that such improvements could affect nesting habitat for other special-status bird species, such as tricolored blackbird, mountain plover, or northern harrier. Removal or disturbance of potentially suitable habitat during construction in the SOIA Area and off-site improvement areas could result in nest abandonment and loss of eggs or young if an active loggerhead shrike, mountain plover, or other special-status bird nest were to be present during ground-disturbing activities.

Vegetation removal and ground disturbances could result in direct destruction of active nests of common birds protected under the MBTA or California Fish and Game Code. Project construction could also result in indirect disturbance of breeding birds causing nest abandonment by the adults and mortality of chicks and eggs. 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.

Nesting habitat for loggerhead shrike is very limited in the SOIA Area because there are very few shrubs present. Loss of an active loggerhead shrike nest would be a **potentially significant impact** because this species is a solitary nester that needs larger territories per pair (10 to 40 acres) and it is unknown how many pairs are nesting in the Elk Grove area (CDFW 2018). There are no CNDDDB records of this species in the nine quadrangles containing and surrounding the SOIA Area suggesting there may be a very limited number of them nesting in this area.

Mitigation Measures

Mitigation Measure 3.5-4: Avoid Direct Loss of Loggerhead Shrike and Protected Bird Nests (LAFCo and the City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential loss of 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), conduct a preconstruction survey. The preconstruction survey shall be conducted by a qualified biologist before any activity occurring within 500 feet of suitable nesting habitat for any protected bird species. The survey shall be conducted within 14 days before vegetation removal, grading, and other ground-disturbing activities begin.
- If an active nest of loggerhead shrike, song sparrow, other 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.
- Monitoring of all protected 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 exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist.

Significance after Mitigation

Mitigation Measure 3.5-4 would reduce potentially significant impacts on loggerhead shrike and protected bird nests because it would ensure these birds are not disturbed during nesting so that Project construction would not result in nest abandonment and loss of eggs or young. The impact is **less than significant with mitigation**.

IMPACT 3.5-5	Disturbance of nesting by tricolored blackbirds. <i>Future development within the SOIA Area, including the multi-sport park complex, could result in loss of foraging habitat and disturb nesting colonies that might occur near the SOIA Area and off-site improvement areas, potentially resulting in nest abandonment by the adults and mortality of chicks and eggs. This impact is considered potentially significant.</i>
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Blackberry thickets in ditches of the proposed multi-sport park complex site could provide nesting habitat for tricolored blackbirds, and the agricultural lands in the SOIA Area provide suitable foraging habitat for this

species. Development in the multi-sport park complex site could disturb active nesting tricolored blackbird colonies. If there is future development within the SOIA Area, this could disturb active nesting tricolored blackbird colonies in or near the SOIA Area, and would result in loss of foraging habitat. In addition, possible future off-site improvements to roads, sewer lines, drainage facilities, and water lines could result in losses of suitable nesting and foraging habitat for tricolored blackbird in the vicinity of the SOIA 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. No tricolored blackbird nesting colonies have been recorded in the SOIA Area, but there is a 1981 record of 100 birds nesting in blackberry bushes near the intersection of Kammerer Road and Bruceville Road, approximately 4 miles south west of the SOIA Area. This nesting colony may still be extant, as suitable habitat still exists at that location and the immediate area has not yet been developed. Several other nesting records from the City of Elk Grove exist, but are or may be extirpated (removed) because they occur in areas that have been developed and recent surveys have not detected any tricolored blackbirds at these locations.

Vegetation removal and ground disturbances could result in disturbance to nesting colonies of tricolored blackbirds, causing nest abandonment by the adults and mortality of chicks and eggs. Loss of even a small colony of tricolored blackbirds, which is currently a candidate for listing as endangered by CDFW, is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-5: Avoid Impacts on Tricolored Blackbird Colonies (City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate the potential impacts on nesting colonies of tricolored blackbirds:

- A qualified biologist shall conduct preconstruction surveys to determine if active tricolored blackbird nests are present within a 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 of nesting tricolored blackbird. Preconstruction surveys shall be conducted during the breeding season (March 1 through August 31). 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.
- If active nests are found within the project footprint or within 500 feet of any project-related activity, a 500-foot temporary buffer around the active nest shall be maintained until the young have fledged. A qualified biologist experienced with tricolored blackbird behavior shall monitor the nest 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 tricolored blackbirds 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 tricolored blackbirds. If the biologist determines that the 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 tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).

Significance after Mitigation

Loss of agricultural foraging habitat for tricolored blackbirds would be addressed simultaneously with implementation of Mitigation Measures 3.5-3a and 3.5-3c, which require compensation for the loss of Swainson's hawk foraging habitat. Successful implementation of mitigation measures would reduce impacts on tricolored blackbird because they would ensure that disturbance to active nesting colonies would be avoided. With enforcement of the above mitigation measures, future development in the SOIA Area, including the multi-sport park complex, and off-site improvements would be designed to avoid and minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT 3.5-6 Potential for injury to or mortality of American badger. *Conversion of the SOIA Area, including the multi-sport park complex, from agricultural to urban land uses could result in direct impacts to American badger. This impact is considered **potentially significant**.*

Construction activities associated with future development in the SOIA Area, including the multi-sport park complex, and off-site improvement areas 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. 2017a). Project-related injury or death to an American badger, particularly if a natal den was destroyed, is considered a **potentially significant impact**.

Mitigation Measures

Mitigation Measure 3.5-6: Avoid Direct Loss of American Badgers (LAFCo and the City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate impacts on American badger.

- 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, the 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 Measure 3.5-6 would reduce impacts on badgers by identifying any badger dens that might occur in impact areas, and by implementing measures to avoid impacts. In addition, development in the proposed SOIA under the City of Elk Grove's jurisdiction that requires discretionary action, will require General Plan consistency findings, including consistency with Policy CAQ-11 and CAQ-11 Action 1, which suggest that the City will assess special-status wildlife species occurrences and seek to preserve or mitigate impacts to such species and their habitats. With enforcement of the above mitigation, construction in the SOIA Area, including the multi-sport park complex and off-site improvements, would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT 3.5-7 **Disturbance, degradation, or removal of federally protected waters of the United States.** *Future development in the SOIA Area, including the multi-sport park complex, could convert agricultural lands to urban uses. This could result in the disturbance, degradation, and/or removal of federally protected wetlands or other waters of the U.S. If the Corps of US Corps of Engineers determines that aquatic features on the proposed multi-sport park complex project are jurisdictional, and if the balance of the SOIA Area or off-site improvement areas support jurisdictional waters of the U.S., Project-related activities could result in the loss of federal wetlands. This impact is considered **potentially significant**.*

A total of ±0.707 acre of agriculture ditches and 0.257 acre of agriculture pond occur in the multi-sport park complex site. The ditches and ponds are currently presumed to be nonjurisdictional because based on a review of aerial photographs and field investigation, the source of water in the multi-sport complex is a pump (City of Elk Grove 2017). Therefore, although these features drain to a ditch on Grant Line Road and eventually into Deer Creek, which is a jurisdictional waterways, the ditches and pond are primarily agricultural features sustained through ground water pumping (City of Elk Grove 2017). Confirmation of their jurisdictional status of the multi-sport park complex ditches and ponds is pending review and approval by the USACE. A jurisdictional wetland delineation of the agricultural ditches elsewhere within the SOIA Area has not yet been conducted. If aquatic features in the multi-sport park complex site or aquatic resources 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 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.

In addition to direct impacts described above, downstream waters could be indirectly affected by creation of impervious surfaces and increased runoff from the SOIA Area. Potential indirect effects to downstream waters include reduction in water quality caused by urban runoff, erosion, and siltation, and increased flow volumes/altered hydrology. This impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-7: Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State (LAFCo and the City of Elk Grove)

Before construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures 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 on-site 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 project applicant for each project requiring fill of waters shall replace or restore on a “no-net-loss” basis the function of all wetlands and other waters that would be removed as a result of implementing the respective project. 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, project applicants shall obtain a USACE Section 404 Individual Permit and Central Valley RWQCB Section 401 water quality certification 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.
- The project applicant shall have a qualified biologist 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.

Significance after Mitigation

Development in the proposed SOIA, including the multi-sport park complex, under the City of Elk Grove's jurisdiction that requires discretionary action will require General Plan consistency findings, including consistency with Policy CAQ-9 and CAQ-9 Action 1, which requires avoidance of wetlands, where feasible, and no net loss where it is infeasible to avoid adverse effects. In addition, successful implementation of Mitigation Measure 3.5-7 would reduce potentially significant impacts on waters of the United States and waters of the state because it would ensure no net loss of function of aquatic habitat, and would require applicants to develop 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 enforcement of the above mitigation measure, future development in the SOIA Area, including the multi-sport park complex, and off-site improvements would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT 3.5-8 **Interference with wildlife nursery sites or migratory corridors.** *Future development of the SOIA Area, including the multi-sport park complex, could result in impacts on wildlife nursery sites, movement corridors or migratory routes. This impact is considered less than significant.*

No native wildlife nursery sites have been identified in the SOIA Area, including the multi-sport park complex project site. The SOIA Area 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 at the 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 in the SOIA Area, and converting land in the SOIA Area 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 SOIA Area 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 draft SSHCP (County of Sacramento et al. 2017a) does not identify the SOIA Area as part of any migratory routes or wildlife corridors. The SSHCP 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 SOIA Area is not located within either of these corridors.

The SOIA Area is 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 SOIA Area as winter resting (stop-over) and foraging habitat, loss of agricultural habitat from the SOIA Area would not create a barrier to movement of migratory species. Loss of SOIA Area agricultural habitat 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 SOIA Area. 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 SOIA Area, including the multi-sport park complex site, does not currently provide an important connection between any areas of natural habitat that would otherwise be isolated, and converting land in the SOIA Area from agricultural to urban land uses would not cause any areas of natural habitat to become isolated. Therefore, Project implementation would not have an impact on wildlife movement or nursery sites, and this potential impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.5-9	Conflicts with local policies and ordinances protecting biological resources. <i>Development in the SOIA Area, including the multi-sport park complex site, and associated off-site improvement areas could conflict with the City's tree ordinance and policies outlined in the Elk Grove General Plan that apply to special-status species, wildlife habitats, streamside habitats, and agricultural open space. This impact is considered potentially significant.</i>
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The SOIA Area, including the multi-sport park complex site contains scattered native trees, including valley oaks, that would be considered trees of local importance under Section 19.12.040 of the City code. Possible future off-site improvement areas may contain additional trees that qualify as trees of local importance. Elk Grove General Plan Policy CAQ-8, acknowledges that trees can function as important natural habitat features and thus should be retained, to the extent possible. The large native oaks on-site, as well as other large, nonnative, ornamental species in the eastern portion of the SOIA Area provide potential nest sites for raptors, including Swainson's hawk. Converting land in the SOIA Area from agricultural to urban land uses, and construction of possible off-site improvements, could result in removal of trees protected under the City tree ordinance and/or General Plan policy. The City's tree ordinance 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.

While the SOIA Area does not contain any natural streams, and off-site improvement areas could contain natural streams and wetlands. Removal of the canal and ditches and 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 CAQ-9, CAQ-11, and CAQ-17). In addition, General Plan Policy PTO-15 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 SOIA Area 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 agricultural land to urban uses, which could occur if there is development of the SOIA Area in the future, would conflict with this General Plan policy.

In sum, there is the potential for conflict with the City's tree ordinance and with General Plan policies through removal of large trees, aquatic habitat (canals and ditches, streamside habitat, and wetlands), and agricultural open space. This impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-9a: Implement Mitigation Measures 3.5-3c (Implement the City of Elk Grove Swainson's Hawk Foraging Habitat Mitigation Program) and 3.5-7 (Avoid, Minimize, or Compensate for Loss of Waters of the United States and Waters of the State)

Mitigation Measure 3.5-9b: Implement Mitigation Measure 3.2-2 (Prepare and Implement a Tree Mitigation Plan to Reduce Effects on Trees of Local Importance)

Significance after Mitigation

Successful implementation of Mitigation Measures 3.5-9a and 3.5-9b would reduce potentially significant impacts related to conflicts with City ordinances and policies protecting biological resources because it would require project applicants to avoid protected trees and aquatic habitats if technically feasible and would require compensation for loss of function of aquatic habitat and loss of agricultural habitat that provides habitat values for special-status species. With enforcement of the above mitigation measure, future development in the SOIA Area, including the multi-sport park complex, and off-site improvements would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT 3.5-10	Conflicts with the provisions of an adopted habitat conservation plan. <i>Development in the SOIA Area, including the multi-sport park complex, and associated off-site improvement areas in the future are not likely to conflict with the provisions of the SSHCP, if it is adopted before development in the SOIA Area. This impact is considered less than significant.</i>
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The draft SSHCP, described previously in Section 3.5.2, "Regulatory Framework," includes the SOIA Area in its plan area; however, the City of Elk Gove is no longer a participant in the proposed SSHCP. Adoption of the SSHCP is anticipated to occur sometime in 2018 (County of Sacramento et al. 2017b); therefore, the SSHCP could be adopted before the SOIA Area is annexed into the City of Elk Grove.

The draft SSHCP identifies 67,618 acres of UDA, which corresponds with the County's USB, and 33,499 acres of planned impact within that UDA. The SOIA Area is located within the UDA and therefore habitat loss within the SOIA Area 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 3.5-5 are consistent with the avoidance, minimization and mitigation measures for covered species described in the draft SSHCP. Therefore, development in the SOIA Area and associated off-site improvement areas in the future is not likely to conflict with the provisions of the SSHCP, if it is adopted before annexation and development of the SOIA Area. The impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.5-11 **Loss of riparian habitat and sensitive natural communities.** *Possible future off-site improvements could result in loss of riparian habitat or other sensitive natural communities if they are present in off-site improvement areas and would be removed by Project development. This impact is considered **potentially significant**.*

No riparian communities or other sensitive natural communities are present in the SOIA Area, including the multi-sport park complex site; however, since the location of possible future off-site improvement areas is unknown, annexation and eventual development of the SOIA Area could result in direct removal of sensitive natural communities or riparian habitats if they are present in future off-site improvement areas required to support eventual development of the SOIA Area. 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. This impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-11: Avoid, Minimize, or Compensate for Loss of Riparian Habitat and Sensitive Natural Communities (City of Elk Grove)

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 improvement projects 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 on-site 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 are present in off-site improvement areas and cannot feasibly be avoided, the project applicant shall coordinate with the City of Elk Grove and 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 on-site, habitat restoration off-site, or preservation and enhancement of existing habitat/natural community offsite. 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.

If required, the project applicants shall obtain a Section 1602 streambed alteration agreement from CDFW and comply with all conditions of the agreement.

Significance after Mitigation

Successful implementation of Mitigation Measure 3.5-11 would reduce potentially significant impacts related to riparian habitat and sensitive natural communities because it would require project applicants to avoid these habitats if technically feasible and would require compensation for loss of riparian habitat and sensitive natural communities. With enforcement of the above mitigation measure, future development in off-site improvement areas would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

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3.6 CULTURAL RESOURCES

This section describes the potential impacts on cultural resources (archaeological and built-environment resources) located within the proposed SOIA Area, which includes the multi-sport park complex site. Cultural resources are defined as buildings, sites, districts, structures, burials, or objects having historical, architectural, archaeological, or cultural importance. Generally resources can be split into three categories: prehistoric or historical archaeological sites; built environment resources, which includes buildings, structures, objects, districts, and landscapes; and Traditional Cultural Properties or Tribal Cultural Resources, or places or artifacts with a special cultural significance to Native Americans. The section begins by describing the natural and cultural environmental setting identified through background research, Native American consultation, and field investigations, and is followed by an overview of pertinent regulations and, finally, an impact analysis. See Cultural Resources Appendix D for additional detail regarding the environmental setting, cultural resources survey, and area cultural resources.

3.6.1 ENVIRONMENTAL SETTING

The SOIA Area is located in the lowland Central Valley and the Sacramento–San Joaquin Delta (Delta), an area characterized by low-elevation prairie and marsh lands. The landform consists of low alluvial terraces of San Joaquin silt loam and 0–1% percent slopes. The rich soil of the prairie and marshland environment supports the region's abundant native and nonnative flora and fauna as well as its historic and modern agricultural practices. Ethnographic Native American populations used this environment to support seasonal subsistence and settlement strategies (Kroeber 1929; Levy 1978; Moratto 1984).

Historic and modern agriculture has focused on livestock ranching, vegetable and fruit farming, and fisheries as part of the Central Valley's historic agricultural tradition. Since the late 20th century, Elk Grove has been transforming portions of the former as a result of development. Below is a summary of background information presented in Appendix D.

PREHISTORY/ETHNOGRAPHY

The earliest well-documented entry and spread of native peoples throughout California occurred at the beginning of the Paleo-Indian Period (approximately 12,000–8000 years Before Present [B.P.]). Social units are thought to have been small and highly mobile. Known sites have been identified in the contexts of ancient pluvial lakeshores and coastlines, as evidenced by such characteristic hunting implements as fluted projectile points and flaked stone crescent forms.

Few archaeological sites have been found in the vicinity of the SOIA Area that date to the Paleo-Indian Period or the subsequent Lower Archaic time period (approximately 8000–5000 B.P.). Archaeologists have, however, recovered a great deal of information from sites occupied during the Middle Archaic Period (approximately 5000–2500 B.P.). By this time, broad regional subsistence patterns gave way to more intensive procurement practices. Economies were more diversified, possibly including the introduction of acorn-processing technology, and populations were growing and occupying more diverse settings. Permanent villages that were occupied throughout the year were established, primarily along major waterways. The onset of status distinctions and other indicators of growing sociopolitical complexity mark the Upper Archaic Period (approximately 2500–1300 B.P.). Exchange systems became more complex and formalized, and evidence of regular sustained trade between groups was more prevalent. Territorial boundaries between groups became well established in the Emergent Period

(approximately 1300–200 B.P.), and it became increasingly common for distinctions in an individual's social status to be linked to acquired wealth. In the latter portion of this period (500–200 B.P.), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit, and specialists arose to govern various aspects of production and material exchange. (Moratto 1984)

The SOIA Area is 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 SOIA Area. The City of Elk Grove planning area 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 2003a).

HISTORIC PERIOD

The SOIA Area is located outside the Elk Grove City limits, south of Grant Line Road, and west of the Cosumnes River. 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 through the region in the 1870s. Businesses such as general stores, a meat market, hardware store, drugstores, a hotel, dressmaker and millinery shops, a boot shop and harness shop were established to support the needs of the growing community which was characterized by large ranches and farms. Other businesses that supported the agricultural community involved in small-scale subsistence farming, large-scale farming, dairy farming, and livestock husbandry around the area included a flour mill, the railroad depot, hay warehouse, and a blacksmith. By this time, the population of California was growing, rapidly resulting in an ever increasing demand for ranch and agricultural products. South of Elk Grove and Grant Line Road, in the former Rancho Omochumnes Mexican land grant, ranches sprang up on narrow strips of land that were subdivided to provide access to both the road and river (Page & Turnbull 2012).

The SOIA Area is located within the former boundaries of the Rancho Omochumnes Mexican land grant, and was historically used for farming and ranching and 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 in the SOIA Area, generally from north to south. The Mosher Ranch at 10161 Grant Line Road (Assessor Parcel Number [APN] 134-0190-002) within the proposed SOIA Area and north of the multi-sport park complex site 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).

Another historic ranch in the SOIA area is the Mahon Ranch at 10171 Grant Line Road (APN 134-0190-003). The northwestern end of the property that is agricultural field is part of the multi-sport park complex project. 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 (though not located near the multi-sport park complex site). 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 south of the multi-sport park complex site within the SOIA Area 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 (UCSB 2017; NETRonline 2016).

Lastly, at the lower portion of the SOIA Area is the 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 RESOURCE STUDIES

A records search was conducted at the California Historical Resources Information System (CHRIS) North Central Information Center (NCIC) in Sacramento on December 10, 2015, and consisted of SOIA Area and a 0.5-mile study radius. One study has been conducted in the proposed multi-sport park complex site and seven studies have been conducted previously in the SOIA Area. Ten studies have been conducted within the 0.5-mile study area radius, resulting in eight identified cultural resources. Based on the records search results, no known cultural resources have been previously identified in the proposed multi-sport park complex site and one cultural resource, the Southern Pacific Railroad, was identified previously in the SOIA Area.

The 2012 *Elk Grove Historic Context and Survey Report* was prepared to identify historic patterns and themes that contributed to the physical development of the city and to support identification and evaluation efforts of historic properties. As part of this historic context, the Mosher Ranch and Mahon Ranch were described in historic context and the Mahon Ranch at 10171 Grant Line Road was noted as “the best remaining example of an agricultural property developed during the 1868–1892 time period; however, neither of the properties were surveyed for the report and have not been formally identified as historical resources for the purposes of CEQA (Page & Turnbull 2012).

NATIVE AMERICAN CONSULTATION

Native American consultation was initiated for SOIA Area. In compliance with Assembly Bill (AB) 52, the Native American Heritage Commission (NAHC) was contacted on October 15, 2015, to obtain a CEQA tribal consultation list and to request a search of the Sacred Lands File. In its response dated October 27, 2015, the NAHC stated that the Sacred Lands File did not indicate the presence of Native American resources in the vicinity of the SOIA Area, but listed eight Native American organizations and individuals who may have knowledge of cultural resources in the SOIA Area. LAFCo and the City sent letters to these parties on November 19, 2015, thereby initiating the comment period. A single request for consultation was received from Shingle Springs Rancheria that the tribe was unaware of any known cultural resources at the site, but would like continued consultation as the Project continues. The record of consultation correspondence is contained in the technical report (Appendix D).

CULTURAL RESOURCE FIELD INVESTIGATIONS

On January 12 and 16, 2016, an archaeological pedestrian survey was completed for the proposed multi-sport park complex site and no archaeological resources were encountered during the survey. In addition, an architectural historian conducted a survey of the sports complex area and a reconnaissance survey of the remainder of the SOIA Area. No historic-age built-environment resources were observed in the multi-sport park complex site; however, 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. While no built environment is extant, a cluster of large oak trees that surrounded the original house location are present and field cultivation is not undertaken within the former house site. The area outside of the former house location is under cultivation.

3.6.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws pertaining to cultural resources are applicable.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Environmental Quality Act Statute and Guidelines

CEQA defines cultural and historical resources broadly. Cultural resources can include remains of prehistoric habitations and activities, historic sites and materials, and places used for traditional Native American observances or places with special cultural significance. In general, any trace of human activity over 50 years in age is required to be treated as a potential cultural resource.

According to the CEQA Guidelines (Section 15064.5[a][3]), a historical resource is generally considered significant if it meets the criteria for listing in the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1; California Code of Regulations, Title 14, Section 4852). An historical resource is defined as any site that is:

- (a) listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR, or determined to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California; and
- (b) eligible for listing in the CRHR (criteria noted below); or
- (c) included in a local register of historical resources, as defined by Public Resources Code Section 5020.1(k), or identified as significant in an historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g).

The CRHR includes resources that are listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or have been identified in a local inventory of historical resources may be eligible for listing in the CRHR and are presumed to be significant resources under CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code Section 5024.1; California Code of Regulations, Title 14, Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it:

- (1) is associated with events or patterns of 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; or
- (2) is associated with the lives of persons important to local, California, or national history; or
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The CRHR definition of integrity and its special considerations for certain properties differ slightly from those for the NRHP. Integrity is defined as “the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.” The CRHR further states that eligible resources must “retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance,” and lists the same seven aspects of integrity used to evaluate properties under the NRHP criteria. The CRHR’s special considerations for certain property types are limited to moved buildings, structures, or objects; historical resources achieving significance within the past 50 years; and reconstructed buildings.

The CEQA Guidelines also require consideration of unique archaeological resources (Section 15064.5). Public Resources Code Section 21083.2(g) includes the following definition:

A “unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- (2) has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

Assembly Bill 52

Assembly Bill (AB) 52, enacted in 2014, amended sections of CEQA regarding Native American involvement and established a new resource category, “tribal cultural resources,” and states that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource may have a significant effect on the environment.

Section 21074 was added to the Public Resources Code to define tribal cultural resources, as follows:

21074. (a) “Tribal cultural resources” are either of the following:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - (2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

AB 52 requires the CEQA lead agency to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests written information from the lead agency about projects in that area and requests consultation. The consultation must occur before the lead agency determines whether a negative declaration, mitigated negative declaration, or environmental impact report is required. In addition, AB 52 establishes the following time limits for responses regarding consultation:

- ▶ Within 14 days after the lead agency determines that a project application is complete or a public agency decides to undertake a project, the lead agency must formally notify the designated contacts or tribal representatives of traditionally and culturally affiliated California Native American tribes that have requested notice.
- ▶ The California Native American tribe has 30 days after receiving formal notification from the public agency to request consultation.
- ▶ The lead agency must begin the consultation process within 30 days of receiving a California Native American tribe's request for consultation.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Elk Grove General Plan

The following policies and actions are related to cultural resources from the Historic Resources Element of the City General Plan.

- ▶ **Policy HR-1:** Encourage the preservation and enhancement of existing historical and archaeological resources in the City.
- ▶ **Policy HR-3:** Encourage restoration, renovation, and/or rehabilitation of all historic structures.
- ▶ **Policy HR-6:** Protect and preserve prehistoric and historic archaeological resources throughout the City.
 - **HR-6-Action 1** In areas identified in the Background Report as having a significant potential for containing archaeological or paleontological artifacts, require completion of a detailed on-site study as part of the environmental review process. Implement all recommended mitigation measures.

Elk Grove Municipal Code, Chapter 7, Historical Preservation

Chapter 7 of the Elk Grove Municipal Code is designed to provide for the identification, designation, protection, enhancement, perpetuation, and use of historic resources (buildings, structures, objects, sites, districts, and cultural landscapes) in Elk Grove that reflect special elements of the city's heritage and cultural diversity for the following reasons:

- ▶ to encourage public knowledge, understanding, appreciation, and use of the city's past;
- ▶ to foster civic pride in the beauty and character of the city and in the accomplishments of its past;
- ▶ to enhance the visual character of the city by encouraging reuse of old buildings and construction that complements nearby historic resources;

- ▶ to increase the economic benefits of historic resource preservation to the city and its inhabitants;
- ▶ to protect property values within the city;
- ▶ to identify as early as possible and resolve conflicts between the preservation of historic resources and alternative land uses; and
- ▶ to conserve valuable material and energy resources by ongoing use and maintenance of the built and natural environment.

3.6.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The evaluation for the potential for cultural resources to be affected by the multi-sport park complex project and proposed SOIA is based on background information, including a records research, literature review, AB 52 consultation, and field investigations for information about the presence of known and the potential for the occurrence of unknown cultural resources.

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, as amended. The proposed Project would have a significant impact on 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.

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:

- ▶ convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR;
- ▶ account 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

- ▶ convey its historical significance and that justify its eligibility for inclusion in the CRHR, as determined by a lead agency for purposes of CEQA.

In accordance with Appendix G of the CEQA Guidelines and Public Resources Code Section 21074, 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 Public Resources Code Section 15064.5;
- ▶ Cause a substantial adverse change in the significance of a unique archeological resource pursuant to Public Resources Code Section 15064.5;
- ▶ Disturb any human remains, including those interred outside formal cemeteries; or
- ▶ Cause a substantial adverse change in the significance of a Tribal Cultural Resource.

IMPACTS ANALYSIS

IMPACT 3.6-1 Substantial adverse change in the significance of known historical resources. *No historical or unique archaeological resources have been identified within the SOIA Area, including the multi-sport park complex site. No impact would occur.*

There are no known historical resources or unique archaeological resources identified with the SOIA Area including the multi-sport park complex site. 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]).

According to CEQA Guidelines, if the lead agency finds that a resource is neither an historical resource nor a unique archaeological resource, the effects of the project on the resource shall not be considered significant.

As no historical or unique archaeological resources have been identified, **no impact** would occur.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.6-2 **Potential to cause a substantial adverse change in the significance of an unknown historical resource or unique archeological resource.** *Although no significant historical resource or unique archaeological resource are known to exist within the SOIA Area, it is possible that, during implementation of the multi-sport complex park project, potential future projects within the SOIA Area, or off-site improvements, previously undiscovered cultural resources could be inadvertently exposed. Unless properly evaluated and managed, this could result in significant impact to one or more historical resource(s) or unique archaeological resource(s). This impact is considered **potentially significant**.*

Archaeology

The SOIA Area has moderate sensitivity for archaeological resources, which increases to high sensitivity for prehistoric archaeological resources 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. Therefore, the potential for encountering significant archaeological resources in the SOIA Area is moderate to high.

As part of the environmental review process, the City's General Plan HR-6-Action 1 requires a detailed on-site study of potential archaeological resources impacts for projects in locations that have a significant potential for containing archaeological artifacts and implementing all mitigation measures. Potential mitigation measure treatment methods for significant and potentially significant resources may include, but would not be limited to, no action (i.e., for resources determined not to be significant), avoidance of the resource through changes in construction methods or project design, or implementation of a program of testing and data recovery, in accordance with applicable State requirements and/or in consultation with affiliated Native American tribes. Although no unique archaeological resource is known to exist within the SOIA Area, it is possible that during implementation of potential future projects within the SOIA Area or off-site improvements required to serve the SOIA Area that previously undiscovered buried cultural resources could be inadvertently exposed. Unless properly evaluated and managed, this could result in significant impact to one or more historical resource(s) or unique archaeological resource(s). This impact is considered **potentially significant**.

Historic Architecture

Although no specific plans have been developed for the balance of the SOIA Area, future development of the area is anticipated to be consistent with the prezoning, which includes commercial/industrial zoning near the railroad tracks and mixed uses in the northeastern portion of the SOIA Area. Because the potential for encountering potentially significant built-environment resources in the SOIA Area is moderate to high, additional studies of built-environment resources will be conducted as part of future project-specific CEQA impact assessments and mitigated according to the parameters defined in this EIR.

The SOIA Area has 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 SOIA Area were developed by 1909 and 1952 and are of historic age. 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-environmental historical resources are known to exist within the SOIA Area, it is

possible that during implementation of potential future projects within the SOIA Area or off-site improvements required to serve the SOIA Area that historical resources could be effected – either previously unknown or whose significance was previously unknown. Unless properly evaluated and managed, this could result in 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 (City of Elk Grove)

Archaeology

Prior to the approval of subsequent development projects in the SOIA Area, 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, and updated Native American consultation. 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 subsequent development projects in the SOIA Area, 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 (City of Elk Grove)

Archaeology and Historic Architecture

If the evaluation determines that a cultural resources site is an historical resource for the purposes of CEQA, the subsequent 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 deposited with the appropriate museum or collection.

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 (City of Elk Grove)

Archaeology

If previously unknown archaeological cultural resources (i.e., prehistoric sites, historical sites, and isolated artifacts) are discovered during 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. The project proponent shall be required to implement any mitigation deemed necessary for the protection of archaeological resources. The City shall consider mitigation recommendations presented by a professional archaeologist for any unanticipated discoveries. The City and the project applicant of the site where the discovery is made shall consult and agree on implementation of a measure or measures that the City deems feasible. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of archaeological cultural resources.

Historic Architecture

Not applicable

Significance after Mitigation

Archaeology Implementation of these mitigation measures to the SOIA Area outside the multi-sport park complex would reduce the potential impacts on unknown archaeological cultural resources. With enforcement of the above mitigation measures, existing cultural resources regulations, and City of Elk Grove policies, and as conditions of approval for future development in balance of the SOIA Area would be designed to identify previously unknown archaeological cultural resources and minimize potential impacts. Although the extent of potential projects and improvements is not known at this time, implementation of the mitigation measures, existing cultural resources regulations, and City of Elk Grove policies for future development in the SOIA Area have been proposed.

However, it is possible that potential projects and improvements for future construction in the SOIA Area outside the multi-sport park complex, including off-site improvement areas, could cause substantial adverse change if the project and improvements would result in the physical demolition, destruction, relocation or alterations 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. This impact would be significant, even with the implementation of Mitigation Measures 3.6-2a, b, and c. The impact is considered **significant and unavoidable**.

No archaeological cultural resources were identified in the multi-sport park complex site as a result of a CHRIS records search, tribal consultation, or field survey. Enforcement of mitigation measures, existing cultural resources regulations, and City of Elk Grove policies, and as conditions of approval for the multi-sport park complex project would reduce the potential impacts on unknown archaeological cultural resources to a **less-than-significant level with mitigation**.

Historic Architecture

Implementation of mitigation measures to the SOIA Area outside the multi-sport park complex would reduce the potential impacts on unknown historic-age built environment cultural resources. With enforcement of the above mitigation measures, existing cultural resources regulations, and City of Elk Grove policies, and as conditions of approval, future development in balance of the SOIA Area would be designed to identify previously unknown historic-age built environment cultural resources and minimize potential impacts. Although the full extent of potential projects and improvements is not known at this time, implementation of the mitigation measures, existing cultural resources regulations, and City of Elk Grove policies for future development in the SOIA Area would reduce the potential for impacts.

However, it is possible that potential projects and improvements for future construction in the SOIA Area outside the multi-sport park complex could cause substantial adverse change if the project and improvements would result in the physical demolition, destruction, relocation or alterations 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. This impact would be significant, even with the implementation of Mitigation Measures 3.6-2a and b. The impact is considered **significant and unavoidable**.

No historic-period built environment cultural resources were identified in the multi-sport park complex site as a result of a CHRIS records search or field survey. Enforcement of mitigation measures, existing cultural resources regulations, and City of Elk Grove policies, and as conditions of approval for the multi-sport park complex project would reduce the potential impacts on historic-period cultural resources to a **less-than-significant level with mitigation**.

IMPACT 3.6-3 **Substantial adverse change to a tribal cultural resource.** *To date, no Tribal Cultural Resources have been identified within or adjacent to the SOIA Area, including the multi-sport park complex site. Therefore, no impact would occur.*

AECOM requested the NAHC to conduct a sacred lands file search to determine the presence of known Tribal Cultural Resources within the immediate vicinity of the SOIA Area, including the multi-sport park complex site. The sacred lands file search failed to indicate the presence of any known Tribal Cultural Resources in or near the SOIA Area.

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 have been identified within or adjacent to the SOIA Area, including the multi-sport complex site. Therefore, **no impact** to known Tribal Cultural Resources would occur.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.6-4 **Disturbance of human remains.** *Although there is no evidence of human remains, if there are future ground-disturbing activities in the SOIA Area, including the multi-sport park complex site, or in off-site infrastructure improvement areas, this could adversely affect presently unknown burials. This impact is considered **potentially significant**.*

While no evidence for prehistoric or early historic interments was found in the SOIA Area, including the multi-sport park complex site, 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 SOIA Area, including the multi-sport park complex site, cannot be dismissed. In addition, the timing and location of any off-site improvements required to serve the new development is not currently known. The inadvertent exposure of previously unidentified human remains, including those interred outside of formal cemeteries, during future development 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.

Future development would be required to comply with City of Elk Grove General Plan HR-6-Action 2, which requires that, in compliance with the California Health and Safety Code, if any human remains are uncovered, all construction must stop and the County Coroner must be notified. If the remains are determined to be Native American, California law dictates appropriate follow-on actions.

Mitigation Measures

Mitigation Measure 3.6-4: Halt Construction if Human Remains are Discovered and Implement Appropriate Actions (LAFCo and the City of Elk Grove)

In accordance with California law and local policies described above, if human remains are uncovered during future ground-disturbing activities, future applicants within the SOIA Area 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, future applicants within the SOIA Area 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 and actions would reduce potential impacts on previously undiscovered human remains. The SOIA Area, including the multi-sport park complex site, 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). Implementing Mitigation Measures 3.6-2a, b, and c, and 3.6-4

ensures that any cultural resources, including archaeological features or potential 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. Although the extent of potential projects and improvements is not known at this time, implementation of the mitigation measures, existing cultural resources regulations, and City of Elk Grove policies for future development in the SOIA Area have been proposed. Thus, the impact for future development and off-site improvements would reduce potential impacts to **less than significant**.

3.7 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

This section contains an analysis of impacts related to geology, soils, mineral resources, and paleontological resources. The analysis describes seismic hazards, soil conditions, and other geotechnical considerations that could affect people and structures that could be within the SOIA Area, including the multi-sport park complex, in the future. The proposed Project is evaluated relative to its potential to affect regionally significant mineral deposits or paleontologically sensitive geologic formations.

3.7.1 ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

The SOIA Area is located in the San Joaquin Valley of the Northern Section of the Great Valley Geomorphic Province (GVGM). The relatively flat valley is bounded by Cascade Range to the North, Coast Ranges to the West, the Sierra Nevada to the East, and Coast Ranges and the Tehachapi Mountains to the South (Page 1986). The GVGM is approximately 400 miles long and 50 miles wide.

The San Joaquin Valley is predominately made up of sedimentary units from the Cretaceous to the Quaternary Periods. Minority units include metamorphic rocks from the Jurassic Period and volcanic rocks from the Neogene Period. The geomorphic subunits of the GVGM include the delta, river floodplain, alluvial plain and low foothills. The SOIA Area is located on the river floodplain which contains unconsolidated, inorganic soils. Floodplain sediment is deposited when a river or a stream overflows its natural levees.

REGIONAL SEISMICITY

Seismicity is the likelihood of an area to be subjected to earthquake activity. Seismic activity has consequential geologic hazards such as: ground shaking, liquefaction, lateral spreading, landslides, avalanches, and ground displacement. These geologic hazards create structural hazards of infrastructure.

FAULTING

A fault is fracture or a fracture zone where there has been measurable displacement between each side of the fracture. Faults form in rocks when regional stresses overcome the strength of the rock to create fracture with measureable slip. Faults are rarely isolated geological features. A group of faults that develop from the same region in the same time interval are referred to as a Fault System. Fault systems are associated with relative movement of the earth's crust due to tectonic activity. Based on historic seismic activity, faults are categorized as active, potentially active, or inactive. According to the Alquist-Priolo Act, an active fault is one that has ruptured in the last 11,000 years.

There are no faults in the SOIA Area or in the vicinity of the SOIA Area that are considered active, potentially active, or inactive by the Alquist-Priolo definition.

SEISMIC HAZARDS

Fault Rupture

Fault rupture is the displacement of the ground surface along the fault. There are two types of fault rupture: seismic and aseismic. Seismic faults have a stick-slip behavior. Stress builds up along the fault (the stick phase) until the fault can no longer accommodate the stress and displaces (the slip phase). The slip phase is the cause of an earthquake. Aseismic faults experience offset at such a slow rate that an earthquake is not generated. This is also referred to as fault creep.

Ground Shaking

The Sacramento Valley has experienced only low levels of seismic shaking. The nearest known active (Holocene or Historic) fault traces are located near the Dunnigan Hills and the Vaca Mountains, approximately 40 miles northwest and southwest, respectively (Jennings 1994). Numerous earthquakes of magnitude (M) 5.0 or greater have occurred on regionally active faults in the Coast Ranges, approximately 30 to 40 miles west of Elk Grove. Table 3.7-1 identifies the regionally active faults, their approximate distances from the SOIA Area, and the projected maximum earthquake magnitude and slip rate of each fault.

Table 3.7-1 Active Regional Faults				
Fault Name	Approximate Distance from Project Area (miles)	Regional Location	Projected Maximum Moment Magnitude	Slip Rate (mm/yr)
Great Valley Fault Zone, Segment 4	32	Margin between Sacramento Valley and Coast Ranges	6.6	1.25
Great Valley Fault Zone, Segment 5	35	Margin between Sacramento Valley and Coast Ranges	6.7	1.5
Dunnigan Hills Fault	40	Margin between Sacramento Valley and Coast Ranges	6.5	N/A
Great Valley Fault Zone, Segment 3	40	Margin between Sacramento Valley and Coast Ranges	7.1	1.25
Green Valley–Concord Fault Zone	43	Coast Ranges	6.8	5.0
Greenville Fault Zone (includes Clayton and Marsh Creek sections)	43	Coast Ranges	7.0	2.0
Mount Diablo Blind Thrust Fault	25	Coast Ranges	6.7	2.0
West Napa Fault	51	Coast Ranges	6.7	1.0
Hayward–Rodgers Creek Fault Zone	60	Coast Ranges	7.26	9.0
Notes: mm/yr = millimeters per year; N/A = not available				
Sources: Jennings 1994; Working Group on Northern California Earthquake Potential 1996; Working Group on California Earthquake Probabilities 2008				

The intensity of ground shaking depends on the distance to the earthquake epicenter, the earthquake magnitude, soil conditions, and the seismic characteristics of the fault. Ground motions can be estimated by probabilistic methods or design calculations and used for earthquake-resistant building design. Although the site-specific seismic characteristics of the SOIA Area have not been calculated by a geotechnical engineer (as required by the California Building Standards Code [CBC]), the potential for seismic ground shaking can be estimated using the California Geological Survey (CGS) Probabilistic Seismic Hazards Assessment Model (CGS 2008). This model

indicates that a minimum horizontal acceleration of 0.189g for alluvial conditions (where g is the percentage of gravity) could occur at the site with a 10 percent probability of earthquake occurrence in a 50-year time frame (CGS 2008). In other words, there is a 1-in-10 probability that an earthquake will occur within 50 years that would result in a peak horizontal ground acceleration exceeding 0.189g. This indicates a relatively low level of seismic shaking.

Liquefaction

Soil liquefaction occurs when ground shaking causes a sediment layer saturated with groundwater to lose strength and become fluid. Factors determining liquefaction potential are the type and consistency of soils, the level and duration of seismic ground motions, and the depth to groundwater. Loose sands and peat deposits, uncompacted fill and other Holocene materials deposited by sedimentation in rivers and lakes (fluvial or alluvial deposits), and debris or eroded material (colluvial deposits) are more susceptible to liquefaction. Areas most susceptible to liquefaction-induced damage are underlain by loose, water-saturated, granular sediment within 40 feet of the ground surface.

Liquefaction poses a hazard to buildings, bridges, and underground utility pipelines. Loss of soil strength can render bearing capacity (the ability of soil to support the loads applied to the ground) insufficient to support foundation loads, increase lateral pressure on retaining walls, and cause slope instability.

The SOIA Area is not located in a seismically active area, and is composed of relatively stable, Pleistocene-age sediments of the Riverbank Formation. The depth to groundwater is approximately 40 to 60 feet below the ground surface (Blackburn Consulting 2014:3).

Subsidence, Settlement, and Soil Bearing Capacity

Both natural and human phenomena can induce land subsidence. Natural phenomena include tectonic deformations and seismically induced settlements; consolidation, hydrocompaction, or rapid sedimentation; oxidation or dewatering of organic-rich soils; and collapse of subsurface cavities. Subsidence related to human activity can result from groundwater and oil or gas extraction. Groundwater pumping has caused subsidence in various areas of the Central Valley.

Seismically induced settlement refers to the compaction of soils and alluvium caused by ground shaking. Fine-grained soils are subject to seismic settlement and differential settlement. Areas underlain by low-density silts and clays associated with fluvial deposits are susceptible, including old lakes, sloughs, swamps, and streambeds. The amount of settlement may range from a few inches to several feet. The potential for differential settlement is highest and occurs over the largest areas during high-magnitude earthquakes and can occur in low-density and unconsolidated material such as overbank river deposits (present-day and historical) common along river beds and streambeds.

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. The potential for land failure from subsidence and lateral spreading is highest in areas with a high groundwater table, in relatively soft and recent alluvial deposits, and where creek banks are relatively high. Where the soil bearing capacity is too low to support proposed structures, subsidence and settlement may occur. Based on a review of soil survey data from the United States Natural

Resources Conservation Service (NRCS) (2015a), several of the soils in the SOIA Area have low bearing strength.

Seismic Seiches

Earthquakes may affect open bodies of water by creating seismic sea waves (often called “tidal waves”) and seiches. Seismic sea waves are caused by abrupt ground movements (usually vertical) on the ocean floor in connection with a major earthquake. Because the SOIA Area is far from the Pacific Ocean, seismic sea waves would not represent a hazard. A seiche is a sloshing of water in an enclosed or restricted water body, such as a basin, river, or lake, caused by earthquake motion; the sloshing can occur for a few minutes or several hours. The SOIA Area is not located in a seismically active area, is not near an enclosed water body, and is located approximately 0.25 mile from Deer Creek and approximately 0.75 mile from the Cosumnes River.

SLOPE STABILITY

A landslide is the downhill movement of masses of earth material under the force of gravity. The factors contributing to landslide potential are steep slopes, unstable terrain, and proximity to earthquake faults. Landslides typically involve the surface soil and an upper portion of the underlying bedrock. Movement may be very rapid or may occur over a period of weeks or years. (This slow change is known as “creep.”) The size of a landslide can range from several square feet to several square miles. The SOIA Area is nearly level; elevations range from approximately 45 to 50 feet above mean sea level. There are no adjacent areas with steep terrain.

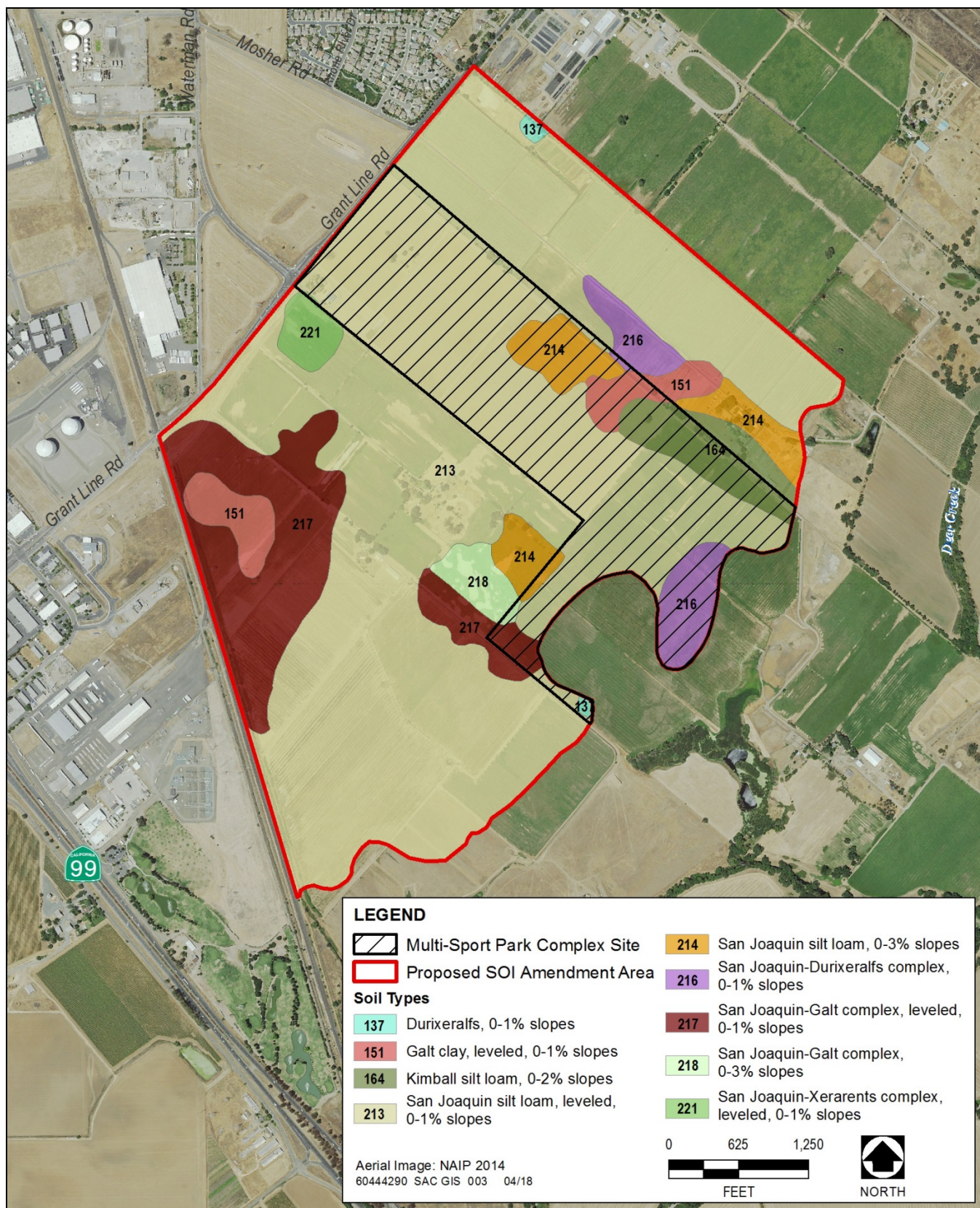
SOILS

Exhibit 3.7-1 shows the locations of the various soil types in the SOIA Area and Table 3.7-2 summarizes the relevant surface soils based on NRCS soil surveys (NRCS 2015a). The majority of the SOIA Area, including the multi-sport park complex area, consists of soils within the San Joaquin soil series.

Expansive soils are composed largely of clays, which greatly increase in volume when saturated with water and shrink when dried. Because of this effect, structural foundations may rise during the rainy season and fall during the dry season, potentially resulting in cracking and distortion of portions of the structure. Retaining walls and underground utilities may be damaged for the same reasons. Based on the information shown in Table 3.7-2, the Durixeralfs, Galt, and Kimball soil series within the SOIA Area have been rated with a moderate to high shrink-swell potential.

MINERALS

Under the California Surface Mining and Reclamation Act of 1975 (SMARA), the State Mining and Geology Board may designate certain mineral deposits (e.g., sand, gravel) as regionally significant for satisfying future needs. The board’s designations are based on classification reports prepared by CGS and input from agencies and the public. The Project area lies within the designated Sacramento-Fairfield Production-Consumption Region for Portland cement concrete aggregate, which includes all designated lands within the marketing area of the active aggregate operations supplying the Sacramento-Fairfield urban center. However, as noted below, inclusion of the SOIA Area within this regional designation does not mean that the SOIA Area, itself, contains significant aggregate resources in commercially extractable quantities.



Source: NRCS 2015b

Exhibit 3.7-1. SOIA Area Soil Types

Soil Map Unit Name	Shrink-Swell Potential ¹	Permeability ²	Water Erosion Hazard ³	Wind Erosion Hazard ⁴	Drainage	Hydrologic Soil Group ⁵	Limitations for Buildings and Roads
Durixeralfs, 0 to 1% slopes	High	Moderately low	Moderate	4	Well drained	D	High shrink-swell potential, low bearing strength
Galt clay leveled, 0 to 1% slopes	High	Moderately low	Low	4	Moderately well drained	D	High shrink-swell potential, low bearing strength
Kimball silt loam, 0 to 2% slopes	Moderate	Moderate	Moderate	6	Well drained	D	Low bearing strength, moderate shrink-swell potential
San Joaquin silt loam, leveled, 0 to 1% slopes	Low	Moderate	Moderate	6	Moderately well drained	C	Not limited
San Joaquin silt loam, 0 to 3% slopes	Low	Moderate	Moderate	6	Moderately well drained	C	Not limited
San Joaquin–Durixeralfs complex, 0 to 1% slopes	Low	Moderate	Moderate	6	Moderately well drained	C	Not limited
San Joaquin–Galt complex, leveled, 0 to 1% slopes	Low	Moderate	High	6	Moderately well drained	D	Low bearing strength
San Joaquin–Galt complex, 0 to 3% slopes	Low	Moderate	Moderate	6	Moderately well drained	C	Not limited
San Joaquin–Xerarents complex, leveled, 0 to 1% slopes	Low	Moderate	NR	NR	Moderately well drained	NR	NR

Notes: NR = not rated

¹ Based on percentage of linear extensibility. Shrink-swell potential ratings of “moderate” to “very high” can result in damage to buildings, roads, and other structures.

² Based on standard United States Natural Resources Conservation Service (NRCS) saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.

³ Based on the NRCS erosion factor “Kw whole soil,” which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

⁴ Based on the NRCS wind erodibility groups. The soils assigned to Group 1 are the most susceptible to wind erosion, and those assigned to Group 8 are the least susceptible.

⁵ Hydrologic soil groups are based on estimated runoff potential: Group C = slow infiltration rate and moderate to high runoff potential, Group D = very slow infiltration rate and very high runoff potential.

Source: NRCS 2015a

Notes: NR = not rated

¹ Based on percentage of linear extensibility. Shrink-swell potential ratings of “moderate” to “very high” can result in damage to buildings, roads, and other structures.

² Based on standard United States Natural Resources Conservation Service (NRCS) saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.

³ Based on the NRCS erosion factor "Kw whole soil," which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

⁴ Based on the NRCS wind erodibility groups. The soils assigned to Group 1 are the most susceptible to wind erosion, and those assigned to Group 8 are the least susceptible.

⁵ Hydrologic soil groups are based on estimated runoff potential: Group C = slow infiltration rate and moderate to high runoff potential, Group D = very slow infiltration rate and very high runoff potential.

Source: NRCS 2015a

In compliance with SMARA, CGS has established the mineral resource zone (MRZ) classification system shown in Table 3.7-3 to denote both the location and the significance of key extractive resources. In general, active construction aggregate (i.e., sand and gravel) production areas in Sacramento County are currently located primarily along ancestral channels of the American River in northwestern Sacramento County and the city of Rancho Cordova, which have been classified by CGS as MRZ-2 (Dupras 1999:Plate 3). The Hanford Sand & Gravel, Inc., aggregate mining operation is located adjacent to Wilton Road between Deer Creek and the Cosumnes River, approximately 3.8 miles northeast of the SOIA Area (Larosse et al. 1999). This mining operation is also in an area classified by CGS as MRZ-3 (Dupras 1999:Plate 3). The SOIA Area is classified as MRZ-3—areas containing mineral deposits, the significance of which cannot be evaluated from existing data (Dupras 1999:Plate 3).

Table 3.7-3 California Geological Survey Mineral Land Classification System	
Classification	Description
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence
MRZ-1	Areas of mined-out PCC-grade aggregate resources
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood exists for their presence
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated from available data
MRZ-4	Areas where available data is inadequate for assignment to any other mineral resource zone
Notes: MRZ = Mineral Resource Zone; PCC = Portland Cement Concrete Source: Dupras 1999:Plate 3	

PALEONTOLOGICAL RESOURCES

The potential paleontological importance of the SOIA Area was assessed by identifying the rock units exposed there. Topographic maps that delineate the distribution of the rock units present were used to identify areas of higher and lower paleontological sensitivity. Sensitive formations are rated high for potential paleontological productivity and are known to have produced unique, scientifically important fossils. Paleontological productivity refers to the abundance and density of fossil specimens, previously recorded fossil sites, or both. Therefore, paleontological sensitivity is based primarily on the types and numbers of fossils that have been previously recorded from that rock unit (i.e., the paleontological productivity).

The geologic formations in the SOIA Area, including the multi-sport park complex project site, were assigned a paleontological sensitivity consistent with Society of Vertebrate Paleontology (SVP) 1995 guidelines. Geologic maps and available published geological and paleontological literature describing bedrock and surficial geology were reviewed to identify the exposed and subsurface rock units, assess their potential paleontological productivity, and delineate their respective areal distribution. Regional and local surficial geologic mapping and correlation of the various geologic units exists at scales of 1:24,000 (Atwater and Marchand 1980) and 1:250,000 (Wagner et al. 1987). The literature review was supplemented by searching the records of the University of California, Berkeley Museum of Paleontology (UCMP) on December 7, 2015.

The Pleistocene epoch, known as the “great ice age,” began approximately 2.6 million years ago. Based on the vertebrate fauna from the nonmarine late Cenozoic deposits of the San Francisco Bay region, two major divisions of Pleistocene-age fossils are widely recognized: the Irvingtonian (older Pleistocene fauna) and the

Rancholabrean (younger Pleistocene fauna) (Savage 1951). The age of the later Pleistocene, Rancholabrean fauna was based on the presence of bison and of many mammalian species that inhabit the same area today. Other large Rancholabrean fauna include mammoths, mastodons, camels, horses, and ground sloths. The Irvingtonian fauna are scarcer, and are represented by *Borophagus* (bone-crushing dogs), hyenas, saber-toothed cats, rabbits, giant marmots, horses, mammoths, and mastodons.

The SOIA Area is within the Riverbank Formation. Fossils referable to the Riverbank Formation have been found at six sites near Sacramento, including the Teichert gravel mine on State Route 16 in southeastern Sacramento County (Jefferson 1991a, 1991b). This site yielded specimens of broad-footed mole, Harlan's ground sloth, rabbit, California ground squirrel, Botta's pocket gopher, pocket mouse, groove-toothed harvest mouse, woodrat, vole, coyote, dire wolf, mammoth, horse, western camel, deer, antique bison, fish (carps and minnows), frog, snake, Pacific pond turtle, and the family Anatidae (ducks, geese, and swans).

There are at least nine recorded Rancholabrean-age vertebrate fossil sites from the Riverbank Formation in Sacramento County. Most recently, Pleistocene-age mammoth remains, including a tusk, ribs, teeth, and portions of a shoulder blade, were discovered on July 2, 2004, during excavation of a Sacramento Municipal Utility District trench in Elk Grove (Kolber 2004). UCMP locality V-74086, located in southern Sacramento at Ehrhardt Avenue, also contained fossilized Rancholabrean-age mammoth remains. The other UCMP sites in Sacramento—localities V-6747, V-6846, V-68141, V-69129, and V-75126—contained remains of Rancholabrean-age bison, camel, coyote, horse, Harlan's ground sloth, mammoth, woodrat, fish, mole, snake, and gopher. Pleistocene-age fossils were recovered from the Riverbank Formation at the ARCO Arena site (Hilton et al. 2000); those fossils included remains of Harlan's ground sloth, bison, coyote, horse, camel, squirrel, antelope or deer, and mammoth. Finally, San Diego Society of Natural History locality 0663 (Jefferson 1991a, 1991b) included fossil specimens of Rancholabrean-age horse and camel recovered from sediments in Sacramento County.

Several localities near the cities of Davis and Woodland have yielded the remains of Rancholabrean-age rodents, snakes, horses, antelope, Harlan's ground sloth, mammoth, and saber-toothed cat from Riverbank Formation sediments (Hay 1927; UCMP 2015). Three sites in Sutter County have yielded Rancholabrean vertebrate fossils recovered from Pleistocene-age sediments (UCMP 2015). UCMP locality V-4043 in the Sutter Buttes yielded remains from a Pleistocene-age horse.

Fossil specimens from the Riverbank Formation have been reported near the city of Riverbank (Marchand and Allwardt 1981), and at numerous other locations throughout the Central Valley, including Lathrop, Modesto, Stockton, Tracy (along the Delta-Mendota Canal), Manteca, and Merced (UCMP 2015).

The literature and records search indicate that no fossil remains have been recovered within the SOIA Area. However, the occurrence of Pleistocene vertebrate fossil remains in sediments referable to the Riverbank Formation in Sacramento and throughout the Central Valley indicates that this rock formation is paleontologically sensitive.

3.7.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Soil and Water Resources Conservation Act of 1977

The Soil and Water Resources Conservation Act of 1977, as amended (RCA) provides the United States Department of Agriculture (USDA) broad strategic assessment and planning authority for the conservation, protection, and enhancement of soil, water, and related natural resources. Through RCA, USDA:

- ▶ appraises the status and trends of soil, water, and related resources on non-federal land and assesses their capability to meet present and future demands;
- ▶ evaluates current and needed programs, policies, and authorities; and
- ▶ develops a national soil and water conservation program to give direction to USDA soil and water conservation activities.

Federal Earthquake Hazards Reduction Act

This act was passed in 1977 by U.S. Congress to reduce the risks of life and property from future earthquakes through the establishment and maintenance of an effective hazards and reduction program. The National Earthquake Hazards Reduction Program (NEHRP) was established to improve understanding, characterization, and predictions of earthquake hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results.

The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Other NEHRP agencies include the National Institute of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey (USGS).

Uniform Building Code

The Uniform Building Code (UBC) provides site development and construction standards. The UBC is widely used throughout the United States and is generally adopted on a district-by-district or state-by-state basis. The UBC has been modified for California conditions with more detailed and more stringent regulations (see below for discussion of California building code standards).

Clean Water Act

The Clean Water Act (CWA) regulates discharges into waters of the United States, including a range of potential point and nonpoint sources of water-transported pollutants, and the discharge of fill into waters, such as wetlands and intermittent stream channels. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters through prevention and elimination of pollution. However, compliance with CWA requirements also has co-benefits related to reduction of soil erosion that are relevant for this section of the EIR. Implementation of the CWA has state and regional elements and, although this is the federal

regulatory subsection, relevant State and regional responsibilities are highlighted here, with further detail below under the State regulatory framework subsection below.

The law requires that a CWA Section 404 permit be obtained from the United States Army Corps of Engineers (USACE) for any dredged or fill materials discharged into wetlands or waters of the United States whether the discharge is temporary or permanent. A National Pollutant Discharge Elimination System permit is required through the appropriate regional water quality control board (RWQCB).

Clean Water Act (CWA) Section 402 mandates that certain types of construction activity comply with the requirements of Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) stormwater program. Construction activities that disturb one or more acres of land must obtain coverage under the NPDES general construction activity stormwater permit, which is issued by the RWQCB. Obtaining coverage under the NPDES general construction activity stormwater permit generally requires that the project applicant complete the following steps:

- ▶ File a Notice of Intent with RWQCB that describes the proposed construction activity before construction begins;
- ▶ Prepare a Storm Water Pollution Prevention Plan (SWPPP) that describes Best Management Practices (BMPs) that would be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction; and
- ▶ File a notice of termination with RWQCB when construction is complete and the construction area has been permanently stabilized.

The SWRCB adopted Order 2009-0009-DWQ for a new statewide NPDES Construction General Permit # CA000002 on September 2, 2009 that took effect on July 1, 2010 (SWRCB 2009, 2013). This General Permit imposes more minimum BMPs and establishes three levels of risk-based requirements based on both sediment risk and receiving water risk. All dischargers are subject to narrative effluent limitations. Risk level 2 dischargers are subject to technology-based numeric action levels (NALs) for pH and turbidity. Risk level 3 dischargers are subject to NALs and numeric effluent limitations (NELs). Certain sites must develop and implement a SWPPP and Rain Event Action Plan (REAP) and all projects must perform effluent monitoring and reporting, along with receiving water monitoring and reporting. The General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with General Permit requirements. For projects commencing on or after July 1, 2010, the applicant must electronically submit Permit Registration Documents (PRDs) prior to commencement of construction activities including the Notice of Intent, Risk Assessment, Post-Construction Calculations, a Site Map, the SWPPP, a signed certification statement by the Legally Responsible Person (LRP), and the first annual fee.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Building Code

The California Building Standards Code (CBC) establishes minimum building requirements for renovation and construction. The CBC contains provisions intended to regulate grading activities, drainage and erosion control,

and construction on unstable soil (expansive soils or areas subject to liquefaction). When no other building codes apply, Chapter 29 regulates excavations, foundations, and retaining walls. Chapter 18 of the Building Code contains provisions related to Soils and Foundations, including geotechnical investigations (Section 1803); excavation, grading and fill (Section 1804); assessing soil load-bearing capacity (Section 1806); and foundation design (Sections 1808-1810). The Residential Code contains provisions regarding soil testing, geotechnical evaluations for building foundations, and excavations for compressible or shifting soils (Section R401), foundations on expansive soils (Section R403), and seismic provisions (Section R301) (CBSC 2018).

In addition, the Green Building Standards Code (CALGreen) contains provisions for construction of nonresidential buildings regarding soil erosion and stormwater runoff, and grading activities (Section 5.106). It also contains measures related to soil analysis and protection requirements, and topsoil protection as part of the residential mandatory measures (Chapter 4) (CBSC 2018).

Updates to the California Building Standards Code were published in July of 2016. These updates, including updates to the CALGreen code, took effect beginning January 1, 2017.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (California Public Resources Code Section 1690-2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 requires the State Geologist to delineate Earthquake Fault Zones along known active faults that have a relatively high potential for ground rupture. Faults must meet the definition of “sufficiently active” and “well-defined” to be included as an Earthquake Fault Zone. These zones extended 200 to 500 feet on either side of the fault. An area of 50 feet on either side of an active fault trace is assumed to underlain by the fault, unless proven otherwise. No structures for human occupancy may be built across an identified active fault trace. Proposed construction in an Earthquake Fault Zone is permitted only following the completion of a fault location report prepared by a California Registered Geologist.

National Pollutant Discharge Elimination System Permit

In California, the State Water Resources Control Board (SWRCB) administers the United States Environmental Protection Agency’s promulgated regulations (55 Code of Federal Regulations 47990) requiring the permitting of stormwater-generated pollution under the National Pollutant Discharge Elimination System (NPDES). In turn, the SWRCB’s jurisdiction is administered through Regional Water Quality Control Boards. Pursuant to these federal regulations, an operator must obtain a General Permit under the NPDES Stormwater Program for all construction activities with ground disturbance of 1 acre or greater. The General Permit requires the implementation of best management practices (BMPs) to reduce pollutant loads into the waters of the State and measures to reduce sediment and erosion control. In addition, a Stormwater Pollution Protection Plan (SWPPP) must be prepared. The SWPPP addresses water pollution control during construction. SWPPPs require that all stormwater discharges associated with construction activity, where clearing, grading, and excavating results in soil

disturbances, must by law be free of site pollutants. Water Quality Order 99-08-DWQ requires permittees to implement specific sampling and analytical procedures to determine whether BMPs implemented on a construction site are (1) preventing further impairment by sediment in stormwater discharged directly into waters listed as impaired for sediment or silt, and (2) preventing other pollutants, that are known or should be known by permittees to occur on construction sites and that are not visually detectable in stormwater discharges, from causing or contributing to exceedances of water quality objectives. Further, the order contains information regarding the type of construction covered and not covered by the general permit, notification requirements, and a description of general permit conditions.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

City of Elk Grove

The City of Elk Grove General Plan establishes policies to guide long-term development and conservation within the City's planning area. The City's General Plan policies and actions related to geology, soils, seismicity, and paleontological resources are provided below.

- ▶ **Policy SA-25:** The City supports efforts by Federal, State, and other local jurisdictions to investigate local seismic and geological hazards and support those programs that effectively mitigate these hazards.
 - SA-25-Action 1: Implement the Uniform Building Code to ensure that structures meet all applicable seismic standards.
- ▶ **Policy SA-26:** The City shall seek to ensure that new structures are protected from damage caused by geologic and/or soil conditions.
 - SA-26 Action 1: Require that a geotechnical report or other appropriate analysis be conducted to determine the shrink/swell potential and stability of the soil for public and private construction projects and identifies measures necessary to ensure stable soil conditions.
- ▶ **HR-6-Action 1:** In areas identified in the Background Report as having a significant potential for containing archaeological or paleontological artifacts, require completion of a detailed on-site study as part of the environmental review process. Implement all recommended mitigation measures.
- ▶ **HR-6-Action 2:** Impose the following conditions on all discretionary projects in areas which do not have a significant potential for containing archaeological or paleontological resources:
 - The Planning Division shall be notified immediately if any prehistoric, archaeologic, or paleontologic artifact is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action.
 - All construction must stop if any human remains are uncovered, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed.

Elk Grove Land Grading and Erosion Control Ordinance

The City's Land Grading and Erosion Control Ordinance (Elk Grove Municipal Code, Title 16, Chapter 16.44) was enacted to minimize degradation of water quality and runoff of sediment and pollutants from construction-related activities. The ordinance establishes administrative procedures, minimum standards of review, and implementation and enforcement procedures for controlling (1) erosion, sedimentation, and other pollutant runoff (including construction debris and hazardous substances used on construction sites), and (2) the disruption of existing drainage and related environmental damage. A grading and erosion control permit is required for activities that disturb 350 cubic yards or more of soil, or for clearing 1 acre or more of land. The ordinance also requires that applicants submit a grading and erosion control plan. The plan must contain, among other items:

- ▶ the location, implementation schedule, and maintenance schedule of all erosion control and sediment control measures;
- ▶ 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.

Professional Paleontological Standards

The SVP (1995, 1996) guidelines outline professional practices for paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation.

3.7.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The evaluation of potential impacts on geology, soils, minerals, and paleontological resources is based on the project location, expected construction methods, NRCS soil survey data, CGS mineral land classification studies, and published seismic and geologic resources data (including maps). The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects based on the standards of significance presented below.

THRESHOLDS OF SIGNIFICANCE

Geology, Soils, and Minerals

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the CEQA Guidelines, as amended. The proposed Project would have a significant impact on geology, soils, or mineral resources if it would:

- ▶ expose people or structures to 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;
 - ▶ be located on expansive soil, as defined in table 18-1-b of the uniform building code (1994), creating substantial risks to life or property;
 - ▶ have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;
 - ▶ result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state; or
 - ▶ result in the loss of availability of a locally important mineral resource recovery site.

Paleontological Resources

Based on Appendix G of the CEQA Guidelines, the proposed Project would have a significant impact 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 professional paleontological standards described below.

The SVP guidelines (1995) established three categories of sensitivity for paleontological resources: high, low, and undetermined. Areas where fossils have been previously found have a high sensitivity and a high potential to produce fossils. Areas that are not sedimentary and have not produced fossils in the past have low sensitivity. Areas that have not been surveyed or have no fossil finds are considered of undetermined sensitivity. In accordance with the SVP significance criteria (1995), all vertebrate fossils are generally categorized as being of potentially significant scientific value.

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).

Marine invertebrates generally are common and the fossil record is well developed and documented; therefore, marine invertebrate fossils 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

- ▶ **Expose People or Structures to Surface Fault Rupture**—The SOIA Area is not located in an area classified as an Alquist-Priolo Fault Zone (CGS 2015). Sacramento County does not have any known active faults within its boundaries according to the USGS Earthquake Hazard Program Quaternary Faults maps. No impacts related to loss, injury, or death involving rupture of a known earthquake fault would occur. Therefore, this issue is not addressed further in this EIR.
- ▶ **Expose People or Structures to Landslides**—The SOIA Area is characterized by an entirely flat topography, which also precludes it from the possibility of landslides. Therefore, no impact would occur and this issue is not addressed further in this EIR.
- ▶ **Have Soil Unsuitable for Septic Systems**—No use of an on-site wastewater disposal systems are proposed; therefore, no impact related to the ability of site soils to support the use of septic systems would occur. This issue is not addressed further in this EIR.
- ▶ **Loss of Known or Locally Important Minerals**—No active mining or natural gas extraction operations are located within the SOIA Area boundary. Based on the California Geological Survey's Mineral Resource Zone classifications under the Surface Mining and Reclamation Act, the SOIA Area is zoned as MRZ-3, which indicates areas of undetermined mineral resource significance. In addition, the Sacramento County General Plan does not designate any locally important mineral resource recovery sites within the SOIA Area. Therefore, there would be no loss of known or locally important mineral resources, and this issue is not addressed further in this EIR.

IMPACT ANALYSIS

IMPACT 3.7-1 **Exposure to strong seismic ground shaking.** *Future development within SOIA Area, including the multi-sport park complex, would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The impact is considered **less than significant**.*

Strong seismic ground shaking from earthquakes creates risks to people and structures through damage or collapse of buildings and structures, dependent on the intensity of shaking. Future development within the SOIA Area, including the multi-sport park complex, would increase the amount of people and structures within the SOIA Area, potentially exposing them to risks associated with 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 Sacramento Valley and the eastern Coast Ranges, and within the Coast Ranges themselves (Table 3.7-1). These faults are located

30 to 40 miles west of Elk Grove. However, in the event of a major earthquake along any of these regional faults, facilities in the SOIA Area would be subject to seismic ground shaking.

Construction of structures, utilities, or roadways associated with future development of the SOIA Area, including development of the multi-sport park complex project, would be required to comply with seismic design provisions of the CBC, applicable local codes, and applicable General Plan policies that contain provisions to ensure that buildings or other structures are designed to be able to withstand reasonably expected ground shaking intensities of the SOIA Area.

Future development would increase the amount of people and structures at risk of adverse effects from strong seismic ground shaking. However, based on the California Geological Survey's low predicted likelihood of strong seismic ground shaking in the SOIA Area, including the multi-sport park complex site, and the seismically sound design provisions required by the CBC and other existing regulations, impacts related to exposing people or structures to potential adverse effects from strong seismic ground shaking is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.7-2 **Seismic-related ground failure.** *Future development within the SOIA Area, including the multi-sport park complex, could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. However, the California Geological Survey predicts low probability of strong seismic events in the vicinity of the SOIA Area, and existing regulations require structures are designed to minimize risk associated with liquefaction, lateral spreading, and collapse. The impact is considered less than significant.*

Future development within the SOIA Area, including the multi-sport park complex, would increase the amount of people and structures within the SOIA Area, potentially exposing them to risks associated with seismic-related ground failure. Seismic-related ground failures, such as soil liquefaction, lateral spreading, and collapse can result from changes in soil physics during seismic shaking. Liquefaction occurs when earthquakes cause sandy particles to separate, causing soil to lose strength and act as a fluid. This can cause damage to large or heavy structures on shallow foundations through cracking, tilting, and differential settlement, which can in turn pose risks to the safety of persons within or near these structures.

Lateral spreading and landslides occur when seismic shaking causes lateral movement of soil due to liquefaction. Whole buildings can be damaged or moved downslope by this type of ground failure.

As discussed above, the SOIA Area and surrounding area do not have a history of strong seismic ground shaking, nor is it expected to experience ground shaking in the future, which generally precludes it from the effects of liquefaction. However, where there is slight potential for liquefaction, structural and foundation design for new construction activities can minimize or eliminate liquefaction hazard. As discussed in the Regulatory Framework in Section 3.7.2, all construction would be required to comply with the CBC, which includes provisions related to designing structures to be able to withstand reasonably expected seismic activity. Site-specific geotechnical investigations would also be required prior to construction to identify and engineer for the geological limitations of each construction site.

Development as a result of the proposed SOIA could lead to increased numbers of people and structures at risk of loss or damage from seismic-related ground failure. However, the California Geological Survey predicts low probability of strong seismic events in the vicinity of the SOIA Area, including the multi-sport park complex site, and existing regulations require structures are designed to minimize risk associated with liquefaction, lateral spreading, and collapse. Therefore, the impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.7-3 **Unstable soils.** *Future development within the SOIA Area, including the multi-sport park complex, could not result in the Project being 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. However, existing regulations such as the CBC, General Plan policies, and local ordinances require site investigations and sound design practices, which would minimize these potential effects. The impact is considered **less than significant**.*

As discussed previously, landslides, lateral spreading, and liquefaction can occur as a result of unstable soils experiencing seismic shaking. When soil becomes destabilized it can cause large-scale movement down slopes or compromise soil strength, which can adversely affect the people or structures the soil supports. Subsidence occurs when water or other fluids are extracted from the soil, causing soils to collapse or their organic matter depleted from microbial respiration. Collapse occurs when soils are located over subterranean caves, mines, or other weak underlying subsurface material.

A review of NRCS soil survey data indicates that the Durixeralfs, Galt, Kimball, and San Joaquin–Galt complex soil series in the SOIA Area, including the multi-sport park complex site, are rated as very limited for construction of buildings and roads because of low soil bearing strength (Table 3.7-2), which in turn could result in hazards from subsidence and settlement (NRCS 2015a).

Compliance with CBC requirements would reduce or avoid these hazards through BMPs and building design intended to withstand unstable soils. Site-specific geotechnical investigations would be required prior to construction per local ordinances, which would identify potential stability issues and incorporate design measures to minimize risk associated with unstable soils.

Development within the SOIA Area, including the multi-sport park complex, could have the potential to be located on unstable soils. However, existing regulations such as the CBC, General Plan policies, and local ordinances require site investigations and sound design practices, which would minimize potential effects related to unstable soils or associated landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, the impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.7-4 **Soil erosion or loss of topsoil.** *Future development within the SOIA Area, including the multi-sport park complex, could result in substantial soil erosion or the loss of topsoil. Implementation of existing regulations such as the CBC, local General Plan policies, and NPDES would reduce the potential for erosion and loss of topsoil as a result of construction activities associated with the potential for development from the proposed Project. The impact is considered **less than significant**.*

Development within the SOIA Area, including the multi-sport park complex, could lead to increased soil erosion or loss of topsoil due to an increase in soil-disturbing construction activities including vegetation removal, excavation, grading, stockpiling, and boring over approximately 561 acres. Construction activities would occur in soils that have moderate potential for wind and water erosion hazards and moderate to high potential for stormwater runoff (Table 3.7-2). In addition, soil disturbance from earthmoving activities during summer could result in soil loss from wind erosion.

However, before construction can take place, a geotechnical study consistent with the local jurisdiction's policy must be prepared which identifies the geological characteristics of the multi-sport park complex site and the balance of the SOIA Area in order to assess soil weaknesses for construction. These policies require applicants to obtain all necessary permits from the City, which involve preparation of an Erosion and Sediment Control Plan; use of BMPs such as preserving existing vegetation, using silt fences, covering slopes; and other actions intended to prevent or minimize soil erosion.

Construction activities would also be required to follow the CBC, which contains provisions regarding erosion control and BMPs. The CBC is discussed in greater detail above in the Regulatory Framework, Section 3.7.2.

Applicants would also be required to create a SWPPP that would be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction as part of the EPA's NPDES. NPDES and its associated requirements are discussed in the Regulatory Framework Section in Section 3.7.2, above.

Construction-related activities as a result future development within the SOIA Area, including the multi-sport park complex, would have the potential to cause soil erosion or loss of topsoil. Implementation of existing regulations such as the CBC, local General Plan policies, and NPDES would reduce the potential for erosion and loss of topsoil as a result of construction activities associated with the potential for development from the proposed Project. As a result, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.7-5 **Expansive soils.** *Future development within the SOIA Area, including the multi-sport park complex, could be located on expansive soil, creating substantial risks to life or property. However, existing requirements ensure site-specific studies and construction practices to avoid risks related to expansive soils. The impact would be **less than significant**.*

Some soils have the ability to expand and contract based on their level of saturation, which has the potential to damage structures by cracking or breaking foundations and walls. This can create risks to people and property. The majority of the SOIA Area, including most of the multi-sport park complex site, consists of soils in the San

Joaquin soil series. These soils have low expansion potential (Table 3.7-2). However, a portion of the SOIA Area contains some expansive soils in the Durixeralfs, Galt, and Kimball soil series.

Therefore, future development within the SOIA Area and the multi-sport park complex would have the potential to be located on expansive soil. However, this impact would be addressed in site-specific geotechnical reports prepared in the planning and design process, and associated design measures intended to minimize risks associated with expansive soils. Site-specific geotechnical studies would be required to determine the local soil suitability for specific projects, in accordance with standard industry practices and State-provided guidance. These measures are required under the CBC and the City's building codes and ordinances in order to avoid or reduce hazards relating to expansive soils.

Due to the requirements of existing regulations to study and take into account the expansive property of soils prior to construction, the potential for expansive soil impacts to have an adverse effect on life and property for the proposed Project is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.7-6 **Damage to unknown paleontological resources.** *Future development within the SOIA Area, including the multi-sport park complex, or off-site improvements required to support future development within the SOIA Area could disturb previously unknown paleontological resources. The impact would be **potentially significant**.*

Future development in the SOIA Area, including the multi-sport park complex site, would have the potential to damage previously unknown and potentially significant paleontological resources.

The University of California Museum of Paleontology specimen catalog contains records of 126 specimens discovered at localities in the cities of Davis and Sacramento, as well as in unincorporated areas of Sacramento County. Because numerous fossils and paleontological specimen were discovered in the Riverbank Formation and because the SOIA Area is within the Riverbank Formation, this suggests the possibility of unknown paleontological resources being present near or within the proposed SOIA Area. In addition, the Elk Grove Background report identified the SOIA Area, including the multi-sport park complex, within the Pleistocene Riverbank Formation, which is sensitive for paleontological resources. Construction activities such as digging, excavation, trenching, and other earthwork could have the potential to disturb or damage paleontological resources. The impact is **potentially significant**.

Mitigation Measures

Mitigation Measure 3.7-6: Avoid Impact to Unique Paleontological Resources (City of Elk Grove)

- Prior to the start of on- or off-site earthmoving activities that would disturb 1 acre of land or more within the Riverbank Formations, 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

Mitigation Measure 3.7-6 requires disturbance prevention activities and a cease-work requirement upon paleontological resource discovery. With implementation of these changes, impacts would be reduced because earth-moving activities in paleontologically sensitive rock formations would be subject to requirements consisting of construction worker personnel education, halting of work in the vicinity of any fossil specimen(s) uncovered, and preparation of a recovery plan for said specimen(s). The potential for damage to paleontological resources is reduced by policies and actions from the City of Elk Grove General Plan related to investigating construction project sites for potential paleontological resources and applying recommended BMPs, as applicable, to reduce impacts to these resources. The proposed mitigation measure, along with City policies and actions would minimize impacts to previously unknown paleontological resources in the proposed SOIA Area, including the multi-sport park complex site. The impact is considered **less than significant with mitigation**.

3.8 GREENHOUSE GAS EMISSIONS

This section includes a summary of the existing science related to greenhouse gases (GHGs), an overview of state and local GHG emissions inventories; an overview of the existing GHG regulatory context; a summary of the methods used to estimate GHG emissions attributable to the Project; and an analysis of potential GHG emissions impacts of the proposed Project. 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. This section considers the Project's cumulative contribution to the significant cumulative impact of climate change.

3.8.1 ENVIRONMENTAL SETTING

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space through the atmosphere. However, infrared radiation is selectively absorbed by GHGs in the atmosphere. As a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Anthropogenic (e.g., human caused) emissions of these GHGs lead to atmospheric levels in excess of natural ambient concentrations and have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change.

The Intergovernmental Panel on Climate Change (IPCC) concluded that variations in natural phenomena, such as solar radiation and volcanoes, produced most of the warming of the earth from pre-industrial times to 1950. Some variations in natural phenomena also had a small cooling effect. From 1950 to the present, increasing GHG concentrations resulting from human activity, such as fossil fuel burning and deforestation, have been responsible for most of the observed temperature increase (IPCC 2013).

Global surface temperature has increased by approximately 1.53 degrees Fahrenheit (°F) over the last 140 years (IPCC 2013); however, the rate of increase in global average surface temperature has not been consistent. The last three decades have warmed at a much faster rate per decade (IPCC 2013).

During the same period when increased global warming has occurred, many other changes have occurred in other natural systems. Sea levels have risen; precipitation patterns throughout the world have shifted, with some areas becoming wetter and others drier; snowlines have increased elevation, resulting in changes to the snowpack, runoff, and water storage; and numerous other conditions have been observed. Although it is difficult to prove a definitive cause-and-effect relationship between global warming and other observed changes to natural systems, there is a high level of confidence in the scientific community that these changes are a direct result of increased global temperatures caused by the increased presence of GHGs in the atmosphere (IPCC 2013).

PRINCIPAL GHGS AND SOURCES

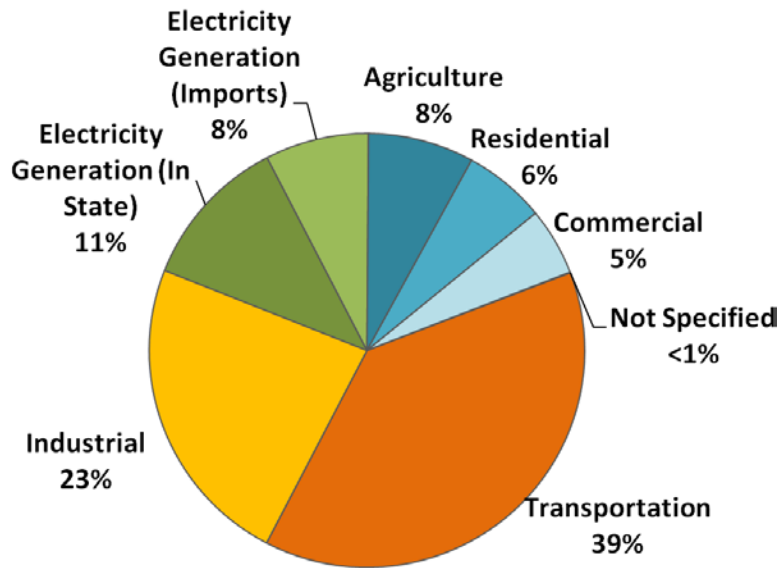
GHGs are present in the atmosphere naturally, are released by natural and anthropogenic (human-caused) sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; volcanic activity; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels by stationary and mobile sources, waste treatment, and agricultural processes. The following are the principal GHG pollutants that contribute to climate change and their primary emission sources:

- ▶ Carbon Dioxide: Natural sources of CO₂ include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; and evaporation from oceans. Anthropogenic (human) sources include burning of coal, oil, natural gas, and wood.
- ▶ Methane: CH₄ is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- ▶ Nitrous Oxide: N₂O is produced by both natural and human-related sources. Primary human-related sources of N₂O are agricultural soil management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. N₂O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests.
- ▶ Fluorinated gases: These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes called High Global Warming Potential (High GWP) gases. These High GWP gases include:
 - Chlorofluorocarbons (CFC)s: These GHGs are used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants.
 - Perfluorinated Chemicals (PFCs): PFCs are emitted as by-products of industrial processes and are also used in manufacturing.
 - Sulfur hexafluoride (SF₆): This is a strong GHG used primarily as an insulator in electrical transmission and distribution systems.
 - Hydrochlorofluorocarbons (HCFCs): These have been introduced as temporary replacements for CFCs and are also GHGs.
 - Hydrofluorocarbons (HFCs): These were introduced as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are GHGs emitted as by-products of industrial processes and are also used in manufacturing.

GHGs are not monitored at local air pollution monitoring stations and do not represent a direct impact to human health. Rather, GHGs generated locally contribute to global concentrations of GHGs, which result in changes to the climate and environment.

The California Air Resources Board (ARB) prepares an annual, statewide GHG emissions inventory. GHGs are typically analyzed by “sector” or type of activity. As shown in Exhibit 3.8-1, California produced 440.4 million MTCO₂e in 2015. Combustion of fossil fuel in the transportation sector was the single largest source of California’s GHG emissions in 2015, accounting for 39 percent of total GHG emissions. Transportation was followed by industry, which accounted for 23 percent, and then the electric power category (including in-state and out-of-state sources) accounted for 11 percent of total GHG emissions (ARB 2017a).

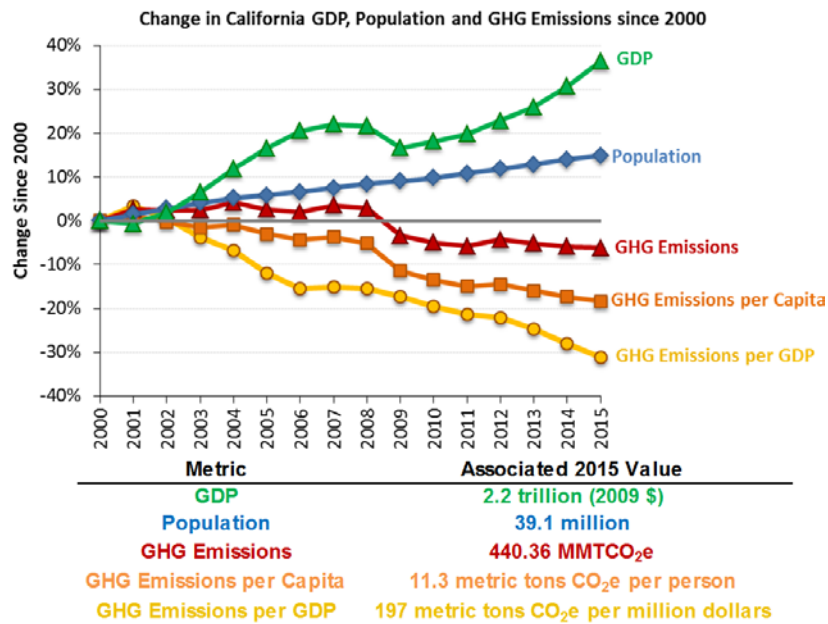
As described below, California has implemented several programs and regulatory measures to reduce GHG emissions. Exhibit 3.8-2 demonstrates California’s progress in achieving statewide GHG emissions reduction targets. Since 2007, California’s GHG emissions have been declining; GHG emissions have continued to decline even as population and gross domestic product have increased. Per-capita GHG emissions in 2015 were 19 percent lower than the peak per-capita GHG emissions recorded in 2001. Similarly, GHG emissions per million dollars of gross domestic product have decreased by 33 percent since the peak in 2001.



2015 Total CA Emissions: 440.4 MMTCO₂e

Source: ARB 2017a

Exhibit 3.8-1 2015. California GHG Emissions Inventory by Sector



Source: ARB 2017b

Exhibit 3.8-2 Trends in California GHG Emissions (Years 2000 to 2015)

In 2009, a GHG emissions inventory was conducted for the incorporated cities of Sacramento, Rancho Cordova, Citrus Heights, Elk Grove, Folsom, Isleton, and Galt and the unincorporated areas of Sacramento County. The inventory estimated emissions using the baseline year of 2005 using the ICLEI (Local Governments for Sustainability) Clean Air and Climate Protection Model.

The inventory, as summarized in Table 3.8-1, identified GHG emissions from multiple sectors, including: on-road transportation; waste; water related (indirect emissions); agriculture; wastewater treatment (direct emissions); high GWP GHGs; off-road vehicles; Sacramento International Airport; residential, commercial, and industrial energy demand; and industrial processing. In 2005, Sacramento County produced nearly 14 million MTCO_{2e}.

As with the state as a whole, on-road transportation is the largest source of GHG emissions, contributing more than 48 percent of the total.

Table 3.8-1 Sacramento County 2005 GHG Emissions Inventory (Countywide)		
Sector	Emissions MTCO_{2e}¹	Percent of Inventory
Residential	2,439,527	17.5
Commercial and Industrial	2,231,168	16
Industrial Specific	41,369	0.3
On-Road Transportation	6,731,929	48.3
Off-road Vehicle Use	584,090	4.2
Waste	743,232	5.3
Wastewater Treatment	134,354	1
Water-Related	63,667	0.5
Agriculture	203,723	1.5
High GWP GHGs	565,076	4.1
Sacramento International Airport	200,404	1.4
Total Emissions in Sacramento County²	13,938,537	100.0
Notes: ¹ MTCO _{2e} = metric tons of carbon dioxide equivalent; ² A total may not be the exact sum of emissions due to rounding. Source: Sacramento County Department of Environmental Review and Assessment 2009		

After the County published the GHG inventory in 2009, the City of Elk Grove re-evaluated and updated its local inventory as part of the City's climate action plan development process. The update incorporated updated data and a different methodology for calculating emissions.

The inventory update found that Elk Grove produced 737,838 MTCO_{2e} in 2005. As with the countywide inventory, transportation is the top source of GHG emissions for Elk Grove in the updated inventory, accounting for more than 48 percent of the total GHG emissions. The GHG emission inventory conducted by the City of Elk Grove is presented in Table 3.8-2.

Table 3.8-2 City of Elk Grove 2005 GHG Emissions Inventory		
Sector	Emissions MTCO ₂ e	Percentage of Inventory
Transportation	357,309	48.43%
Residential	229,841	31.15%
Commercial/Industrial	101,607	13.77%
Waste	39,791	5.39%
Water-Related	4,371	0.59%
Agriculture	4,919	0.67%
Total	737,838	100%
Notes: MTCO ₂ e = metric tons of carbon dioxide equivalent		
Source: City of Elk Grove 2013		

GLOBAL WARMING POTENTIAL

GWP is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, therefore, CO₂ has a GWP of 1. The other main GHGs that have been attributed to human activity include CH₄, which has a GWP of 28, and N₂O, which has a GWP of 265 (IPCC 2013). For example, 1 ton of CH₄ has the same contribution to the greenhouse effect as approximately 28 tons of CO₂. GHGs with lower emissions rates than CO₂ may still contribute to climate change, because they are more effective at absorbing outgoing infrared radiation than CO₂ (i.e., high GWP). The concept of CO₂ equivalence (CO₂e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation. GHG emissions are typically measured in terms of pounds or tons of CO₂e, and are often expressed in metric tons of CO₂ equivalent emissions (MTCO₂e).

Climate change is a global issue because GHGs can have global effects, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern (see Section 3.4, Air Quality). Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (1 year to several thousand years), or long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables, more CO₂ is currently emitted into the atmosphere than is stored, or “sequestered.”

3.8.2 REGULATORY FRAMEWORK

Federal Plans, Policies, Regulations, and Laws

While there are no federal GHG-related requirements that directly apply to the proposed SOIA, the information below is helpful for understanding the overall context for GHG emissions impacts and strategies to reduce GHG emissions.

The United States Environmental Protection Agency (EPA) is the federal agency responsible for implementing the federal Clean Air Act (CAA). On April 2, 2007, the United States Supreme Court held that the EPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency et al.*, 12 states and cities (including California) along with several environmental organizations sued to require EPA

to regulate GHGs as pollutants under the CAA (127 S. Ct. 1438 [2007]). The Supreme Court ruled that GHGs fit within the CAA’s definition of a pollutant and that EPA had the authority to regulate GHGs.

United States Environmental Protection Agency “Endangerment” and “Cause or Contribute” Findings

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- ▶ *Endangerment Finding:* The current and projected concentrations of the six key GHGs—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.
- ▶ *Cause or Contribute Finding:* The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (House of Representatives Bill 2764; Public Law 110-161), which required EPA to develop “...mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy....” The Reporting Rule applies to most entities that emit 25,000 metric tons (MT) of CO₂ equivalent (CO₂e) or more per year. Since 2010, facility owners have been required to submit an annual GHG emissions report with detailed calculations of the facility’s GHG emissions. The Reporting Rule also mandates compliance with recordkeeping and administrative requirements to enable EPA to verify annual GHG emissions reports.

Council on Environmental Quality Guidance

On December 18, 2014, the Council on Environmental Quality (CEQ) released revised draft guidance that superseded the draft GHG and climate change guidance released by CEQ in February 2010. The revised draft guidance applied to all proposed federal agency actions, including land and resource management actions. This guidance explained that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action (CEQ 2014). The guidance encouraged agencies to draw from their experience and expertise to determine the appropriate level (broad, programmatic or project- or site-specific) and type (quantitative or qualitative) of analysis required to comply with the National Environmental Policy Act (NEPA). The guidance recommended that agencies consider 25,000 MTCO₂e on an annual basis as a reference point below which a quantitative analysis of GHG emissions is not recommended unless it is easily accomplished based on available tools and data (CEQ 2014).

On August 1, 2016, an updated version of the CEQ guidelines was published. In this document, no numeric threshold was established for GHG. Agencies were directed to consider the potential effects of a proposed action and alternatives on climate change as indicated by assessing GHG emissions (e.g., to include, where applicable, carbon sequestration) (CEQ 2016). However, this guidance was subsequently withdrawn on April 5, 2017 (CEQ

2017). The withdrawn guidance was not a regulation and the withdrawal does not change any law, regulation, or other legally binding requirement.

EPA and NHTSA Standards

The EPA and National Highway Traffic Safety Administration (NHTSA) implemented national GHG emission and fuel economy standards for light duty cars and trucks in model years 2012-2016. The second phase of the standards includes GHG and fuel economy standards for model years 2017-2025. The 2017-2025 standards are anticipated to save approximately 4 billion barrels of oil and 2 billion metric tons of GHG emissions. In 2025, if all standards are met through fuel efficiency improvements, the average industry fleetwide fuel efficiency for light duty cars and trucks would be approximately 54.5 miles per gallon (EPA 2012).

In addition to standards for light duty cars and trucks, EPA and NHTSA are also implementing Phase 1 of the Medium- and Heavy-Duty Vehicle GHG Emissions and Fuel Efficiency Standards, which apply to model years 2014-2018. It is anticipated that medium- and heavy-duty vehicles built to these standards from 2014-2018 would reduce CO₂ emissions by approximately 270 million metric tons over their lifetimes (EPA 2012). Phase 2 of these standards would apply to model years 2021-2027 and would reduce GHG emissions by 1 billion metric tons over its lifetime (EPA 2015). In addition to GHG reduction and fuel efficiency, the standards are anticipated to generate development and research jobs focused on advanced cost-effective technologies for cleaner and more efficient commercial vehicles.

State Plans, Policies, Regulations, and Laws

California's has launched major initiatives for reducing GHG emissions. ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CAA). The legal framework for GHG emission reductions has come about through Executive Orders, legislation, regulations, and court decisions. Some of the major components of California's climate change initiative are highlighted below.

Assembly Bill 1493

Assembly Bill (AB) 1493 required that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state." These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. In June 2009, the EPA Administrator granted a CAA waiver of preemption to California, allowing the State to implement its own GHG emissions standards for motor vehicles beginning with model year 2009. California agencies worked with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger car model years 2017 to 2025.

Executive Order S-3-05

Executive Order S-3-05, issued in recognition of California's vulnerability to the effects of climate change, set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05: reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the State agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target.

In December 2008, ARB adopted the Climate Change Scoping Plan (Scoping Plan), which contains the main strategies California will implement to achieve the required GHG reductions required by AB 32 (ARB 2008). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of California's GHG inventory. ARB acknowledges that land use planning decisions will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors.

ARB is required to update the Scoping Plan at least once every 5 years to evaluate progress and develop future inventories that may guide this process. ARB approved the first update to the Climate Change Scoping Plan: Building on the Framework in June 2014 (ARB 2014). The Scoping Plan Update includes a status of the 2008 Scoping Plan measures and other federal, State, and local efforts to reduce GHG emissions in California, and potential actions to further reduce GHG emissions by 2020. The Scoping Plan Update determined that the State is on schedule to achieve the 2020 target (i.e., 1990 levels by 2020). However, an accelerated reduction in GHG emissions is required to achieve the S-3-05 2050 reduction target of 80 percent below 1990 levels by 2050.

The statewide measures adopted under the direction of AB 32, and as outlined in the Scoping Plan, would reduce GHG emissions associated with existing development, as well as new development. ARB has released the 2030 Target Scoping Plan Update Concept Paper to initiate a discussion regarding how to most effectively achieve a 40 percent reduction in GHG emissions by 2030 as compared to 1990 statewide GHG emissions (consistent with Executive Order B-30-15, which is outlined below) (ARB 2016). This Concept Paper was followed by the release of a Proposed Scoping Plan Update, which establishes a proposed framework of action for California to reduce statewide emissions by 40 percent by 2030 compared to 1990 levels (ARB 2017a).

Executive Order B-30-15

In April 2015, Governor Edmund Brown issued an executive order establishing a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Governor Brown's Executive Order S-3-05 goal of reducing statewide emissions 80 percent below 1990 levels by 2050. In addition, the executive order aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40 percent below 1990 levels by 2030) that was adopted in October 2014.

Senate Bill 32

Approval of Senate Bill (SB) 32 (SB 32) in September 2016 extends the provisions of AB 32 from 2020 to 2030 with a new target of 40 percent below 1990 levels by 2030. The companion bill, AB 197, adds two non-voting members to the ARB, creates the Joint Legislative Committee on Climate Change Policies consisting of at least three Senators and three Assembly members, requires additional annual reporting of emissions, and requires

Scoping Plan updates to include alternative compliance mechanisms for each statewide reduction measure, along with market-based compliance mechanisms and potential incentives.

Executive Order S-1-07

Executive Order S-1-07 acknowledges that the transportation sector is the main source of GHG emissions in California. The order established a goal of reducing the carbon intensity of fuels for mobile, stationary, and portable emissions sources sold in California by a minimum of 10 percent by 2020. It also directed ARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 97

Senate Bill (SB) 97, signed August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The California Natural Resources Agency adopted those guidelines on December 30, 2009, and the guidelines became effective March 18, 2010.

Senate Bill 375

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS), which will prescribe land use allocation in that MPO's Regional Transportation Plan (RTP). ARB adopted regional GHG targets for passenger vehicles and light trucks for 2020 and 2035 for the 18 MPOs in California. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "alternative planning strategy" to meet the targets.

ARB Advanced Clean Cars Program/Zero Emission Vehicle Program

Assembly Bill (AB) 1493 (Chapter 200, Statutes of 2002), also known as the Pavley regulations, required ARB to adopt regulations by January 1, 2005, that would result in the achievement of the "maximum feasible" reduction in GHG emissions from vehicles used in the state primarily for noncommercial, personal transportation.

In January 2012, ARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars (13 CCR 1962.1 and 1962.2). The Advanced Clean Cars requirements include new GHG standards for model year 2017 to 2025 vehicles. ARB anticipates that the new standards will reduce motor vehicle GHG emissions by 34 percent in 2025.

The Advanced Clean Cars Program also includes the LEV III amendments to the LEV regulations (13 CCR 1900 et seq.); Zero Emission Vehicle Program and the Clean Fuels Outlet Regulation. The Zero Emission Vehicle Program is designed to achieve California's long-term emission reduction goals by requiring manufacturers to offer for sale specific numbers of the very cleanest cars available. These zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles, have now entered the marketplace. They are

expected to be fully commercial by 2020. The Clean Fuels Outlet regulation ensures that fuels, such as electricity and hydrogen, are available to meet the needs of the new advanced technology vehicles as they come to market.

Executive Order B-16-12

Executive Order B-16-12 orders State entities under the direction of the Governor including ARB, the Energy Commission, and Public Utilities Commission to support the rapid commercialization of zero emission vehicles (ZEV). It directs these entities to achieve various benchmarks related to zero emission vehicles, including:

- ▶ Infrastructure to support up to 1 million zero emission vehicles by 2020;
- ▶ Widespread use of zero emission vehicles for public transportation and freight transport by 2020;
- ▶ Over 1.5 million zero emission vehicles on California roads by 2025;
- ▶ Annual displacement of at least 1.5 billion gallons of petroleum fuels by 2025; and
- ▶ A reduction of GHG emissions from the transportation sector equaling 80 percent below 1990 levels by 2050.

Executive Order S-01-07 (Low Carbon Fuel Standard)

Executive Order S-01-07 (17 CCR 95480 et seq.) requires the State to achieve a 10 percent or greater reduction by 2020 in the average fuel carbon intensity for transportation fuels in California regulated by ARB. ARB identified the Low Carbon Fuel Standard (LCFS) as a discrete early action item under AB 32, and the final ARB resolution (No. 09-31) adopting the LCFS was issued on April 23, 2009. ARB re-adopted LCFS in 2015.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code (CALGreen Code), which establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of minimum guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011. The 2013 update to the code has been adopted and became effective January 2014. Another update to the energy efficiency standards became effective January 1, 2017. The 2016 update to the Building Energy Efficiency Standards will improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The new standards address non-residential development, as well, and build on the energy efficiency progress made within previous iterations.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

ARB also acknowledges that local governments have broad influence and, in some cases, exclusive jurisdiction over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

Sacramento Metropolitan Air Quality Management District

The SMAQMD is the agency responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. The SMAQMD adopted the CEQA Guide to Air Quality Assessment in Sacramento County which provides guidance on addressing and mitigating GHG emission impacts

caused by industrial, commercial, and residential development. In a 2014 Resolution, the SMAQMD Board approved continued use of GHG reduction plans (also known as climate action plans) for addressing potential GHG emissions-related impacts. For jurisdictions not using GHG reduction plans or projects where use of a GHG reduction plan is not appropriate, SMAQMD approved significance thresholds, which are discussed further in the “Thresholds of Significance” subsection below.

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 transportation plan (MTP) in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado, and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin). This plan incorporates county wide transportation planning covering a 20-year planning horizon which must be updated every 4 years. As a requirement of SB 375, MPOs need to develop a Sustainable Communities Strategy (SCS) as part of the MTP to identify strategies and policies to reduce greenhouse gas emissions from passenger vehicles to meet state targets established by ARB.

SACOG’s MTP/SCS for 2035 (the MTP/SCS) was adopted on April 19, 2012. SACOG’s MTP/SCS calls for meeting and exceeding ARB’s GHG reduction goals for passenger vehicles and light-duty trucks of 7 percent by 2020 and 16 percent by 2035, where 2005 is the baseline year for comparison (SACOG 2012). SACOG’s 2016 MTP/SCS was adopted on February 18, 2016 (SACOG 2016). The 2016 MTP/SCS demonstrates how the region can accommodate expected regional population growth and the increased demand for transportation in the region, while also showing that the region could achieve a reduction in per-capita passenger vehicle miles traveled (VMT). While the proposed Project is outside of the area identified in the SACOG MTP/SCS for development during the planning horizon, it is immediately adjacent to the existing urban edge. The MTP/SCS includes 31 policies and multiple strategies to address the principles of smart land use; environmental quality and sustainability; financial stewardship; economic vitality; access and mobility; and equity and choice. Highlights of MTP/SCS policies include:

- ▶ Policy: Provide information, tools, incentives and encouragement to local governments that have chosen to grow consistent with Blueprint principles.
- ▶ Policy: Educate and provide information to policymakers, local staff, and the public about the mutually supportive relationship between smart growth development, transportation, and resource conservation.
- ▶ Policy: SACOG encourages local jurisdictions in developing community activity centers well-suited for high-quality transit service and complete streets.
- ▶ Policy: SACOG encourages every local jurisdiction’s efforts to facilitate development of housing in all price ranges, to meet the housing needs of the local workforce and population, including low-income residents, and forestall pressure for long external trips to work and essential services.
- ▶ Policy: SACOG should continue to inform local governments and businesses about a regional strategy for siting industry and warehousing with good freight access.

- ▶ Policy: SACOG encourages local governments to direct greenfield developments to areas immediately adjacent to the existing urban edge through data-supported information, incentives and pursuit of regulatory reform for cities and counties.
- ▶ Policy: Implement the Rural-Urban Connection Strategy (RUCS) which ensures good rural-urban connections and promotes the economic viability of rural lands while also protecting open space resources to expand and support the implementation of the Blueprint growth strategy and the MTP/SCS.
- ▶ Policy: Support and invest in strategies to reduce vehicle emissions that can be shown as cost effective to help achieve and maintain clean air and better public health.
- ▶ Policy: use the best information available to implement strategies and projects that lead to reduced GHG emissions.
- ▶ Policy: Consider strategies to green the system, such as quieter pavements, cleaner vehicles, and lower energy equipment where cost effective, and consider regional funding contributions to help cover the incremental cost.
- ▶ Policy: SACOG in partnership with community and employer organizations intends to support proactive and innovative education and transportation demand management programs covering all parts of the urbanized areas, to offer a variety of choices to driving alone.
- ▶ Policy: SACOG should study, consult with, and help coordinate local agency activities to provide for smoother movement of freight through and throughout the region.
- ▶ Policy: SACOG intends to preserve some capacity on major freeways within the region for freight and other interregional traffic by providing additional capacity for local and regional traffic on major arterials running parallel to the major freeways.
- ▶ Policy: Support road, transit, and bridge expansion investments that area supportive of MTP/SCS land use patterns.
- ▶ Policy: Prioritize transit investments that result in an effective transit system that serves both transit dependent and choice riders.
- ▶ Policy: SACOG encourages locally determined developments consistent with Blueprint principles and local circulation plans to be designed with walking, bicycling, and transit use as primary transportation consideration.

City of Elk Grove General Plan

The City of Elk Grove General Plan establishes goals and policies to guide long-term development and conservation for areas within the City’s jurisdiction. Many of the policies and actions cited in Section 3.4 of this EIR, “Air Quality” would reduce GHG emissions, as well. The City’s policies and actions that affect the generation of GHG emissions and may apply to the potential future development within the SOIA Area are highlighted below.

- ▶ **CAQ-1:** Reduce the amount of water used by residential and non-residential uses by encouraging water conservation.
 - **CAQ-1-Action 1:** Implement the City’s Water Conservation Ordinance.
 - **CAQ-1-Action 2:** Actively encourage water conservation by both agricultural and urban water users.
 - **CAQ-1-Action 3:** Work with urban and agricultural water purveyors to establish long range conservation plans which set specific conservation objectives and utilize, to the extent possible, a common planning horizon, plan framework and estimating/forecasting procedures.
 - **CAQ-1-Action 4:** Promote the use of drought-tolerant vegetation to minimize water consumption by providing information to developers and designers.

- ▶ **H-6:** Support energy-conserving programs in the production and rehabilitation of affordable housing to reduce household energy costs, improve air quality, and mitigate potential impacts of climate change in the region.
 - **H-6 Action 1:** Continue to promote and support energy efficiency in new construction by encouraging developers to utilize Sacramento Municipal Utility District (SMUD) energy programs and other energy efficiency programs and to be consistent with the Sustainability Element of the General Plan and the City’s Climate Action Plan.
 - **H-6 Action 2:** Continue to encourage participation in SMUD’s PV (photovoltaic) Pioneer program by issuing PV system permits at no charge upon SMUD’s approval.

The City included a voluntary Sustainability Element as part of the General Plan. This element, along with the City’s Climate Action Plan, serves as the framework for developing a GHG reduction strategy in compliance with CEQA Guidelines Section 15183.5(b). The Sustainability Element directs the City to implement and adopt a climate action plan (CAP) through Policy S-5 and S-5 Action 1.

- ▶ **S-5:** Reduce GHG emissions from community-wide sources, including City facilities and operations, by a minimum of 15 percent below 2005 levels by 2020, consistent with the standards and requirements of AB 32.

S-5 Action 1: Adopt and implement a Climate Action Plan that will identify goals, measures, and actions to achieve the City’s GHG reduction target.

City of Elk Grove Climate Action Plan

The City Council adopted the Climate Action Plan (CAP) 2013. 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, transportation, land use, water use, and solid waste strategies. The City’s intent is for new development projects consistent with the CAP and the General Plan to avoid additional environmental analysis for GHG emissions-related impacts. Implementation of the CAP on a project-by-project basis is intended to achieve a 15 percent reduction below 2005 GHG emission levels by 2020. The CAP includes the following topics for emission reduction strategies: An Innovative and Efficient Built Environment; Resource Conservation; Transportation Alternatives and Congestion Management; and Municipal Programs. Table 3.8-3 presents GHG reduction measures from the City’s CAP.

Table 3.8-3 City of Elk Grove Climate Action Plan Applicable GHG Reduction Measures		
	Reduction Measures	Policy Topic
BE-6	Building Stock: New Construction. Adopt CALGreen Tier 1 standards to require all new construction to achieve a 15% improvement over minimum Title 24 CALGreen Energy requirements.	Built Environment
BE-7	Building Stock: Appliances and Equipment in New Development. Encourage the use of energy-efficient appliances and equipment in new buildings that maximize efficiency.	Built Environment
BE-8	Community Forestry. Plan trees in appropriate densities and locations that will maximize energy conservation and air quality benefits.	Built Environment
BE-9	Cool Paving Materials. Encourage the use of high-albedo material for future outdoor surfaces to the greatest extent feasible, including but not limited to parking lots, median barriers, roadway improvements, and sidewalks.	Built Environment
BE-10	On-Site Renewable Energy Installations. Promote voluntary installations of on-site solar photovoltaics in new and existing development, and revise standards to facilitate the transition to solar water heaters and solar photovoltaics in new development.	Built Environment
BE-11	Off-Site Renewable Energy. Encourage participation in SMUD's off-site renewable energy programs, which allow building renters and owners to choose locally produced 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 sent to the landfill from Elk Grove and achieve an 80% diversion by 2020.	Resource Conservation
RC-2	Water Conservation. Reduce the amount of water used by residential and nonresidential uses.	Resource Conservation
RC-3	Recycled Water. Promote and remove barriers to the use of greywater systems and recycled water for irrigation purposes.	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	Intracity Transportation Demand Management. The City shall support and contribute to regional efforts to reduce demand for intercity (regional) personal vehicle travel.	Transportation Alternatives & Congestion Management
TACM-5	Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle and Pedestrian Master Plan and increased bicycle parking standards.	Transportation Alternatives & Congestion Management
TACM-6	Public Transit. Continue to improve and expand transit services for commuters and non-commuters traveling within Elk Grove and regionally, providing the opportunity for workers living in other areas of Sacramento County to use all forms of public transit - including bus rapid transit and light rail - to travel to jobs in Elk Grove, as well as for Elk Grove residents to use public transit to commute to jobs outside the City.	Transportation Alternatives & Congestion Management
TACM-7	Jobs/Housing Balance. Continue to improve Elk Grove's jobs/housing ratio and seek to achieve sufficient employment opportunities in Elk Grove for all persons living in the City.	Transportation Alternatives & Congestion Management
TACM-9	Efficient and Alternative Vehicles. Promote alternative fuels and efficient vehicles throughout the community.	Transportation Alternatives & Congestion Management
TACM-10	Car Sharing. Promote the use of vehicles and transportation options other than single-occupant vehicles.	Transportation Alternatives & Congestion Management
TACM-11	Safe Routes to School. Implement SACOG's Safe Routes to School Policy.	Transportation Alternatives & Congestion Management
TACM-12	Traffic Calming and Anti-Idling. Improve traffic flow and reduce unnecessary idling through use of traffic calming devices and enforcement of idling restrictions.	Transportation Alternatives & Congestion Management
MP-2	Municipal Facilities: New. All City facilities shall incorporate energy-conserving design and construction techniques.	Municipal Programs
MP-7	Municipal Water Use. Improve the efficiency of municipal water use through retrofits and employee education.	Municipal Programs
MP-8	Municipal Waste. Reduce municipal waste through employee education and environmentally preferable purchasing.	Municipal Programs

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 2016.3.1 and the Road Construction Emissions Model can also estimate GHG emissions associated with construction and operational activities. Refer to Appendix B for a detailed summary of the modeling details, assumptions, inputs, and outputs.

For construction, GHG emissions were estimated for off-road construction equipment, material delivery trucks, haul trucks, and construction worker vehicles. For operational activities, CalEEMod estimates GHG emissions associated with mobile, area, and energy sources, similar to air quality emissions. However, CalEEMod also estimates indirect GHG emissions associated with solid waste disposal and water consumption.

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, as amended. The proposed Project would have a significant impact on GHGs if implementation of the proposed Project would:

- ▶ generate greenhouse gas emissions, either directly, 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.

As stated in Appendix G, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. For the purposes of determining whether development of the SOIA Area, including the multi-sport park complex project, would have significant construction-related and operational GHG emissions impacts, for land development and construction projects, SMAQMD considers a project to exceed GHG emission thresholds if:

- ▶ the annual construction-related emissions exceed 1,100 MT CO₂e/year; or
- ▶ the annual operational emissions exceed 1,100 MT CO₂e/year.

As stated in Appendix G, 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 has adopted annual GHG emission thresholds of 1,100 MTCO₂e for construction and 1,100 MTCO₂e for operational GHG emissions. SMAQMD’s guidance was developed with the intent to allow assessments of projects for consistency with AB 32. However, AB 32 is focused on the year 2020. Future development in the SOIA Area, including the multi-sport park complex project, may produce emissions beyond 2020. Therefore, it would be appropriate also to consider whether emissions rates would contribute to the State’s emission reduction

goals in Executive Order B-30-15, SB 32, and Executive Order S-3-05, as well. Executive Order B-30-15 and SB 32 call for a statewide reduction in GHG emissions to 40 percent below 1990 levels by 2030. Executive Order S-3-05 calls for a reduction to 80 percent below 1990 levels by 2050.

These four sets of guidance for the State government – AB 32, Executive Order B-30-15, SB 32, and Executive Order S-3-05 – though they do not directly create any obligation for LAFCOs or cities, 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 AB 32, Executive Order B-30-15, and Executive Order S-3-05 emissions reductions, the impact is not cumulatively considerable (*Center for Biological Diversity, et al. v. California Department of Fish and Wildlife*, page 12; Crockett 2011).

Having established the State policy and regulatory framework for assessing cumulative significance of GHG emissions, this EIR answers the two checklist questions provided by CEQA Guidelines Appendix G in a single impact assessment. Whether or not the SOIA would generate GHG emissions that would have a significant impact on the environment depends on whether the rate of GHG emissions from potential future development within the SOIA Area 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.

The GHG emissions efficiency of a project or plan is the amount of emission per some unit of measurement. For development projects and plans, one appropriate unit of normalization is service population. Service population is the sum of residential population and employment. When dividing total GHG emissions by service population, a lead agency is able to evaluate whether the GHG emissions rate of projects and plans is consistent with the State’s emission reduction targets. This approach is consistent with the intent of AB 32 and SB 32, which is to accommodate population and economic growth in California, but do so in a way that achieves a lower rate of GHG emissions. With a reduced rate of emissions per resident + employee, California can accommodate expected population growth and achieve economic development objectives, while also abiding by the State’s emissions target and supporting efforts to reduce emissions beyond 2020 (consistent with Executive Order B-30-15, SB 32, and Executive Order S-3-05).

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 and employment statewide for the same year. This would yield an emissions “budget” for each California resident and employee, and allow a community to assess whether or not its emissions rate is consistent with this emissions budget.

Since there is no proposed timeline for possible future development within the SOIA Area, it is necessary to develop an assumption to use for the purposes of analysis. Given the level of development that potentially could be incorporated within the SOIA Area in the future, if development is proposed in this area, a longer-term timeline is appropriate. This EIR uses 2035 as a timeline for the purposes of analysis.

A GHG efficiency threshold per service population (MT CO₂e/SP/year) for year 2035 has been developed based on the original AB 32-year 2020 target, the Executive Order B-30-15 and SB 32-year 2030 target, and the Executive Order S-3-05-year 2050 target. By interpolating between the goals for 2030 and 2050 for year 2035, in

the year 2035 the State would need to achieve an emissions level of 50 percent below 1990 levels. The associated population and employment data for year 2035 were obtained from Department of Finance and Employment Development Department (EDD), respectively (DOF 2017a, 2017b; EDD 2016).¹ The statewide GHG efficiency in year 2035 then can be calculated by dividing the required emissions level by forecast statewide population and employment.

The statewide emissions targets, population, and employment must be tailored, however, to focus in on the emission sources that are relevant, and could in the future be influenced by City of Elk Grove policies and reduction strategies. In order to develop an appropriate GHG efficiency target, the non-land use-related emissions and jobs must be removed from consideration. For emissions, this means removing consideration of agriculture and forestry, aviation, industrial combined heat and power, manufacturing, mining, national security, oil and gas extraction, petroleum refining, pipelines, rail, and water-borne vehicles. For employment this means removing from consideration jobs associated with farming, fishing, forestry, mining, logging, quarrying, oil and gas, heavy industry with substantial process/stationary source emissions, and construction.² By removing these emissions and jobs from the calculation of statewide GHG efficiency, the efficiency target is tailored for land use-related projects.

Table 3.8-4 presents the land use-related statewide emissions, population, and employment figures, and calculates the proposed 2035 GHG efficiency target to evaluate GHG emissions.

Table 3.8-4 Statewide Efficiency Target – Land Use-Related Emissions and Employment					
	2014	2020	2024	2035	2050
Population	38,572,211 ¹	40,719,999 ²	41,320,928 ³	45,521,334 ²	49,158,401 ²
Employment	17,135,000 ⁴	18,686,300 ⁵	19,720,500 ⁴	21,725,153 ⁶	23,460,951 ⁶
Service Population (population + employment)	55,707,211	59,406,299	61,041,428	67,246,487	72,619,352
Emissions (MT CO ₂ e/yr)	-	293,400,000 ⁷	-	146,700,000 ⁸	56,680,000 ⁸
Emissions Efficiency Targets (MT CO ₂ e/SP/yr)	-	4.94	-	2.18	0.78

Source: Analysis by AECOM 2017, sources listed below.
Notes: MMT CO₂e = million metric tons of carbon dioxide equivalent; BAU = business-as-usual
¹ Department of Finance (DOF) Table E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011–2017, with 2010 benchmark. Available online at: <<http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php>>
² DOF Table P-1 State and County Population Projections, July 1, 2010–2060 (5-year increments). Available online at: <<http://www.dof.ca.gov/research/demographic/projections/>>
³ Interpolated from DOF estimates for 2020 (40,619,346) and 2025 (42,373,301). See note 2 for population estimation source.
⁴ California Employment Development Department (EDD). 2016 (August). Employment Projections, 2014–2024. Available online at: <<http://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>>. Sorted to remove jobs from farming, fishing, and forestry occupations sector, production occupations sector, and extraction workers subsector of construction and extraction occupations sector.
⁵ Interpolated from 2014 and 2024 revised estimates.
⁶ EDD provides 2- and 10-year employment estimates that currently extend to 2024, so the ratio of employment to population estimated in 2024 (i.e., 47.7%) was applied to the DOF population estimates for 2035 and 2050 to estimate employment in those years.
⁷ Revised 2020 GHG emissions limit from land use-related sectors, which removed emissions from the following sectors and sub-sectors: agriculture and forestry, aviation, combined heat and power for industrial, manufacturing, mining, national security, oil and gas extraction, petroleum refining, pipelines, rail, and water-borne.
⁸ Statewide emissions shown assume the state will achieve 1990 emission levels by 2020, 40% below 1990 levels in 2030 (per Executive Order B-30-15), 80% below 1990 levels in 2050 (per S-3-05), and 50% below 1990 levels as interpolated between the 2030 and 2050 statewide GHG reduction targets.

¹ DOF projections are available for 5-year increments between 2010 and 2060, while EDD employment projections are available for 2014 and 2024. Employment for 2035 can be calculated using the relationship between total forecast population and employment for other years.

² Removing construction-related employment could be viewed as a conservative aspect to the methodology outlined in this section since construction emissions are amortized and included as a part of the overall emissions estimate. However, construction-related employment tends to be transient, can be highly variable, and may not be appropriate to include fully within the denominator of the ratio of emissions over service population.

IMPACT ANALYSIS

IMPACT 3.8-1 Contribution to significant climate change cumulative impact. *GHG emissions attributable to possible future development within the SOIA Area, including the multi-sport park complex, during construction and operational phases is considered a **cumulatively considerable** contribution to the significant cumulative impact of climate change.*

The following analysis evaluates potential impacts of the proposed multi-sport park complex project and proposed rezoning and the assumptions contained in the City's SOIA application, which are based on City General Plan land use designations and zoning categories, as well as possible off-site infrastructure improvement impacts such as roads, sewer lines, drainage facilities, and water lines.

Table 3.8-5 presents the maximum annual and total construction-related and annual operational emissions associated with full buildout of the proposed SOIA, including the multi-sport park complex project.

Table 3.8-5 Estimated GHG Emissions for the Multi-Sport Park Project and Full Buildout of the SOIA Area	
Emissions Source	GHG Emissions (MTCO ₂ e)
Construction GHG Emissions	
Maximum Annual Construction Emissions	3,249
Total Potential Construction Emissions ¹	8,632
Amortized Construction-Related Emissions ²	345
Operational GHG Emissions	
Area	13
Energy	29,684
Mobile	110,472
Waste	7,804
Water	5,014
Total Annual Operational Emissions	152,986
Total Emissions, including Amortized Construction Emissions + Operational Emissions³	153,332
Total Service Population Associated with SOIA	12,329
Emissions per Service Population (MTCO₂e/year/service population)⁴	12.44
Notes:	
¹ Total construction emissions are estimated by multiplying the annual worst-case constructions, which represents construction emissions associated with development of 25% of the total proposed land uses, by four.	
² 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 2016).	
³ Total Project GHG emissions include annual operational emissions and amortized construction emissions.	
⁴ GHG efficiency-based metric is calculated as the annual GHG emissions divided by the estimated service population of the SOIA Area under the analysis scenario used throughout this EIR. The assumed service population is the residential population (2,329 residents in) added to the number of jobs. The assumed total number of jobs is 10,000. So, the total service population would be approximately 12,329.	
Totals do not add due to rounding.	
Source: Modeled by AECOM in 2017	

Construction-related GHG emissions would be generated primarily from exhaust emissions associated with off-road construction equipment, heavy-duty material haul trucks, and construction worker commutes. The intensity and pace of construction would be dependent on market and economic conditions. As described in Section 3.4, “Air Quality,” in order to estimate annual construction emissions for a plan-level analysis when buildout information is unknown, SMAQMD recommends an assumption that 25 percent of the total plan or project is constructed in a single year. This assumption is intended to provide conservative results and would overestimate annual emissions associated with possible future development within the SOIA Area.

Amortized construction emissions from the potential development are below the 1,100 MT CO₂e/year threshold that is recommended by SMAQMD for construction related emissions. However, if 25 percent of the development included in the SOIA analysis scenario is under construction in a single year, this would generate 3,249 MT CO₂e, which would exceed the SMAQMD construction threshold.

If there is development in the SOIA Area in the future, this would generate long-term operational emissions from day-to-day activities associated with the potential future land uses. Operational GHG emission sources would include energy consumption (i.e., electricity and natural gas), transportation, and water and wastewater. Operational emissions were modeled for the earliest year anticipated for operations (2022). While it is not likely the SOIA Area would be developed by this year, portions could be, and this represented a conservative estimate, assuming more energy efficiency measures would be available in later years. As shown in Table 3.8-5, total annual operational emissions are estimated to be 348,427 MT CO₂e/year. When amortized construction emissions are added in, annual emissions would be 348,772 MT CO₂e/year. This exceeds SMAQMD’s recommended threshold for operational emissions.

Total GHG emissions are divided by assumed total SOIA Area population and employment (total population + employment = services population) in order to compare the proposed SOIA emissions to required statewide GHG emissions rates needed to achieve the State’s emission targets for 2030 (Executive B-30-15) and 2050 (Executive Order S-3-05). Using the analysis scenario developed for this EIR, total GHG emissions would be 28.29 MT CO₂e/year, which exceeds the emissions rate for land use related emissions needed to demonstrate consistency with AB 32, Executive Order B-30-15, SB 32, and Executive Order S-3-05.

As discussed in 3.8.2, Regulatory Framework, the City of Elk Grove adopted a CAP and a General Plan Sustainability Element in 2013. The primary motivation for the City to adopt the CAP was 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 2018). The City estimates that the CAP, when implemented on a project-by-project basis would achieve a 15 percent GHG emissions reduction in 2020 compared to 2005 levels. Although the SOIA Area is identified as a potential Study Area for the ongoing City of Elk Grove General Plan Update, the CAP does not account for future development of the SOIA Area. Whether and to what degree the City’s CAP or future versions of a CAP that addresses post-2020 emissions reduction would be applied to possible future development under the SOIA is unknown. However, even if future development within the SOIA Area achieved a 15 percent reduction in total emissions, this would still not be sufficient to reduce total emissions below SMAQMD’s target of 1,100 MT CO₂e/year for operational emissions. Also, if future development within the SOIA Area achieved a 15 percent reduction in total emissions, this would still not be sufficient to demonstrate consistency with statewide GHG emissions rates needed to achieve the State’s emission targets for 2030 (Executive B-30-15 and SB 32) or 2050 (Executive Order S-3-05).

As discussed elsewhere in this EIR, SACOG did not include the SOIA Area as an area that would develop during the planning horizon of the 2016 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 13,909 dwelling units and 19,863 jobs by 2036 without consideration of any development within the SOIA Area (SACOG 2016). Future development in the SOIA Area, including the multi-sports park complex project, would exceed the forecast included in SACOG's MTP/SCS. If the City is successful in attracting more development between present and 2036 than forecast by SACOG or if the SOIA Area between present and 2036, 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. Whether or not this possible future variation relative to regional planning assumptions would be beneficial or detrimental to meeting per-capita reduction targets is unknown at this time.

However, because emissions could exceed an GHG emissions rate sufficient to demonstrate consistency with statewide GHG emissions rates needed to achieve the State's emission targets for 2030 (Executive B-30-15 and SB 32) or 2050 (Executive Order S-3-05), the impact is **cumulatively considerable**.

Mitigation Measures

Mitigation Measure 3.8-1: Achieve GHG Emissions Rate Consistent with State Guidance (City of Elk Grove)

The City of Elk Grove shall require, as a part of the multi-sports park project and plans for development within the balance of the SOIA Area, the implementation of strategies to reduce GHG emissions. This will include an emissions estimate, suite of reduction strategies, which may include the use of verifiable offsets, and a monitoring mechanism consistent with recommendations of CEQA Guidelines Section 15183.5 for GHG reduction programs. This GHG reduction program for the SOIA Area can be accomplished through an update to the City's Climate Action Plan or a stand-alone GHG reduction program. The City will require that development in the SOIA Area comply with applicable GHG reduction strategies necessary to demonstrate that the SOIA Area would achieve a GHG emissions rate per service population that would be consistent with the emissions rate for land use-related emissions needed to achieve the State's emission targets for 2030 (Executive B-30-15 and SB 32) and 2050 (Executive Order S-3-05).

Significance after Mitigation

Mitigation Measure 3.8-1 requires the City of Elk Grove to incorporate the SOIA Area in the City's CAP or develop a stand-alone CAP for emissions attributable to future development within the SOIA Area. Mitigation Measure 3.8-1 also requires that such a GHG reduction program demonstrate consistency with State guidance on GHG emissions reductions per unit of development, which, in this case means emissions per service population for land use-related emissions. Achieving the performance standard established in this mitigation measure would allow the City to demonstrate that development within the SOIA Area would be consistent with the State legislative framework that, in California, has been established for assessing the cumulative significance of GHG emissions impacts.

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. The impact is **cumulatively considerable and unavoidable**.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

This section addresses hazards to human health and the environment from the use of hazardous materials, and the potential for such materials to accidentally spill during construction or subsequent operations; the potential for construction (excavation) to occur in areas affected by hazardous materials; the potential for accidents or incidents in adjacent industrial areas to affect people at the SOIA Area or at off-site improvement areas; and potential exposure to wildfires.

This section uses the term “hazardous materials” to discuss hazardous materials and wastes. Under federal and State laws, any material, including waste, may be considered hazardous if it is specifically listed by statute as such, or if it is toxic (causes adverse 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). Hazardous materials are defined in Title 49, Section 171.8 of the Code of Federal Regulations (49 CFR 171.8) as “a substance or material that...is capable of posing an unreasonable risk to health, safety, and property when transported in commerce.” Section 25501 of the California Health and Safety Code defines hazardous materials as any material (hazardous substances, wastes, or materials) that poses a significant present or potential hazard to human health and the environment. Health and Safety Code Section 25141(b) defines hazardous wastes as wastes that may cause or significantly contribute to an increase in mortality or serious illness or hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Potential hazards and associated impacts related to toxic air contaminant emissions are discussed in Section 3.4, “Air Quality.” Seismic and other geologic hazards are addressed in Section 3.7, “Geology, Soils, Minerals, and Paleontological Resources.” Flooding hazards are addressed in Section 3.10, “Hydrology and Water Quality.” Traffic hazards not related to the ability of the community’s emergency responders to respond to an emergency are addressed in Section 3.14, “Transportation/Traffic.” Service levels by fire personnel and other emergency responders are addressed in Section 3.13, “Public Services and Recreation.”

3.9.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS

Land Uses and Conditions in the SOIA Area

Blackburn Consulting (BCI) completed a Phase I Environmental Site Assessment (ESA) for the multi-sports park complex site (BCI 2014). The SOIA area is in unincorporated Sacramento County and has been used for row crops and pasture, and there are two existing residences with numerous outbuildings including silos and structures for managing livestock. Similarly, the multi-sport complex site includes agricultural fields, a corrugated steel warehouse currently used for equipment storage (on the site of a former residence), several native and ornamental trees, an irrigation pond, two local power lines, and perimeter dirt roads. Aerial photographs and owner interviews reveal that the SOIA Area was used for agriculture, including row crops and a small orchard, throughout the 20th century and into the 21st century. (See Section 3.6 of this EIR, “Cultural Resources” for more information on the history of the SOIA Area).

Use of Agricultural Chemicals on the SOIA Area

BCI identified an active orchard on a portion of the parcel from a 1947 topographic map and 1937 aerial photograph. The orchard appears to have a declining number of trees between 1937 and 1984. 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 (BCI 2014). Pasture, dry-farmed crops, and natural grasses, such as those historically and currently grown on the SOIA Area, typically require little to no applications of environmentally persistent pesticides. Orchards and orchard-cultivated soils in the may have been contaminated through the repeated application of agricultural chemicals to fruit or nut trees. As described in the *Elk Grove General Plan Background Report*, agricultural regions around Elk Grove typically have residual levels of agricultural chemicals, primarily pesticides and herbicides applied to irrigated row crops in the early to mid-20th century, before they were banned. These may have included organochlorine pesticides, such as DDT, which is now ubiquitous in its breakdown products (dichlorodiphenyldichloroethane [DDD] and dichlorodiphenyldichloroethylene [DDE]). Other chemicals containing lead-arsenates may have been applied to orchards in the region (City of Elk Grove 2003).

KNOWN INACTIVE AND ACTIVE HAZARDOUS SITES

The *City of Elk Grove General Plan Background Report* contains a list of known “inactive” hazardous sites within the City’s Planning Area, which includes the SOIA Area. According to the *City of Elk Grove General Plan Background Report*, an “active” status does not mean that the site poses an environmental or human safety risk, only that there is a hazardous material occurrence associated with the facility and that the site is presently undergoing remediation or is under further regulatory review. “Inactive” sites are defined as having been investigated and remediated to the satisfaction of the lead oversight agency. Three sites were identified in the commercial/industrial area northwest of the Kammerer Road/Highway 99 interchange, directly adjacent to the edge of the SOIA Area: the Transcon Lines, the Flying “V” SS groundwater contamination site (former), and the Georgia-Pacific soil contamination site. Of these, only the Georgia-Pacific site was considered active at the time, although the facility is now closed. The *City of Elk Grove General Plan Background Report* did not identify any other inactive hazardous sites in the vicinity of the SOIA Area (City of Elk Grove 2003).

DTSC maintains a hazardous waste and substances site list (Cortese list) pursuant to Government Code Section 65962. As of November 2017, the SOIA Area is not on the Cortese list (DTSC 2017).

The Sacramento County General Plan does not identify any hazardous materials near the SOIA Area (Sacramento County 2011 a).

AECOM searched the EPA’s Envirofacts web site and the State Water Resources Control Board’s (SWRCB’s) GeoTracker web site to identify toxic releases, hazardous waste, or other violations that could affect the SOIA Area. The Envirofacts web site presents information from several regulatory agencies and databases, including those for the EPA, California Department of Toxic Substances Control (DTSC), and Office of Emergency Services, and contains a variety of environmental information maintained by EPA, such as the locations of releases of more than 650 toxic chemicals. The GeoTracker database provides data relating to leaking underground storage tanks and other types of soil and groundwater contamination, along with associated cleanup activities. No records of any toxic releases, hazardous waste, or other violations were found that would affect the SOIA Area (EPA 2017; SWRCB 2017).

The SOIA Area was not listed on any county, State, or federal government lists as a contaminated site. There were no known contaminated municipal groundwater wells, active or inactive landfills, producing California Division of Oil and Gas petroleum wells, or registered USTs located on, adjacent to, or within 0.5 mile of the SOIA Area. No confirmed, State or federal “Superfund” sites were identified within 1 mile of the property.

Areas of Elk Grove north and west of the SOIA Area 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 Suburban Propane, which operates several propane storage tanks near the northwest corner of Grant Line Road and Waterman Road. In addition, a 10-inch natural gas pipeline owned by SFPP, L.P., is present along the western edge of the SOIA Area within the Union Pacific Railroad (UPRR) right-of-way. The pipeline runs under and adjacent to Grant Line Road from the UPRR right-of-way to Bradshaw Road.

TRANSPORT OF HAZARDOUS MATERIALS

Hazardous materials are transported on area roadways, including State Route (SR) 99, continually. The transportation of hazardous materials within the City is subject to various federal, State, and local regulations (see Section 3.9.2, “Regulatory Framework,” below) The only roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the City is Interstate 5, located more than 3 miles west of the SOIA Area. Smaller quantities of hazardous materials, such as medical supplies, pool chemicals, cleansing agents, paint, and household chemicals, may be transported on all roadways throughout the City. An industrial area where larger concentrations of hazardous materials may occur is located near the northwestern corner of the SOIA Area, east of SR 99. It is likely that the majority of deliveries of hazardous materials to this area would occur via Grant Line Road and SR 99.

SUBURBAN PROPANE

Suburban Propane facility is located at 10450 Grant Line Road, approximately 3,000 feet from the northeastern corner of the SOIA Area. The Suburban Propane facility receives and stores pressurized and refrigerated propane from trucks and railcars and loads trucks for off-site transport. The facility operates four 60,000-gallon, pressurized, ambient-temperature propane storage tanks and two 12-million-gallon refrigerated, low-pressure storage tanks. The tanks are 146 feet in diameter and 122 feet tall. According to the comment from Suburban Propane on the Notice of Preparation, the property for the facility was selected in 1969 and propane was first stored on site in 1971. The facility has operated on an around-the-clock, 365 days per year basis since that time. Suburban Propane utilizes state of the art security at its facility and there has never been an accident on site. Fire Chief Mark Meaker, who retired in 2003, reduced the radius for residential or dense development around the facility from 1 mile to 0.5 mile (Suburban Propane 2016).

A high-tech sprinkler system is designed to detect and immediately cool any tank where a flame erupts, preventing a fire like the one in Lincoln, California from occurring. Large berms have been built around the plant’s perimeter to contain liquid in case of a leak. A disaster preparedness expert, Denise Beach, a senior engineer with the National Fire Protection Association, interviewed for the article said “The only way an explosion would occur is if a fire impinges directly on a [propane] tank and there is no effort taken to keep the tank cool.” In addition, the article summarized some of the safety measures Elk Grove has in place. “A Reverse 911 system can convey instructions to all residents near the propane plant in the event of an emergency” and a

mandatory evacuation order, has been pre-reviewed by the city attorney and can be quickly signed by officials, if it is ever needed. (Mello 2011).

For the City General Plan, the City of Elk Grove reviewed several technical reports that evaluated a range of hypothetical accident scenarios and the potential effects from an explosion, radiant heat, fire, shrapnel, and chemical exposure, including potential injuries and fatalities. The study prepared by Quest in 2000, used in the General Plan EIR, evaluated a hypothetical release of flammable (propane) and toxic chemicals (formalin), the probability of an incident, and estimated hazard zones around the Suburban Propane facility. The Quest study presented individual risk contours and a numerical estimate of the annual risk of fatality with distance from the facility. Using the General Plan EIR's approach, only the extreme northeast corner of the SOIA Area 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.

SCHOOLS

There are no K–12 schools within 0.25 mile of the SOIA Area. The closest schools are Elk Grove High School and Markofer Elementary School, both part of the Elk Grove Unified School District, which are located approximately 1.5 miles northwest of the SOIA Area.

AIRPORTS AND AIRSTRIPS

No public airports or private airstrips exist within 2 miles of the SOIA Area. The closest public airport is Sacramento Executive Airport, approximately 12 miles northwest of the SOIA Area on Freeport Boulevard in Sacramento. The nearest active, privately operated airstrip is Mustang Airport (on Arno Road in Galt), which is located approximately 4 miles southeast of the SOIA Area, respectively. The former Sunset Sky ranch Airport, formerly located approximately 0.7 mile to the northeast, was closed after the Sacramento County Board of Supervisors denied a use permit.

WILDLAND FIRE HAZARDS

The California Department of Forestry and Fire Protection (CAL FIRE) has developed fire hazard severity zones to predict the potential intensity and damage from wildland fires. The zones depicted on CAL FIRE maps account for potential fire intensity and speed, production and spread of embers, fuel loading, topography, and climate (e.g., temperature and the potential for strong winds). The SOIA Area is within a Local Responsibility Area (LRA), which includes incorporated cities and agricultural areas where fire protection is provided by local agencies (e.g., fire protection districts and counties). The SOIA Area is within a Non–Very High Fire Hazard Severity Zone (CAL FIRE 2016).

3.9.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Management

The United States Environmental Protection Agency (EPA) has primary responsibility for enforcing and implementing federal laws and regulations pertaining to hazardous materials. Applicable regulations are contained

mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. Management of hazardous materials is governed by the laws summarized below.

- ▶ **Resource Conservation and Recovery Act of 1976 (RCRA):** RCRA (42 United States Code [USC] 6901 et seq.) established a federal regulatory program for the generation, transport, and disposal of hazardous substances. Under RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. RCRA was amended by the Hazardous and Solid Waste Amendments of 1984, which banned the disposal of hazardous waste on land and strengthened EPA's reporting requirements. EPA has delegated authority for many RCRA requirements to the California Department of Toxic Substances Control (DTSC).
- ▶ **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA):** CERCLA, also called the Superfund Act (42 USC 9601 et seq.), provided broad federal authority and created a trust fund for addressing releases and threatened releases of hazardous substances that could endanger public health or the environment.
- ▶ **Superfund Amendments and Reauthorization Act of 1986 (SARA):** The Superfund Hazardous Substance Cleanup Program (Public Law 96-510) was established on December 11, 1980. The program was expanded and reauthorized by the Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499), also known as SARA Title III. SARA created the Emergency Planning and Community Right-to-Know Act of 1986, also known as SARA Title III, a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state, tribal, and local governments.
- ▶ **Toxic Substances Control Act:** The Toxic Substances Control Act (TSCA) (15 USC 2601 et seq.) provides EPA with authority to require reporting, recordkeeping and testing, and restrictions related to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.
- ▶ **Clean Air Act:** Regulations under the Clean Air Act (42 USC 7401 et seq., as amended) are designed to prevent accidental releases of hazardous materials. The regulations require facilities that store a threshold quantity or greater of listed regulated substances to develop a risk management plan that includes hazard assessments and response programs to prevent accidental releases of listed chemicals.
- ▶ **Federal Clean Water Act Section 311 and 40 CFR 110.10:** Federal Clean Water Act Section 311 and 40 CFR 110.10, also referred to as the "Spill Prevention, Control, and Countermeasure (SPCC) Regulation," is intended to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil. The regulation requires reporting to the National Response Center of any discharge of oil to navigable waters that causes a sheen upon the water, deposits a sludge upon the shoreline or violates a water quality standard. Essentially, any amount of petroleum could cause a sheen, and in California, the State Water Resources Control Board (SWRCB) has determined that, due to the drain discharge locations, storm drains generally are considered navigable waters.
- ▶ **40 CFR 112.4 (federal SPCC rule):** This rule requires facility owners/operators to report specified information to the United States EPA Regional Administrator within 60 days if the facility has discharged more than 1,000 gallons of oil to navigable waters or adjoining shorelines in a single discharge or discharged

more than 42 gallons of oil to navigable waters or adjoining shorelines in each of two discharges occurring within any twelve-month period.

- ▶ **Emergency Planning and Community Right-to-Know Act (EPCRA):** EPCRA establishes requirements for federal, State, and local governments, Indian tribes, and industry regarding emergency planning and “Community Right-to-Know” reporting on hazardous and toxic chemicals. Regulations implementing EPCRA are codified in Title 40 of the Code of Federal Regulations, parts 350 to 372. EPCRA requires businesses have available Material Safety Data Sheets (MSDS) and must submit hazardous chemical inventory forms to the State Emergency Response Commission, Local Emergency Preparedness Committee, and local fire department annually on March 1st. Meeting this federal requirement is achieved through compliance with the California Hazardous Materials Business Plan program (CA Health and Safety Code sec 25504 [a-c]). Such plans must include an inventory of hazardous materials handled, as well as facility floor plans showing where hazardous materials are stored, an emergency response plan, and emergency response procedures that provide for employee training (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). In addition, facilities must immediately notify the Local Emergency Planning Committees and the State Emergency Response Commission or the Tribal Emergency Response Commissions if there is a release into the environment of a hazardous substance that is equal to or exceeds the minimum reportable quantity set in the regulations. This requirement covers the 355 extremely hazardous substances, as well as the more than 700 hazardous substances subject to the emergency notification requirements under CERCLA Section 103(a)(40 CFR 302.4).
- ▶ **29 CFR 1926.62 (federal lead rule):** Regulation of construction work where an employee may be occupationally exposed to lead is described in 29 CFR 1926.62. The ruling provides maximum permissible exposure limit, exposure assessment, protection of employee, and other relevant information for construction work where an employee may be occupationally exposed to lead.
- ▶ **Title 40 USC, Chapter 1, Subchapter I, Part 273 – Universal Waste:** This regulation governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and ensures that such waste is diverted to the appropriate treatment or recycling facility.

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA is responsible for compiling the National Priorities List (NPL) for known or threatened release sites of hazardous substances, pollutants, or contaminants (commonly referred to as “Superfund sites”). EPA provides oversight of and supervision for Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Occupational Safety and Health Administration Worker Safety Requirements

The Occupational Safety and Health Administration (OSHA) is responsible for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for handling hazardous substances and addressing other potential industrial hazards. OSHA also establishes criteria by which each state can implement its own health and safety program. The Hazard Communication Standard (CFR Title 29, Part 1910) requires that workers be informed of the hazards associated with the materials they handle. Workers must be trained in safe handling of hazardous materials, use of emergency response equipment,

and building emergency response plans and procedures. Containers must be labeled appropriately, and material safety data sheets must be available in the workplace.

Hazardous Materials Transportation

The United States Department of Transportation (DOT), in conjunction with EPA, is responsible for enforcing and implementing federal laws and regulations that govern transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 USC 5101) directed DOT to establish regulations for the safe storage and transportation of hazardous materials (CFR Title 49, Parts 171–180), which define the types of hazardous materials, their transport, packaging, and methods of marking vehicles (i.e., via placards). EPA, the California Highway Patrol (CHP), the California Department of Transportation (Caltrans), and DTSC also enforce State and federal laws regarding hazardous materials transport. EPA regulations for transporting hazardous wastes require tracking shipments with manifests. EPA standards for transporters of hazardous materials are found at 40 CFR 263 and include labeling, placarding, proper containers, and reporting discharges. DOT regulations are documented in 49 CFR 171–180.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Handling

Several State agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety. The California Environmental Protection Agency (Cal/EPA) and the Governor’s Office of Emergency Services establish rules governing the use of hazardous substances in California. Within Cal/EPA, DTSC is primarily responsible for regulating the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Law. Enforcement is delegated to local jurisdictions. Regulations implementing the Hazardous Waste Control Law list hazardous chemicals and common substances that may be hazardous; establish criteria for identifying, packaging, and labeling hazardous substances; prescribe hazardous-substances management; establish permit requirements for treatment, storage, disposal, and transportation of hazardous substances; and identify hazardous substances prohibited from landfills. These regulations apply to the protection of human health and the environment during construction.

State regulations applicable to hazardous materials are contained primarily in Title 22 of the California Code of Regulations (CCR). CCR Title 26 is a compilation of those CCR chapters or titles that are applicable to hazardous materials management. California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) standards are presented in CCR Title 8; these standards are more stringent than federal OSHA regulations and address workplace regulations involving the use, storage, and disposal of hazardous materials.

State and federal laws require detailed planning to ensure that hazardous materials are handled, used, stored, and disposed of properly, and, in case such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California’s Hazardous Materials Release Response Plans and Inventory Law—also called the Business Plan Act—is intended to minimize the potential for accidents involving hazardous materials and facilitate an appropriate response to possible hazardous-materials emergencies. The law (California Health and Safety Code, Division 20, Chapter 6.95, Article 1) requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies; to illustrate on a diagram where the materials are stored on-site; to prepare an emergency response plan; and to train employees to use the materials safely and for emergency response.

Underground Storage Tank Program and the Spills, Leaks, Investigations, and Cleanups Program

Several State regulatory structures govern cleanup of contaminated sites in California. DTSC regulates many of these programs: RCRA corrective actions, State Superfund sites, brownfields programs, and voluntary cleanups. The State Water Resources Control Board (through nine regional water quality control boards and some local agencies) regulates releases with the potential to affect water resources under programs, such as the Underground Storage Tank Program and the Spills, Leaks, Investigations, and Cleanups Program. Regulatory authority for these programs may be delegated by the federal government (as with RCRA corrective actions directed by DTSC) or may be found in the California Health and Safety Code. These regulations require reporting, investigation, and remediation of sites where hazardous materials have been released and appropriate disposal of any hazardous materials. These programs govern a range of pollutants in surface water, groundwater, soil, sediment, and air, such as solvents, petroleum fuels, heavy metals, and pesticides.

California Hazardous Materials Release Response Plans and Inventory Law of 1985

Chapter 6.95 of the California Health and Safety Code requires any business handling or storing in excess of 55 gallons or 500 pounds of a solid or liquid hazardous material or 200 cubic feet of gas to submit Hazardous Materials Management Business Plans (HMBPs). Such plans must include an inventory of hazardous materials handled, as well as facility floor plans showing where hazardous materials are stored, an emergency response plan, and emergency response procedures that provide for employee training (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Facilities storing materials that are “acutely” hazardous and in excess of the quantities in CCR, Title 19, must submit a more comprehensive Risk Management Plan, which includes off-site consequences analysis, maintenance, training programs, and an executive summary. The business plan program is administered by the California Emergency Management Agency.

Health and Safety Code 25507(a) and 19 California Code of Regulations (CCR) 2703

A handler of hazardous materials must, upon discovery, immediately report to the Certified Unified Program Agency (CUPA) and California Emergency Management Agency (Cal EMA) any release or threatened release of a hazardous material if there is a reasonable belief that the release or threatened release poses a significant present or potential hazard to human health and safety, property, or the environment. There is no quantitative reportable quantity stated, and this threat/hazard-based reporting requirement applies regardless of whether the release enters a waterway or escapes the facility.

California Water Code (CWC) 13272 and California Government Code 8670

The regulations require reporting to California Emergency Management Agency or the Regional Water Quality Control Board (RWQCB) of discharges into or onto waters of the state and marine waters of ‘any amount’ of oil (a 42-gallon threshold is stated in the statutes, but the statute-referenced California Oil Spill Contingency Plan requires any amount be reported).

Cal/OSHA Worker Safety Requirements

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA regulations for the use of hazardous materials in the workplace (CCR Title 8) require safety training, available safety equipment, accident and illness prevention programs, hazardous-substance

exposure warnings, and preparation of emergency action and fire prevention plans. Cal/OSHA enforces regulations on hazard communication programs and mandates specific training and information requirements. These requirements include procedures for identifying and labeling hazardous substances, providing hazard information about hazardous substances and their handling, and preparing health and safety plans to protect workers and employees at hazardous-waste sites. Employers must make material safety data sheets available to employees and document employee information and training programs.

Hazardous Materials Transportation

DOT regulates transportation of hazardous materials between states. The CHP and Caltrans are the state agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. Together, these agencies determine container types used and license haulers to transport hazardous waste on public roads.

California Accidental Release Prevention Program

The goal of the California Accidental Release Prevention Program (CCR Title 19, Division 2, Chapter 4.5) is to reduce the likelihood and severity of consequences of any releases of extremely hazardous materials. Any business that handles regulated substances (chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable, or explosive, including ammonia, chlorine gas, hydrogen, nitric acid, and propane) must prepare a risk management plan. The risk management plan is a detailed engineering analysis of the potential accident factors present at a business and the measures that can be implemented to reduce this accident potential. The plan must provide safety information, hazard data, operating procedures, and training and maintenance requirements. The list of regulated substances is found in Article 8, Section 2770.5 of the program regulations.

The RMP and CalARP regulations are focused on off-site consequences, to protect the general public. PSM is geared toward workplace and employee safety. Propane and butane manufactured and stored in quantities over 10,000 pounds are regulated flammable substances under the RMP and CalARP Rules.

Fire Protection

California Fire Code and National Fire Protection Association (NFPA) code addresses requirements for flammable and combustible liquid and compressed gas storage including pressure vessel installation, water mains, foam fire protection systems, and water supply reliability requirements.

California Department of Pesticide Regulation

The purpose of the California Department of Pesticide Regulation (DPR) is to protect the health of humans and the environment. DPR sets standards for the sale and use of pesticides and encourage “reduced-risk pest management” to decrease the use of hazardous pesticides. The DPR has a staff of about 350 employees and is funded by regulatory fees. A portion of its budget supports local pesticide enforcement by County Agricultural Commissioners. DPR released “A Community Guide to Recognizing and Reporting Pesticide Problems” to inform Californians about the use, potential hazards, and response to hazards from pesticide use (DPR 2014).

State Water Resources Control Board

The Central Valley RWQCB is authorized by the SWRCB to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the Central Valley RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened and to require remediation of the site, if necessary.

State Hazard Mitigation Plan

The State Hazard Mitigation Plan (SHMP) is the official statement of the State's hazard identification, vulnerability analysis, and hazard mitigation strategy. The SHMP is also a federal requirement under the Disaster Mitigation Act of 2000 for the State of California to receive federal funds for disaster assistance grant programs. The goal of the SHMP, prepared by the California Office of Emergency Services (OES), is to guide implementation activities to achieve the greatest reduction of vulnerability, which results in saved lives, reduced injuries, reduced property damage, and protection for the environment. OES worked with the California Office of Planning and Research to incorporate hazard mitigation into the 2016 General Plan Guidelines, a public draft of which was released in October 2015.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by the California Emergency Management Agency, which coordinates the responses of other agencies, including Cal/EPA, the California Highway Patrol, the California Department of Fish and Wildlife, and RWQCBs.

Unified Program

Cal/EPA has adopted regulations implementing the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The six program elements of the Unified Program are hazardous-waste generation and on-site treatment, underground storage tanks, aboveground storage tanks, hazardous-material release response plans and inventories, risk management and prevention programs, and Uniform Fire Code hazardous-materials management plans and inventories. The program is implemented at the local level by a local agency, referred to as the Certified Unified Program Agency (CUPA), which is responsible for consolidating the administration of the six program elements within its jurisdiction. The Sacramento County Environmental Management Department (EMD) is the CUPA for Sacramento County and its incorporated cities, including Elk Grove.

The Unified Program Agencies are required to implement and enforce the California Aboveground Petroleum Storage Act (CAPSA), adopted in chapter 6.67 of the California Health and Safety Code. The CAL FIRE-Office of the State Fire Marshal (OSFM) is responsible for ensuring the implementation of the Aboveground Petroleum Storage Act (APSA) program element of the Unified Program. APSA regulates facilities with aggregate aboveground petroleum storage capacities of 1,320 gallons or more, which include aboveground storage containers or tanks with petroleum storage capacities of 55 gallons or greater. Facilities with total petroleum storage quantities at or above 10,000 gallons are inspected at least once every 3 years by a Unified Program Agency and have reporting and fee requirements, while facilities with petroleum storage quantities equal to or

greater than 1,320 gallons but less than 10,000 gallons have reporting and fee requirements only. All regulated facilities must meet the federal Spill Prevention, Control and Countermeasure Rule requirements.

California Government Code Section 65962.5 (Cortese List)

The provisions of California Government Code Section 65962.5 are commonly referred to as the “Cortese List” (after the legislator who authored the law). The Cortese List is a planning document used by State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Section 65962.5 requires Cal/EPA to develop an updated Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies in California, such as the State Water Resources Control Board, also must provide additional release information. As of November 2017, the SOIA Area is not on the Cortese list (DTSC 207).

Asbestos Abatement

Asbestos abatement efforts must be completed in compliance with 7 CCR Section 5208, 8 CCR Section 1529, and 8 CCR Sections 341.6 through 341.14. The regulations in 7 CCR Section 5208 implement worker exposure limits, require exposure monitoring, implement compliance programs, require employee protection and hazard communication, and require employee medical surveillance and reporting. Asbestos exposure for construction work is regulated by 8 CCR Section 1529, which includes exposure limits and procedures for handling and removal. Requirements for transport and disposal are included in 8 CCR Sections 341.6 through 341.14.

Section 19827.5 of the California Health and Safety Code prohibits local agencies from issuing demolition or alteration permits until the applicant has demonstrated compliance with applicable regulations. Renovation or demolition of buildings containing asbestos must be conducted by a licensed contractor and the work must comply with requirements included in 8 CCR Sections 1529 and 341.6 through 341.14 where there is 100 square feet or more of asbestos-containing material. Cal/OSHA must be notified 10 days before the start of construction and demolition activities. Asbestos encountered during demolition of an existing building must be transported and disposed of at an appropriate facility. The contractor and hauler of the material must file a hazardous-waste manifest that provides disposal details.

Lead and Lead-Based Paint Abatement

Regulation of lead and lead-based paint is described in 29 CFR 1926.62 and 8 CCR Section 1532.1. These regulations cover the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, and monitoring. Cal/OSHA’s Lead in Construction Standard requires notification and a lead compliance plan with safe work practices and a detailed plan to protect workers from lead exposure.

California Department of Education School Siting Requirements

The California Department of Education (CDE) School Facilities Planning Division (SFPD) has prepared the Guide to School Site Analysis and Development (CDE 2000) that provides criteria (described below) for locating appropriate school sites in California. CDE’s authority for approving proposed sites is contained in California Education Code Section 17251 and in Title 5, Section 14010 of the CCR. CDE’s approval is a condition for school districts to receive State funds for the acquisition of sites under the State’s School Facilities Program

administered by the State Allocation Board. Districts using only local funds are still encouraged to seek CDE approval for the benefits that such outside review can provide.

School Siting Criteria

The California Education Code contains various provisions governing the siting of new public schools (e.g., California Education Code Sections 17211, 17212, and 17212.5). In addition, to help focus and manage the site selection process, CDE's School Facilities and Planning Division has developed screening and ranking procedures based on criteria commonly affecting school selection (California Education Code Section 17251[b], 5 CCR Section 14001[c]). The highest priority on the criteria list is safety. Other site selection criteria require an analysis of the specific environmental constraints and land use concerns.

Before a school district can obtain State funding to acquire a site for a proposed school facility, CDE must approve the site to ensure that certain minimum criteria are met (CDE 2000).

The foremost consideration in the selection of school sites is safety. Certain health and safety requirements are governed by State statute and CDE regulations. In selecting a school site, a school district should consider the following factors:

- ▶ Proximity to airports.
- ▶ Proximity to high-voltage power transmission lines.
- ▶ Proximity to toxic and hazardous substances.
- ▶ Proximity to high-pressure pipelines, reservoirs, or water storage tanks.
- ▶ Hazardous air emissions and facilities within 0.25 mile.
- ▶ Whether the site consists of a current or former hazardous waste disposal site or solid-waste disposal site, unless, if the site was a former solid-waste disposal site, the board of education concludes that the wastes have been removed.
- ▶ Whether the site is a hazardous-substance release site identified by DTSC.
- ▶ Whether the site has one or more pipelines, situated underground or aboveground, that carry hazardous substances, materials, or wastes, unless the pipeline is used only to supply natural gas to that school or neighborhood.
- ▶ If the proposed land has been designated a border-zone property by DTSC, then a school may not be located on the site without a specific variance in writing by DTSC.
- ▶ Whether a site is located near or downwind from a stockyard, fertilizer plant, soil-processing operation, auto-dismantling facility, sewage treatment plant, or other potentially hazardous facility.
- ▶ Proximity to railroad tracks.
- ▶ Location within a 100-year floodplain, as designated by FEMA.

- ▶ Air quality adjacent to busy traffic corridors.
- ▶ Accessibility for residential neighborhoods.
- ▶ Consideration of the cost and complications associated with selecting sites adjacent to wetlands.
- ▶ Consideration of compatibility with land use plans.
- ▶ Consideration of compatibility with nearby agricultural operations.

Public Resources Code Section 21151.4

CEQA specifically establishes that EIRs and initial studies must evaluate projects that may result in hazardous air emissions or handle extremely hazardous substances within 0.25 mile of a school.

Fire Hazard Severity Zones

CEQA requires that environmental analyses consider the potential exposure of people and structures to wildland fire hazards. Public Resources Code Sections 4201–4204 and Government Code Sections 51175–51189 require the identification of fire hazard severity zones (moderate, high, and very high) based on factors such as vegetation, topography, weather, and ember production. Areas under State jurisdiction are referred to as “State Responsibility Areas” and response is managed by CAL FIRE. CAL FIRE maps also delineate “Local Responsibility Areas,” which are under the jurisdiction of local entities (e.g., cities, counties).

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Sacramento Metropolitan Air Quality Management District Asbestos Program

The Sacramento Metropolitan Air Quality Management District (SMAQMD) regulates asbestos in building materials. The program applies to renovations or demolitions of jurisdictional structures in Sacramento County that include asbestos. This program requires an asbestos survey to identify all of the asbestos in building materials and abatement by a licensed asbestos contractor.

Sacramento County Environmental Management Department, Hazardous Materials Division

The Hazardous Materials Division of the Sacramento County EMD is the designated CUPA for Sacramento County, including Elk Grove. The Sacramento County EMD has a 24-hour hazardous-materials incident response team and responds to incidents involving chemical releases, as well as any other hazardous-materials situations. As the CUPA, the Hazardous Materials Division is responsible for implementing six statewide environmental programs for Sacramento County:

- ▶ Underground storage of hazardous substances (underground storage tanks)
- ▶ Hazardous-materials business plan requirements
- ▶ Hazardous-waste generator requirements
- ▶ California Accidental Release Prevention Program
- ▶ Uniform Fire Code hazardous-materials management plan
- ▶ Aboveground storage tanks (spill prevention control and countermeasures plan)

Aboveground Petroleum Storage Tanks is one element within the Sacramento County EMD. EMD provides regulatory oversight for the operation of Aboveground Petroleum Storage Tanks including:

- ▶ Review of Aboveground Petroleum Storage Tank Facility Statements (TFS)
- ▶ Routine inspections of AST site operations and equipment
- ▶ Review and verification of Spill Prevention Control and Countermeasure (SPCC) Plans

Permits for all CUPA regulatory programs are obtained by registering with EMD and paying an annual permit fee. According to the EMD, all tank facilities meeting the storage capacity threshold of 1,320 gallons, must take the following six actions:

- ▶ Complete and submit to EMD an initial Aboveground Petroleum Storage Tank Facility Statement Form.
- ▶ Prepare and implement an SPCC Plan in accordance with USC, Title 40, Part 112 (40 CFR 112)
 - Facilities with $\leq 10,000$ aggregate storage capacity and with no tank $> 5,000$ gallons (e.g., Tier I Facilities) may use the Environmental Protection Agency (EPA) SPCC Plan template.
 - Facilities with $\leq 10,000$ aggregate storage capacity and with any individual tank $> 5,000$ gallons (e.g., Tier II Facilities) may self-certify an SPCC Plan, but may not use the EPA SPCC Plan template.
 - Facilities with $> 10,000$ gallons must have a registered Professional Engineer (P.E.) review and certify the SPCC Plan.
- ▶ Conduct periodic inspections of your ASTs to ensure compliance with the 40 CFR 112.
- ▶ Submit an annual fee to EMD beginning in January 2010. This fee is established by the CUPA to recover the cost it will take to administer this program.
- ▶ Allow EMD to conduct periodic inspections.
- ▶ Immediately notify the California Emergency Management Agency (EMA) and EMD upon discovery of a spill or release of 42 gallons or more of petroleum.

Sacramento County Local Hazard Mitigation Plan

The *Sacramento County Local Hazard Mitigation Plan* (Sacramento County 2011 b), as amended, to which the City of Elk Grove is a signatory, includes a risk assessment of existing hazards such as severe weather, dam failure, flooding, earthquakes, wildfire, drought, health hazards, landslides, and volcanoes, and a mitigation strategy. The plan includes countywide recommended action items to reduce the economic effects and the loss of life and property. Specific action items recommended for Elk Grove included fully integrating the local hazard mitigation plan into the General Plan Safety Element.

Elk Grove General Plan

The following policies from the City General Plan's Safety Element (City of Elk Grove 2015) relate to hazards and hazardous materials.

- ▶ **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-2:** In considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City shall consider the hazards posed by reasonably foreseeable events. Evaluation of such hazards shall 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 SA-3. Absent substantial evidence to the contrary, a “hazardous physical effect” from an event shall be a level of exposure to a hazardous physical effect in excess of the levels identified in Policy SA-4.

For the purpose of implementing Policy SA-2, the City considers an event to be “reasonably foreseeable” when the probability of the event occurring is as indicated in the table below (labeled as Table 3.9-1 for this EIR).

Table 3.9-1 Reasonably Foreseeable Probability of Occurrence	
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})

- **Policy SA-3:** For the purpose of implementing Policy SA-2, the City considers an event to be “reasonably foreseeable” when the probability of the event occurring is as indicated in the [table contained on page SA-5 of the General Plan].
 - **SA-3-Action 1:** As part of the environmental review process for proposed projects, the City shall analyze potential safety-related impacts resulting from or affecting new development which could cause or be affected by reasonably foreseeable events. This analysis shall include the potential for events to occur at the facility, and the potential for hazardous physical effects to result from such events with respect to the hazards listed in Table SA-A [page SA-6 of the City General Plan, reproduced below as Table 3.9-2].
- **Policy SA-4:** The Maximum Acceptable Exposure standards shown in Table SA-A [page SA-6 of the City General Plan, reproduced herein as Table 3.9-2] shall be used in determining the appropriateness of either:
 - (1) placing a use near an existing hazardous facility which could expose the new use to hazardous physical effects, or
 - (2) siting a hazardous facility that could expose other nearby uses to hazardous physical effects.

Absent substantial evidence to the contrary, the placement of land uses that do not meet the Maximum Acceptable Exposure standards shall be considered to result in a significant, adverse impact for the purposes of CEQA analysis.

Table 3.9-2 Maximum Acceptable Exposure Criteria for Agricultural, Residential, and Non-Residential Land Uses (Elk Grove General Plan Table SA-A)				
Land Use	Maximum Acceptable Exposure			
	Overpressur	Airborne Toxic Substances	Radiant Heat	Shrapnel
Agriculture	3.4 psig ⁽¹⁾	Dose = ERPG-2 ⁽²⁾ ppm for 60 min Exposure time = 60 min	Radiant dose = 200 kJ/ m ² ⁽³⁾ Exposure time = 30 sec	All uses shall be located such that the possibility of injury for an unprotected person due to shrapnel released by a reasonably foreseeable event ⁽⁴⁾ is less than 1/10- ⁶ (1/1,000,000)
Residential (all density ranges) ⁽⁵⁾	1.0 psig	For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min	Target radiant energy = Radiant dose/Exposure time	
Office/ Commercial	1.0 psig	Target concentration = Dose/Exposure time Target concentration = (180 ppm-min)/60 min Target concentration = 3 ppm chlorine	Target radiant energy = (200 kJ/m ²)/30 sec Target radiant energy = 6.67 kW/m ²	
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 ² Exposure time = 15 sec Target radiant energy = Radiant dose/ Exposure time	
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	Target radiant energy = (200 kJ/m ²)/15 sec Target radiant energy = 13.34 kW/m ²	
⁽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 ² : kiloJoules per square meter (a measure of radiant heat received); kW/m ² : kilowatts per square meter; 1.0 kJ/m ² = 1.0 kW/m ² for 1 sec = 1 kW/ (m ² -sec). ⁽⁴⁾ As defined in Policy SA-3. ⁽⁵⁾ Includes schools, parks, libraries, and other similar public gathering places regardless of their location.				
Source: City of Elk Grove 2015:SA-6				

► **Policy SA-8:** Storage of hazardous materials and waste shall be strictly regulated, consistent with state and federal law.

- **SA-8-Action 2:** Secondary containment and periodic examination shall be required for all storage of hazardous and toxic materials, consistent with the requirements of state or federal law.
- **SA-8-Action 3:** As part of the review and approval of development plans and building permits, ensure that secondary containment is provided for hazardous and toxic materials.
- **SA-8 Action 4:** 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 SA-9:** The City shall seek to ensure that all industrial facilities are constructed and operated in accordance with up-to-date safety and environmental protection standards.
- ▶ **Policy SA-10:** 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 the buffer zone shall be determined by the City of Elk Grove.
 - **SA-10-Action 1:** Consider the impact of proposed industrial development projects with respect to transport of hazardous materials within the city. 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.
- ▶ **Policy SA-11:** Support continued coordination with the State Office of Emergency Services, the State Department of Toxic Substances Control, the State Highway Patrol, the Sacramento County Department of Environmental Health Services, the Elk Grove CSD [Community Services District] Fire District, the Sheriff's Department, and other appropriate agencies in hazardous materials route planning and incident response.
 - **SA-11-Action 1:** Assist all appropriate state and federal agencies which regulate the transport of vehicles carrying hazardous materials through the city.
 - **SA-11-Action 2:** Request that state and federal agencies with responsibilities for regulating the transportation of hazardous materials review regulations and procedures, in cooperation with the City, to determine means of mitigating the public safety hazard in urbanized areas.

Elk Grove Municipal Code—Section 23.60.030, "Hazardous Materials"

The City has developed the following standards to ensure that the use, handling, storage, and transportation of hazardous materials comply with all applicable State laws (Section 65850.2 of the Government Code and Section 25505 et seq. of the Health and Safety Code) and that appropriate information is reported to the Fire Department as the regulatory authority.

- A. Reporting Requirements. All businesses required by state law (Section 6.95 of the Health and Safety Code) to prepare hazardous materials release response plans and hazardous materials inventory statements shall, upon request, submit copies of these plans, including any revisions, to the Fire Department.
- B. Underground Storage. Underground storage of hazardous materials shall comply with all applicable requirements of state law (Section 6.7 of the Health and Safety Code and Articles 679 and 680 of the California Fire Code, or as subsequently amended). Businesses that use underground storage tanks shall comply with the following procedures:
 - 1. Notify the Fire Department of any unauthorized release of hazardous materials prescribed by City, county, state and federal regulations;

2. Notify the Fire Department and the Sacramento County Health Department of any proposed abandoning, closing or ceasing operation of an underground storage tank and actions to be taken to dispose of any hazardous materials; and
 3. Submit copies of the closure plan to the Fire Department.
- C. Above-Ground Storage. Above-ground storage tanks for hazardous materials and flammable and combustible materials may be allowed subject to the approval of the Fire Department.
- D. New Development. Structures adjacent to a commercial supply bulk transfer delivery system with at least six (6) inch pipes shall be designed to accommodate a setback of at least one hundred (100) feet from that delivery system. The setback may be reduced if the Planning Director, with recommendation from the Fire Department, can make one or more of the following findings:
1. The structure would be protected from the radiant heat of an explosion by berming or other physical barriers;
 2. A 100-foot setback would be impractical or unnecessary because of existing topography, streets, parcel lines or easements; or
 3. A secondary containment system for petroleum pipelines and transition points shall be constructed. The design of the system shall be subject to the approval of the Fire Department.
- E. Notification Required. A subdivider of a development within 500 feet of a pipeline shall notify a new/potential owner before the time of purchase and the close of escrow of the location, size and type of pipeline.

3.9.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The evaluation of environmental impacts from hazards and hazardous materials is based on a review of documents, such as the City's General Plan, Background Report, and EIR; the Sacramento County General Plan; and the Sacramento County Local Hazard Mitigation Plan and databases, such as the Cortese List; EPA's Envirofacts, and CAL FIRE's maps, as well as:

- ▶ applicable laws and regulations pertaining to public health and safety and hazardous materials,
- ▶ potential future construction activities and uses,
- ▶ the potential to discover hazardous soils and other materials,
- ▶ the locations of known hazardous-waste sites, and
- ▶ the locations of schools, airports, and areas prone to fire (potential receptors and sources of safety hazards).

These hazards were reviewed in light of existing hazardous materials management plans and policies, emergency response plans, and fire management plans.

The information obtained from these sources was summarized to establish existing conditions and to evaluate the significance of potential environmental effects, based on the thresholds of significance presented below. In

determining the level of significance, this analysis assumes that future development in the multi-sport park complex site and the balance of the SOIA Area would comply with relevant federal, State, regional, and local ordinances and regulations.

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, as amended. The proposed Project would have a significant impact related to hazards and hazardous materials 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 0.25 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 create a significant hazard to the public or the environment;
- ▶ result in a safety hazard for people residing or working in a project area that is located within 2 miles of a public airport or public use airport;
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- ▶ expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or residences are intermixed with wildlands.

ISSUES NOT DISCUSSED FURTHER

LAFCo and the City of Elk Grove have determined that the following CEQA issues are not significant; therefore, no further environmental evaluation is presented in this EIR.

- ▶ **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, both part of the Elk Grove Unified School District. These schools are located approximately 1.5 miles to the northwest of the SOIA Area. Therefore, this issue is not addressed further in this EIR.
- ▶ **Result in a Safety Hazard for People in a Project Area Located within 2 Miles of a Public Airport**—The SOIA Area is not located within 2 miles of any airport. The closest public-use airport is Sacramento Executive Airport, approximately 12 miles from the SOIA Area. The nearest active, privately operated airstrips—Mosier Airport (on Sheldon Road in Elk Grove) and Mustang Airport (on Arno Road in Galt)—are located approximately 4 miles northeast and south of the SOIA Area, respectively. Therefore, this issue is not addressed further in this EIR.

IMPACT ANALYSIS

IMPACT 3.9-1 **Routine transport, use, or disposal of hazardous materials.** *Future development in the SOIA Area, including the multi-sport park complex, could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during demolition, construction, or operation activities. However, compliance with applicable rules and regulation specifically designed to protect the public health through improved procedures for the handling of hazardous materials, better technology in the equipment used to transport these materials, and a more coordinated quicker response to emergencies, the impact related to the creation of significant hazards to the public through routine, transport, use, and disposal is **less than significant**.*

Construction of future commercial and industrial uses in the SOIA Area could involve the routine use and disposal of hazardous materials. Future construction would require the storage, use, and transport of small quantities of hazardous materials such as fuels, oils and lubricants, paints and paint thinners, glues, and cleaning fluids (e.g., solvents). Future projects would be required to comply with applicable hazardous materials, building, health, fire, and safety codes during construction.

The SOIA Area 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 area could also be developed with light manufacturing uses that could potentially use, store, or dispose of hazardous materials.

The SOIA Area could potentially require development of new schools to serve new students generated by future development. As described above, the California Department of Education School Siting Requirements indicate that future school sites would likely be more than 0.25 mile from areas proposed for commercial, office, and light industrial uses that could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

Hazardous materials are transported on virtually all public roads, particularly since all motor vehicles contain hazardous materials (e.g., fuel) in addition to any hazardous cargo that may be on board. Future development and associated future population growth would increase the amount of hazardous materials transported on main local and regional routes. With additional development, more people would be potentially exposed to toxic spills or releases under buildout conditions, as compared to existing conditions.

If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The primary exposure pathways are inhalation, ingestion, and contact with the skin. Events leading to exposure may include accidental releases during transportation, storage, or handling. Soil disturbance during construction (e.g., excavation, grading) can also lead to exposure of workers or the public if soils contaminated by spills or leaks are stockpiled, handled, or transported.

The 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. If future development occurs within the SOIA Area, such development would occur under the jurisdiction of the City of Elk Grove. The City of Elk Grove and any construction contractors would be required to comply with Cal/EPA's Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous materials management

plans and inventories). DOT (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 on-site 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 EMD, the designated 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, if new schools are proposed, certain health and safety requirements for school site selection are governed by State regulations and the California Department of Education’s School Facilities Planning Division policies. These requirements are outlined in the *School Site Selection and Approval Guide* and relate to siting school facilities in the proximity to airports, railroads, and major roadways; near or on suspected hazardous materials sites; or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste and identifies requirements for conducting an environmental site investigation to determine the health and safety risks (if any) associated with a new school. An analysis of conformity of the proposed school sites with the California Department of Education School Siting Criteria would be the subject of further, separate environmental review.

In addition, the City of Elk Grove would enforce its General Plan and Municipal Code through project conditions of approval. The City would be required to comply with State regulations and the City would assess future discretionary entitlement requests for consistency with City General Plan policies for safety, including hazardous materials (described in Policy SA-8 and associated action measures, Policy SA-9, and Policy SA-10 and associated actions).

Construction of the multi-sport park complex project would also require the storage, use, and transport of small quantities of hazardous materials (e.g., fuels, lubricants, paint) for refueling and maintenance of construction equipment, and for construction of the community support building and stadium. Similarly, fuels and lubricants would be required for operation and maintenance of the proposed stadium and fairgrounds; for example, diesel fuels could be used to operate fairgrounds rides. Maintenance of the tournament fields and landscaping also would require the use of fertilizers, herbicides, and pesticides. Site operation could also involve the transport and handling of hazardous materials, such as fuels necessary to operate fairgrounds rides and fireworks used at a possible future County Fair and other special events. Operators of fireworks displays would be required to obtain permits to ensure safe transport and handling.

With enforcement of existing hazardous materials regulations, future development in the SOIA Area, including the multi-sport park complex and potentially off-site improvement areas, would be designed to minimize potential impacts from the release of hazardous materials and to minimize both the frequency and the magnitude if such a release occurs. The impact is **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.9-2 Potential human health hazards from exposure to existing on-site hazardous material. *Future development in the SOIA Area, including the multi-sport park complex, could expose construction workers to hazardous materials present on-site during construction activities and hazardous materials on-site could create an environmental or health hazard for later residents or occupants, if left in place. This impact is considered potentially significant.*

A preliminary review of environmental risk databases was conducted. The SOIA Area, including the multi-sport park complex, was not listed on any county, State, or federal government lists as a contaminated site. There were no known contaminated municipal groundwater wells, active or inactive landfills, producing California Division of Oil and Gas petroleum wells, or registered USTs located on the proposed site. As of November 2017, the SOIA Area is not on the Cortese list (DTSC 2017). The areas where off-site improvements would occur could have on-site hazardous materials.

This analysis did not include any sampling, site-specific review, laboratory analysis, or inspection of buildings or site surfaces. Site-specific investigation for future development or off-site improvements may be required to address hazardous materials conditions.

Hazardous Building Materials

Demolition of existing structures, either within the SOIA Area or for off-site improvements, could encounter hazardous building materials requiring proper handling and disposal. Older buildings could have asbestos, electrical equipment containing PCBs or di(2 ethylhexyl)phthalate (DEHP), fluorescent lights containing mercury vapors, and/or lead-based paints, as described above. These materials have been prohibited from new construction for decades but are still encountered during demolition of older buildings. If discovered and removed during building demolition, these materials would require special disposal procedures.

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 the SMAQMD would be notified 10 days in advance of any proposed demolition or abatement work. Future projects will be 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. The waste generator must determine whether ballasts containing DEHP are hazardous and dispose of them properly. DTSC recommends that these wastes be shipped to a light ballast recycling facility (DTSC 2003).

Agricultural Contaminants

The SOIA Area was used for row crops throughout the 20th century, continuing into the 21st century. The SOIA Area also has two residences, but no evidence exists of areas where large quantities of chemicals, such as pesticides and herbicides were stored or mixed. The small warehouse present at the site now contains only small quantities of properly stored chemicals. Because the site has been planted with row crops since at least the 1930s,

site soils could contain traces of the pesticides and herbicides used in the 1930s and 1940s (and before 1972), such as DDT and lead arsenate. There was a small orchard on the site that may have been treated with pesticides; however, aerial photos show that the number of trees was declining in the 1950s. Therefore, the orchard may not have been active for many years. No evidence exists to show that the site's soils contain higher concentrations of agricultural chemicals than soils in other areas of Elk Grove, Sacramento County, and the Central Valley that have been used for row crops (BCI 2014).

However, the City expects that soil concentrations of pesticides, polycyclic aromatic hydrocarbons, and heavy metals (such as lead), which are ubiquitous in soil, are consistent with concentrations in areas of Elk Grove, Sacramento County, and the Central Valley that have been used for farming or are near population centers, industrial area, or major roadways.

If evidence of soil contamination exceeding ambient or background concentrations is discovered during construction within the multi-sport park complex site and SOIA Area, compliance with existing hazardous materials regulations would be required. The hazardous materials regulations are specifically designed to protect worker and public health by providing for improved handling and transport of hazardous materials, and coordinated and rapid emergency response. All demolition and soil handling would be subject to applicable federal, State, and local regulations, including the California Health and Safety Code, as described above. In addition, the City of Elk Grove would enforce its General Plan and Municipal Code through project conditions of approval, specifically General Plan Policy SA-8 Action 4 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.

Other Existing On-Site Hazardous Materials

If contaminated soils and/or groundwater (i.e., identifiable by soil staining or odors) are encountered during construction activities within the multi-sport park complex site and SOIA Area and off-site improvements 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. Work would cease in the contaminated area until the nature and extent of contamination have been established, and proper disposal or remediation has occurred. Any contaminated soils and/or groundwater encountered during construction would require proper disposal. This would likely require removal from the site and transportation to an EPA-approved disposal facility by a Department of Transportation (DOT) certified hazardous waste transporter.

The designation of encountered contamination would 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 would be implemented.

However, hazardous materials in the SOIA Area, including the multi-sport park complex site, and off-site improvement areas could still create an environmental or health hazard for later residents or occupants, if left in place. Thus, impacts would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.9-2: Hazardous Materials Identification and Remediation (LAFCo and the City of Elk Grove)

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.

Significance after Mitigation

With enforcement of the above mitigation measure and adherence to existing hazardous materials regulations, future development in the SOIA Area, including the multi-sport park complex site and any required off-site improvement areas, would be designed to minimize potential impacts from any existing hazardous materials. The impact is considered **less than significant with mitigation incorporated**. Future projects proposed to the City of Elk Grove would require General Plan consistency findings and compliance with City policies and General Plan actions would further reduce potential impacts.

IMPACT 3.9-3	Upset and accident conditions. <i>Future development in the SOIA Area, including the multi-sport park complex, could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions at involving the release of hazardous materials into the environment. This impact would be less than significant.</i>
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Accidents at nearby industrial areas, including the Suburban Propane facility, could result in an explosion, radiant heat, fire, shrapnel, and chemical exposure, including potential injuries and fatalities. Compliance with State, federal, and regional or local regulations would reduce the risk or severity of an accident. Specifically, federal regulations include RCRA, CERCLA, the Clean Air Act, EPRCA, OSHA, The Hazardous Materials Transportation Act of 1974, the Motor Carrier Safety Improvement Act of 1999, 40 CFR 263, and 49 CFR 171–180. State regulations include CCR Title 26, Chapter 6.95 of the California Health and Safety Code, Health and Safety Code 25507(a) and 19 CCR 2703, Cal/OSHA, CCR Title 19, Division 2, Chapter 4.5, California Fire Code and NFPA code, and the California Aboveground Petroleum Storage Act (CAPSA), adopted in chapter 6.67 of the

California Health and Safety Code. Regional and local regulations include Hazardous Materials Division of the Sacramento County EMD, the Elk Grove General Plan, and Elk Grove Municipal Code—Section 23.60.030, “Hazardous Materials.” To further reduce the effects of an industrial accident, the City of Elk Grove would implement its policies as outlined in the City General Plan Safety Element. These policies include coordination with the Governor’s Office of Emergency Services, DTSC, the CHP, the Sacramento County Department of Environmental Health Services, the Cosumnes Community Services District (CCSD) fire department (referred to in the Safety Element as the “Elk Grove CSD”), and local law enforcement to prepare for hazardous-materials route planning and incident response. The City is also part of the CUPA for Sacramento County, which responds to incidents involving chemical releases. The City participated in preparation of the *County of Sacramento Emergency Operations Plan*; however, while this plan focuses on preparedness to respond to an event and potentially reduce the number of casualties and other secondary effects, it does not reduce the probability of the initial event. The probability of an event can be reduced only by internal safety procedures, structural measures, and effective intelligence and law enforcement.

To evaluate potential risks associated with Suburban Propane to future site users and uses within the SOIA Area, including the multi-sport park complex site, this analysis relies on the City General Plan’s Safety Element (City of Elk Grove 2015), which contains definitions of reasonably foreseeable events, permitted land uses, and maximum acceptable exposure criteria for uses adjacent to hazardous facilities. General Plan Policy SA-2 states that the City shall consider the hazards posed by reasonably foreseeable events and that potential hazardous physical effects of an event need not be considered if the occurrence of an event is not reasonably foreseeable. General Plan Policy SA-3 defines the probability of reasonably foreseeable for different land uses (see Table 3.9-1, which reproduces City General Plan Table SA-A) and General Plan Policy SA-4 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 northwest corner of the SOIA Area 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. The multi-sport park complex would be within the 10^{-7} and 10^{-8} contours. As defined in the original and new City General Plan policies, residential and institutional uses are allowed in areas where the probability of an incident is less than 10^{-6} (1 in 1 million) (General Plan Policy SA-3).

The multi-sport park complex project would place recreational uses at distances between 2,000 feet and 1 mile from the Suburban Propane tanks. Because large numbers of people would be present at the multi-sport park complex, the potential risks of exposure were evaluated as an institutional use (an occurrence probability of greater than 1×10^{-6} [1 in 1 million]).

Information about Suburban Propane is provided in detail in this EIR 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.

CEQA requires that a public agency's determination or decision under CEQA be supported by substantial evidence (Public Resources Code Section 21168.5). The CEQA Guidelines similarly require that decisions regarding the significance of environmental effects addressed in an EIR be based on substantial evidence and recognize that other evidence suggesting a different conclusion may exist. "Substantial evidence" means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.

Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency. Argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly erroneous or inaccurate, or evidence of social or economic impacts that do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines Section 15384). An EIR is not inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the EIR, even where different conclusions can reasonably be drawn from a single pool of information (CEQA Guidelines Section 15151; *Greenebaum v. City of Los Angeles* [1984] 153 Cal. App. 3d 391, 413).

The impacts on future development from existing environmental hazards are outside of the scope of CEQA, except where future development would exacerbate existing hazards. (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, Case No. S213478). Per the Court: "In light of CEQA's text, statutory structure, and purpose, we conclude that agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment – and not the environment's impact on the project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions." Thus, the EIR is not required to consider the impact of risk associated with Suburban Propane with future development within the SOIA Area, unless that development would exacerbate existing hazards.

However, as stated above, under the City's General Plan policies, the potential for an environmental impact related to the propane facility is at or below the City's threshold of reasonable foreseeability of 10^{-6} for the SOIA Area (General Plan Policy SA-3).

The impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.9-4	Interfere with emergency response or evacuation plan. <i>Future development in the SOIA Area, including the multi-sport park complex site, could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact is considered potentially significant.</i>
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In the event of an emergency that would require citizens to evacuate, including those citizens who live in the city of Elk Grove, Sacramento County would implement its emergency operations plan, evacuation plan, and mass care and shelter plan. Sacramento County and other area agencies, including the City of Elk Grove, have also prepared the *Sacramento County Local Hazard Mitigation Plan* (Sacramento County 2011a).

There are no hospitals or fire stations in the SOIA Area, including the multi-sport park complex site. Future streets included within SOIA Area will comply with the City's and CCSF Fire Department's design standards pertaining to emergency access.

Nearby roadways in the vicinity of the SOIA Area and any required off-site improvements, such as Waterman Road, Grant Line Road, and SR 99, could be affected intermittently during construction of future development and off-site improvements, resulting in decreased emergency response times. Construction activities 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 future development and the off-site improvements would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.9-4 Traffic Control Plans (City of Elk Grove)

Implement traffic control plans for construction activities that may affect road rights-of-way during construction of future development and off-site improvements. 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, for review and approval before approval of improvement plans, where future construction may cause impacts on traffic.

Significance after Mitigation

Implementation of this mitigation measure would reduce the impact. With enforcement of the above mitigation measure, existing hazardous materials regulations, and City of Elk Grove policies and code requirements as conditions of approval, future development in the SOIA Area, including the multi-sport park complex and off-site improvements, would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

IMPACT **Risks from wildfires.** *Future development in the SOIA Area, including the multi-sport park complex, would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be **less than significant**.*

3.9-5

It is possible that such future development within the SOIA Area, including the multi-sport park complex, could require removal of existing vegetation and could introduce roads, buildings, parking areas or structures, landscaping, and other features that would not be conducive to intense wildfires.

The SOIA Area is within an LRA where fire protection is provided by the nearby CCSD. In the event of a nearby grass fire or a fire within pastureland that adjacent to the SOIA Area, CCSD would respond (see Section 3.13, “Public Services and Recreation,” for further discussion of the CCSD Fire Department facilities and response times). CAL FIRE has designated the areas as a non–very high fire hazard severity zone (CAL FIRE 2016), which is defined as an area not prone to intense, damaging wildfires. Therefore, future development within the SOIA Area, including the multi-sport park complex, would not be exposed to significant risks of wildfire. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.10 HYDROLOGY AND WATER QUALITY

This section addresses potential impacts of future development in the SOIA Area, including the multi-sport park complex, related to surface water and groundwater hydrology and water quality, including downstream effects on Deer Creek and the Cosumnes River. It addresses both the short-term effects of construction of the multi-sport park complex and the longer term effects of the complex's operations, including tournaments and fairground use, as well as future development of rezoned commercial, industrial, and mixed-use areas. This section identifies the sustainable management practices that the City would implement to minimize impacts, along with feasible mitigation for potentially significant effects.

3.10.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

The SOIA Area is located on the boundary of the Sacramento River Basin and San Joaquin River Basin. The Sacramento River Basin has an area of approximately 27,200 square miles in land area. The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa counties, along with small areas of Alpine and Amador counties. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta. The Sacramento River converges with the San Joaquin and Mokelumne Rivers at the delta in the southwest portion of the Sacramento County (DWR 2003). Seven large dams are operated in the Sacramento River Basin for purposes of water supply, irrigation, recreation, flood control, and/or hydroelectricity.

The San Joaquin River Basin is south of the Sacramento River Basin and has the Coast Ranges, Sierra Nevada, and the Tulare Basin as its western, eastern, and southern borders, respectively. The basin is approximately 31,500 square miles in land area. The Cosumnes River and its tributary Deer Creek are the closest streams to the SOIA Area. Unlike most rivers the Cosumnes River is not dammed. Currently, the river channel is confined to a single channel isolated from the historical floodplain by levees. The levees were fortified to protect development from flooding (Booth et al. 2006).

LOCALIZED DRAINAGE

Surface water in the SOIA Area flows into a network of agricultural drainage ditches found throughout the interior of the SOIA Area. Surface water features within the SOIA Area are limited to crop irrigation and linear agricultural drainage ditches, with no engineered drainage infrastructure. Most of the water in the ditches is pumped groundwater. The network of ditches is interconnected through a variety of culverts. The ditches eventually converge and flow into a roadside ditch along Grant Line Road. One drainage ditch transverses the SOIA Area, carrying urban runoff from property north of Grant Line Road and agricultural runoff from this and adjacent property to the southwest towards Deer Creek. Deer Creek ultimately drains to the Cosumnes River (City of Elk Grove 2012).

SURFACE WATER RESOURCES AND QUALITY

The SOIA Area does not contain any undisturbed natural stream corridors. The surface water resources nearest to the SOIA Area are Deer Creek and the Cosumnes River. The Cosumnes River is approximately 0.5 miles to the

east and its tributary, Deer Creek, is less than 0.25 miles to the east. The sources of the water for these streams are precipitation and snowmelt from the Sierra Nevada mountain range.

Both streams are listed as impaired water bodies on the California Clean Water Act Section 303(d). The Cosumnes River is listed for *Escherichia coli* (*E. coli*) and invasive species from unknown sources, and sediment toxicology from agricultural uses. Deer Creek is listed for iron from an unknown source (Central Valley RWQCB 2010). As described in the *City of Elk Grove General Plan Background Report*, agricultural regions around Elk Grove typically have residual levels of agricultural chemicals, primarily pesticides and herbicides applied to irrigated row crops in the early to mid-20th century before they were banned (City of Elk Grove 2003). Thus, there is a likelihood of the presence of pesticides and herbicides in the soil, including within the SOIA Area, and therefore could be contained within the runoff from the SOIA Area.

GROUNDWATER RESOURCES AND QUALITY

The Sacramento Valley Groundwater Basin is the major groundwater basin in the Sacramento River hydrologic region. There are 18 groundwater subbasins. The SOIA Area is located within Groundwater Basin 5-21.65 Sacramento Valley, South American subbasin (identified locally as the Central Basin). This subbasin encompasses the area bounded on the north by the American River, on the south by the Cosumnes and Mokelumne rivers, on the west by the Sacramento River, and on the east by the Sierra Nevada mountain range. The Central Basin contains a shallow aquifer zone and a deeper aquifer zone separated by a semi-confining discontinuous clay layer. The shallow aquifer extends 200 to 300 feet below the ground surface, while the base of the deep aquifer is approximately 1,400 feet below ground surface. Both the shallow and deeper aquifer zones provide the groundwater used in the Central Basin. The active river and stream channels where extensive sand and gravel deposits exist, particularly along the American, Cosumnes, and Sacramento River channels, recharge the aquifer system (Sacramento Central Groundwater Authority 2012). The SOIA Area is approximately 0.5 mile from Deer Creek and the Cosumnes River, the areas adjacent to which are considered to have medium groundwater recharge capability. The SOIA Area itself is considered to have poor groundwater recharge capability (County of Sacramento n.d.).

Sacramento Central Groundwater Authority monitoring data shows that groundwater elevations generally declined by approximately 20 to 30 feet consistently until about 1980. Water levels recovered by about 10 feet from 1980 through 1983, and remained stable until the beginning of the 1987–1992 drought, where until 1995, water levels declined by about 15 feet. Most water levels recovered between 1995 and 2003 generally to levels higher than prior to the 1987–1992 drought. According to the Sacramento Central Groundwater Authority, “much of this recovery can be attributed to the increased use of surface water in the Central Basin, and the fallowing of previously irrigated agricultural lands transitioning into new urban development areas in accordance with the Sacramento County and City of Elk Grove General Plans” (Sacramento Central Groundwater Authority 2012).

The Sacramento Central Groundwater Authority’s *South American Subbasin Alternative Submittal* (Sacramento Central Groundwater Authority 2016) (Alternative Submittal) 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 is calculated to be approximately 4,000 acre-feet per year (afy). In terms of order of magnitude, this equates to four to five large municipal wells in the subbasin, and is representative of a basin in 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 continues to

recover at its 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, in accordance with the Central Sacramento County Groundwater Management Plan (Central Sacramento County GMP) (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). Land subsidence, which can occur from over-pumping groundwater, has not been documented in the SOIA Area (DWR 2016a).

Groundwater quality is dependent on the geologic material of the aquifer and anthropogenic activities. The land within the SOIA Area is used for agricultural purposes and, therefore, currently contributes to the groundwater quality and recharge potential in the area. Non-point source pollution from agriculture is common. According to GeoTracker, the State Water Resources Control Board's (SWRCB) data management system for sites that impact groundwater or have the potential to impact groundwater, a well in the SOIA Area has previously tested positive for barium, iron, and manganese (SWRCB 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 (202,324 afy) and the most occurred in 2008 (260,200 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).

Table 3.10-1 Central Basin Groundwater Extraction, 2005-2015											
Water User	Groundwater Extraction (afy)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 ²
Urban	78,070	80,277	79,780	84,498	81,287	73,680	68,679	66,478	64,547	54,610	54,111
Agriculture ¹	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
Total	252,984	254,321	253,055	256,954	252,924	244,498	202,379	224,478	239,847	211,610	217,111
Notes: afy = acre-feet per year.											
¹ Improved agricultural water supply requirement estimates using State DWR's IWFM Demand Calculator occurred in 2011.											
² 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											

Irrigation and domestic water demand in the SOIA Area is currently met with private on-site wells (City of Elk Grove 2015).

FLOODING AND FLOOD CONTROL

Sacramento Valley has had a history of flooding until the development of flood control systems in the area. The Cosumnes River and its tributary, Deer Creek, are the closest streams to the SOIA Area. Unlike other rivers in the Sacramento Valley, the Consumes River does not have a major dam for flood control (Booth et. al 2006). The majority of the SOIA Area is outside of regional (Cosumnes River) and local 100-year floodplains (FEMA 2012). However, small areas along the southeast boundary of the SOIA Area are located within the 100-year floodplain (Exhibit 2-2 in Chapter 2, “Project Description”).

The City of Elk Grove has amended its General Plan and zoning regulations to address flooding within a 1-in-200 chance of occurring in any given year. As noted in the City’s 200-year floodplain map, portions of the southern and eastern boundaries of the SOIA Area are within the limit of the 200-year floodplain (City of Elk Grove 2016a).

3.10.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes EPA and the individual states to implement activities to control water quality. The various elements of the CWA that address water quality and are applicable to the Project are discussed below. Wetland protection elements administered by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.5, “Biological Resources.”

Water Quality Criteria and Standards

Under federal law, EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements:

- (1) designated beneficial uses of the water body in question, and
- (2) criteria that protect the designated uses.

Where multiple uses exist, water quality standards must protect the most sensitive use. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. EPA has delegated the State of California as the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

National Pollutant Discharge Elimination System Permit Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the U.S. A discharge from any point source is

unlawful unless the discharge is in compliance with an NPDES permit. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase 1 of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Phase 1 also applied to stormwater discharges from a large variety of industrial activities, including general construction activity if the project would disturb more than 5 acres. Phase 2 of the NPDES stormwater permit regulations, which became effective in March 2003, required that NPDES permits be issued for construction activity for projects that disturb 1 acre or more. Phase 2 of the municipal permit system (known as the NPDES General Permit for Small Municipal Separate Storm Sewer Systems [MS4s]) required small municipal areas of less than 100,000 persons to develop stormwater management programs. The nine Regional Water Quality Control Boards (RWQCBs) in California are responsible for implementing the NPDES permit system (see additional information below).

Section 401 Water Quality Certification or Waiver

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the U.S.) must first obtain a certificate from the appropriate State agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board to the nine RWQCBs.

Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- ▶ Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.
- ▶ Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- ▶ Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Safe Drinking Water Act

Under the Safe Drinking Water Act (Public Law 93-523), EPA regulates contaminants of concern to domestic water supply, defined as contaminants that pose a public health threat or that alter the aesthetic acceptability of the

water. These types of contaminants are regulated by EPA's primary and secondary Maximum Contaminant Levels (MCLs), which are applicable to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act, enacted in 1986, established an accelerated schedule for setting MCLs for drinking water.

EPA has delegated to the California Department of Public Health (DPH) the responsibility for administering California's drinking water program. DPH is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA. The applicable State primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is California's statutory authority for the protection of water quality. Under the act, the State must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California.

The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWDs and/or WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

NPDES Permit System and Waste Discharge Requirements for Construction

The SWRCB and Central Valley RWQCB have adopted specific NPDES permits for a variety of activities that have the potential to discharge wastes to waters of the state. The SWRCB's statewide stormwater general permit for construction activity (Order 2009-009-DWQ as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) is applicable to all land-disturbing construction activities that would disturb 1 acre or more. The Central Valley RWQCB's general NPDES permit for construction dewatering activity (Order No. R5-2013-0074) authorizes direct discharges to surface waters up to 250,000 gallons per day for no more than a 4-month period each year. All of the NPDES permits involve similar processes, which include submitting notices of intent to discharge to the Central Valley RWQCB and implementing storm water pollution prevention plans (SWPPPs) that include BMPs to minimize those discharges. As mentioned above, the Central Valley RWQCB may also issue site-specific WDRs or waivers to WDRs for certain waste discharges to land or waters of the state. In particular, Central Valley RWQCB Resolution R5-2003-0008 identifies activities subject to waivers of RWDs and/or WDRs, including minor dredging activities and construction dewatering activities that discharge to land.

Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. The permit also requires dischargers to consider using permanent post-construction BMPs that would remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

In addition, the Central Valley RWQCB requires water quality sampling if the activity could result in the discharge of turbidity or sediment to a water body that is listed as impaired under CWA Section 303(d) because of sediment or siltation, or if a release of a nonvisible contaminant occurs. Where such pollutants are known or should be known to be present and have the potential to contact runoff, sampling and analysis is required.

The applicant for a Construction General Permit must prepare and implement a SWPPP. The SWPPP must include a site map and description of construction activities, and must identify BMPs that would be employed to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, and cement) that could contaminate nearby water resources. Examples of typical construction BMPs in SWPPPs include using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment-control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutant discharges to drainage systems or receiving waters.

NPDES Municipal Storm Water Permitting Program

The SWRCB's Municipal Storm Water Permitting Program regulates stormwater discharges from MS4s. An MS4 is defined by the EPA in 40 Code of Federal Regulations (CFR) 122.26(b)(8) as:

...a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying storm water; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. (SWRCB 2013.)

MS4 permits are issued in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES stormwater permits for medium and large municipalities (serving 100,000–250,000 people and 250,000 or more people, respectively). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area.

As part of Phase II, the SWRCB adopted the General Permit for the Discharge of Storm Water from Small MS4s (Order No. 2003-0005-DWQ, as amended by Order No. 2013-0001 DWQ) to provide permit coverage for smaller jurisdictions. A small MS4 is not permitted under the Phase I regulations and is owned or operated by the United States or a state, city, town, borough, county, district, association or other public body having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States (SWRCB 2013).

The MS4 permits require the discharger to develop and implement a stormwater management plan with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). “Maximum extent practicable” is the performance standard specified in Section 402(p) of the CWA. The management plans specify what BMPs

will be used to address certain program areas—namely, public education and outreach, detection and elimination of illicit discharges, construction and post-construction, and municipal operations.

Sacramento County submitted and received an MS4 permit under Phase I of the MS4 implementation (Order No. R5-2002-0206, as amended by Order Nos. 2008-0142, 2015-0023 and 2016-0040) for all unincorporated areas of the County. The MS4 Permit requires the County to develop programs to control pollutants in urban stormwater runoff and evaluate the impacts of such discharges on local receiving waters.

The City of Elk Grove became a joint participant with Sacramento County's NPDES. The permit allows the City to discharge urban runoff from MS4s in its municipal jurisdictions (Permit No. CAS082597). The permit requires that the City impose water quality and watershed protection measures for all development projects. The NPDES also requires a permit for every new construction project that implements the following measures:

- ▶ Eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the nation;
- ▶ Develop and implement a stormwater pollution prevention plan (SWPPP); and
- ▶ Perform inspections of stormwater control structures and pollution prevention measures.

Title 22 Standards

Water quality standards are enforceable limits composed of two parts: (1) the designated beneficial uses of water, and (2) criteria (i.e., numeric or narrative limits) to protect those beneficial uses. Municipal and domestic supply (MUN) is among the “beneficial uses” as defined in Section 13050(f) of the Porter-Cologne Act, which defines them as uses of surface water and groundwater that must be protected against water quality degradation. MCLs are components of the drinking water standards adopted by the California Department of Public Health pursuant to the California Safe Drinking Water Act. California MCLs may be found in Title 22 of the California Code of Regulations, Division 4, Chapter 15, Domestic Water Quality and Monitoring. The California Department of Public Health is responsible for Title 22 of the California Code of Regulations (Article 16, Section 64449) as well, which also defines secondary drinking water standards, established primarily for reasons of consumer acceptance (i.e., taste) rather than because of health issues.

California MCLs, both Primary and Secondary, are directly applicable to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent Basin Plan. In such cases, MCLs become enforceable limits by the SWRCB and the RWQCBs. When fully health protective, MCLs may also be used to interpret narrative water quality objectives prohibiting toxicity to humans in water designated as a source of drinking water (MUN) in the Basin Plan.

California Toxics Rule and State Implementation Plan

The California Toxics Rule was issued in 2000 in response to requirements of the EPA National Toxics Rule (NTR), and establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The California Toxics Rule criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are subject CWA Section 303(c). The California Toxics Rule includes criteria for the protection of aquatic life and human health. Human health criteria (water and organism based) apply to all waters with a Municipal and Domestic Water Supply Beneficial Use designation, as indicated in the Basin Plans.

The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, also known as the State Implementation Plan, was adopted by the SWRCB in 2000. It establishes provisions for all of the following efforts:

- ▶ translating California Toxics Rule criteria, NTR criteria, and Basin Plan water quality objectives for toxic pollutants into NPDES permit effluent limits;
- ▶ effluent compliance determinations;
- ▶ monitoring for 2,3,7,8-TCDD (dioxin) and its toxic equivalents;
- ▶ chronic (long-term) toxicity control provisions;
- ▶ initiating site-specific water quality objective development; and
- ▶ granting of exceptions for effluent compliance.

The goal of the State Implementation Plan is to establish a standardized approach for the permitting of discharges of toxic effluents to inland surface waters, enclosed bays, and estuaries in a consistent fashion throughout the state.

California State Nondegradation Policy

In 1968, as required under the federal antidegradation policy described above, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

- ▶ Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.
- ▶ Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements, which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state would be maintained.

Sustainable Groundwater Management Act

In 2014, the California Legislature enacted a three-bill law (Assembly Bill-1739, Senate Bill [SB]-1168, and SB-1319), known as the Sustainable Groundwater Management Act (SGMA). The SGMA was created to provide a framework for the sustainable management of groundwater supplies. The SGMA is intended to empower local agencies to adopt groundwater management plans that are tailored to the resources and needs of their communities, such that sustainable management would provide a buffer against drought and climate change, and ensure reliable water supplies regardless of weather patterns. The SGMA is considered part of the statewide,

comprehensive California Water Action Plan that includes water conservation, water recycling, expanded water storage, safe drinking water, and wetlands and watershed restoration. The SMGA protects existing surface water and groundwater rights and does not affect current drought response measures (Sacramento Central Groundwater Authority 2012).

The SGMA requires that local agencies form a local groundwater sustainability agency within 2 years (i.e., by 2017). This process is not subject to LAFCo purview. Agencies located within high- or medium-priority basins must adopt groundwater sustainability plans within 5 to 7 years. The time frame for basins determined by DWR to be in a condition of “critical overdraft” is 5 years (i.e., by 2020). Local agencies will have 20 years to fully implement groundwater sustainability plans after the plans have been adopted. Intervention by the SWRCB would occur if a groundwater sustainability agency is not formed by the local agencies, and/or if a groundwater sustainability plan is not adopted or implemented.

The SGMA requires local agencies to develop and implement groundwater sustainability plans in high and medium priority groundwater basins throughout California. In 2014, DWR designated the South American groundwater subbasin as high priority (DWR 2014). However, the South American Subbasin is not included on DWR’s list of critically overdrafted basins (DWR 2016b). Local agencies must form groundwater sustainability agencies by 2017, then agencies in critically overdrafted basins must develop plans by 2020, while agencies in all other high and medium priority basins must prepare plans by 2022. Designation of a groundwater sustainability agency is not required until 2017, and groundwater sustainability plans are not required until 2020 at the earliest.

The Sacramento Central Groundwater Authority is moving forward with SGMA compliance and submitted a notice of intent on July 21, 2016, to become a Groundwater Sustainability Agency for its area within the South American Subbasin and exclusive status was granted for the majority of that area by DWR (Sacramento Central Groundwater Authority 2016).

The northern portions of the Omochumne-Hartnell Water District and the Sloughhouse Resource Conservation District overlap areas along the southern boundary of the South American Subbasin (DWR 2017). Both water districts have submitted notices to be groundwater sustainability agencies. Resolution of overlap areas will occur in parallel with review of the South American Subbasin Alternative Submittal that is discussed further below.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Central Sacramento County Groundwater Management Plan

The Sacramento Central Groundwater Authority implements the *Central Sacramento County Groundwater Management Plan* (February 2006). The Central Sacramento County Central Sacramento County GMP represents an established framework for maintaining sustainable groundwater resources for the various users overlying the basin in Sacramento County between the American and Cosumnes Rivers (Sacramento Central Groundwater Authority 2006). It includes specific goals, objectives, and an action plan to provide a “road map” for the governance body as the steps necessary to manage the basin are taken in coordination with various stakeholders. The Central Sacramento County GMP is intended to be adaptive to changing conditions within the groundwater basin and is updated and refined as needed to reflect progress made in achieving the Central Sacramento County GMP’s objectives. A goal of the Central Sacramento County GMP is to ensure a viable groundwater resource for beneficial uses, including water for purveyors, agricultural, agricultural residential, industrial, and municipal supplies while maintaining and enhancing flows in the Cosumnes River. It is used as a tool to help ensure a long-

term reliable water supply for rural domestic, agricultural, urban, business/industrial, environmental, and development uses in the region. The California Water Code requires that a groundwater management plan contain numerous technical provisions, which are briefly summarized as follows:

- ▶ An inventory of water supplies and a description of water uses within a given region. This information is summarized in a water balance showing overall water demands and available water supplies.
- ▶ Monitoring and management programs that ensure the Basin Management Objectives are being met.
- ▶ Description of stakeholder involvement and public information plan and programs for the groundwater basin.

The Central Sacramento County GMP includes the following Basin Management Objectives to help achieve groundwater basin goals:

- ▶ maintain the regional long-term average groundwater extraction rate at or below the sustainable yield of 273,000 afy established by the Water Forum,
- ▶ adhere to specific minimum groundwater elevations with a focus on the deepest point of the cone of depression,
- ▶ protect against any potential inelastic land surface subsidence,
- ▶ protect against any adverse impacts to surface water flows, and
- ▶ develop specific water quality objectives for several constituents of concern.

Sacramento Central Groundwater Authority Alternative Submittal

SGMA established a process for local agencies to develop an Alternative in lieu of a groundwater sustainability plan, as long as the Alternative satisfies the objectives of SGMA via a similar level of groundwater management through the agencies' existing groundwater management plan, and/or by providing sufficient factual evidence demonstrating the subbasin has operated within its locally established sustainable yield for at least 10 years. According to the groundwater sustainability plan regulations, Alternatives will be evaluated by the same criteria that will be used to assess groundwater sustainability plans.

The Sacramento Central Groundwater Authority prepared and submitted a final draft of the Alternative Submittal to DWR on December 14, 2016. The Alternative Submittal provides the same level of detail as required in a groundwater sustainability plan and shows groundwater management would continue to occur consistent with the existing Central Sacramento County GMP. The Alternative Submittal demonstrates subbasin operations from 2005 to 2015 did not exceed the sustainable yield conditions set forth by the Water Forum Agreement of 273,000 afy (Table 3.10-1). If approved, the 273,000 afy sustainable yield set forth by the Water Forum Agreement will be incorporated into the Alternative Submittal, and this total will be the base year for measuring the long-term sustainability of groundwater in the subbasin. The Sacramento Central Groundwater Authority proposed that its Alternative Submittal be adopted in-lieu of a groundwater sustainability plan. DWR's timetable for approval and adoption of the Alternative Submittal is not known at this time.

City of Elk Grove

The City of Elk Grove General Plan establishes goals and policies to guide both present and future development within the City's jurisdiction. The General Plan contains the following policies related directly or indirectly to hydrology and water quality.

- ▶ **Policy CAQ-5:** Roads and structures shall be designed, built, and landscaped so as to minimize erosion during and after construction.
- ▶ **Policy CAQ-12:** The City shall seek to ensure that the quality of groundwater and surface water is protected to the extent possible.
 - **CAQ-12-Action 2:** Implement the City's NPDES permit on all public and private development projects and activities.
- ▶ **Policy CAQ-13:** Implement the City's NPDES permit through the review and approval of development projects and other activities regulated by the permit.
- ▶ **Policy CAQ-14:** The city shall seek to minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and use onsite infiltration of runoff in areas with appropriate soils where the infiltration of storm water would not pose a potential threat to groundwater quality.
- ▶ **Policy CAQ-16:** 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 CAQ-17:** The City recognizes the value of naturally vegetated stream corridors, commensurate with flood control and public acceptance, to assist in removal of pollutants, provide native and endangered species habitat and provide community amenities.
- ▶ **Policy CAQ-18:** Post-development peak storm water runoff discharge rates and velocities shall be designed to prevent or reduce downstream erosion, and to protect stream habitat.
- ▶ **Policy SA-12:** The City opposes the construction of flood control facilities that would alter or reduce flows in the Cosumnes River and supports retention of the Cosumnes River floodplain in non-urban uses consistent with location in an area subject to flooding.
- ▶ **Policy SA-13:** The City shall require that all new projects not result in new or increased flooding impacts on adjoining parcels on upstream and downstream areas.
- ▶ **Policy SA-16:** 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 SA-17:** Vehicular access to the buildable area of all parcels must be at or above the 10-year flood elevation.
- ▶ **Policy SA-18:** 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 SA-20:** Parcels should not be created on which the presence of easements, floodplain, marsh or riparian habitat, or other features would leave insufficient land to build and operate structures. This policy shall not apply to open space lots specifically created for dedication to the City or another appropriate party for habitat protection, flood control, drainage, or wetland maintenance.
- ▶ **Policy SA-23:** The City shall 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.
 - **SA-23-Action 1:** As part of the review of development projects, ensure that runoff control measures are planned and provided.
- ▶ **Policy SA-24:** Drainage facilities should be properly maintained to ensure their proper operation during storms.
- ▶ **Policy PF-6:** The City shall seek to protect the quality and quantity of groundwater resources, including those which serve households and businesses which rely on private wells.

Elk Grove Design Guidelines

The Elk Grove Design Guidelines contain the following site planning guidelines to minimize stormwater runoff and maximize stormwater infiltration.

Site Planning

- 8) The City encourages innovative designs that mitigate the potential adverse environmental effects of stormwater runoff through minimization of impervious surfaces, use of design measures to prevent pollutants from contacting runoff, and integration of stormwater quality treatment filters, including infiltration, where feasible, into site landscaping. Grassy swales, pervious pavement, diversion to sanitary sewer, and water quality basins are examples of how to mitigate or reduce adverse environmental effects.

Parking Lots

- 17 c) The City encourages the use of pervious and alternative pavements that promote infiltration in parking areas where feasible. For example, turf stone pavers and other pervious paving surfaces could be utilized for trails, sidewalks, parking spaces, or portions thereof.
- 17 d) All parking lot areas not used for vehicle storage, access or circulation should be landscaped.

Streetscape and Landscaping

- 20 f) Shrubs and groundcover shall be designed to enhance the character of the non-residential development. Landscape considerations should include visual appearance, parking lot screening, clear sight visibility at driveways and pedestrian connections, absorb stormwater runoff, and implement the City's current Water Conservation Ordinance.
- 22 b) At a minimum, the City's Zoning Code requires landscape along the perimeter of nonresidential parking lots to be designed with plants, berms, low walls, or any combination thereof, to create a partial visual screen for the parking lot from adjoining streets to a minimum height of three-feet. Within the required clear visibility area at the intersections of streets and driveways, the maximum height shall be reduced to 2.5 feet. The City also encourages the design of perimeter planter areas with intermittent swales to capture stormwater runoff. Where swales are incorporated, ensure that runoff flow to drainage areas is not obstructed (e.g., retaining walls).
- 22 f) Trees and landscaping installed in parking lots shall be protected from vehicle damage by a minimum six-inch tall concrete curb surrounding the planter area. Planter barriers to protect landscaping should also be designed with intermittent curb cuts to allow parking lot runoff to drain into landscape areas.

City of Elk Grove Storm Drainage Master Plan

On December 14, 2011, the City Council certified an EIR and adopted a Mitigation Monitoring and Reporting Program for the City's Storm Drainage Master Plan. The plan provides a variety of drainage concepts for upgrading the existing storm drainage and flood control collection system. Volume II of the plan evaluates the performance level of the existing facilities, identifies performance deficiencies, identifies potential impacts of future development on existing facilities, and identifies existing and new facilities upgrades to serve buildout conditions (City of Elk Grove 2012).

City of Elk Grove Municipal Code Chapter 16.44

Chapter 16.44, "Land Grading and Erosion Control," of the City of Elk Grove Municipal Code is intended to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of watercourses, and the disruption of natural or City-authorized drainage flows caused by the activities of clearing and grubbing; grading; filling and excavating of land; sediment and pollutant runoff from other construction-related activities; and to comply with the provisions of the City's NPDES permit.

These goals will be achieved by establishing 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 the disruption of existing drainage and related environmental damage caused by the aforementioned activities.

City of Elk Grove Municipal Code Chapter 15.12

Chapter 15.12, "Stormwater Management and Discharge Control," of the City of Elk Grove Municipal Code is intended to protect and enhance the water quality of watercourses, water bodies and wetlands within the unincorporated area of the City in a manner consistent with the Federal Clean Water Act, the Porter-Cologne Water Quality Control Act and Municipal Discharge Permit No. CA0082597 by controlling the contribution of

urban pollutants to stormwater runoff that enters the City stormwater conveyance system. This goal will be achieved by identifying potential sources of discharges of pollutants to the City stormwater conveyance system, and establishing standards to prevent or reduce the discharge of pollutants from those activities, to the maximum extent practicable, through the implementation of BMPs.

3.10.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The following impact evaluation is based on a characterization of the potential for impacts related to surface hydrology, flooding, groundwater and water quality degradation, and increased erosion, sedimentation, and runoff attributable to the construction and operation of the proposed Project. Water quality and potential flooding impacts were evaluated by determining whether standard BMPs would meet flood control requirements and water quality objectives.

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, as amended. 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;
- ▶ substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially 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 or provide substantial additional sources of polluted runoff;
- ▶ otherwise substantially degrade water quality;
- ▶ place housing within a 100-year or 200-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- ▶ place within a 100-year or 200-year flood hazard area structures which would impede or redirect flood flows;
- ▶ expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- ▶ inundation by seiche, tsunami, or mudflow.

ISSUES NOT DISCUSSED FURTHER

- ▶ **Levee or Dam Failure**—The SOIA Area is not subject to inundation in the event of failure of a dam. There are no dams in the City of Elk Grove. The nearest dams are Folsom Dam, approximately 25 miles north of the city, and Sly Park Dam, approximately 45 miles northeast of the city. The SOIA Area is located outside of the Folsom Dam and Sly Park inundation zones. There are no levees on the Cosumnes River or Deer Creek and the proposed Project would not involve modification of any levees or dams. Thus, there would be no impact related to flooding from a levee or dam failure, and this issue is not evaluated further in this EIR.
- ▶ **Seiche, Tsunami, and Mudflow**—Because of the distance of the SOIA Area from water bodies, the site would not be expected to be affected by coastal flooding hazards, including tsunami, extreme high tides, or sea level rise. There are no surface water bodies in the vicinity of the SOIA Area that could generate damaging seiches (waves generated within enclosed surface water bodies); therefore, no effects are expected. In addition, the SOIA Area is relatively flat and no effects related to mudflows would occur. There would be no impact related to seiche, tsunami, or mudflow and these issues are not discussed further in this EIR.

IMPACT ANALYSIS

IMPACT 3.10-1 **Short-term degradation/violation of water quality standards during construction.** *Future development within the SOIA Area, including the multi-sport park complex, could degrade water quality and increase in stormwater or wastewater discharge during construction. This impact is considered **potentially significant**.*

Although the SOIA Area, including the multi-sport park complex site, is generally level, the potential would exist for erosion to occur during construction activities, particularly during the rainy season. Construction activities associated with future development within the SOIA Area, including vegetation removal, grading, staging, trenching, and foundation excavation, 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 and blockage of drainage channels. Further, the compaction of soils by heavy equipment may further reduce the infiltration capacity of soils and increase the potential for runoff and erosion.

Non-stormwater discharges could result from construction activities, such as discharge or accidental spills of hazardous substances such as fuels, oils, petroleum hydrocarbons, concrete, paints, solvents, cleaners, or other construction materials. This contaminated runoff could enter Deer Creek and ultimately the Cosumnes River. Erosion and construction-related wastes have the potential to temporarily degrade existing water quality and beneficial uses by altering the dissolved oxygen content, temperature, pH, suspended sediment and turbidity levels, or nutrient content, or by causing toxic effects in the aquatic environment. Therefore, if uncontrolled, construction activities could violate water quality standards or cause direct harm to aquatic organisms.

Future development within SOIA Area, including the multi-sport park complex, would have to adhere to City of Elk Grove NDPES 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 City's sitewide drainage strategy and would be reviewed by the Public Works Department before design review.

According to the City of Elk Grove's Improvement Standards Section 11 Stormwater Quality Protection, "developers meeting the project area disturbance threshold of 1 acre or more of disturbed area shall obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit), prior to commencing construction activities...Projects smaller than 1 acre of disturbed soil area shall prepare a Water Pollution Control Plan (WPCP)" (City of Elk Grove 2007). Permit requirements include development and implementation of a SWPPP prior to disturbing a site. The SWPPP has to include a site-specific listing of the potential sources of stormwater pollution, anticipated stormwater discharge locations, BMPs for construction waste handling and disposal, and non-stormwater management, among other items (City of Elk Grove 2007 – Section 11).

Development within the SOIA Area, including the multi-sport park complex, and off-site improvements would be required to comply with General Plan Policies CAQ-12 and CAQ-13, which ensures the City's NPDES permit is implemented for all development projects through the review and approval of projects and other activities regulated by the permit.

Compliance with the City's Municipal Code, Improvement Standards, and General Plan policies would protect water quality during construction. However, the SOIA Area was used for row crops and the City expects that soil concentrations of organochlorine pesticides, polycyclic aromatic hydrocarbons, and heavy metals (such as lead), which are ubiquitous in soil, are consistent with concentrations in areas of Elk Grove, Sacramento County, and the Central Valley that have been used for farming. Certain organochlorine pesticides 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. Therefore, this impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.10-1: Implement Mitigation Measure 3.9-2 (City of Elk Grove and LAFCo)

Significance after Mitigation

Implementation of Mitigation Measure 3.10-1 would reduce impacts associated with the potential presence of pesticides and herbicides in the SOIA Area, including the multi-sport park complex site, by requiring review, testing, and remediation of potential hazardous materials in accordance with all local, State, and federal regulations. In addition, compliance with the City's requirements related to water quality and wastewater discharge, would ensure stormwater would be captured and treated as necessary according to the City's Storm

Drainage Master Plan, NDPES permit, and Municipal Code requirements. The impact is **less than significant with mitigation**.

IMPACT 3.10-2 *Long-term degradation/violation of water quality standards during operation. Future development within the SOIA Area, including the multi-sport park complex, would not degrade water quality or violate water quality standards during operation. Implementation of requirements in the City's Storm Drainage Master Plan and federal and State regulations associated with confined animal and feeding operations would prevent water quality degradation during operation of the proposed Project. Therefore, the impact is considered less than significant.*

Storm drainage within this SOIA Area, including the multi-sport park complex site, has historically been achieved as part of the various agricultural operations, flowing into agricultural ditches, which generally follow field boundaries. Future development within the SOIA Area would result in changes to land use, natural vegetation, and infiltration characteristics 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.

Urban contaminants typically accumulate during the dry season and may be washed off when adequate rainfall returns in the fall to produce a “first flush” of runoff. The amount of contaminants discharged in stormwater drainage from developed areas varies based on a variety of factors, including the intensity of urban uses, such as vehicle traffic, types of activities occurring on site (e.g., residential vs. commercial), types of contaminants used on site (e.g., pesticides, herbicides, cleaning agents, or petroleum byproducts), contaminants deposited on paved surfaces, and the amount of rainfall.

The City of Elk Grove’s Storm Drainage Master Plan (City of Elk Grove 2011) would be applicable to the SOIA Area, including the multi-sport complex project site. According to the Storm Drainage Master Plan, 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 City of Elk Grove’s 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).

Operation of the multi-sport park complex, including the tournament fields, stadium, and fairgrounds, would generate stormwater runoff that could lead to elevated concentrations of nutrients in Deer Creek and Cosumnes River. Maintenance of the tournament fields would require occasional application of fertilizer, which could add nitrates and other nutrients and could affect downstream water quality. In addition, agricultural events, including the Sacramento County Fair and agricultural education events in the proposed agrizone, would generate animal wastes and another source of nonpoint-source runoff. Together, these sources of nutrients could contribute to downstream algal blooms and nutrient concentrations that exceed water quality objectives.

Operation of the multi-sports park complex would require an industrial stormwater permit (Order 97-03-DWQ), which would require the City to use operational stormwater BMPs to reduce pollutants in runoff from the fields and stadium areas and to conduct stormwater sampling and BMP inspections. The fairgrounds and agrizone park would include stables and feedlot areas and could be regulated as a confined animal feeding operation per Code of Federal Regulations Title 40, Part 412. Operation of the agrizone park would require WDRs from the Central Valley RWQCB for operation of dairy animal feeding facilities pursuant to Water Quality Order No. R5-2010-118 (as revised by Order R5-2011-0091). In addition, Title 27 of the California Code of Regulations identifies agricultural WDRs for confined animal facilities, including water quality monitoring, and implementation of a nutrient management plan and provides guidelines for facility design, operation, and maintenance to retain all facility animal wastes (manure), litter, and wash water.

Implementation of requirements in the City's Storm Drainage Master Plan and federal and State regulations associated with confined animal and feeding operations would prevent water quality degradation. Therefore, the impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.10-3 *Depletion of groundwater supplies. Future development within the SOIA Area, including the multi-sport park complex, could require additional drinking and irrigation water that may be supplied via groundwater, resulting in a depletion of groundwater supplies. This impact is considered **potentially significant**.*

Future development within the SOIA Area, including the multi-sport park complex, would increase demands for water supply. Water supply for the SOIA Area, including the multi-sport park complex area, would be provided by the Sacramento County Water Agency's (SCWA's) Zone 40.

SCWA's Zone 40 water-demand factors were applied to the acreage for each land use designation that generates water use within the SOIA Area. Water supply demand for irrigation of the full-size soccer fields, training fields, landscaped areas, and the sod farm and water supply demand for operation of the stadium and community support facility proposed as part of the multi-sport park complex has been conservatively estimated as 178 afy. It is assumed that the water supply demand for irrigation would account for 162 afy of that total, depending on the type of field installed. Water demands for the stadium would occur only during operation and is dependent on the even schedule. It is possible that the existing on-site wells could be used to irrigate the agrizone park.

Table 3.10-2 Projected Water Demands for Future Commercial, Industrial, and Mixed Use Development within the SOIA Area			
Land Use Category	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Commercial	2.75	93	255.75
Industrial	2.71	178	482.38
Mixed Use	3.1	118	365.80
Subtotal	--	389	1,103.93
Water System Losses (7.5%)	--	--	82.79
Total Demand	--	--	1,021.14
Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year.			
Source: SCWA 2006, adapted by AECOM in 2018			

As shown on Table 3.10-2, the estimated water supply demand for future commercial, industrial, and mixed-use development has been conservatively estimated as 1,021 afy.¹ The total water supply demand for future development within the SOIA Area would be 1,199 afy, with the multi-sport park complex accounting for 178 afy of the total water supply demand and the commercial, industrial, and mixed use development within the SOIA Area accounting for 1,021 afy of the total water supply demand. In general, municipal water supply demands are less than agricultural water supply demands; therefore, water demands under the SOIA would likely be less than the current water demand required for agricultural irrigation.

The Zone 41 UWMP 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 3.15-2 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 Sub-basin of the Sacramento Valley Groundwater Basin. SCWA anticipates that, at buildout of its service area, and assuming that appropriate water and 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 (SCWA 2017). Therefore, water supply would be available to meet the water supply demands of the SOIA Area, including water supply demand associated with the multi-sport park complex.

The Sacramento Central Groundwater Authority has found that over the 10-year period (2005–2015), the Central Basin continues to recover at its 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, in accordance with the Central Sacramento County GMP (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 Central Basin, 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 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) (SCWA 2011). As shown in Table 3.10-1, groundwater extraction has been within the Water Forum Agreement’s sustainable yield from 2005 to 2015. The agrizone park could rely on groundwater pumping from the Central Basin. In the long-term, it is unknown what effect additional

¹ This water supply demand does not reflect 2016 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.

groundwater pumping, if required, would have on the Central Basin. Therefore, the impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.10-3: Implement Mitigation Measure 3.15-1 (City of Elk Grove and LAFCo)

Significance after Mitigation

Implementation of Mitigation Measure 3.10-3 (also known as Mitigation Measure 3.15-1) would reduce potentially significant impacts associated with groundwater use to a **less-than-significant** level because prior to approval of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare a Plan for Services which shall demonstrate that SCWA is a signatory to the Water Forum Agreement, that groundwater management would occur consistent with the Central Sacramento County Groundwater Management Plan, and that groundwater will be provided in a manner that ensures no overdraft will occur. LAFCo would condition future annexation on compliance with Mitigation Measure 3.10-2.

IMPACT 3.10-4	Erosion, siltation, downstream flooding, or increased stormwater runoff volumes. <i>Future development within the SOIA Area, including the multi-sport park complex, would alter drainage patterns, increase stormwater runoff, and increase susceptibility to downstream flooding and/or erosion that is due to increased volumes or peak flows. Implementation of requirements in the Elk Grove Municipal Code, the City's Storm Drainage Master Plan, and General Plan policies would reduce this potential by requiring site drainage plans to address hydrologic impacts and incorporating runoff control measures and LID measures to minimize peak flows. However, final designs and specifications for the Project site have not been submitted to, or approved by the City showing that grading and erosion control measures have been incorporated into final plans. Therefore, the impact is considered potentially significant.</i>
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Development in the SOIA Area, including the multi-sport park complex, would alter drainage patterns, increase stormwater runoff, and increase susceptibility to downstream flooding and/or erosion that is due to increased volumes or peak flows.

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 drainage plans that identify existing flows, the hydrologic impacts, proposed drainage facilities, and plans to accommodate increased flows, and explains how the applicant's drainage facilities would connect to the City's drainage corridor. The plans must be consistent with the City's drainage strategy and would be reviewed by the Public Works Department before design review.

As discussed in Impact 3.10-2, the City of Elk Grove's 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). Additional LID measures could include surface swales, replacement of conventional impervious surfaces with pervious surfaces (e.g., porous pavement), impervious surfaces disconnection, and trees planted to intercept stormwater. LID measures would promote infiltration, filtration, storage, and evaporation of runoff close to the source in order to manage stormwater.

The new drainage system would be consistent with City General Plan Policy SA-23 that requires 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. Further, City General Plan Policy SA-24 states that drainage facilities “should be properly maintained to ensure their proper operation during storms.”

Implementation of requirements in the Elk Grove Municipal Code, the City’s Storm Drainage Master Plan, and General Plan policies would reduce the potential for downstream flooding and/or erosion that is due to increased volumes or peak flows by requiring site drainage plans to address hydrologic impacts and incorporating runoff control measures and LID measures to minimize peak flows. However, final designs and specifications for the Project site have not been submitted to, or approved by the City showing that grading and erosion control measures have been incorporated into final plans. Therefore, the impact is considered **potentially significant**.

Mitigation Measure 3.10-4: Prepare and Implement a Land Grading and Erosion Control Plan (City of Elk Grove)

Before grading permits are issued or earthmoving activities are conducted, a California Registered Civil Engineer shall be retained to prepare a land grading and erosion control plan per City of Elk Grove Municipal Code 16.44. The plan shall be submitted to the City Engineering Division for review and approval. The plan shall be consistent with the State’s and City’s NPDES permit and shall include the site-specific grading.

The plan referenced above shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, 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. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion. The project applicant shall ensure that the construction contractor is responsible for securing a source of transportation and deposition of excavated materials.

Significance after Mitigation

Implementation of Mitigation Measure 3.10-4 would reduce the potentially significant temporary and short-term construction-related erosion impact to a **less-than-significant** level because grading and erosion control plans with specific erosion and sediment control measures would be prepared and implemented before and during all construction activities.

IMPACT 3.10-5	Structures within flood hazard area. <i>Future development in the SOIA Area, including the multi-sport park complex, could place structures within the 100-year flood hazard zone and could impede or redirect flood flows. Future development in the SOIA Area that is determined to be within 200-year floodplain would have to meet City requirements to protect development against flood damage. This impact is considered potentially significant.</i>
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Although most of the SOIA Area is located outside of regional (Cosumnes River) and local 100-year floodplains, small areas along the southeast boundary of the SOIA Area are located within the 100-year floodplain. Exhibit 2-4 in Chapter 2, “Project Description,” shows portions of the agrizone park could be located within the 100-year

floodplain. The agrizone park would consist of a pavilion, arena, barn, and exposition buildings, as well as a working farm, an approximately 5-acre carnival area, and site-specific parking.

In addition, a small portion of the SOIA Area is within the limit of the 200-year floodplain (City of Elk Grove 2016a). Based on SB 5, which required the City of Elk Grove to amend its General Plan and Zoning regulations to address the 200-year floodplain, the City of Elk Grove amended Chapter 23.42.040 of the City's Municipal Code, Flood Combining District. Development in the 200-year floodplain is not allowed unless certain findings are made. Development in areas with flood depths less than 3 feet is exempt from the finding requirement, as allowed under SB 5 (City of Elk Grove 2016b). Therefore, any future development in the SOIA Area that is determined to be within the 200-year floodplain would have to meet City requirements to protect residents and development against flood damage.

The final site plans showing the locations of structures within the agrizone park have not been prepared. Structures within the 100-year floodplain could impede or redirect flood flows. Thus, this impact is considered **potentially significant**.

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 EGMC 16.50.060.

Mitigation Measures

Mitigation Measure 3.10-5: Ensure Structures are Outside of the 100-Year Floodplain (City of Elk Grove)

At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall verify that no habitable structures or structures that negatively obstruct the flow of water, including any structures in the agrizone portion of the multi-sport park complex, are proposed within the 100-year floodplain. Further, all development shall comply with applicable provisions of EGMC 16.50 (Flood Damage Prevention).

Significance after Mitigation

Implementation of Mitigation Measure 3.10-5 would reduce impacts associated with structures that impede or redirect flood flows to a **less-than-significant** level because the City of Elk Grove would ensure no habitable structures or structures that negatively obstruct the flow of water would be located outside of the 100-year floodplain.

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3.11 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES

This section describes the existing land uses and potential effects associated with Project implementation related to population, housing, employment, environmental justice, and unincorporated disadvantaged communities. Descriptions and analyses in this section are based on a review of the *Sacramento LAFCo Policy, Standards and Procedures Manual*; the *Sacramento County General Plan* (County General Plan) and Zoning Ordinance Code; the City General Plan and Zoning Ordinance; and the Sacramento Area Council of Governments (SACOG) *Metropolitan Transportation Plan/Sustainable Communities Strategy* (MTP/SCS) (SACOG 2016).

The relationship between the proposed SOIA and any habitat conservation plans or natural community conservation plans is discussed in Section 3.5, “Biological Resources.”

This section documents the existing population, housing, and employment conditions in the city of Elk Grove and Sacramento County. The information and analysis contained in this section focuses on potential population growth, changes in the housing stock, and changes in employment resulting from the implementation of the multi-sport park complex project and proposed SOIA.

Finally, this section discusses the existing low-income and minority populations and disadvantaged unincorporated communities within and in the vicinity of the SOIA Area and potential disproportionate effects on these populations.

3.11.1 ENVIRONMENTAL SETTING

EXISTING AND ADJACENT LAND USES

The SOIA Area is approximately 561 acres of land in unincorporated Sacramento County, adjacent to the Elk Grove City limits. The area is bounded by Grant Line Road to the north, the Union Pacific Railroad (UPRR) tracks to the west, agricultural lands to the east, and Deer Creek to the south (see Exhibits 2-1 and 2-2 in Chapter 2, “Project Description”). The SOIA Area is in agricultural use, for crops and pasture. Two homes and multiple barns, sheds, a small corrugated metal warehouse, and other agricultural structures are situated in the SOIA Area.

Surrounding Land Uses

The land uses surrounding the SOIA Area range broadly from industrial and commercial uses in the adjacent city of Elk Grove to rural residential and agricultural lands in Sacramento County. The area to the west includes the UPRR 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 between Waterman Road and Mosher Road. Areas to the east have rural residential development, with commercial uses fronting on Grant Line Road and the now-closed Sunset Sky ranch Airport grounds beyond. The area to the south is agricultural and includes the 100-year floodplain of the Cosumnes River and Deer Creek.

Future Land Uses in the Vicinity of the SOIA Area

At the northwestern corner of the SOIA Area and within the City limits, the proposed Lent Ranch Marketplace, or Lent Ranch, provides approximately 295 acres for regional retail, office, and entertainment uses (City of Elk Grove 2016). The 1,200-acre Southeast Policy Area (SEPA) lies directly to the northwest in the City of Elk Grove and is approved for a maximum of 4,800 dwelling units; 7.8 million square feet of commercial and light industrial development; and public services, including three elementary schools (City of Elk Grove 2014).

The City's General Plan update EIR Notice of Preparation (NOP) identifies the SOIA Area within the East Study Area. The City's intent for Study Areas is that future development may move forward under the City's annexation policies and more detailed planning (e.g., specific plan) (City of Elk Grove 2017 a).

The City has capacity for approximately 12,000 to 14,000 additional dwelling units. Assuming a 1.75 percent growth rate for the City, the City has approximately 10 to 15 years of growth potential within the current City limits. With the General Plan update, the City intends to provide annexation strategies that ensure annexation proposals provide for planned, orderly, efficient development, recognizing opportunities or limitations to accommodating the same level of growth within the existing City limits (City of Elk Grove 2017 b). Furthermore, the General Plan update is intended to emphasize infill development that fills in unfinished, undeveloped gaps found throughout the City with new development that meets market demands and provides a variety of housing types (City of Elk Grove 2017 b).

POPULATION

The City of Elk Grove's total population increased from 72,665 at its incorporation in 2000 to 171,059 in 2017, an increase of 135 percent, or about 8 percent annually during this 17-year period (City of Elk Grove 2014; California Department of Finance [DOF] 2017). According to the City, the rapid development occurred as a result of an increase in available jobs in the Sacramento region and the land that was made available in Elk Grove for residential development, as well as the annexation of the Laguna West-Lakeside Census Designated Place (CDP), which added 25,000 residents (City of Elk Grove 2014).

Over the last decade, the City of Elk Grove has experienced substantial residential growth, most of which occurred west of State Route 99. As of 2016, it is estimated that the City is almost 76 percent built out in terms of residential uses (Sacramento Area Council of Governments [SACOG] 2016).

Recently, population growth in the City increased from 168,118 in 2016 to 171,059 in 2017, or an increase of 1.75 percent (DOF 2017). The City's population is expected to increase to 207,663 by 2035, an increase of 27 percent (City of Elk Grove 2015).

HOUSING

According to the DOF, the total number of housing units in the City of Elk Grove was 53,829 in 2017, with an average household size of 3.29 persons per unit, compared to 2.80 in unincorporated Sacramento County (DOF 2017). Approximately 90 percent of these housing units were attached and detached single-family homes, compared to 71 percent countywide (DOF 2017). 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 65,282 by 2036 (SACOG 2016). 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 2016). SACOG projects that total number of housing units would be 67,820 at buildout of the City (SACOG 2016).

The 2016 MTP/SCS designates the SOIA Area as “Blueprint Vacant Urban Designated Lands Not Identified for Development in the MTP/SCS Planning Period (SACOG 2016).” Therefore, the SOIA Area 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 25 percent of the jobs in the city of Elk Grove, followed by public administration (15 percent), and the retail trade (11 percent) (U.S. Census Bureau 2015).

About 5 percent of the regional employment growth is forecasted to occur in the City of Elk Grove. This is supported by the City’s effort to attract more jobs and by the fact that it has begun to see some of this employment growth in the recent arrivals and expansions of a number of medical facilities and state jobs (SACOG 2016). Many Elk Grove residents currently commute to employment centers outside of the city for work. According to the Elk Grove Market Study Progress Evaluation report, more than 44,000 City workers commuted outside the City limits in 2014 (Center for Strategic Economic Research 2014). The average commute time for these workers was approximately 29.7 minutes. SACOG estimates that the city of Elk Grove had 31,001 jobs in 2012 (SACOG 2015a). Based on the current employment totals and projections, SACOG estimates that Elk Grove would have approximately 47,619 jobs by 2036 (SACOG 2016). 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 2016). SACOG projects that total number of jobs would be 52,176 at buildout (SACOG 2016). The SOIA Area is not included in SACOG’s employment projections.

Unemployment

The estimated labor force in the city of Elk Grove in 2015 was 78,400 residents, of which 74,800 were employed (EDD [California Employment Development Department] 2016a). The City’s unemployment rate was 4.6 percent in 2015 (EDD 2016b). This unemployment rate is lower than Sacramento County and California as a whole. Sacramento County’s unemployment rate in 2015 was 6.0 percent, while California’s unemployment rate was 6.2 percent (EDD 2016a, 2016b). The unemployment rate does not include individuals 16 years or over who have stopped looking for work or who are underemployed.

JOBS/HOUSING BALANCE

The relationship between the location and types of jobs and housing can have important environmental ramifications. A better match between the number and types of jobs and the number of households and interests/skills of the local labor force can help to alleviate traffic congestion, shorten commute times, and reduce vehicle miles traveled (VMT) and the associated air pollutant emissions and noise associated with vehicular travel. Job growth in technology, service, and other business sectors that allow for flexibility in time and place of work (e.g., potential to work at home) can also have benefits in reducing traffic-related impacts. Balancing jobs

and housing in a smaller area can provide increased opportunities to use transit, bike, or walk to work in lieu of driving.

The balance of jobs and housing can be driven by the adequacy of supply of housing of the types and costs to house workers employed in a defined geographic area, such as a community, a city, or other subregion. Alternatively, a jobs/housing balance could focus more on the adequate provision of employment in a defined area that generates enough local workers to fill the housing supply. An area that has too many jobs relative to its housing supply is likely (in the absence of offsetting factors) to experience substantial in-commuting, escalations in housing prices, and intensified pressure for additional residential development. Conversely, if an area has relatively few jobs in comparison to the number of employed residents, many of the workers are required to commute to jobs outside of their area of residence. In order to maximize the environmental benefits of a jobs/housing balance, there needs to be a nexus between the types and cost of housing proposed to be located near jobs to be provided, the education/skills required by those jobs relative to the local labor force, and the income levels associated with those jobs.

Beyond the locational relationship between jobs and housing, there is also an important relationship between jobs and workers. Housing has long been used as a proxy for workers and worker residences. In reality, the number of workers per household varies widely across the regions based on a variety of demographic factors (such as age and education/skills) and different housing types have the capacity for accommodating different numbers of workers. Additionally, areas with “good” jobs-housing balance may still result in longer commutes for workers, if available housing in the area is unaffordable to workers filling local jobs (SACOG 2016).

One measure of jobs/housing balance is an index based on the ratio of employed residents (which is influenced by the number of homes) to jobs in the area. Other measurements compare jobs to housing units or jobs to households. An index of 1.0 indicates that the supply of jobs and housing are balanced. An index above 1.0 indicates that there are more jobs than employed residents, and may suggest that many employees are commuting in from outside the community. An index below 1.0 indicates that there are more employed residents than jobs and may suggest that many residents are commuting to jobs outside the community.

The real relationship between jobs and housing is far more complex than the ratio portrays. Even with a relative numeric balance, there can still be substantial commuting activity if the types of jobs are not matched with the skills and experience of the local labor force. The number of workers per household varies, and different types of housing accommodate different numbers of workers. In addition, the ratio depends on the geographic region used for the computation. A city with all residences on one side and all employment on the other side would have an acceptable numeric jobs-housing balance but a substantial amount of commuting. In a different scenario, workers with a substantially longer commute that is still within the city are counted, whereas workers that travel short distances outside of the city are not. Finally, employment necessarily concentrates in specific areas. Warehouses or industrial areas are usually not intermixed with housing, since they can be unattractive areas to live (SACOG 2015a). However, the jobs-housing ratio can provide some useful information for planning purposes.

Finally, no simplistic numeric formula can capture the complex human decision-making process of where to live and where to work. For those households who have choices regarding employment and housing, lifestyle factors (good schools, community amenities and culture, available housing types, etc.) can outweigh the convenience of living closer to work.

Elk Grove had 45,463 jobs and 51,973 housing units in 2013 for a jobs-to-housing ratio of 0.87 (housing units from DOF 2017 and jobs data from City of Elk Grove 2017 a).

The SACOG MTP/SCS forecast projects a ratio between jobs and households at 0.8 in 2036 (SACOG 2016). Full buildout of the Laguna Ridge Specific Plan, Lent Ranch Market Place, the Southeast Policy Area, and the Triangle Special Plan, as well as other currently planned development is anticipated to increase the City's ratio between jobs and households to approximately 1.4 at buildout, according to SACOG (SACOG 2016). SACOG's goal is to move communities closer to the regional ratio of 1.2 jobs per household for growth between 2012 and 2036 (SACOG 2016). The City's policy is to designate enough land in employment-generating categories to provide a minimum 1:1 correspondence between the City's working population and jobs in categories that correlate with the local labor force's needs (Policy LU-10, page LU-13 of the City's Land Use Element of the General Plan). The City's intent is not to view jobs-housing balance relative to a specific numeric ratio, but instead to consider jobs-housing balance relative to narrative strategies consistent with the MTP/SCS and the general land use siting criteria provided in the General Plan update (City of Elk Grove 2017 b). The City's goal is to increase the number and diversity of locally available jobs, including those that could be filled by residents of the City of Elk Grove (Policy ED-7, ED-7-Action 1, and Policy ED-9 of the City's General Plan).

One of the Project objectives for the proposed SOIA Area is to "provide future areas for commercial, industrial, and mixed-use development to improve the City's jobs-housing balance."

For the entire SOIA Area, including the multi-sport park complex, this EIR assumes a broad range of commercial, office, and industrial uses that could generate 10,000 jobs at full buildout. The multi-sport park complex would create part-time jobs, mainly during sporting events. These jobs could include maintenance, concessions, and referees. In addition, based on methods from the Sacramento Area Sewer District (SASD), this EIR assumes that there could be up to 708 dwelling units in the SOIA Area at buildout – or, development with wastewater demand equivalent to 708 dwelling units. If the SOIA Area assumptions are added to 2013 estimates from the City and the Department of Finance (DOF), this would yield a jobs-to-housing ratio of approximately 1.1.

SACOG estimated that, by 2036, 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 SOIA Area, which was not anticipated in the MTP/SCS) could increase the City's jobs to 47,619 and housing units to 66,010, for a jobs-to-housing unit ratio of 0.72 by 2035. At buildout, SACOG estimated that jobs could increase to 52,176 and housing units to 68,022 for a ratio of 0.76 (SACOG 2015b).

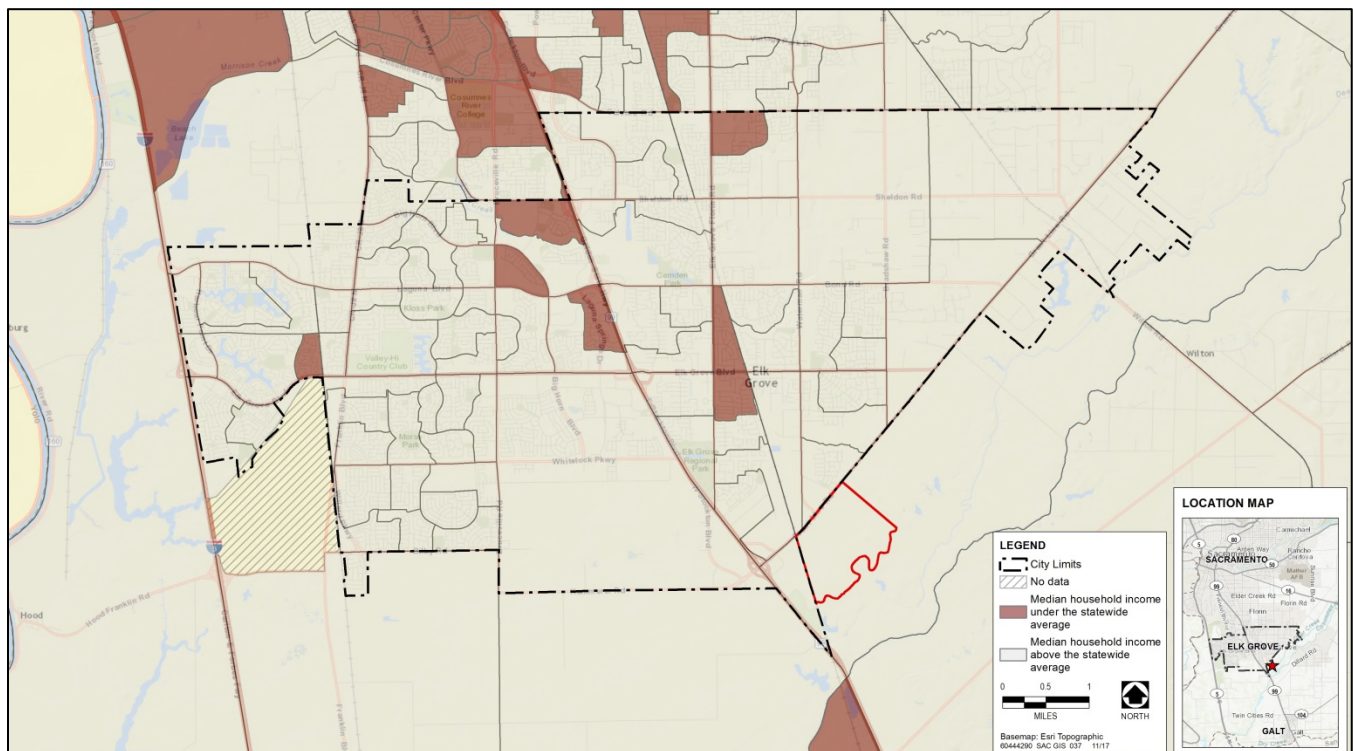
The City is developing a General Plan update that would increase the jobs-to-housing ratio in Elk Grove. According to the Notice of Preparation for the City's General Plan update EIR, the preferred land use map would accommodate an increase in jobs to 122,802 and housing units to 101,665 for a ratio of 1.21 (City of Elk Grove 2017 a).

ENVIRONMENTAL JUSTICE

Environmental justice is defined in California law (Government Code Section 65040.12) as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies." The Cortese-Knox-Hertzberg Act states in Government Code Section 56668(o) that "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.

Environmental justice addresses issues concerning whether a proposed project would expose minority or disadvantaged populations to proportionately greater risks or impacts compared with those borne by other individuals. Both statutory and common-law protections are legal authorities, which support environmental justice efforts. The State of California and the federal government are in pursuit of efforts to address this issue. For example, beginning in 2018, new general plans in California, or updates of two or more elements of existing general plans, must address environmental justice.

SACOG conducted an environmental justice analysis as part of the 2016 MTP/SCS to determine whether the MTP/SCS benefits low-income and minority communities equitably and whether the MTP/SCS would have any disproportionate negative effects on low-income and minority populations in the SACOG region (SACOG 2016). SACOG’s 2016 MTP/SCS includes a regional environmental justice assessment based on 2009-2013 American Community Survey (ACS) data (see Section 3.11.2, “Regulatory Framework,” for further discussion of criteria used to define environmental justice data). There are no environmental justice areas contiguous with the SOIA Area (Exhibit 3.11-1).

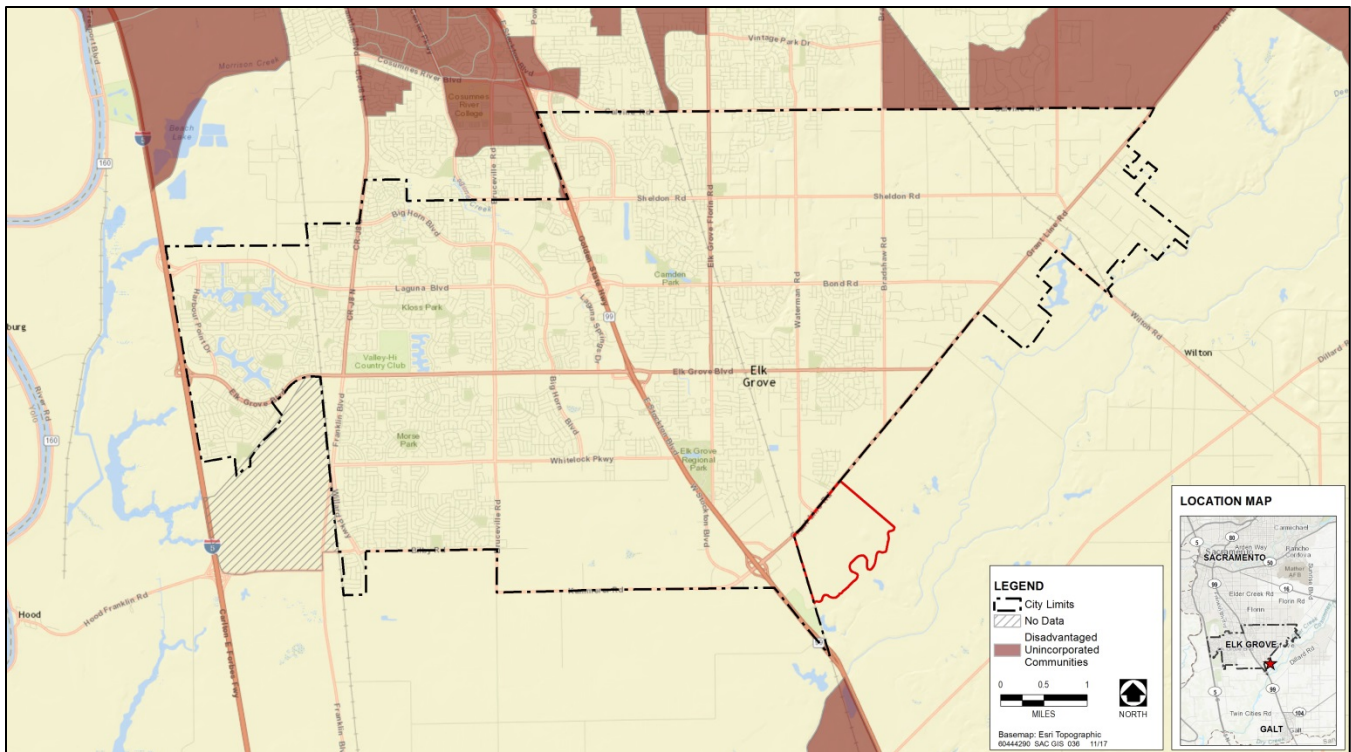


Source: SACOG 2016 adapted by AECOM in 2016

Exhibit 3.11-1 Environmental Justice Areas

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 (SOI), 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 (see Section 3.12.2, “Regulatory Framework,” for further discussion). No disadvantaged unincorporated communities are contiguous with the SOIA Area (Exhibit 3.11-2).



Sources: 2010 Census, adapted by AECOM in 2016

Exhibit 3.11-2 Disadvantaged Unincorporated Communities

3.11.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

There are no federal plans, policies, regulations, and laws that are applicable to the proposed Project.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Planning and Zoning Law

Section 65300 et seq. of the California Government Code requires cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term (usually 20 years or longer) plan for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, affects its planning. The general plan must address a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision.

Zoning ordinances, which define allowable land uses within a specific zone district, must be consistent with the applicable general plan and any applicable specific plans. When the general plan is amended, corresponding changes in the zoning ordinance may be required to ensure that the land uses designated in the general plan would also be allowable by the zoning ordinance (California Government Code Section 65860[c]).

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Act establishes procedures for the establishment, updating, or amendment of an SOI. See Chapter 1, “Introduction,” for more information on the Cortese-Knox-Hertzberg Act.

Sacramento LAFCo is the agency responsible for approving the proposed SOIA and implementing the Cortese-Knox-Hertzberg Act. The LAFCo reviews and approves or disapproves changes in the organization of cities and special districts, including annexations, detachments, new formations, and incorporations. LAFCOs are legally required to create municipal service reviews (MSRs) and update SOIs for each independent local governmental jurisdiction within their countywide jurisdiction. Listed below are the applicable policies and guidelines adopted by the Sacramento LAFCo for approval of boundary adjustments.

- ▶ Demonstrate that adequate services will be provided within the time frame needed by the inhabitants of the area included within the proposed boundary.
- ▶ Identify existing land uses and a reasonable projection of land uses which would occur if services were provided consistent with an updated Master Services Element.
- ▶ Present a map that clearly indicates the location of existing and proposed facilities, including timing and location of those facilities.
- ▶ Describe the nature of each service provided.
- ▶ Demonstrate consistency with the applicable General Plan designations and text.
- ▶ Approve conversion of prime agricultural land in open space and other uses only if:
 - the proposal will lead to the planned, orderly, and efficient development in the area;
 - the subject land is consistent with the SOI plan;
 - the development of the subject land is likely to occur within the next 5 years; and
 - the proposal will have no significant adverse effect on the physical and economic integrity of other agricultural lands.
- ▶ Assess the environmental consequences of its [LAFCo’s] actions and decisions (required by CEQA), and take actions to avoid or minimize a project’s adverse environmental impacts if feasible, or approve a project despite significant effects because it [LAFCo] finds overriding considerations exist.

Senate Bill 244, Disadvantaged Communities

SB 244 requires cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in LAFCo MSRs and annexation decisions. SB 244 defines an unincorporated disadvantaged community as a place that:

- ▶ contains 10 or more dwelling units in close proximity to one another;

- ▶ is either within a city SOI, is an island within a city boundary, or is geographically isolated and has existed for more than 50 years; and
- ▶ has a median household income that is 80% or less than the statewide median household income.

For LAFCOs, SB 244 prohibits approval of city annexations greater than 10 acres that are contiguous to a disadvantaged unincorporated community unless the city applies to annex the disadvantaged unincorporated community, as well. This requirement is not applicable if an application to annex the disadvantaged unincorporated community had been made during the prior 5 years or if a majority of residents in that community are opposed to the annexation.

As of July 1, 2012, LAFCOs must consider the present and future need for public facilities and services by disadvantaged unincorporated communities for any city or district updating their SOI that provides public sewer, municipal and industrial water, or structural fire protection facilities or services. LAFCOs must also include considerations of disadvantaged unincorporated communities within a city or district SOI in statements of written determinations of MSRs.

Environmental Justice in General Plans

Beginning in 2018, new general plans, or updates of two or more elements of existing general plans, must address environmental justice. Section 65040.12(e) of the California Government Code defines environmental justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” The Governor’s Office of Planning and Research is designated by State law as the coordinating agency for environmental justice programs, including consideration of environmental justice in city and county general plans, such as:¹

- ▶ Equitable distribution of new public facilities and services that increase and enhance community quality of life throughout the community, given the fiscal and legal constraints that restrict the siting of these facilities;
- ▶ The location of industrial facilities and uses that, even with the best available technology, will contain or produce material that poses a significant hazard to human health and safety, in a manner that seeks to avoid over concentrating these uses in proximity to schools or residential dwellings;
- ▶ The location of new schools and residential dwellings in a manner that seeks to avoid locating these uses in proximity to industrial facilities and uses that will contain or produce material that poses a significant hazard to human health and safety; and
- ▶ More livable communities that expand opportunities for transit-oriented development so that residents minimize traffic and pollution impacts from traveling for purposes of work, shopping, schools, and recreation.

Senate Bill (SB) 1000, signed into law on September 24, 2016, amended Government Code Section 65302 to provide more specific guidance on addressing environmental justice in general plans. This bill is intended to

¹ This framework comes from AB 1553, which was signed in 2001 and required OPR to develop guidelines, which “propose methods for the equitable distribution of new public facilities, public services, industrial facilities and uses, new schools, and residential dwellings, and expanding opportunities for transit-oriented development” (OPR 2003).

improve local planning efforts to reduce disproportionate environmental and health impacts on California's most vulnerable residents and address the needs of overburdened and under-resourced neighborhoods. SB 1000 specifies that local agencies include an environmental justice element in their general plan or include environmental justice goals and policies throughout the seven mandatory general plan elements when a general plan update is adopted or when two or more general plan elements are revised on or after January 1, 2018.

The Bill also requires updated general plans to identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities, identify objectives and policies to promote civil engagement in the public decision making process, and identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.

OPR has released General Plan Guidelines with new information related to equity and environmental justice. OPR highlights policies related to land use compatibility, public engagement, remediation, overconcentration of sources of hazardous materials, equitable distribution of services and resources, and transit-oriented development as a way to promote environmental justice in the draft Guidelines (OPR 2017).

SB 1000 requires local agencies to identify disadvantaged communities, as defined by Section 39711 of the California Health and Safety Code. A "disadvantaged community" may be identified as a "low-income area" that the local agency has determined to be "disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation." A "low-income area," in turn, is an area with household incomes at or below 80 percent of the statewide median income or with household incomes at or below the low-income threshold designated by the Department of Housing and Community Development.

The City is currently updating its General Plan for compliance with SB 1000.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Sacramento Area Council of Governments' Blueprint

SACOG coordinated with local governments in the region, including the City of Elk Grove, to develop the Blueprint Project and Preferred Blueprint Scenario, an extensive study of the long-term linkages between transportation, land use, and air quality. The Blueprint provides policy advisories for governments in the Sacramento region for long-term regional land use and transportation planning that encourage protection of additional natural resources (because less land would be required for urban uses), discourage conversion of agricultural land, and provide measures to reduce traffic and improve regional air quality.

In December 2004, the SACOG Board of Directors unanimously adopted a Preferred Scenario for the Blueprint. The Preferred Blueprint Scenario does not regulate land use in the SACOG jurisdictions, but includes a conceptual land use diagram that illustrates Blueprint principles. This Preferred Scenario designated the SOI amendment area as "Vacant Urban Designated Lands (2050)."

Metropolitan Transportation Plan/Sustainable Communities Strategy

In 2016, SACOG approved the 2036 MTP/SCS, which is a regional transportation plan and land use strategy. Built on the foundation provided by the Blueprint project, the 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 MTP/SCS also projects the locations of growth in the region, between jurisdictions and among housing place types (e.g., infill and greenfield development). The 2016 MTP/SCS designates the Project site as “Blueprint Vacant Urban Designated Lands Not Identified for Development in the MTP/SCS Planning Period” (SACOG 2016).

SACOG’s 2016 MTP/SCS includes a regional environmental justice assessment of the six-county SACOG region. The 2016 MTP/SCS identifies certain Census Block Groups as environmental justice areas based on 2009–2013 ACS data to ensure that all populations are equally served by existing and proposed transportation infrastructure.

SACOG developed the following criteria to define environmental justice areas:

- ▶ **Low-Income Communities:** Census Tracts where 45 percent or more of the population earns 200 percent or less of the federal poverty level. Tracts meeting this threshold include about 29 percent of the region’s population.
- ▶ **Minority Communities:** Census Block Groups where 70 percent or more of the population is Asian Pacific Islander, African American, Hispanic, Native American, or other Non-White ethnic group. Block groups meeting this threshold include about 8 percent of the region’s population.

Sacramento County General Plan

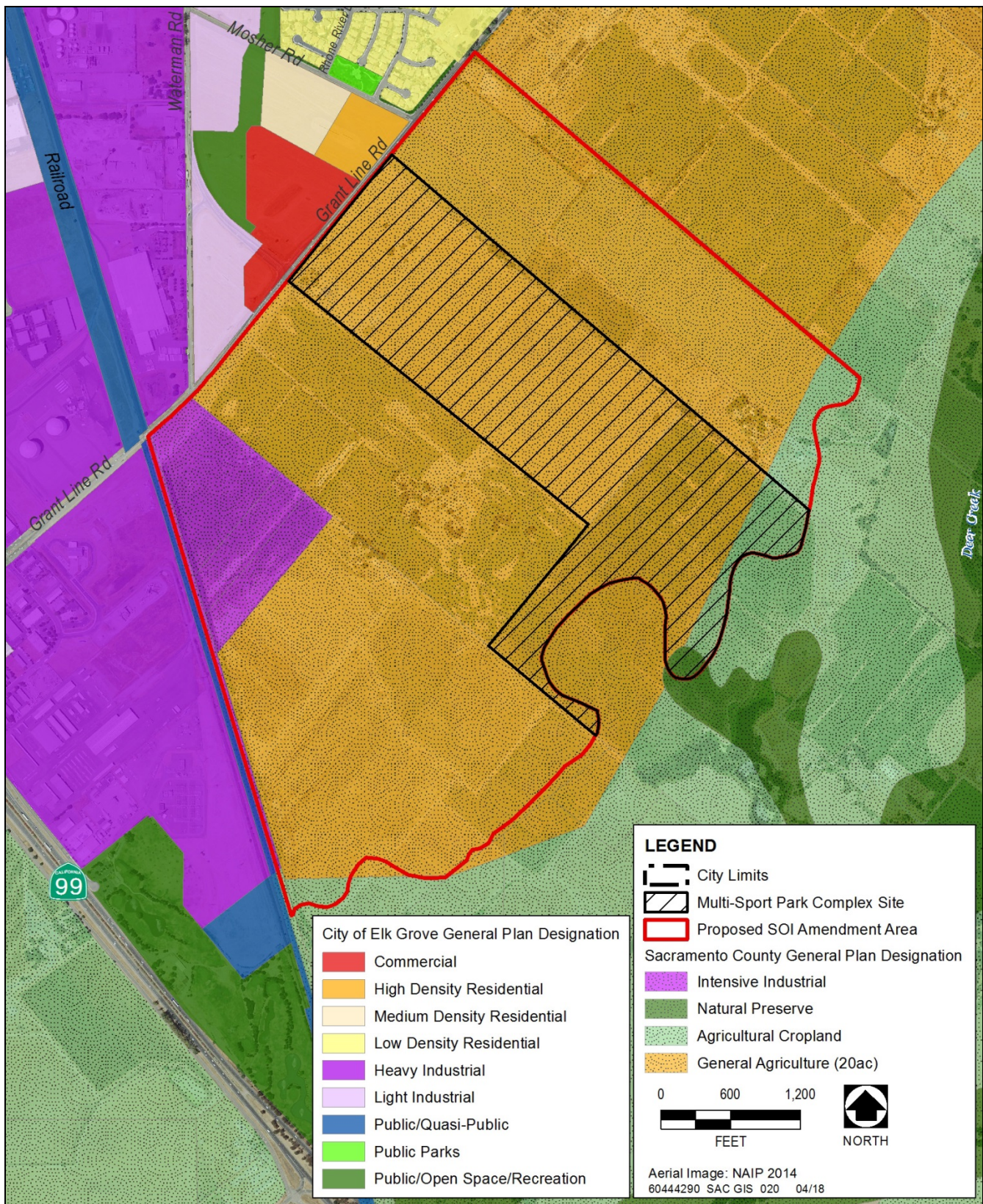
Future land use planning and development in the SOIA Area would be under the jurisdiction of the City of Elk Grove, but the properties are currently in Sacramento County. While the County’s policies will not apply to future development of the SOIA Area, highlights are provided for context.

The current County of Sacramento General Plan, titled Sacramento County General Plan of 2005–2030 (2030 General Plan), was adopted on November 9, 2011. The County General Plan provides an inventory of Sacramento County’s land supply, and projects the amount and location of land and density and the development intensity required to accommodate future populations and economic growth through 2030.

Sacramento County General Plan Land Use Designations

The County General Plan designates the SOIA Area, as shown in Exhibit 3.11-3 (Sacramento County 2011:13).

- ▶ **General Agriculture (20 Acres).** This designation represents lands that are generally suitable for agricultural production with the specific intent to provide an opportunity for starter farms or large hobby farms. Much of this land is classified as “statewide in significance,” with soils generally in the United States Natural Resource Conservation Service Soil Conservation classes of III (soils that have severe limitations that reduce the choice of plants or require special conservation practices or both) and IV (soils that have very severe limitations that restrict the choice of plants or require very careful management, or both) (Sacramento County 2011). Approximately 30 percent of the land in this category is primarily suitable for grazing. The General Agriculture (20 acres) designation allows single-family dwelling units at a density no greater than 20 acres per unit. Uses other than agricultural production are not permitted. (Applies to an estimated 502 acres of the SOIA Area.)



Sources: Sacramento County 2011; City of Elk Grove 2015

Exhibit 3.11-3 Land Use Designations in the City of Elk Grove and Sacramento County General Plans

- ▶ **Agricultural Cropland.** This designation represents agricultural lands most suitable for intensive agriculture. Agricultural activities include row crops, tree crops, irrigated grains, and dairies. These lands have at least some of the following attributes: deep to moderately deep soils, abundant to ample water supply, distinguishable geographic boundaries, absence of incompatible residential uses, absence of topographical constraints, good to excellent crop yields, and large to moderate-sized farm units. The Agricultural Cropland designation allows single-family dwelling units at a density no greater than one unit per 40 acres. (Applies to an estimated 23 acres of the SOIA Area.)
- ▶ **Natural Preserve.** This designation identifies critical natural habitat for priority resource protection, including riparian valley oak woodland and permanent or seasonal marshes. (Applies to an estimated 2 acres of the SOIA Area)
- ▶ **Intensive Industrial.** This designation allows for manufacturing and related activities including research, processing, warehousing, and supporting commercial uses, the intensive nature of which require urban services. (Applies to an estimated 41 acres of the SOIA Area.)

Urban Services Boundary

The County General Plan designates an Urban Services Boundary (USB) to indicate the ultimate boundary of the urban area in unincorporated Sacramento County. The County General Plan (Sacramento County 2011) states the following:

The Urban Services Boundary indicates the ultimate boundary of the urban area in the unincorporated County. This boundary, which is based upon jurisdictional natural and environmental constraints to urban growth, is intended to be a permanent boundary not subject to modification except under extraordinary circumstances. The USB should be used by urban infrastructure providers for developing very long-range master plans which can be implemented over time as the urbanized area expands.

The SOIA Area is within the County's USB.

Urban Policy Area

The County General Plan also designates an Urban Policy Area (UPA). The UPA is intended to provide a 25-year supply of developable land sufficient to accommodate projected growth, and includes additional land to ensure an appropriate supply. The County General Plan (Sacramento County 2011) states:

The Urban Policy Area defines the area expected to receive urban levels of public infrastructure and services within the 25-year planning period. Defining the Urban Policy Area is of key importance in the provision of urban services and infrastructure to the unincorporated County, as it provides the geographic basis for infrastructure master plans, particularly for public water and sewerage, which require large capital investment and relatively long lead time for the installation of capital improvements.

The SOIA Area is not within the County's UPA.

Sacramento County Municipal Code

The Sacramento County Municipal Code provides regulations on land and structures to promote the health, safety, and welfare of the public, and to ensure the orderly development of the county. The Sacramento County Zoning Code describes where specific allowed uses, such as residential development, may be located.

The SOIA Area is zoned by the County as Agricultural, 80-acre minimum (AG-80), Heavy Industrial (M-2), and Agricultural-Residential, 2-acre minimum (AR-2). These are defined as follows:

- ▶ The AG-80 zoning district is used to promote long-term agricultural use and discourage the premature and unnecessary conversion of agricultural land to urban uses. This designation permits one single-family residence per parcel, all agricultural uses, and accessory dwellings for agricultural employees, and most institutional uses are allowed with a use permit. (Applies to an estimated 527 acres of the SOIA Area.)
- ▶ The M-2 zoning designation is used to provide for the development of uses that include fabrication, manufacturing, assembly, or processing of raw materials and that may in their maintenance, assembly, manufacture, or plant operation create smoke, gas, odor, dust, sound, or other objectionable influences that might be obnoxious to persons conducting business or residing in this or any other zoning district. This designation provides for more objectionable industrial uses and requires a minimum lot size of 20,000 square feet. (Applies to an estimated 20 acres of the SOIA Area.)
- ▶ The AR-2 zoning district is used to allow the keeping of animals and raising of crops for educational, recreational, or income purposes. This designation has a 2-acre limit. (Applies to an estimated 18 acres of the SOIA Area.)

Elk Grove General Plan

The SOIA Area does not currently have Elk Grove General Plan land use designations (Exhibit 3.11-3). However, if future annexation were to occur, the SOIA Area would be under the jurisdiction of Elk Grove. Future land use planning and development in the SOIA Area would pursuant to policies in the City's General Plan. Elk Grove is updating the General Plan as of the writing of this document. A draft is not yet available, so the existing (2003) General Plan policies and actions are described below. Future development would be required to comply with the most recent General Plan.

The City's General Plan is a broad framework for planning the future of Elk Grove. It is the official policy statement of the City Council to guide the private and public development of the City in a manner to gain the maximum social and economic benefit to the citizens.

The following policies and action would apply to areas annexed into the City as future development applications are evaluated and approved.

- ▶ **Policy LU-3:** The Zoning Map and all other land use approvals, including Specific Plans and Special Planning Areas, shall be consistent with the Land Use Policy Map of this General Plan.

- ▶ **Policy LU-4:** All land use approvals, including, but not limited to: Zoning, Planning documents (such as Specific Plans and Special Planning Areas), Tentative Maps, Conditional Use Permits, and all other entitlements/permits., shall be required to conform with the General Plan.
- ▶ **Policy LU-9:** Land uses in the vicinity of areas designated as “Heavy Industry” on the Land Use Policy Map 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 Space.
- ▶ **Policy LU-10:** The City should seek to designate sufficient land in all employment-generating categories to provide a minimum 1:1 correspondence between Elk Grove’s working population and jobs in categories matching their employment.
- ▶ **Policy LU-13:** The City will work with the Sacramento Local Agency Formation Commission to establish and update a Sphere of Influence, which reflects the City’s near-term goals for potential additions to the corporate boundaries.
- ▶ **Policy ED-1:** Strive to establish a balanced mix of commercial, office and industrial businesses to the City to ensure a variety of employment and business opportunities.
 - **Policy ED-7 Action 1:** Continue to improve Elk Grove’s jobs/housing ratio and seek to achieve sufficient employment opportunities in Elk Grove for all of the employed persons living in the city, while continuing to promote the City’s role as a regional center.
- ▶ **Policy ED-9:** Provide sufficient land for business expansion and attraction of new employers that utilize the City’s existing labor pool.

The land use diagram in the 2003 City General Plan designates the SOIA Area for “future study.” The General Plan states that these areas are “envisioned by this General Plan as areas in which future study should be done in order to determine the extent to which urban growth should occur and in what form growth should be permitted. These areas are, as of this Plan’s adoption, within the jurisdiction of the County of Sacramento.”

General Plan Update

The City of Elk began preparing a comprehensive update to its General Plan in July 2015. On June 23, 2017, the City released a notice of preparation for the *Environmental Impact Report for the City of Elk Grove General Plan Update* (State Clearinghouse No. 2017062058) circulated for a 30-day public review period (City of Elk Grove 2017 b).² Adoption of the General Plan update and certification of the Final EIR is anticipated in 2018. The update is intended to ensure that “the guiding policy document remains a useful tool, keeps pace with change, and provides workable solutions to current and future issues” (City of Elk Grove 2017 a).

The SOIA Area is part of the larger 1,773-acre area identified in the Elk Grove General Plan update as the East Study Area. According to the City, the planning objective for the East Study Area is to create a new, strong economic center focused on employment in industrial, office, and regional retail uses located at the southwestern end of the Study Area. In the central and northeastern portions of the Study Area, the City intends for the uses to

² The notice of preparation for the *Environmental Impact Report for the City of Elk Grove General Plan Update* is available at: http://www.elk-grovecity.org/UserFiles/Servers/Server_109585/File/Departments/Planning/Environmental%20Review/GPU_NOP_final_2017-06-19.pdf.

transition to residential development compatible with existing neighborhoods to the north of Grant Line Road, as well as the rural and agricultural areas to the northeast and southeast. The City has identified that 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 2017 a).

The draft land use guidelines for the East Study Area state:

1. The overall land plan shall be consistent with the general siting criteria for all Study Areas.
2. An employment node shall be located at the southwest end of the Study Area. The node shall be oriented along the UPRR rail line and Grant Line Road. The node shall include employment uses, commercial uses, and a regional recreation/sports/entertainment center.
3. Residential uses should extend from the recreation center on the southwest end of the Study Area toward the northeast end of the Study Area, decreasing in density from Low Density Residential use to Rural Residential use. Residential land use designations should match, or otherwise be compatible with those adjacent to or planned for the north side of Grant Line Road. Parks or open spaces shall be placed, as necessary, as a buffer between higher-density employment uses at the employment node.
4. Density Residential land uses may be required to meet anticipated or identified Regional Housing Needs Assessment (RHNA) allocations. High Density Residential land uses should be located in the western half of the Study Area within 0.25 mile of Grant Line Road, near or adjacent to commercial or employment land uses.
5. Community-serving commercial uses should be located at intersections along Grant Line Road at Bradshaw Road and Elk Grove Boulevard.
6. An open space and conservation buffer shall be provided along the Cosumnes River to preserve flood-prone areas and potential habitat.

Elk Grove Municipal Code

The Elk Grove Municipal Code provides regulations on land and structures. The Zoning Code (Title 23 of the Municipal Code) is the primary implementation tool for the City General Plan. It divides Elk Grove into zoning districts and applies specific development standards to each district. Other development standards established by the Zoning Code include allowed land uses, height limits, setbacks, and the performance requirements (e.g., landscaping, parking) for each district.

The SOIA Area is outside the area currently governed by the City's Zoning Code. As portions of the SOIA Area are annexed into the City based on evaluation and approval of future development applications, the Elk Grove Municipal Code would apply.

3.11.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Evaluation of the potential impacts of the proposed Project on land use and planning and population, housing, and employment was based on a review of the following planning documents:

- ▶ *Sacramento County General Plan* (Sacramento County 2011),
- ▶ *Elk Grove General Plan* (City of Elk Grove 2015),
- ▶ *City of Elk Grove 2013–2021 Housing Element* (City of Elk Grove 2014),
- ▶ *Elk Grove Market Study Progress Evaluation* (Center for Strategic Economic Research 2014), and
- ▶ *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy* (SACOG 2016).

Additional background information on population, housing, and employment was obtained from DOF, the California Employment Development Department, and the United States Census Bureau.

Population projections used in this analysis were calculated based on the construction of up to 708 equivalent dwelling units multiplied by DOF’s 2017 estimate of 3.29 persons per dwelling unit (DOF 2017). Based on this estimate, the proposed Project would generate up to an estimated 2,329 residents. As described in Chapter 2, “Project Description,” of this EIR, equivalent units are used to translate between different land uses and create a common metric for calculating demand. One equivalent unit or equivalent single-family unit represents wastewater demand from a typical single family home. This land use assumption does not mean that there will be 708 single-family units, only that the relative service demands would be equivalent to approximately 708 dwelling units. The mixed-use area could be developed with more or less residential, contingent on future land use planning.

Population, housing, and employment growth accommodated under future development is not, in and of itself, an environmental impact. However, there are indirect impacts associated with increased population, employment, and housing, such as increased travel demand that requires additional roadways and other transportation infrastructure and the associated air pollutant emissions and traffic noise, impacts related to public facilities and utilities expansions needed to serve new growth, and other impacts, each of which is addressed in each technical section of this EIR. These technical sections provide analysis of relevant environmental effects of implementing future development.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, land use impacts resulting from the implementation of the proposed Project would be considered significant if the Project would:

- ▶ Physically 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 the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- ▶ Conflict with any applicable habitat conservation plan or natural communities conservation plan;

- ▶ Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure); or
- ▶ Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

In addition, the proposed Project will have a significant impact related to environmental justice if the Project would:

- ▶ Result in adverse effects or impacts that are appreciably more severe in magnitude or are predominately borne by low-income and minority populations or unincorporated disadvantage communities.

ISSUES NOT DISCUSSED FURTHER

- ▶ **Physically Divide an Established Community**—The SOIA Area is adjacent to the city of Elk Grove. Land uses surrounding the SOIA Area range from industrial to undisturbed riparian habitat. Scattered rural residences are located on adjacent properties northeast and south of the SOIA Area. There are no established communities that would be divided by future development. Therefore this issue is not evaluated further in this document.
- ▶ **Conflict with any Applicable Habitat Conservation Plan**—Potential conflicts with the South Sacramento Habitat Conservation Plan are discussed in Section 3.5, “Biological Resources.”
- ▶ **Displace Substantial Numbers of People or Existing Housing**—Only two residences are located in the SOIA Area. Scattered rural residences are on adjacent properties northeast and south of the site. 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 impact is not evaluated further in this EIR.
- ▶ **Adversely Affect a Low-Income or Minority Population or Disadvantaged Unincorporated Community**—As discussed above, no low-income or minority populations or disadvantaged unincorporated communities are located within or in the vicinity of the SOIA Area. Therefore, this impact is not evaluated further in this EIR.

IMPACT ANALYSIS

IMPACT 3.11-1	Consistency with adopted Sacramento County or Elk Grove zoning or General Plan policies and land use designations. <i>Future development in the SOIA Area, including the multi-sport park complex, may be inconsistent with Sacramento County General Plan policies, Elk Grove General Plan policies, Sacramento County zoning ordinances, or City of Elk Grove zoning ordinances adopted for the purpose of avoiding or mitigating an environmental effect. This impact is considered less than significant.</i>
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An EIR must discuss “any inconsistencies between the proposed project and the applicable general plans” (CEQA Guidelines Section 15125 [d]). Because the SOIA Area is located within the unincorporated area of Sacramento County and outside the legal boundaries of Elk Grove, Sacramento County maintains the authority to designate allowable land uses.

Sacramento County

Sacramento County's General Plan land use designations for the SOIA Area include (Exhibit 3.11-3):

- ▶ General Agricultural, 20-acre minimum (GA-20);
- ▶ Agricultural Cropland (AC); and
- ▶ Intensive Industrial (II).

The current Sacramento County zoning designations for the SOIA Area include:

- ▶ Agricultural, 80-acre minimum (AG-80);
- ▶ Heavy Industrial (M-2); and
- ▶ Agricultural-Residential, 2-acre minimum (AR-2).

Portions of the SOIA Area are designated and zoned for future industrial development under the Sacramento County General Plan. This designation indicates that the County has anticipated that this area would be annexed and subsequently developed. If the proposed Project were approved and future development were approved, the portion of the SOIA Area that is zoned and designated for agriculture would be annexed to the City and would be outside of the County's jurisdiction.

Future development of the SOIA Area, including the multi-sport park complex, would result in urban land uses that do not conform to agricultural land use designation and do not comply with Sacramento County General Plan policies.

Elk Grove

The SOIA Area does not currently have Elk Grove General Plan land use designations, but these are proposed as a part of this Project. However, if future annexation were to occur, the SOIA Area would be under the jurisdiction of Elk Grove and would be required to be consistent with City General Plan policies and regulations.

The City of Elk Grove is preparing a comprehensive update to its General Plan. If the SOIA Area, or a portion of it, is annexed, that area would be under City of Elk Grove jurisdiction and would be required to comply with Elk Grove General Plan policies. Table 3.11-1 provides a consistency analysis with the current adopted City of Elk Grove General Plan goals and policies.

Table 3.11-1. Elk Grove General Plan Consistency Analysis		
Policy No	Policy No	Policy No
Guiding Goal 1	A High Quality of Life for All Residents	Consistent: The multi-sport park complex increases the quality of life for residents by providing additional recreational opportunities.
Focused Goal 1-2	Outdoor recreation opportunities for all residents	Consistent: The multi-sport park complex includes an outdoor recreational venue that includes sports fields, a stadium, fairgrounds, open spaces, and agricultural preserve. These components will be open to all residents.
Focused Goal 1-4	High quality public facilities and services	Consistent: The multi-sport park complex includes a high-quality public facility that will provide recreational amenities for residents.

Table 3.11-1. Elk Grove General Plan Consistency Analysis		
Policy No	Policy No	Policy No
Focused Goal 1-7	Active and passive park facilities and recreation programs that satisfy the leisure time and recreation needs of all residents	Consistent: The multi-sport park complex includes an active park facility that contributes to the satisfaction of recreational needs for residents by providing open space areas, sports fields, and agricultural preserve.
CI-5	The City shall encourage the use of transportation alternatives that reduce the use of personal motor vehicles.	Consistent: The proposed Project will accommodate public transportation, bicycle, and other modes of transportation to and from the facility in the form of new roads, bicycle facilities, and expanded transit service.
CAQ-2	The loss of agricultural productivity on lands designated for urban uses within the City limits as of January 2004 is accepted as a consequence of the development of Elk Grove. As discussed in the Land Use Element, the City's land use concept for the Planning Area outside the 2004 city limits anticipates the retention of significant areas of agricultural production outside the current city limits.	Consistent: The SOIA Area is designated as Farmland of Statewide Importance, Local Importance, and Grazing Land. Mitigation for the loss of agricultural land will be required. See Section 3.3, "Agricultural Resources," of this EIR for more information.
CAQ-20	Fill may not be placed in any 100-year floodplain as delineated by currently effective 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.	Consistent: The majority of the SOIA Area is located outside the 100-year floodplain. Areas within the floodplain are proposed as a nature preserve.
CAQ-28	The City shall emphasize "demand management" strategies which seek to reduce single-occupant vehicle use in order to achieve state and federal air quality plan objectives.	Consistent: The City anticipates utilizing a demand-managed parking program that will incentivize carpooling and ride-sharing to and from the multi-sport park complex.
CAQ-29	The City shall seek to ensure that public transit is a viable and attractive alternative to the use of private motor vehicles.	Consistent: Future development will accommodate public transportation, bicycle, and other modes of transportation to and from the facility.
LU-2	The City's Land Use Policy Map (figure LU-1) illustrates the planned land uses for lands within Elk Grove and the Planning Area outside the city limits. The following land use categories and definitions shall be used in the assignment of zoning categories and in the review of proposed projects. <i>Public Open Space/Recreation - Includes lands owned by public entities which have been reserved for open space uses such as habitat mitigation, lakes, trails, golf courses, and similar uses</i>	Consistent: The proposed Project includes the designation of the multi-sport park complex project site as Public Open Space/Recreation. Since the multi-sport park complex will be owned by the City (a public entity) and will be used for recreational purposes, the proposed Project is consistent with the proposed General Plan Land Use Designation.
LU-3	The Zoning Map and all other land use approvals, including Specific Plans and Special Planning Areas, shall be consistent with the Land Use Policy Map of this General Plan. <i>Public and Private Open Space/Recreation: O zoning district; any agricultural and residential zoning district; CO zoning district</i>	Consistent: After a future annexation, the Land Use Policy Map would reflect the land use designations that allow for development of future land and associated zoning changes would be consistent with those land use designations.
LU-4	All land use approvals, including, but not limited to: Zoning, Planning documents (such as Specific Plans and Special Planning Areas), Tentative Maps, Conditional Use Permits, Etc. shall be required to conform with the General Plan.	Consistent: City of Elk Grove, in collaboration with County of Sacramento, may begin comprehensive planning at an undetermined time pursuant to approval of the SOIA. Any proposed development would be required to demonstrate consistency with the General Plan.

Table 3.11-1. Elk Grove General Plan Consistency Analysis		
Policy No	Policy No	Policy No
LU-10	The City should seek to designate sufficient land in all employment-generating categories to provide a minimum 1:1 correspondence between Elk Grove's working population and jobs in categories matching their employment level	Consistent: Potential future development in the SOIA Area is envisioned to accommodate future growth and assist the City in achieving a citywide jobs-housing balance by providing a potential jobs-to-housing ratio ranging from 3.6:1 to 5.0:1.
LU-12	The Land Use Policy Map for the Planning Area (Figure LU-2) provides conceptual land use policy for the area outside the current incorporated boundaries of Elk Grove. This policy is intended as a statement of the City's long-term vision for this area; these lands remain under the jurisdiction of Sacramento County. Except where specifically indicated, the City's land use policy for areas outside the city limits reflects the County of Sacramento's land use policy as it existed on December 31, 2002.	Consistent: The proposed Project includes an amendment to establish Public Open Space/Recreation and Commercial/Office, Light Industrial and Heavy Industrial designations within the proposed SOIA Area. Until an annexation is approved, County land use policies would remain in effect.
LU-13	The City will work with the Sacramento Local Agency Formation Commission to establish and update a Sphere of Influence, which reflects the City's near-term goals for potential additions to the corporate boundaries.	Consistent: The proposed SOIA is consistent, because the City of Elk Grove will be required to consult with LAFCo consistent with Policy LU-13.
LU-14	<p>The City shall apply the following policies to potential annexations:</p> <ul style="list-style-type: none"> • Annexations should conform to an orderly expansion of city boundaries within planned urban growth areas and provide for a contiguous development pattern. • Annexations should include a comprehensive land use plan for the affected territory, including Pre-zoning and a plan for infrastructure financing and phasing; • Annexations should: • Constitute fiscally sound additions to the existing City. • Be consistent with State law and Local Agency Formation Commission policies, standards and criteria. • Preserve neighborhood identities. • Ensure the provision of adequate municipal services. • Be consistent with General Plan and Community Plan land use policies. • Incorporate Smart Growth criteria for sustainable economic growth while maintaining environmental integrity, and providing for social equity. • Promote fiscally sound, efficient service boundaries 	Consistent: Future development of the SOIA Area would require annexation by the City of Elk Grove and include comprehensive land use planning and consistency with the Elk Grove General Plan.
LU-15	The City shall encourage annexations initiated by landowner/residents, which are consistent with the City's policies.	Consistent. Multiple landowners are in support of the proposed SOIA and have requested to be included within the City's SOI.

Table 3.11-1. Elk Grove General Plan Consistency Analysis		
Policy No	Policy No	Policy No
LU-16	<p>The areas designated in the Planning Area as “Urban Study Areas” are envisioned as areas in which urbanization to some extent could occur, generally in compliance with the following criteria:</p> <ul style="list-style-type: none"> • Development should be limited to areas outside of the 100-year floodplain. • Development should take place in compliance with the goals and policies of this General Plan. • Any study of potential land uses in these areas should be accomplished in cooperation with the County of Sacramento, the Sacramento Local Agency Formation Commission, and other agencies and parties with ownership or jurisdiction of lands in and near the study area. • Any study of land uses in these areas should be accompanied by an environmental evaluation of the potential impacts of development. • Prior to the completion of land use studies, the City’s policy is that County of Sacramento land use designations in effect as of December 31, 2002, are retained. 	<p>Consistent: Future city development of the SOIA Area would require annexation by the City of Elk Grove and includes comprehensive land use planning. Please note that all these activities will be subject to CEQA to ensure that growth occurs in a logical manner and does not result in significant impacts. In addition, the annexation, planning, and development approval process would follow the criteria listed under LU-16.</p>
LU-17	Implement a comprehensive and city-wide strategy for the preservation of open space, habitat and agriculture, both inside and outside the City’s existing city limits.	<p>Consistent: Future city development of the SOIA Area would require annexation by the City of Elk Grove and include comprehensive land use planning.</p>
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.	<p>Consistent: A noise analysis has been prepared for the proposed Project to understand the potential impacts to near-by land uses, including residential. The proposed Project is being designed such that noise is directed away from sensitive receptors. See Section 3.12, “Noise,” of this EIR for more information.</p>
PF-3	Water supply and delivery systems shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City’s satisfaction.	<p>Consistent: The City has calculated the potential water demand of the future development and is coordinating with the proposed water provider.</p>
PF-8	Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City’s satisfaction.	<p>Consistent: The City is working with Sacramento Area Sewer District to review conveyance and treatment capacity and the necessary improvements to support future development.</p>
PF-21	New development shall fund its fair share portion of its impacts to all public facilities and infrastructure as provided for in state law.	<p>Consistent: Future development will be required to pay all applicable development impact fees.</p>

Table 3.11-1. Elk Grove General Plan Consistency Analysis		
Policy No	Policy No	Policy No
SA-2 through 4	<p>SA-2: In considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City shall consider the hazards posed by reasonably foreseeable events. Evaluation of such hazards shall address the potential for events at facilities to create hazardous physical effects at offsite 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 SA-3. Absent substantial evidence to the contrary, a “hazardous physical effect” from an event shall be a level of exposure to a hazardous physical effect in excess of the levels identified in Policy SA-4.</p> <p>SA-3: For the purpose of implementing Policy SA-2, the City considers an event to be “reasonably foreseeable” when the probability of the event occurring is as indicated in the table below.</p> <p>“Residential” All other land uses without restriction including institutional uses, residential areas, etc.: 1 in 1 million and less (10-6)</p> <p>SA-4: The Maximum Acceptable Exposure standards shown in Table SA-A shall be used in determining the appropriateness of either: (1) Placing a use near an existing hazardous facility which could expose the new use to hazardous physical effects, or (2) Siting a hazardous facility that could expose other nearby uses to hazardous physical effects.</p> <p>Absent substantial evidence to the contrary, the placement of land uses that do not meet the Maximum Acceptable Exposure standards shall be considered to result in a significant, adverse impact for the purposes of CEQA analysis.</p>	<p>Consistent: The City has reviewed the proposed Project to the standards identified in these policies. Refer to Section 3.9, “Hazards,” of this EIR for more information.</p>
SA-13	<p>The City shall require that all new projects not result in new or increased flooding impacts on adjoining parcels on upstream and downstream areas.</p>	<p>Consistent: The proposed Project includes the development of various on-site detention facilities and bioswales, which will provide for water quality treatment and aquifer recharge, and detention of stormwater runoff to pre-project levels before discharging towards the Cosumnes River. See Section 3.10, “Hydrology and Water Quality,” of this EIR for more information.</p>
SA-15	<p>Development shall not be permitted on land subject to flooding during a 100-year event, based on the most recent floodplain mapping prepared by the Federal Emergency Management Agency (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.</p>	<p>Consistent: The proposed Project does not propose structures within the 100-year floodplain. Please see section 3.10, “Hydrology and Water Quality” for more details.</p>

As shown in Table 3.11-1, implementation of the proposed Project would be consistent with the City General Plan policies.

Consistency issues between implementation of the proposed Project and the County and City General Plans 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 and issue areas are addressed in each technical section of this

EIR, 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. Implementation of the proposed Project would not conflict with adopted County or City 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 EIR (air quality, biological resources, cultural resources, etc.). Any future development would be required to comply with the City’s General Plan policies. In addition, future development would be subject to CEQA review and analysis. “The issue of whether a proposed Project is consistent with a county's general plan is not a CEQA issue...” (*The Highway 68 Coalition v. County of Monterey, et al.* [6th Dist. 2017] Cal.App.5th). Thus, this impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.11-2 **Consistency with LAFCo Policies, Standards, and Procedures Guidelines.** *Future development within the SOIA Area, including the multi-sport park complex project, would be consistent with Sacramento LAFCo Policies, Standards, and Procedures Guidelines. **No impact** would occur.*

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 SOIA Area, including the multi-sport park complex, would require annexation by the City of Elk Grove and would be subject to this statute and evaluated for consistency at that time. Table 3.11-2 provides a consistency determination with the LAFCo policies that were adopted to avoid or mitigate for an environmental effect. As shown in Table 3.11-2, the Project, including the multi-sport park complex, would be consistent with LAFCo policies. Thus, **no impact** would occur.

Mitigation Measures

No mitigation measures are required.

Table 3.11-2. Sacramento LAFCo Policy Consistency Analysis			
Element	Policy No	Text	Consistency Determination
III. LAFCo General Policies	1	The LAFCo will encourage participation in its decision-making process. LAFCo will contact community members through community councils, give published notice, and, where LAFCo determines appropriate, give mailed notice to the owners of property within 500 feet of a project site.	Consistent: The proposed Project is consistent with this policy, as the Draft EIR will be circulated for public review to interested public and private agencies pursuant to CEQA.
	4	The LAFCo will favorably consider proposals that will provide urban services in areas with high growth potential rather than in areas with limited potential for future growth.	Consistent: The proposed Project is consistent with this policy. There is a high growth potential in the SOIA Area. There are relatively large parcels that have not been split up and developed with low-density development that would impede efficient land use within the SOIA Area.
	5	The CEQA requires that LAFCo assess the environmental consequences of its actions and decisions, and take actions to avoid or minimize a project's adverse environmental impacts, if feasible, or approve a project despite significant effects because it finds overriding considerations exist. To comply with CEQA, the LAFCo will take one or more of the following actions: <ul style="list-style-type: none"> • At its discretion, approve a project without changes if environmental impacts are insignificant; • Require an applicant to modify a project; • Establish mitigating measures as a condition of its approval of the proposal; • Deny the proposal because of unacceptable adverse environmental impacts; • Approve the project despite its significant effects by making findings of overriding concern. 	Consistent: This EIR is prepared pursuant to CEQA to analyze environmental impacts associated with the proposed Project. Any future city development would require annexation by the City of Elk Grove and would be subject to LAFCo policies for annexation. All these regulatory procedures would ensure consistency with this policy.
	7	LAFCo will favorably consider those applications which improve the balance between jobs and housing.	Consistent: The SOIA Area is envisioned to accommodate future growth and assist City in achieving an improved job-housing balance.
IV. General Standards	A-2	Spheres of Influence are the primary planning tool for LAFCo. The LAFCo has developed standards related to the Master Service Element of any agency's Spheres of Influence. Agencies must have an updated Master Services Element which meets the following standards: <ul style="list-style-type: none"> • Is consistent with the Master Services Element of the Spheres of Influence of any overlapping jurisdiction; • Demonstrates that adequate services will be provided within the time frame needed by the inhabitants of the area included within the proposed boundary; • Identifies existing land use and a reasonable projection of land uses which would occur if services were provided consistent with the updated Element; • Presents a map that clearly indicates the location of existing and proposed facilities, including plan for timing and location of facilities; • Describes the nature of each service to be provided; • Describes the service level capacity of the service provider's facilities; • Identifies the anticipated service level to be provided; 	Consistent: The proposed Project will be consistent with this policy. The Master Services Element/Municipal Services Review (MSR) will comply with this policy. The MSR completed for a previous SOI expansion application that was withdrawn that included the SOIA Area concluded there is adequate government structure available to provide necessary services, including those for which the City is a provider: land use planning, solid waste and recycling, roadway, law enforcement, animal control, code enforcement, parks and recreation, and storm drainage. Conclusions for the MSR prepared for this Project are expected to be similar.

Table 3.11-2. Sacramento LAFCo Policy Consistency Analysis			
Element	Policy No	Text	Consistency Determination
		<ul style="list-style-type: none"> • Describes any actions, improvements, or construction necessary to reach required service levels, including costs and financing methods; • Provides copies of district enabling legislation pertinent to the provision of service levels, including costs and financing methods; • Identifies projected revenue and identifies savings occurring as a result of the action; and • Provides existing and 5-year population projections within agency boundaries. 	
	C-3	<p>The LAFCo will not approve applications with boundaries which:</p> <ul style="list-style-type: none"> • Split neighborhoods or divide an existing identifiable community, commercial district, or other areas having a social or economic identity; • Result in islands, corridors or peninsulas of incorporated or unincorporated territory or otherwise cause or further the distortion of existing boundaries; • Are drawn for the exclusive purpose of encompassing revenue-producing territories; • Create areas for which it is difficult to provide services; or • Split parcels. 	Consistent: The SOIA boundary would not split neighborhoods or communities; result in islands or peninsulas; create areas where it is difficult to provide services; or split parcels. In addition, the SOIA boundary is not drawn for the exclusive purpose of encompassing revenue-producing territories.
V. Specific Standards by Type of Action	A-1	<p>LAFCo will utilize Spheres of Influence through application of the following standards:</p> <ul style="list-style-type: none"> • The LAFCo will approve an application for annexation only if the proposal conforms to and lies wholly within the approved Spheres of Influence boundary for the affected agency; • The LAFCo generally will not allow Spheres of Influence to be amended concurrently with annexation proposals; • The LAFCo will favorably consider proposals that are a part of an orderly, phased annexation program by an agency for territory within its Sphere of Influence; • An annexation must be consistent with a city's Master Services Plan Element of its Sphere of Influence Plan; and • The LAFCo encourages the annexation to each city of all islands of unincorporated territory and all substantially surrounded unincorporated areas located within the city's Sphere of Influence. 	Consistent: The proposed Project will be consistent with this policy. The Master Services Element/Municipal Services Review (MSR) will comply with this policy. The MSR completed for a previous SOI expansion application that was withdrawn that included the SOIA Area concluded there is adequate government structure available to provide necessary services, including those for which the City is a provider: land use planning, solid waste and recycling, roadway, law enforcement, animal control, code enforcement, parks and recreation, and storm drainage. The MSR also identified other agencies that will need to change boundaries to serve the SOIA Area: Sacramento County Water Agency, Sacramento Area Sewer District (collection,) and the Sacramento Regional County Sanitation District (treatment). Conclusions for the MSR prepared for this Project are expected to be similar.
	A-2	<p>The LAFCo will not approve proposals in which boundaries are not contiguous with the existing boundaries of the city to which the territory will be annexed, unless the area meets all of the following requirements:</p> <ul style="list-style-type: none"> • Does not exceed 300 acres; • Is owned by the city; • Is used for municipal purposes; and • Is located within the same county as the city. 	Consistent: The SOIA Area is contiguous to the existing boundaries of Elk Grove.

Table 3.11-2. Sacramento LAFCo Policy Consistency Analysis			
Element	Policy No	Text	Consistency Determination
	B-2	Updated service plans as defined in the Master Services Element of these policies, standards and procedures must be available before LAFCo will approve a proposal initiated by the district.	Consistent: As previously stated, the proposed Project will adopt an MSR.
	I-5	An applicant for an amendment to a Sphere of Influence must demonstrate a projected need or lack of need for service.	Consistent: In July 2014 the City of Elk Grove (City) completed environmental analysis and land use approvals for the last large unentitled area within the existing City limits. Consequently, the City now has no additional large, unplanned blocks of land available for long term planning and future growth within its boundaries. The purpose of this SOIA is to provide holding capacity for the City to be able to plan solutions for their continuing needs for employment opportunities and expanding population.
	I-6	Amendment proposals involving Sphere expansion which contain prime agricultural land will not be approved by the LAFCo if there is sufficient alternative land available for annexation within the existing Sphere of Influence.	Consistent: The SOIA Area contains farmland of statewide importance but not prime farmland. However, the existing SOI is contiguous with City limits, so there is no available alternative location. Refer to Chapter 5.0 of this EIR, “Alternatives” for more information on the consideration of other locations for this development.
	I-9	The LAFCo will deny proposals that would result in significant unmitigable adverse effects upon other service recipients or other agencies serving the affected area unless the approval is conditioned to avoid such impacts.	Consistent: The SOIA would not result in any such impacts to service providers.
	I-10	The LAFCo will approve a proposed amendment to a Sphere of Influence only if the subject agency will be the most logical and prospectively most efficient provider of services to the subject territory.	To Be Determined: This question is examined in a MSR, under separate cover.

IMPACT 3.11-3 **Consistency with the Metropolitan Transportation Plan/Sustainable Communities Strategy.** *Future development within the SOIA Area, including the multi-sport park complex project, may be inconsistent with the SACOG 2036 Metropolitan Transportation Plan/Sustainable Communities Strategy. However, this EIR analyzes full development of the multi-sport park complex, along with buildout of the balance of the proposed SOIA Area as if it fully developed, as well. There is no impact related to SACOG's 2016 MTP/SCS that is not addressed in the environmental topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.). The impact is considered **less than significant**.*

The SACOG MTP/SCS does not identify the SOIA Area, including the multi-sport park complex, for growth. The 2016 MTP/SCS designates the SOIA Area as “Blueprint Vacant Urban Designated Lands Not Identified for Development in the MTP/SCS Planning Period (SACOG 2016).” Therefore, the SOIA Area is not included in SACOG’s housing or employment projections.

SACOG has developed population and employment projections that inform land use and transportation planning throughout the region. According to these projections, SACOG estimates that total number of housing units in the City of Elk Grove will be 65,282 by 2036 (SACOG 2016). SACOG estimates that Elk Grove would have approximately 47,619 jobs by 2036 (SACOG 2016).

As noted elsewhere, the City is preparing a General Plan update that may provide updates related to the future carrying capacity of the City’s land use diagram. The methodology and purpose of the City’s estimate of development capacity is different from the methodology and purpose of SACOG’s forecast for the purposes of the MTP/SCS. The SACOG projections are market-based growth estimates are updated every 4 years.

The City’s General Plan is a long-range planning tool that seeks to create opportunities for growth and provide a range of land use options to encourage economic investment. Based on the City’s NOP, the East Area would be a potential location for future development, which could provide opportunities for employment and possibly housing development. Relevant City policies and code requirements are used as the basis for mitigation throughout this EIR.

This EIR analyzes comprehensively the potential impacts associated with future development within the SOIA Area, which includes the multi-sport park complex project, conservatively assuming that the entire SOIA Area could be subject to development. This includes any impacts related to the assumptions included in MTP/SCS for the SOIA Area. 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 EIR analyzes air pollutant and greenhouse gas emissions in a regional and statewide cumulative context, consistent with the MTP/SCS. This EIR imposes mitigation that would, like the MTP/SCS, require future projects within the SOIA Area to reduce mobile source air pollutant emissions and greenhouse gas emissions, finding significant impacts for these topics. There is no additional significant air quality or greenhouse gas emissions impact associated with the proposed Project beyond that already disclosed in Section 3.4, Section 3.7, or Chapter 4 of this EIR related to air quality or greenhouse gas emissions.

This EIR analyzes full development of the multi-sport park complex, along with full buildout of the balance of the proposed SOIA Area. There is no impact related to plan consistency that is not addressed in the environmental

topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.). The impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

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. This impact is considered **potentially significant**.*

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 SOIA Area, including the multi-sport park complex. Therefore, the Project may indirectly create pressure to submit applications for annexation of the SOIA Area. In addition, the development of the multi-sport park complex would be urbanization of open space. As detailed throughout this EIR, the proposed Project would result in the conversion of open space to urban uses. This impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.11-4: Implement Mitigation Measure 3.3-1

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 SOIA Area, including the multi-sport park complex, this approach would not create new farmland to replace open space that could be lost. This impact is **significant and unavoidable**.

IMPACT 3.11-5 **Induce population growth.** *Because the population, housing, and employment growth that could be generated by the proposed Project was not accounted for in the City's General Plan or SACOG's 2016 MTP/SCS, the proposed Project could indirectly facilitate unplanned growth. However, this EIR analyzes full development of the multi-sport park complex, along with buildout of the balance of the proposed SOIA Area as if it fully developed, as well. There is no impact related to SACOG's 2016 MTP/SCS that is not addressed in the environmental topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.). The impact is considered **less than significant**.*

The SOIA Area is located outside of the City of Elk Grove's City limits; therefore, the population that could be accommodated within the SOIA Area was not considered as part of the adopted Elk Grove General Plan. It is anticipated that the population, housing, and employment that could be accommodated under the future land use scenario would be addressed in the City's General Plan Update.

Future development could generate a substantial amount of employment-generating land uses. As described in Chapter 2, "Project Description," of this EIR, the conceptual land plan assumes a broad range of commercial, office, and industrial uses that generate approximately 10,000 jobs. SACOG estimates the City of Elk Grove would have approximately 50,865 jobs by 2036 and 72,225 at buildout of the City. The SOIA Area is not

included in SACOG's most recent employment projection. SACOG updates population and employment forecasts with each update to the MTP/SCS using inputs from member jurisdiction general plans as one set of inputs.

The multi-sport park complex would not involve the construction of any housing, but would require construction workers and employees to operate and maintain the facilities. An estimated 2,833 residents in Elk Grove and 40,115 in Sacramento County were employed in the construction industry in 2015 (U.S. Census Bureau 2015). This pool of workers, as well as new residents who move to the area for other reasons, may be available for construction. With the pool of construction workers that may be available locally in Sacramento County, construction of the multi-sport park complex would not cause substantial temporary population growth or a substantial temporary increase in housing demand in the region that could lead to adverse physical environmental effects. No housing would be constructed as part of construction or operation of the multi-sport park complex. The multi-sport park complex would create part-time jobs, mainly during sporting events. These jobs could include maintenance, concessions, and referees. The source of the labor force is unknown at this time, but workers would likely be drawn from the local labor pool.

The population, housing, and employment growth that could occur within the SOIA Area was not accounted for in the City's current General Plan or the current 2016 MTP/SCS. However, this EIR analyzes full development of the multi-sport park complex, along with buildout of the balance of the proposed SOIA Area as if it fully developed, as well. There is no significant impact associated with the relationship between the proposed Project and SACOG's 2016 MTP/SCS that is not addressed in the environmental topic-specific sections of this EIR (air quality, greenhouse gas emissions, etc.). Mitigation presented throughout this EIR addresses directly the environmental issues associated with future development. The purpose of the proposed Project itself is to provide for future annexation of the SOIA Area and subsequent development opportunities, including the multi-sport park complex. The impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.12 NOISE AND VIBRATION

This section includes a description of ambient noise conditions, a summary of applicable regulations related to noise and vibration, and an analysis of the potential impacts resulting from development within the SOIA Area and implementation of the multi-sport park complex project. Mitigation measures are recommended, as necessary, to reduce potentially significant noise and vibration impacts.

3.12.1 ENVIRONMENTAL SETTING

ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

Sound Properties

A sound wave is introduced into a medium (air) by a vibrating object. The vibrating object (e.g., vocal cords, the string and sound board of a guitar, the diaphragm of a radio speaker) is the source of the disturbance that moves through the medium. Regardless of the type of source that creates the sound wave, the particles of the medium through which the sound moves are vibrating in a back-and-forth motion at a given frequency (pitch).¹ A commonly used unit for frequency is cycles per second, called hertz (Hz).²

A wave is an energy transport phenomenon that transports energy along a medium. The amount of energy carried by a wave is related to the amplitude (loudness) of the wave. A high-energy wave is characterized by high amplitude; a low-energy wave is characterized by low amplitude. The amplitude of a wave refers to the maximum amount of displacement of a particle from its rest position. The energy transported by a wave is directly proportional to the square of the amplitude of the wave. This means that a doubling of the amplitude of a wave is indicative of a quadrupling of the energy transported by the wave.

¹ The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. If a particle of air undergoes 1,000 longitudinal vibrations in 2 seconds, then the frequency of the wave would be 500 vibrations per second.

² Each particle vibrates as a result of the motion of its nearest neighbor. For example, the first particle of the medium begins vibrating at 500 Hz and sets the second particle of the medium into motion at the same frequency (500 Hz). The second particle begins vibrating at 500 Hz and sets the third particle into motion at 500 Hz. The process continues throughout the medium; hence each particle vibrates at the same frequency, which is the frequency of the original source. A guitar string vibrating at 500 Hz will set the air particles in the room vibrating at the same frequency (500 Hz), which carries a sound signal to the ear of a listener that is detected as a 500-Hz sound wave. The back-and-forth vibration motion of the particles of the medium would not be the only observable phenomenon occurring at a given frequency. Because a sound wave is a pressure wave, a detector could be used to detect oscillations in pressure from high to low and back to high pressure. As the compression (high-pressure) and rarefaction (low-pressure) disturbances move through the medium, they would reach the detector at a given frequency. For example, a compression would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Similarly, a rarefaction would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Thus, the frequency of a sound wave refers not only to the number of back-and-forth vibrations of the particles per unit of time, but also to the number of compression or rarefaction disturbances that pass a given point per unit of time. A detector could be used to detect the frequency of these pressure oscillations over a given period of time. The period of the sound wave can be found by measuring the time between successive high-pressure points (corresponding to the compressions) or the time between successive low-pressure points (corresponding to the rarefactions). The frequency is simply the reciprocal of the period; thus, an inverse relationship exists so that as frequency increases, the period decreases, and vice versa.

Sound and the Human Ear

Because of 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) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels 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 2013). Use of this logarithmic scale reveals that the total sound from two individual sources, each measured at 65 A-weighted decibels (dBA), is 68 dBA, not 130 dBA; that is, doubling the source strength increases the sound pressure by 3 dBA.

Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. A dBA scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities to regulate environmental noise. Typical indoor and outdoor noise levels are presented in Exhibit 3.12-1.

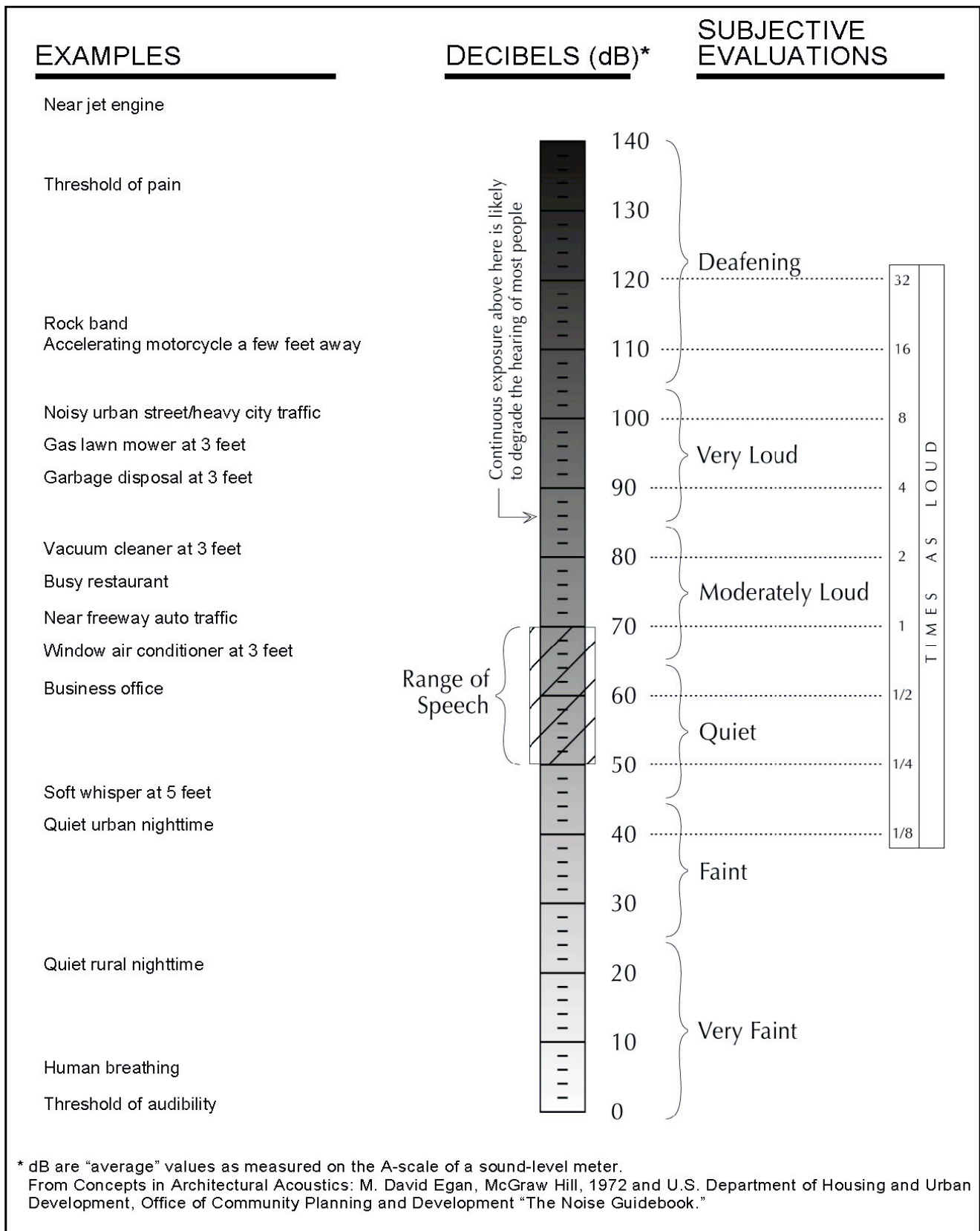
With respect to how humans perceive and react to changes in noise levels, a 1-dBA increase is imperceptible, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988), as presented in Table 3.12-1.³

Table 3.12-1 Subjective Reaction to Changes in Noise Levels of Similar Sources		
Change in Level, dBA	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (except for tones)	1.3
3	Just barely perceptible	2.0
6	Clearly noticeable	4.0
10	About twice (or half) as loud	10.0
Note: dBA = A-weighted decibels		
Source: Egan 1988		

Sound Propagation and Attenuation

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to the receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance (dBA/DD). However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA/DD. The characteristics of the surface between the source and the receptor may result in additional sound absorption and/or reflection.

³ Table 3.12-1 was developed on the basis of the reactions of test subjects to changes in the levels of steady-state pure tones or broadband noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50–70 dBA, as this is the usual range of voice and interior noise levels.



Source: Data compiled by AECOM in 2010

Exhibit 3.12-1 Typical Noise Levels

Atmospheric conditions, such as wind speed, temperature, and humidity may affect noise levels. The presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation depends on the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 2013).

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides an approximate exterior-to-interior noise reduction of 25 dBA with its windows closed; by contrast, a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dBA when its windows are closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

Noise Descriptors

The selection of a proper noise descriptor for a specific source depends on 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 (Caltrans 2013).

- ▶ **L_{\max} (Maximum Noise Level):** The maximum instantaneous noise level during a specific period of time. The L_{\max} may also be referred to as the “peak (noise) level.”
- ▶ **L_{\min} (Minimum Noise Level):** The minimum instantaneous noise level during a specific period of time.
- ▶ **L_{eq} (Equivalent Noise Level):** The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L_{eq} . In noise environments that are determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.
- ▶ **L_{dn} (Day-Night Noise Level):** The 24-hour L_{eq} with a 10-dBA “penalty” for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is “added” to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.
- ▶ **CNEL (Community Noise Equivalent Level):** Similar to the L_{dn} described above, but with an additional 5-dBA “penalty” added to noise events that occur during the noise-sensitive hours between 7:00 p.m. and 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, the reported CNEL is typically approximately 0.5 dBA higher than the L_{dn} .
- ▶ **SENL (Single-Event [Impulsive] Noise Level):** 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. SENLs typically represent the noise events used to calculate the L_{eq} , L_{dn} , and CNEL.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level L_{eq} , which corresponds to a steady-state, A-weighted

sound level containing the same total energy as a time-varying signal over a given time period (usually 1 hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and correlates well with community response to noise.

Negative Effects of Noise on Humans

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2013).

Fundamental Noise Control Options

Any noise problem is generally composed of three basic elements: the noise source, a transmission path, and a receiver. The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receiver. The problem should be defined in terms of appropriate criteria (L_{dn} , L_{eq} , or L_{max}); the location of the sensitive receiver (inside or outside); and the time that the problem occurs (daytime or nighttime). Noise control techniques should then be selected to provide an acceptable noise environment for the receiving property while remaining consistent with local accessibility, safety, and aesthetic standards, as well as practical structural and economic limits. Fundamental noise control options are described below.

Site Design

Buildings can be placed on a project site to shield other structures or areas from areas affected by noise, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce a project's overall noise control costs, particularly if the shielding structure is insensitive to noise.

Site design should guard against creating reflecting surfaces that may increase on-site noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dBA. The open end of U-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise back to a noise-sensitive area unless located carefully. Avoidance of these problems while attaining an aesthetic site design requires close coordination between local agencies, the project engineer and architect, and the noise consultant.

Building Façades

When interior noise levels are of concern in a noisy environment, noise reduction may be obtained through acoustical design of building façades. Standard construction practices provide a noise reduction of 10–15 dBA for building façades with open windows and a noise reduction of approximately 25 dBA when windows are closed. Thus, an exterior-to-interior noise reduction of 25 dBA can be obtained by requiring that building design include

adequate ventilation systems, which allows windows on a noise-affected façade to remain closed under any weather condition.

Where greater noise reduction is required, acoustical treatment of the building façade is necessary. Reducing relative window area is the most effective control technique, followed by providing acoustical glazing (thicker glass or increased air space between panes) in frames with low air infiltration rates, using fixed (nonmovable) acoustical glazing, or eliminating windows. Noise transmitted through walls can be reduced by increasing wall mass (using stucco or brick in lieu of wood siding), isolating wall members by using double or staggered stud walls, or mounting interior walls on resilient channels. Noise control for exterior doorways is provided by reducing door area, using solid-core doors, and by acoustically sealing door perimeters with suitable gaskets. Roof treatments may include the use of plywood sheathing under roofing materials.

Setbacks

Noise exposure may be reduced by increasing the distance between the noise source and the receiving use. Setback areas can, for example, take the form of open space, frontage roads, recreational areas, and storage yards. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4–6 dBA.

Vegetation

Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately 100 feet of dense foliage (so that no visual path extends through the foliage) is required to achieve a 5-dBA attenuation of traffic noise (Caltrans 2009). Thus, the use of vegetation as a noise barrier should not be considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used to acoustically “soften” intervening ground between a noise source and a receiver, increasing ground absorption of sound and thus increasing the attenuation of sound with distance. Planting trees and shrubs also offers aesthetic and psychological value, and it may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels will be largely unaffected. However, trees planted on the top of a noise-control berm can slightly degrade the acoustical performance of the barrier. This effect can occur when high-frequency sounds are diffracted (bent) by foliage and directed downward over a barrier.

The effects of vegetation on noise transmission are minor, and are primarily limited to increased absorption of high-frequency sounds and to reducing adverse public reaction to the noise by providing aesthetic benefits.

Barriers

Shielding by barriers can be obtained by placing walls, berms, or other structures (such as buildings) between the noise source and the receiver. The effectiveness of a barrier depends on blocking the line of sight between the source and receiver; effectiveness is improved when the sound must travel a longer distance to pass over the barrier than if it were traveling in a straight line from source to receiver. The difference between the distance over a barrier and a straight line between source and receiver is called the “path length difference,” and is the basis for calculating barrier noise reduction.

Barrier effectiveness depends upon the relative heights of the source, barrier, and receiver. In general, barriers are most effective when placed close to either the receiver or the source. An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receiver.⁴ Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

There are practical limits to the noise reduction provided by barriers. For vehicle traffic or railroad noise, a noise reduction of 5–10 dBA may often be reasonably attained. A 15-dBA noise reduction is sometimes possible, but a 20-dBA noise reduction is extremely difficult to achieve. Barriers usually are provided in the form of walls, berms, or berm/wall combinations. The use of an earth berm in lieu of a solid wall may provide up to 3 dBA additional attenuation over that attained by a solid wall alone, because of the absorption provided by the earth. Berm/wall combinations offer slightly better acoustical performance than solid walls alone, and they are sometimes preferred for aesthetic reasons.

Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structureborne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as operating factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean square (RMS), as in RMS vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (FTA 2006). PPV and RMS are normally described in inches per second (in/sec).

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.12-2, which was developed by the California Department of Transportation (Caltrans), shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of 1 second. Like airborne sound, the RMS velocity is often expressed in decibel notation, as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1 microinch per second ($\mu\text{in/sec}$).

The background vibration-velocity level in residential areas is usually approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level

⁴ For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 pounds per square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept the line of sight to all significant noise sources.

of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Table 3.12-2 Effects of Various Vibration Levels on People and Buildings			
Peak Particle Velocity		Human Reaction	Effect on Buildings
inches/second	mm/second		
0.006–0.019	0.15–0.30	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	2.0	Vibrations readily perceptible	Recommended upper level of which ruins and ancient monuments should be subjected
0.10	2.5	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings
0.20	5.0	Vibrations annoying to people in buildings	Threshold at which there is a risk of architectural damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	10–15	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause architectural damage and possibly minor structural damage
Notes: PPV=peak particle velocity. In/sec=inches per second. mm/sec= millimeters per second.			
Source: Caltrans 2013			

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, horizontal directional drilling, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 3.12-3 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 3.12-3 Human Response to Groundborne Vibration Levels	
Vibration Velocity (Vibration Decibels)	Human Response
65	Approximate threshold of perception for many humans.
75	Approximate dividing line between barely perceptible and distinctly perceptible.
85	Vibration acceptable only if there is a small number of events per day.
Source: FTA 2006	

EXISTING NOISE ENVIRONMENT

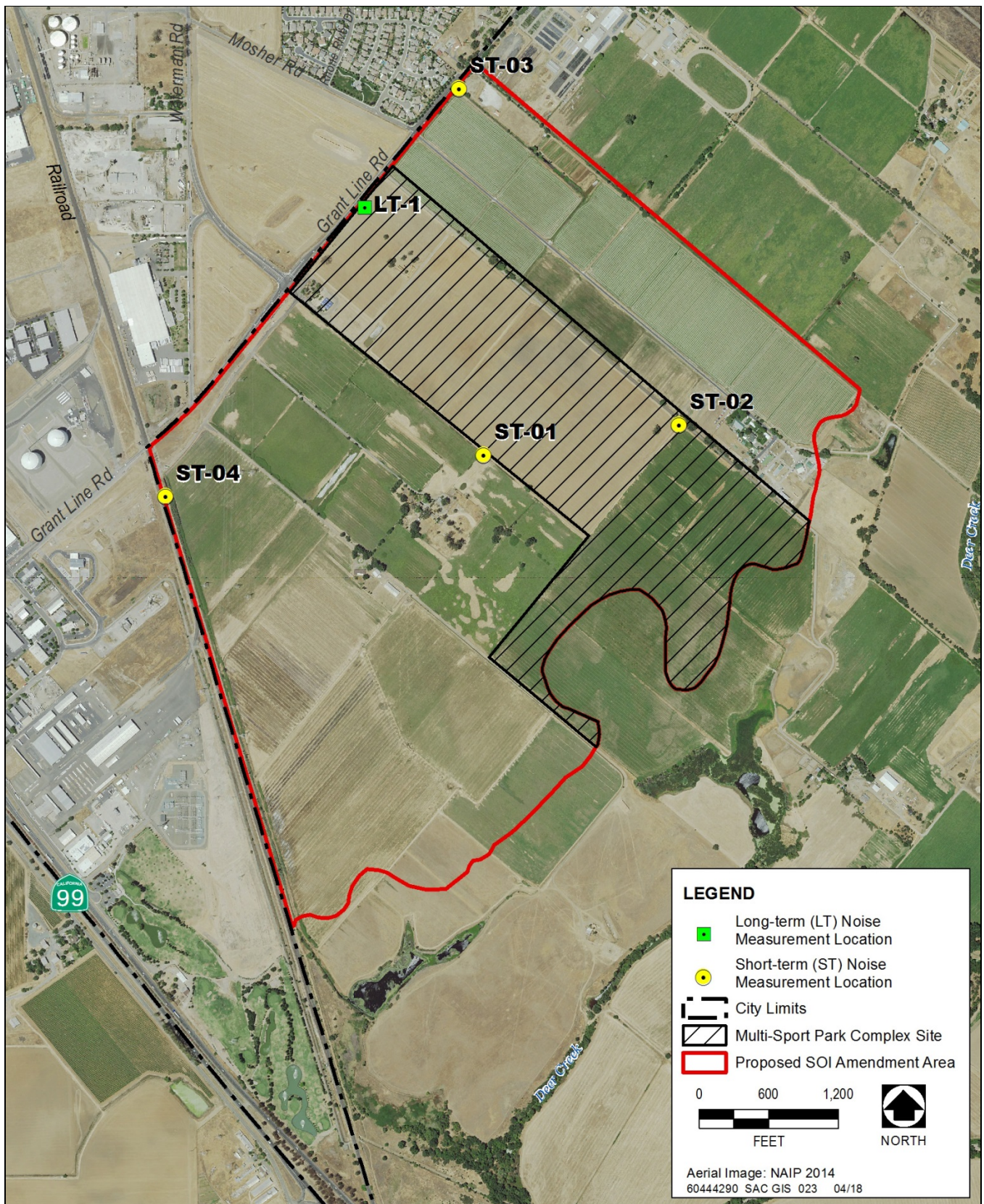
Community Noise Survey

A community noise survey was conducted on December 12 through December 21, 2015, to document the existing noise environment at various locations within the proposed SOIA Area. The dominant noise source identified during the ambient noise survey was traffic from the State Route 99 (SR 99) to the east and Grant Line Road along the northern boundary of the SOIA Area.⁵

Community noise survey locations are shown in Exhibit 3.12-2. The L_{eq} , L_{max} , L_{50} , and L_{90} values were taken at each long-term ambient noise measurement location presented in Table 3.12-4. During the survey, average daytime ambient noise levels ranged from 43.6 dB to 67.2 dB L_{eq} , with maximum noise levels that ranged from 54.2 dB to 82.1 dB L_{max} .

Table 3.12-4 Summary of Measured 24-hour Long Term Ambient Noise Levels											
Site	Location	Date	L_{dn}	Average Measured Hourly Noise Levels, dBA							
				Daytime (7 a.m.–10 p.m.)				Nighttime (10 p.m.–7 a.m.)			
				L_{eq}	L_{max}	L_{50}	L_{90}	L_{eq}	L_{max}	L_{50}	L_{90}
LT-1	Northern Boundary of the SOI Amendment Area, 65 feet from the Centerline of Grant Line Road	12/15/15 – 12/16/15	70.2	67.2	81.6	64.3	53.6	62.8	78.7	52.7	46.9
		12/16/15 – 12/17/15	70.3	67.1	80.7	64.1	53.0	63.0	78.1	51.6	45.1
		12/17/15 – 12/18/15	70.4	67.0	82.1	63.8	53.2	63.2	78.3	52.8	46.4
		12/18/15 – 12/19/15	69.7	66.9	80.5	63.9	53.3	62.2	77.7	50.3	43.5
		12/19/15 – 12/20/15	68.7	66.8	81.1	63.3	50.8	60.7	78.6	48.4	40.9
		12/20/15 – 12/21/15	70.6	66.2	81.0	62.9	53.3	63.7	78.8	56.6	50.3
ST-1	10313 Grant Line Road	12/15/15	NA	45.4	54.2	44.5	43.0	NA	NA	NA	NA
ST-2	10161 Grant Line Road	12/12/15	NA	43.6	53.6	42.4	41.6	NA	NA	NA	NA
ST-3	10071 Grant Line Road	12/12/15	NA	65.6	79.4	60.1	47.4	NA	NA	NA	NA
ST-4	Along Railroad, South of Grant Line Road	12/12/15	NA	56.7	63.6	55.7	51.7	NA	NA	NA	NA
Notes: dB = A-weighted decibels; L_{dn} = day-night average noise level; L_{eq} = the equivalent hourly average noise level; L_{max} = maximum noise level; L_{50} = the noise level exceeded 50% of a specific period of time; L_{90} = the noise level exceeded 90% of a specific period of time. Monitoring locations correspond to those depicted in Exhibit 3.12-2. Source: Data collected by AECOM in 2017											

⁵ Measurements of noise levels were taken in accordance with ANSI standards. Continuous 24-hour, long-term monitoring of noise levels was conducted at three locations in the City using Larson Davis Laboratories (LDL) Model 820 and 824 sound-level meters. The sound-level meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure that the measurements would be accurate. The equipment used meets all pertinent specifications of the ANSI for Type 1 sound-level meters (ANSI S1.4-1983[R2006]).



Source: Data compiled by AECOM in 2017

Exhibit 3.12-2 Noise Monitoring Locations Map

Existing Noise Sources

The primary noise source in the SOIA Area was vehicle traffic and miscellaneous sources within rural residential communities (e.g., people talking, dogs barking, and operation of landscaping equipment).

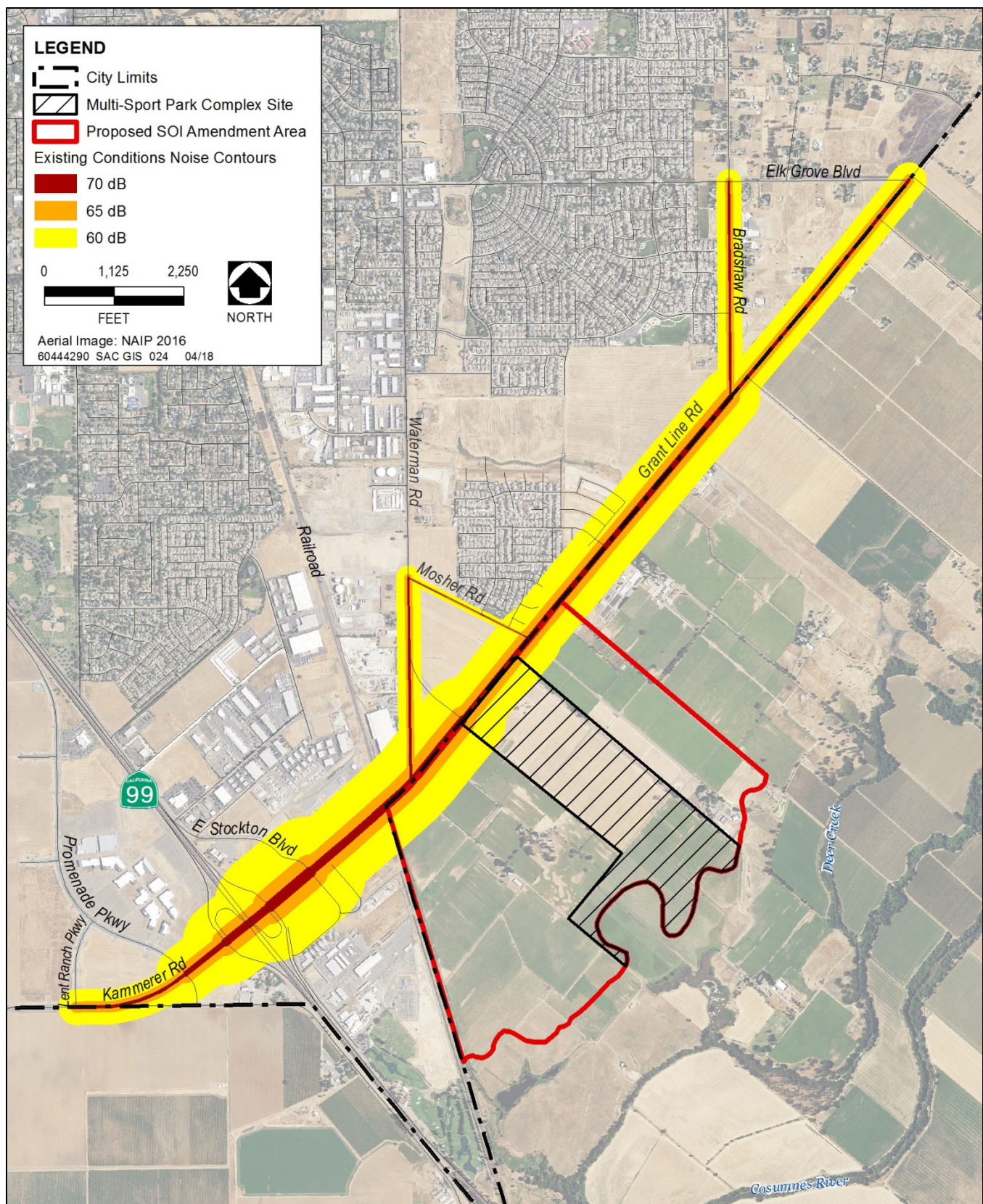
Roadways

Existing vehicle traffic noise levels in the SOIA Area were modeled using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data was used from the traffic study prepared for the Project (Fehr & Peers 2017).⁶

Table 3.12-5 summarizes the modeled traffic noise levels, provides noise levels at 100 feet from the centerline of roadways that could be affected by potential future development in the SOIA Area, and lists distances from the roadway centerlines to the 60 dB, 65 dB, and 70 dB L_{dn} traffic noise contours. Exhibit 3.12-3a and Exhibit 3.12-3b show the traffic noise contours for roadways within the vicinity of the SOIA Area. These traffic noise modeling results are based on existing average daily traffic (ADT) volumes. As shown in Table 3.12-5, the location of the 60 dB L_{dn} contour ranges from 7 to 900 feet from the centerline of the modeled surface street roadways, and 420 to 5,167 feet from the centerline of the modeled freeway segments. The extent to which noise sensitive uses are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise.

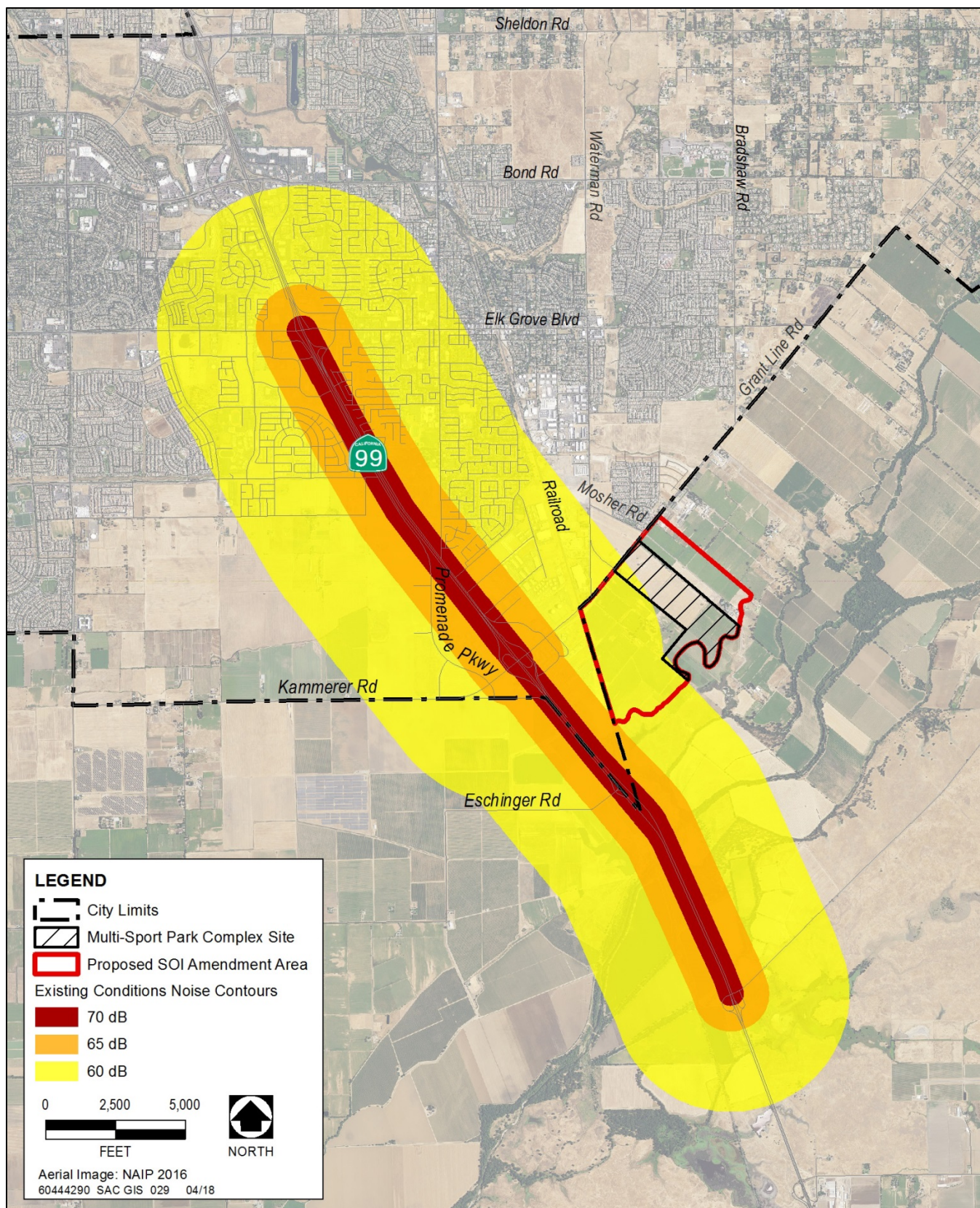
Roadway	Segment		L_{dn} (dB) 100 Feet	Distance (feet) from Roadway Centerline to L_{dn} Contour		
	From	To		70 dB	65 dB	60 dB
Bradshaw Road	Elk Grove Boulevard	Grant Line Road	63	20	64	201
Grant Line Road	SR 99 SB Ramps	SR 99 NB Ramps	68	69	218	689
Grant Line Road	SR 99 NB Ramps	East Stockton Boulevard	70	90	285	900
Grant Line Road	East Stockton Boulevard	Waterman Road	68	69	219	693
Grant Line Road	Waterman Road	Mosher Road	67	52	165	523
Grant Line Road	Mosher Road	Bradshaw Road	67	48	153	482
Grant Line Road	Bradshaw Road	Elk Grove Boulevard	64	28	89	282
Kammerer Road	Lent Ranch Parkway	Promenade Parkway	65	29	91	286
Kammerer Road	Promenade Parkway	SR 99 SB Ramps	67	48	152	480
Mosher Road	Waterman Road	Grant Line Road	58	7	22	69
Waterman Road	Mosher Road	Grant Line Road	63	20	62	196
SR 99	Dillard Road	Grant Line Road	77	517	1,634	5,167
SR 99	Grant Line Road	Elk Grove Boulevard	76	420	1,327	4,197
Notes: dB = A-weighted decibels; L_{dn} = day-night average noise level, SB = Southbound, NB=Northbound.						
Source: Data modeled by AECOM in 2017						

⁶ The FHWA model is based on CALVENO reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors.



Source: Data compiled by AECOM in 2017

Exhibit 3.12-3a Existing Roadway Noise Contours



Source: Data compiled by AECOM in 2017

Exhibit 3.12-3b Existing Highway Noise Contours

Railroad Noise

Railroad operation in the vicinity of the SOIA Area is another source of existing noise. Daily operations and distances to railroad noise contours were obtained from the Table 3 of the Sacramento County Noise Element Background Report. As summarized in Table 3.12-6, depending on the number of daily operations, railroad noise would range from 74.6 dBA L_{dn} to 77.6 dBA L_{dn} without horn, and 79.6 dBA L_{dn} to 82.6 dBA L_{dn} with horn, at 50 feet from the railroad tracks.

Table 3.12-6 Estimated Daily Operations and Distances to Railroad Noise Contours (feet)				
Daily Operation	L_{dn} @ 50 feet		Distance to 65 dBA L_{dn} (feet)	
	Without Horn	With Horn	Without Horn	With Horn
20	74.6	79.6	217	467
25	75.5	80.5	251	542
30	76.3	81.3	284	613
35	77.0	82.0	315	679
40	77.6	82.6	344	742
Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level.				
Source: Sacramento County 2011a; data processed by AECOM in 2017				

Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where quiet is an essential element of their intended purpose. This typically would include residences, offices, schools, hospitals, nursing homes, retirement residences, places of worship, libraries, and sometimes parks, historic sites, cemeteries, and other places where low interior noise levels are essential.

There are noise-sensitive receptors within and in the vicinity of the SOIA Area, including a residential area to the northeast and three homes on large parcels within the SOIA Area, but for the most part, surrounding uses are not noise sensitive.

The proposed SOIA Area could also include noise-sensitive uses. A “mixed use” designation is proposed that assumes the potential for a wide range of land uses after further study. Land use planning would occur after further study, zoning, and design review to ensure that the proposed uses are compatible with the multi-sport park complex and other surrounding lands. Future applications for development in this area may require additional environmental analysis.

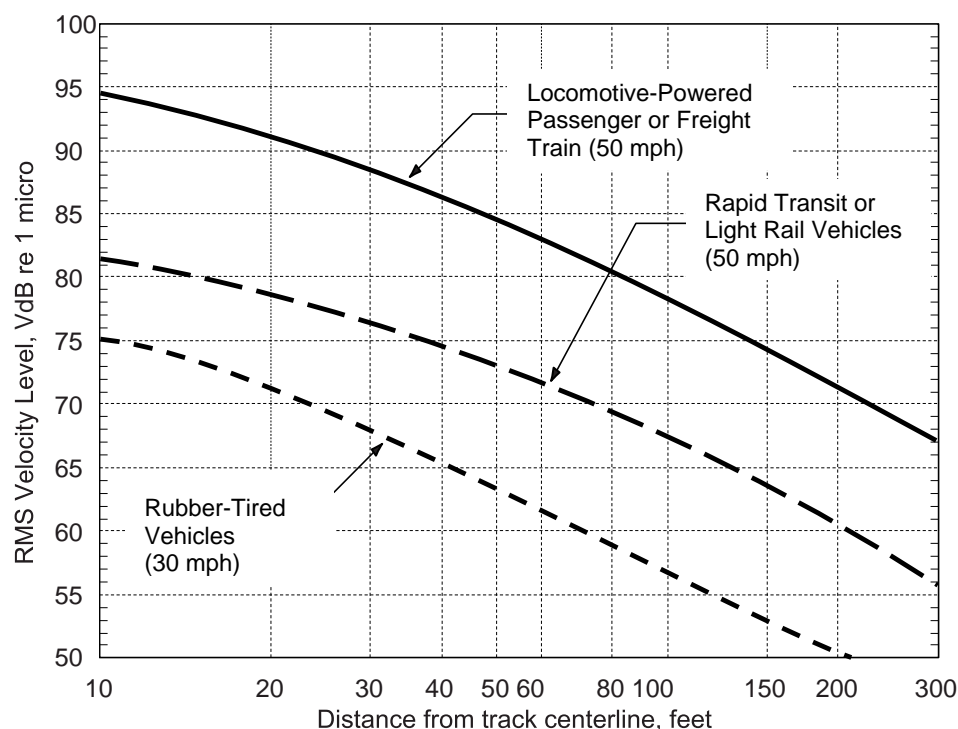
The Sacramento Area Sewer District, when completing master planning analysis for new growth areas with undefined development plans, uses a standard of six equivalent units per gross acre. Applying this assumption to the 118± acres that make up the Mosher property yields a potential capacity of 708 equivalent units. This land use assumption does not mean that there will be 708 single-family units, only that the relative service demands would be equivalent to approximately 708 dwelling units. However, it is possible that there could be residential development in this area.

Existing Vibration

The existing vibration environment, like the noise environment, is dominated by transportation-related vibration. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type,

weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the road right-of-way.

The primary source of existing groundborne vibration in the vicinity of the SOIA Area would be the UPPR to the west. Based on Federal Transit Administration (FTA) data, heavy rail vehicles operating at 50 miles per hour (mph) would generate groundborne vibration of approximately 0.07 PPV (85 vibration decibels [VdB]) at a distance of 50 feet (approximately 0.01 PPV [68 VdB] at a distance of 250 feet) from the track's centerline (FTA 2006: Figure 10-11, reproduced below as Exhibit 3.13-4).



Source: FTA 2006, adapted by AECOM in 2017

Exhibit 3.13-4 Ground-Surface Vibration Curves

3.12.2 REGULATORY FRAMEWORK

Various private and public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and social effects associated with noise and vibration.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Although not directly applicable to the proposed SOIA or multi-sport park complex project, the research that supported the development of federal community noise standards is broadly applicable in understanding human response to different noise levels and is summarized below for the reader's edification.

United States Environmental Protection Agency Noise Control Act

The Federal Noise Control Act of 1972 (Public Law 92-574) established a requirement that all federal agencies administer their programs to promote an environment free of noise that would jeopardize public health or

welfare.⁷ Although the EPA was given a major role in disseminating information to the public and coordinating federal agencies, each federal agency retains authority to adopt noise regulations pertaining to agency programs.⁸

In 1974, in response to the requirements of the federal Noise Control Act, the EPA identified indoor and outdoor noise level limits to protect public health and welfare (communication disruption, sleep disturbance, and hearing damage). Outdoor and indoor noise exposure limits of 55 dB L_{dn} and 45 dB L_{dn} , respectively, are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and healthcare areas. The sound-level criterion identified to protect against hearing damage in commercial and industrial areas is 70 dB 24-hour L_{eq} (both outdoors and indoors).

The United States Environmental Protection Agency's (EPA's) Office of Noise Abatement and Control was established to coordinate federal noise control activities. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments.

United States Department of Housing and Urban Development Noise Abatement and Control

The United States Department of Housing and Urban Development (HUD) has established guidelines for evaluating noise impacts on residential projects seeking financial support under various grant programs (HUD 2009), as summarized below:

- ▶ **Acceptable \leq 65 dB.** Sites are generally considered acceptable for residential use if they are exposed to outdoor noise level of 65 dB L_{dn} or less.
- ▶ **Normally Unacceptable 65-75 dB.** Sites are considered "normally unacceptable" if they are exposed to outdoor noise levels of 65-75 dB L_{dn} .
- ▶ **Unacceptable $>$ 75 dB.** Sites are considered "unacceptable" if they are exposed to outdoor noise levels above 75 dB L_{dn} .

The HUD goal for the interior noise levels in residences is 45 dB L_{dn} or less.

Federal Aviation Administration Airport Noise Compatibility Planning

14 CFR Part 150, "Airport Noise Compatibility Planning" prescribes the procedures, standards, and methodology to be applied to airport noise compatibility planning activities. Noise levels below 65 dB L_{dn} are normally considered to be acceptable for noise-sensitive land uses.

⁷ The United States Environmental Protection Agency (EPA) was given the responsibility for providing information to the public regarding identifiable effects of noise on public health and welfare, publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety, coordinating federal research and activities related to noise control, and establishing federal noise emission standards for selected products distributed in interstate commerce. The Noise Control Act also directed that all federal agencies comply with applicable federal, State, interstate, and local noise control regulations.

⁸ The EPA can, however, require other federal agencies to justify their noise regulations in terms of the Noise Control Act policy requirements.

Federal Highway Administration Procedures for Abatement of Highway Traffic Noise and Construction Noise Regulations

FHWA regulations (23 CFR 772) specify procedures for evaluating noise impacts associated with federally funded highway projects and determining whether these impacts are sufficient to justify funding noise abatement. The FHWA noise abatement criteria are based on worst hourly L_{eq} sound levels, not 24-hour average values (e.g., L_{dn} or CNEL). The worst-hour L_{eq} criteria for residential, educational, and healthcare facilities are 67 dB outdoors and 52 dB indoors. The worst-hour L_{eq} criterion for commercial and industrial areas is 72 dB (outdoors).

Federal Transit Administration Transit Noise and Vibration Impact Assessment

Federal Transit Administration (FTA) procedures for the evaluation of noise from transit projects are specified in the document entitled, “Transit Noise and Vibration Impact Assessment” (FTA 2006). The FTA Noise Impact Criteria address the following categories:

- ▶ **Category 1:** Buildings or parks, where quiet is an essential element of their purpose.
- ▶ **Category 2:** Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- ▶ **Category 3:** Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches, and active parks.

The L_{dn} noise level descriptor is used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum hourly L_{eq} during the facility’s operating period is used. Noise impacts are identified based on absolute predicted noise levels and increases in noise associated with the subject project.

Federal Railroad Administration

The Federal Railroad Administration (FRA) noise standards are the same as those specified by the FTA.

United States Department of Transportation and United States EPA Vibration Guidelines

To address the human response to groundborne vibration, the FTA of the United States Department of Transportation has set forth guidelines for maximum-acceptable-vibration criteria for different types of land uses. These include 65 VdB referenced to 1 $\mu\text{in/sec}$ and based on RMS velocity amplitude for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people normally sleep; and 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2006).

Standards have also been established to address the potential for groundborne vibration to cause structural damage to buildings. These standards were developed by the Committee of Hearing, Bio Acoustics, and Bio Mechanics (CHABA) at the request of the United States Environmental Protection Agency (FTA 2006). For fragile structures, CHABA recommends a maximum limit of 0.25 in/sec PPV (FTA 2006).

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

In 1971, the State required cities and counties to include noise elements in their general plans (Government Code Section 65302 et seq.). The State of California General Plan Guidelines (OPR 2017) identify guidelines for the noise elements of local general plans, including a sound level/land-use compatibility chart. The noise element guidelines identify the “normally acceptable” range of noise exposure for low-density residential uses as less than 60 dB L_{dn} , and the “conditionally acceptable” range as 55-70 dB L_{dn} . The “normally acceptable” range for high-density residential uses is identified as below 65 dB L_{dn} , and the “conditionally acceptable” range is identified as 60-70 dB L_{dn} . For educational and medical facilities, levels below 70 dB L_{dn} are considered “normally acceptable,” and levels of 60-70 dB L_{dn} are considered “conditionally acceptable.” For office and commercial land uses, levels below 70 dB L_{dn} are considered “normally acceptable,” and levels of 67.5–77.5 dB L_{dn} are considered “conditionally acceptable.” Overlapping noise level ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations. The State’s guidance for land use / noise compatibility is summarized in Table 3.12-7.

Table 3.12-7 Land Use Noise Compatibility Guidelines				
Land Use Category	Community Noise Exposure (CNEL/ L_{dn} , dBA)			
	Normally Acceptable ¹	Conditionally Acceptable ²	Normally Unacceptable ³	Clearly Unacceptable ⁴
Residential-Low Density Single Family, Duplex, Mobile Home	<60	55–70	70–75	75+
Residential-Multiple Family	<65	60–70	70–75	75+
Transient Lodging, Motel, Hotel	<65	60–70	70–80	80+
School, Library, Church, Hospital, Nursing Home	<70	60–70	70–80	80+
Auditorium, Concert Hall, Amphitheater		<70	65+	
Sports Arenas, Outdoor Spectator Sports		<75	70+	
Playground, Neighborhood Park	<70		67.5–75	72.5+
Golf Courses, Stable, Water Recreation, Cemetery	<75		70–80	80+
Office Building, Business Commercial and Professional	<70	67.5–77.5	75+	
Industrial, Manufacturing, Utilities, Agriculture	<75	70–80	75+	
Notes: CNEL = Community Noise Equivalent Level; dBA = A-weighted decibels; L_{dn} = day-night average noise level. ¹ Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. ² New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. ³ New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded. ⁴ New construction or development should generally not be undertaken. Source: OPR 2017:244-254				

In 1984, State noise element provisions were revised to “recognize” guidelines prepared by the Office of Noise Control of the California Department of Health Services and to analyze and quantify, “to the extent practicable, as determined by the legislative body,” noise from the following sources: highways and freeways; primary arterials

and major local streets; passenger and freight on-line railroad operations and ground rapid transit systems; commercial, general aviation, heliport, helistop and military airport operations, aircraft overflights, jet engine test stands, and other ground facilities and maintenance functions related to airport operation; local industrial plants, including, but not limited to, railroad classification yards; and other ground stationary noise sources identified by local agencies as contributing to the community noise environment. As noted in the General Plan Guidelines, the Office of Planning and Research notes that the Department of Health Services Office of Noise Control no longer exists, and the guidelines have been incorporated into the General Plan Guidelines for noise elements (OPR 2017).

Also, a part of the draft General Plan Guidelines is a discussion regarding the balance between environmental noise and other planning objectives, including recognition that developed infill locations may experience higher levels of noise but are often desirable places to live and work for the very reason that they are active. Moreover, there are design strategies that can reduce adverse exposure to noise even in areas with relatively higher ambient noise levels (OPR 2017, page 131).

California Department of Transportation

For the protection of fragile, historic, and residential structures, Caltrans recommends for highway construction analysis a threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2013). These standards are more stringent than the recommended guidelines established by the Federal Transit Authority (FTA), presented above.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

City of Elk Grove General Plan

The City of Elk Grove General Plan Noise Element contains policies and actions to protect citizens from exposure to excessive noise. The Noise Element establishes standards for various land use categories with respect to transportation and non-transportation noise sources. According to the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Non-transportation noise sources may include industrial operations; outdoor recreation facilities; heating, ventilating, and air conditioning (HVAC) units; loading docks; and others. The standards provide the basis for decisions on determining noise mitigation requirements.

Noise-related policies and actions are highlighted below.

- ▶ **Policy NO-1:** New development of the uses listed in Table NO-C (Table 3.12-8 of this document) shall conform with the noise levels contained in that 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 NO-2:** Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table NO-C (Table 3.12-10 of this document) or the performance standards of Table NO-A (Table 3.12-8 of this document), an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Table 3.12-8 Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Noise Sources [Table NO-A of the Noise Element]		
Part 1: Performance Standards for Typical Stationary Noise Sources		
Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq} , dB	55	45
The standards above will apply generally to noise sources that are not tonal, impulsive, or repetitive in nature. Typical noise sources in this category would include HVAC systems, cooling towers, fans, blowers, etc.		
Part 2: Performance Standards for Stationary Noise Sources Which Are Tonal, Impulsive, Repetitive, or Consist Primarily of Speech or Music		
Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq} , dB	50	40
The standards in Part 2 apply to noises which are tonal in nature, impulsive or repetitive, or which consist primarily of speech or music (e.g., humming sounds, outdoor speaker systems, etc.). Typical noise sources in this category include: pile drivers, drive-through speaker boxes, punch presses, steam valves, and transformer stations. These noise level standards in Parts 1 and 2 above do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels.		

Table 3.12-9 (Table NO-B of the Noise Element) Requirements for Acoustical Analysis
<p>All acoustical analysis prepared pursuant to this Noise Element shall:</p> <ul style="list-style-type: none"> A. Be the financial responsibility of the applicant. B. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics. C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources. D. Estimate existing and projected cumulative (20 years) noise levels in terms of L_{dn} or CNEL and/or the standards of Table NO-A, and compare those levels to the adopted policies of the Noise Element. E. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses. F. In cases where a sound wall is proposed, the potential impacts associated with noise reflecting off the wall and toward other properties or sensitive uses shall be evaluated. G. Estimate noise exposure after the prescribed mitigation measures have been implemented. H. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

Table 3.12-10 Maximum Allowable Noise Exposure, Transportation Noise Sources [Table NO-C of Noise Element]

Land Use	Outdoor Activity Areas ¹ L _{dn} /CNEL, dB	Interior Spaces	
		L _{dn} /CNEL, dB	L _{eq} , dB ²
Residential	60 ³	45	--
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 such as roadways)	60 ³	40 ⁵	--
Transient Lodging	60 ⁴	45	--
Hospitals, Nursing Homes	60 ³	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 ³	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

Notes;

- ¹ Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
- ² As determined for a typical worst-case hour during periods of use.
- ³ Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
- ⁴ In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
- ⁵ The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

- **Policy NO-3:** Noise created by new proposed nontransportation noise sources shall be mitigated so as not to exceed the noise level standards of Table NO-A (Table 3.12-8 of this document) 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. to 7 p.m. whenever such activity is adjacent to residential uses.
 - **NO-3- Action 2:** Consider limiting the hours of operation for loading docks, trash compactors, and other noise-producing uses in commercial areas which are 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.
- **Policy NO-4:** Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table NO-A (Table 3.12-8 of this document) 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. The requirements for the content of an acoustical analysis are shown in Table NO-B (Table 3.12-9 of this document).

- ▶ **Policy NO-5:** Noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) shall be mitigated so as not to exceed the levels specified in Table NO-C (Table 3.12-10 of this document) at outdoor activity areas or interior spaces of existing noise-sensitive land uses. Please see Policy NO-6 for discussion of improvements to existing roadways.
- ▶ **Policy NO-6:** It is anticipated that roadway improvement projects (such as widening of existing roadways) will be needed to accommodate build-out of the General Plan. Therefore, existing noise-sensitive uses may be exposed to increased noise levels due to roadway improvement projects as a result of increased roadway capacity, increases in travel speeds, etc. It may not be practical to reduce increased traffic noise levels consistent with those contained in Table NO-C (Table 3.12-10 of this document). Therefore, the following criteria shall be used as a test of significance for roadway improvement projects which are not directly tied to a development project:
 - Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in noise levels due to roadway improvement projects will be considered significant; and
 - Where existing traffic 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 due to roadway improvement projects will be considered significant; and
 - Where existing traffic 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 due to roadway improvement projects will be considered significant.
- ▶ **Policy NO-7:** The City shall not require the installation of soundwalls in front yard areas to reduce noise to acceptable levels in residential areas which were originally constructed without soundwalls. The City shall emphasize other methods to reduce noise levels in these situations.
 - **NO-7-Action 1:** Consider adopting a citywide noise reduction program to reduce traffic and other noise levels citywide.
- ▶ **Policy NO-9:** Where noise mitigation measures are required to achieve the standards of Tables NO-A (Table 3.12-7 of this document) and NO-C (Table 3.12-10 of this document), 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.
- ▶ **Policy NO-9:** Where soundwalls or noise barriers are constructed, the City shall strongly encourage and may require the use of a combination of berms and walls to reduce the apparent height of the wall and produce a more aesthetically appealing streetscape.

The types of uses that may typically produce the noise sources addressed below in the Impact Analysis include, but are not limited to: industrial facilities, pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

City of Elk Grove Municipal Code

The City of Elk Grove has adopted a noise ordinance with performance standards and quantitative vibration guidelines. The Noise Control Ordinance is contained in Title 6 Health and Sanitation and vibration guidelines are contained in Title 23 Zoning Code of the City's Municipal Code. The Municipal Code contains performance standards for the purpose of preventing unnecessary, excessive and annoying sound levels from all sources and includes noise standards for non-transportation sources and railroad sources.

6.32.080 Exterior noise standards

- A. The following noise standards, unless otherwise specifically indicated in this chapter, shall apply to all properties within a designated noise area.

Noise Area	City Zoning Districts	Time Period	Exterior Noise Standard
I	Agricultural; Residential	7:00 a.m. – 10:00 p.m.	55 dBA
		10:00 p.m. – 7:00 a.m.	45 dBA

- B. It is unlawful for any person at any location within the City to create any noise which causes the noise levels on an affected property, when measured in the designated noise area, to exceed for the duration of time set forth following the specified exterior noise standards in any one (1) hour by:

Cumulative Duration of the Intrusive Sound	Allowance Decibels
1. Cumulative period of 30 minutes per hour	0
2. Cumulative period of 15 minutes per hour	+5
3. Cumulative period of 5 minutes per hour	+10
4. Cumulative period of 1 minute per hour	+15
5. Level not to be exceeded for any time per hour	+20

- C. Each of the noise limits specified in subsection (B) of this section shall be reduced by five (5) dBA for impulsive or simple tone noises, or for noises consisting of speech or music.
- D. Boundary between Different Noise Areas. If the measurement location is on a boundary between two (2) different designated noise areas, the lower noise level limit applicable to the two (2) areas shall apply.
- E. If the ambient noise level exceeds that permitted by any of the first four (4) noise-limit categories specified in subsection (B) of this section, the allowable noise limit shall be increased in five (5) dBA increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth (5th) noise level category, the maximum ambient noise level shall be the noise limit for that category.

6.32.090 Interior noise standards

- A. In any apartment, condominium, townhouse, duplex or multiple dwelling unit it is unlawful for any person to create any noise from inside his unit that causes the noise level when measured in a neighboring unit during the periods 10:00 pm to 7:00 a.m. to exceed:

1. Forty-five (45) dBA for a cumulative period of more than five (5) minutes in any hour;
 2. Fifty (50) dBA for a cumulative period of more than one (1) minute in any hour;
 3. Fifty-five (55) dBA for any period of time.
- B. If the ambient noise level exceeds that permitted by any of the noise level categories specified in subsection (A) of this section, the allowable noise limit shall be increased in five (5) dBA increments in each category to encompass the ambient noise level.

6.32.1 00 Exemptions

The following activities shall be exempted from the provisions of this chapter:

- A. School bands, school athletic and school entertainment events;
- B. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the City;
- C. Activities conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school;
- D. Any mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work; the exemption does not include permanently installed emergency generators;
- E. Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities only occur between the hours of 7:00 a.m. and 7:00 p.m. when located adjacent to residential uses. Noise associated with these activities not located adjacent residential uses may occur between the hours of 6:00 a.m. and 8:00 p.m. However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner;
- F. Noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 6:00 a.m.;
- G. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile noise sources is necessary for pest control;
- H. Any activity, to the extent provisions of Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California preempt local control of noise regulations and land use regulations related to noise control of airports and their surrounding geographical areas, any noise source associated with the construction, development, manufacture, maintenance, testing or operation of any aircraft engine, or of any weapons system or subsystems which are owned, operated or under the jurisdiction of the United States, or any other activity to the extent regulation thereof has been preempted by State or Federal law or regulation;

- I. Any noise sources associated with the maintenance and operation of aircraft or airports which are owned or operated by the United States;
- J. Railroad Activities. The operation of locomotives, rail cars, and facilities by a railroad that is regulated by the State Public Utilities Commission;
- K. State or Federal Preexempted Activities. Any activity, to the extent the regulation of it has been preempted by State or Federal law;
- L. Public Health and Safety Activities. All transportation, flood control, and utility company maintenance and construction operation at any time on public rights-of-way, and those situations that may occur on private property deemed necessary to serve the best interest of the public and to protect the public's health and well-being, including debris and limb removal, removal of damaged poles and vehicles, removal of downed wires, repairing traffic signals, repair of water hydrants and mains, gas lines, oil lines, and sewers, restoring electrical service, street sweeping, unplugging sewers, vacuuming catch basins, etc. The regular testing of motorized equipment and pumps shall not be exempt;
- M. Solid Waste Collection. Noise sources associated with the authorized collection of solid waste (e.g., refuse and garbage);
- N. Maintenance of Residential Real Property. Noise sources associated with the minor maintenance of residential real property, provided the activities take place between the hours of 7:00 a.m. and 10:00 p.m.

6.32.110 Machinery, equipment, fans and air conditioning

It is unlawful for any person to operate any mechanical equipment, pump, fan, air conditioning apparatus, stationary pumps, stationary cooling towers, stationary compressors, similar mechanical devices, or any combination thereof in any manner so as to create any noise which would cause the maximum noise level to exceed a maximum limit of fifty-five (55) dBA at any point at least one (1' 0") foot inside the property line of the affected residential property and three (3' 0") feet to five (5' 0") feet above ground level.

6.32.140 Prohibited activities

The following acts shall be a violation of this chapter:

- A. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling or repair work daily between the hours of 7:00 p.m. and 7:00 a.m. when located adjacent to residential uses, or between the hours of 8:00 p.m. and 6:00 a.m. when not located adjacent to residential uses, so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities. However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

- B. Loading and Unloading Activities. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects on private property between the hours of 10:00 p.m. and 7:00 a.m. in a manner to cause a noise disturbance.
- C. Sweepers and Associated Equipment. Operating or allowing the operation of sweepers or associated sweeping equipment (e.g., blowers) on private property between the hours of 10:00 p.m. and 7:00 a.m. in, or adjacent to, a residential zoning district.
- D. Places of Public Entertainment. Operating or allowing to be operated any loudspeaker, musical instrument, or other source of sound in any place of public entertainment that exceeds ninety-five (95) dBA at any point normally occupied by a customer.
- E. Stationary Nonemergency Signaling Devices. Sounding or allowing the sounding of an electronically amplified signal from a stationary bell, chime, siren, whistle, or similar devices intended for nonemergency purposes, from a private property for more than ten (10) consecutive seconds in any hourly period.
- F. Public Nuisance Noise. Public nuisance noise is noise that is generally not associated with a particular land use but creates a nuisance situation by reason of its being disturbing, excessive, or offensive. Examples would include excessively loud noise from alarms, animals and fowl in nonagricultural districts, horns, musical instruments, stereos, music players, televisions, vehicle or motorboat repairs and testing, and similar noise.

23.60.060 Vibration

Uses that generate vibrations that may be considered a public nuisance or hazard on any adjacent property shall be cushioned or isolated to prevent generation of vibrations. Uses shall be operated in compliance with the following provisions:

1. Uses shall not generate ground vibration that is perceptible without instruments by the average person at any point along or beyond the property line of the parcel containing the activities;
2. Uses, activities, and processes shall not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or which endangers the comfort, repose, health or peace of residents whose property abuts the property line of the parcel;
3. Uses shall not generate ground vibration that interferes with the operations of equipment and facilities of adjoining parcels; and
4. Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this Section.

County of Sacramento General Plan

The County of Sacramento General Plan Noise Element contains policies related to land use and noise compatibility. If the SOIA is approved, if annexation is proposed and approved in the future, and if development is proposed and approved in the future, this would occur under the jurisdiction of Elk Grove. However, the SOIA Area is currently in unincorporated Sacramento County, and County policies are presented for context.

Policies:

- **NO-1.** The noise level standards for noise-sensitive areas of new uses affected by traffic or railroad noise sources in Sacramento County are shown by Table 3.12-11. Where the noise level standards of Table 3.12-11 are predicted to be exceeded at new uses proposed within Sacramento County which are affected by traffic or railroad noise, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 3.12-11 standards.

Table 3.12-11 Noise Standards for New Uses Affected by Traffic and Railroad Noise Sacramento County Noise Element [Table 1 of the Sacramento County General Plan]			
New Land Use	Sensitive ¹ Outdoor Area–L _{dn}	Sensitive ² Interior Area–L _{dn}	Notes
All Residential	65	45	5
Transient Lodging	65	45	3,5
Hospitals & Nursing Homes	65	45	3, 4, 5
Theaters & Auditoriums	---	35	3
Churches, Meeting Halls Schools, Libraries, etc.	65	40	3
	65	40	3
Office Buildings	65	45	3
Commercial Buildings	---	50	3
Playgrounds, Parks, etc.	70	---	
Industry	65	50	3
Notes: ¹ Sensitive areas are defined in acoustic terminology section. ² Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions. ³ Where there are no sensitive exterior spaces proposed for these uses, only the interior noise level standard shall apply. ⁴ Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients. ⁵ If this use is affected by railroad noise, a maximum (L _{max}) noise level standard of 70 dB shall be applied to all sleeping rooms to reduce the potential for sleep disturbance during nighttime train passages. Source: Sacramento County 2011b: Table1.			

- **NO-5.** The interior and exterior noise level standards for noise-sensitive areas of new uses affected by existing non-transportation noise sources in Sacramento County are shown by Table 3.12-12. Where the noise level standards of Table 3.12-12 are predicted to be exceeded at a proposed noise-sensitive area due to existing non-transportation noise sources, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 3.12-12 standards within sensitive areas.
- **NO-6.** Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not exceed the interior and exterior noise level standards of Table 3.12-12 at existing noise-sensitive areas in the project vicinity.
- **NO-7.** The “last use there” shall be responsible for noise mitigation. However, if a noise-generating use is proposed adjacent to lands zoned for uses which may have sensitivity to noise, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the Table 3.12-12 standards at the property line of the generating use in anticipation of the future neighboring development.

Table 3.12-12 Non-Transportation Noise Standards Sacramento County Noise Element Median (L50) / Maximum (Lmax)¹ [Table 2 of the Sacramento County General Plan]

Receiving Land Use	Outdoor Area ²		Interior ³	
	Daytime	Nighttime	Day & Night	Notes
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	---	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

Notes:

- ¹ The Table 2 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table 3.10-11, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
 - ² Sensitive areas are defined acoustic terminology section.
 - ³ Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
 - ⁴ Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
 - ⁵ Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
 - ⁶ The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.
 - ⁷ Where median (L₅₀) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.
- Source: Sacramento County 2011b: Table 2.

Table 3.12-13 Requirements for Acoustical Analyses Prepared in Sacramento County [Table 3 of the Sacramento County General Plan]

An acoustical analysis prepared pursuant to the Noise Element shall:

- A. Be the responsibility of the applicant.
- B. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
- C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
- D. Estimate projected future (20 year) noise levels in terms of the Standards of Tables 1 and 2, and compare those levels to the adopted policies of the Noise Element.
- E. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
- F. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

- ▶ **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.
- ▶ **NO-9.** For capacity enhancing roadway or rail projects, or the construction of new roadways or railways, a noise analysis shall be prepared in accordance with the Table 3.12-14 requirements. If pre-project traffic noise levels already exceed the noise standards of Table 1 and the increase is significant as defined below, noise mitigation measures should be considered to reduce traffic and/or rail noise levels to a state of compliance with the Table 3.12-11 standards. A significant increase is defined as follows:

Pre-Project Noise Environment (L _{dn})	Significant Increase
Less than 60 dB	5+ dB
60 – 65 dB	3+ dB
Greater than 65 dB	1.5+ dB

- **NO-10.** For interim capacity enhancing roadway or rail projects, or the construction of new interim roadways or railways, it may not be practical or feasible to provide mitigation if the ultimate roadway or railway design would render the interim improvements ineffective or obsolete. An example would be a noise barrier constructed for an interim project which would need to be removed to accommodate the ultimate project. The following factors should be considered in determining whether or not noise mitigation will be implemented for interim projects, but in general, noise mitigation for interim projects would not be provided:

Table 3.12-14 Excerpts from the County of Sacramento Noise Control Ordinance			
Noise Area	County Zoning Districts	Time Period	Exterior Noise Standard
1	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	7 a.m.–10 p.m.	55 dB
		10 p.m.–7 a.m.	50 dB
a Noise standards, unless otherwise specifically indicated in this chapter, shall apply to all properties within a designated noise area.			
b It is unlawful for any person at any location within the County to create any noise which causes the noise levels on an affected property, when measured in the designated noise area, to exceed for the duration of time set forth following, the specified exterior noise standards in any one hour by:			
Cumulative Duration of the Intrusive Sound		Allowance Decibels (dB)	
1. Cumulative period of 30 minutes per hour		0	
2. Cumulative period of 15 minutes per hour		+ 5	
3. Cumulative period of 5 minutes per hour		+10	
4. Cumulative period of 1 minute per hour		+15	
5. Level not to be exceeded for any time per hour		+20	
c. Each of the noise limits specified in subdivision (b) of this section shall be reduced by five dB for impulsive or simple tone noises, or for noises consisting of speech or music.			
d. If the ambient noise level exceeds that permitted by any of the first four noise-limit categories specified in subdivision (b), the allowable noise limit shall be increased in five dB increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.			
Notes: dB = A-weighted decibels			
Source: County of Sacramento Code, Noise Control 1976			

- a) The severity of the impact
 - b) The cost and effectiveness of the mitigation.
 - c) The number of properties which would benefit from the mitigation.
 - d) The foreseeable duration between interim and ultimate improvements.
 - e) Aesthetic, safety and engineering considerations.
- ▶ **NO-11.** If noise-reducing pavement is to be utilized in conjunction with a roadway improvement project, of if such paving existing adjacent to a proposed new noise-sensitive land use, the acoustical benefits of such pavement shall be included in the noise analysis prepared for the project.
 - ▶ **NO-12.** All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with Table 3.12-14.
 - ▶ **NO-13.** Where noise mitigation measures are required to satisfy the noise level standards of this 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.
 - ▶ **NO-14.** Noise analyses prepared for multi-family residential projects, town homes, mixed-use, condominiums, or other residential projects where floor ceiling assemblies or party-walls shall be common to different owners/occupants, shall be consistent with the State of California Noise Insulation standards.
 - ▶ **NO-15.** The County shall have the flexibility to consider the application of 5 dB less restrictive exterior noise standards than those prescribed in Tables 3.12-11 and 3.12-12 in cases where it is impractical or infeasible to reduce exterior noise levels within infill projects to a state of compliance with the Tables 3.12-11 and 3.12-12 standards. In such cases, the rationale for such consideration shall be clearly presented and disclosure statements and noise easements should be included as conditions of project approval. The interior noise level standards of Tables 3.12-11 and 3.12-12 would still apply.
 - ▶ **NO-16.** The following sources of noise shall be exempt from the provisions of this Noise Element:
 - a) Emergency warning devices and equipment operated in conjunction with emergency situations, such as sirens and generators which are activated during power outages. The routine testing of such warning devices and equipment shall also be exempt provided such testing occurs during daytime hours.
 - b) Activities at schools, parks or playgrounds, provided such activities occur during daytime hours.
 - c) Activities associated with events for which a permit has been obtained from the County.

Caretaker residences are a compatible use within all CNEL ranges, provided that they are ancillary to the primary use of a property, intended for the purpose of property protection or maintenance, and subject to the condition that all residential units be designed to limit intruding noise such that interior levels do not exceed 45 CNEL, with windows closed, in any habitable room.

Sacramento County Noise Control Ordinance

The Sacramento County Noise Control Ordinance contains performance standards for the purpose of preventing unnecessary, excessive and offensive noise levels at sensitive receptors within the county. Table 3.12-14 includes excerpts from the Noise Control Ordinance.

Exemptions

Section 6.68.090 of the County of Sacramento Code establishes conditions that are considered exempt from the associated provisions, as described below:

- a) School bands, school athletic and school entertainment events;
- b) Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the County;
- c) Activities conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school;
- d) Any mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work;
- e) Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8 p.m. and 6 a.m. on weekdays and Friday commencing at 8 p.m. through and including 7 a.m. on Saturday; Saturdays commencing at 8 p.m. through and including 7 a.m. on the next following Sunday and on each Sunday after the hour of 8 p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner;
- f) Noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8 p.m. and 6 a.m.;
- g) All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile noise sources is necessary for pest control;
- h) Noise sources associated with maintenance of residential area property, provided said activities take place between the hours of 6 a.m. and 8 p.m. on any day except Saturday or Sunday, or between the hours of 7 a.m. and 8 p.m. on Saturday or Sunday;
- i) Any activity, to the extent provisions of Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California preempt local control of noise regulations and land use regulations related to noise control of airports and their surrounding geographical areas, any noise source associated with the construction, development, manufacture, maintenance, testing or operation of any aircraft engine, or of any weapons system or subsystems which are owned, operated or under the jurisdiction of the United States, or any other activity to the extent regulation thereof has been preempted by state or Federal law or regulation;

- j) Any noise sources associated with the maintenance and operation of aircraft or airports which are owned or operated by the United States.

3.12.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Data included in Chapter 2 of this EIR, “Project Description,” and obtained during on-site noise monitoring was used to determine potential locations of sensitive receptors and potential noise- and vibration-generating land uses in the SOIA Area. Noise-sensitive land uses and major noise sources near the SOIA Area were identified based on existing documentation (e.g., equipment noise levels and attenuation rates) and site reconnaissance data.

As discussed in Chapter 2, “Project Description”, the EIR provides a project-level evaluation of the multi-sport park complex project and program-level review for the balance of lands in the SOIA Area that would be developed in the future and off-site improvements. The EIR identifies feasible mitigation measures, if available, to reduce potentially significant impacts.

The multi-sport park complex project is assumed to include tournament fields, practice fields, and a stadium. The City of Elk Grove plans to construct the proposed sports fields in phases starting with tournament fields and parking, including gravel overflow parking areas to the northwest. During later phases, additional fields would be built and the gravel overflow parking lot would be paved.

To assess the impacts of potential short-term construction noise on future sensitive receptors, the sensitive receptors and their relative exposure to the impacts were identified. Construction noise was predicted by using the Federal Transit Noise and Vibration Impact Assessment methodology (FTA 2006: 12-1 – 12-15). The emission noise levels referenced and the usage factors were based on the Federal Highway Administration Roadway Construction Noise Model. The noise levels of the specific construction equipment that would be used and the resulting noise levels where sensitive receptors are located were calculated.

Project noise levels from traffic and planned uses were estimated, accounting for distance, and were compared with existing ambient noise levels and applicable noise standards and local noise ordinances. Traffic noise modeling was conducted based on average daily traffic volumes obtained from the Traffic Impact Study (Fehr & Peers, 2017) for the SOIA Area, and the roadways in the vicinity. This is discussed in more detail in Section 3.14, “Transportation.” The FHWA Highway Traffic Noise Prediction Model (FHWA RD 77-108) was used to calculate traffic noise levels along affected roadways, based on the trip distribution estimates as discussed in Section 3.14, “Transportation.” The Project’s contribution to the existing traffic noise levels along area roadways was determined by comparing the predicted noise levels at a reference distance of 100 feet from the roadway centerline for the baseline and cumulative conditions with and without Project-generated traffic.

Potential noise impacts from long-term (operation-related) sources include future sporting events and commercial and industrial uses and were assessed based on existing documentation (e.g., equipment noise levels) and site reconnaissance data. This analysis also included an evaluation of noise-generating uses that could affect noise-sensitive receptors near the SOIA Area.

To assess the land use compatibility of the proposed Project with on-site noise levels, predicted traffic noise contours were used to determine if development of possible future land uses in the SOIA Area would exceed the applicable noise criteria.

Groundborne vibration impacts were qualitatively assessed based on existing documentation (e.g., vibration levels produced by specific construction equipment operations) and the distance of sensitive receptors from the given source.

This EIR considers the impacts associated with possible future development within the SOIA Area, including the development of both noise-sensitive and noise-generating land uses. Noise impacts were identified for new noise-sensitive developments located within areas affected by substantial existing or future noise sources (e.g., automobile or truck traffic, railroad lines, industrial uses, sport facilities). Noise impacts were also identified for noise-producing projects proposed near existing or proposed noise-sensitive areas. Finally, noise impacts were evaluated by comparing traffic noise generation associated with future development relative to existing conditions.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, a noise impact is considered significant if implementation of the proposed Project under consideration 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

- ▶ **Excessive Noise from an Airport**—Future development would not expose people to excessive noise levels from an airport or private airstrip. Because the SOIA Area would not be located in an area exposed to excessive aircraft-generated noise levels (e.g., not within the 60 dB L_{dn} /CNEL contour of any airport), there would be no impact related to aircraft noise, and therefore this issue is not discussed further in this EIR.

IMPACT ANALYSIS

IMPACT 3.12-1 Temporary, short-term exposure of sensitive receptors to construction noise. *Short-term construction source noise levels could exceed the applicable City standards at nearby noise-sensitive receptors. In addition, if construction activities were to occur during more noise-sensitive hours, construction source noise levels could also result in annoyance and/or sleep disruption to occupants of existing and proposed noise-sensitive land uses and create a substantial temporary increase in ambient noise levels. This impact is considered **significant**.*

Future commercial and mixed-use developments would have frontage on Grant Line Road and the UPRR tracks. To the southwest with frontage on Grant Line Road would be designated in the City General Plan as Commercial/Office and Light Industrial and zoned General Commercial and Light Industrial. Lands adjacent to the Union Pacific Railroad tracks would be designated in the City General Plan as Light Industrial and Heavy Industrial and zoned Light Industrial and Heavy Industrial, respectively. The parcel to the northwest would be designated for mixed use, but would not be zoned as part of the proposed Project.

In the vicinity of the multi-sport park complex site is agricultural land, vacant land north of Grant Line Road, floodplains associated with Deer Creek and the Cosumnes River, and the Mosher homestead. Other than the home site on the Mosher property, there are no noise-sensitive receptors adjacent to the multi-sport park complex site.

Major noise generating construction activities could include site grading and excavation, installation of infrastructure, 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. The duration of construction period would differ and depends on the scale and extent of possible future proposed developments.

To assess noise levels associated with the various equipment types and operations, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations (e.g., generators, cranes). Thus, determining the location of stationary sources during specific phases, or the effective acoustical center of operations for mobile equipment during various phases of the construction process is necessary. Operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by extended periods of operation at lower power, idling, or powered-off conditions.

Without feasible noise control, large pieces of earth-moving equipment, such as graders, excavators, and dozers, generate maximum noise levels of 85 dBA to 90 dBA at a distance of 50 feet (refer to Table 3.12-15) (EPA 1971: 11). 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. This type of construction activity 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 SOIA Area 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.

Table 3.12-15 Typical Construction Equipment Noise Levels	
Equipment Item	Typical Maximum Noise Level (dB) at 50 Feet
Earthmoving	
Backhoes	80
Bulldozers	85
Front Loaders	80
Graders	85
Paver	85
Roller	85
Scrapers	85
Tractors	84
Slurry Trencher	82
Dump Truck	84
Pickup Truck	55
Materials Handling	
Concrete Mixer Truck	85
Concrete Pump Truck	82
Crane	85
Man Lift	85
Stationary Equipment	
Compressors	80
Generator	82
Pumps	77
Impact Equipment	
Compactor	80
Jack Hammers	85
Impact Pile Drivers (Peak Level)	95
Pneumatic Tools	85
Rock Drills	85
Other Equipment	
Concrete Saws	90
Vibrating Hopper	85
Welding Machine / Torch	73
Notes: dB = A-weighted decibels Noise levels are for equipment fitted with properly maintained and operational noise control devices, per manufacturer specifications. Source: Bolt, Beranek and Newman Inc. 1981, FTA 2006:12-6	

The City of Elk Grove and the County of Sacramento exempt daytime construction noise from applicable standards, as described above in Section 3.12.2. However, if construction activities occur during the more noise-sensitive evening and nighttime hours, due to the potential necessity of continuous activity for specific components to maintain structural integrity, 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. As the Project develops, new noise-sensitive (including training and meeting rooms, offices, and a medical center, and a trail for running and hiking, as well as possible residential development in the mixed-use area) receptors could be

located near construction source noise activity centers. Construction could expose on-site sensitive receptors to construction noise.

Also, as described in Chapter 2, “Project Description”, the off-site utility construction would be completed by area municipal service providers such as SCWA, SASD, SMUD, and PG&E. Construction of new pipelines in existing streets would require preparing the site, cordoning off the construction area, removing pavement, excavating a trench, installing the pipeline, backfilling the trench, and repaving as necessary. Pipeline installation would be a continuous operation, with crews installing the pipeline as other crews excavate and prepare the trench and still others backfill and repave the street. The trench would be excavated using conventional excavation equipment (e.g., backhoes); excavated material would be stockpiled adjacent to the trench and any extra material would be hauled away. Therefore, construction of on-site and off-site elements could expose future on-site and existing off-site sensitive receptors to equipment noise levels that exceed the applicable noise standards and/or result in a substantial increase in ambient noise levels.

Residences and businesses located adjacent to areas of construction activity could be exposed to future construction noise from on-site construction activity or from off-site construction activity associated with infrastructure improvements. These off-site infrastructure improvements could be for existing roadway improvements, utilities, or water connection, and are not known at this time. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours) the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time. This is considered a significant impact.

Mitigation Measures

Mitigation Measure 3.12-1: Implement Noise-Reducing Construction Practices (City of Elk Grove)

During construction of the multi-sport park complex project and off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate 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, 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. On-site and off-site impacts from temporary, short-term exposure of sensitive receptors to increased equipment noise would be reduced. With enforcement of the above mitigation measure and existing noise regulations, future development in the SOIA Area and off-site improvements would be designed to minimize potential impacts. For example, when installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dB (EPA 1971). This mitigation measure would reduce potential impacts. 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. However, it is not possible to demonstrate that this would avoid significant construction noise impacts in every case. There is no additional feasible mitigation. 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. *Future development in the SOIA Area, including the multi-sport park complex project would result in temporary increases in on- and off-site roadway traffic noise associated with Project construction. Construction-generated traffic could expose sensitive receptors to noise levels along on- and off-site roadways that would not exceed the applicable noise standards and/or result in a substantial increase in ambient noise levels. This impact is considered less than significant.*

Construction traffic noise related future development of commercial, industrial, and mixed-use areas and development of the multi-sport park complex project would result in an increase of traffic volumes due to the addition of construction-generated traffic associated with the on-site future development and off-site infrastructure

improvements. Personnel, materials, and equipment would be transported along the local roadway network, thus increasing traffic volumes of affected roadway segments.

Construction-generated traffic on the local roadway network was analyzed based on a maximum construction-related traffic volume of 500 vehicles daily and assuming nine hours of construction period per day (between the hours of 9 a.m. and 6 p.m.), the Project would result in 56 construction vehicles per hour. This is not an estimate of what would be required for development of the multi-sport park complex project or particular developments within the balance of the SOIA Area, but simply a conservative assumption used for the purposes of analysis.

To examine the effect of Project-generated traffic increases, traffic noise levels associated with the proposed Project were calculated for roadway segments in the vicinity of the SOIA Area using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise levels were modeled under existing conditions, with and without construction traffic. Vehicle speeds and truck volumes on local area roadways were determined based on field observations and vehicle counts conducted. Additional input data included day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Project construction-related traffic increases accounted for a 0 to 1 dBA increase in short-term traffic noise levels.

Therefore, implementation of the proposed SOIA, including the multi-sport park complex project would not result in a substantial temporary or periodic increase in ambient noise levels in the vicinity of the SOIA Area associated with construction traffic. As a result, this impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT Temporary, short-term exposure of sensitive receptors to potential groundborne noise and vibration
3.12-3 from Project construction. *Future development in the SOIA Area, including the multi-sport park complex project could expose sensitive receptors to groundborne noise and vibration levels that exceed applicable standards that could cause human disturbance or damage structures. Construction of future projects could cause a temporary, short-term disruptive vibration if construction activities were to occur near sensitive receptors. This impact is considered **potentially significant**.*

Construction activities associated with future development in the SOIA Area, including the multi-sport park complex project 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 housing affected vibration-sensitive uses. There are vibration-sensitive uses and structures within the SOIA area. There are historic structures on the Mosher property, in a building cluster south of the multi-sport park complex site at 10313 Grant Line Road, and in a house and barn cluster in the southern portion of the SOIA Area at 10351 Grant Line Road. Depending on future site planning led by the City of Elk Grove for the SOIA Area, it is possible that there could be construction 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 3.12-16 provides vibration levels for typical construction equipment.

Table 3.12-16 Typical Vibration Levels for Construction Equipment			
Equipment		PPV at 25 Feet (in/sec)	Approximate L _v 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 _v = the velocity level in decibels referenced to 1 microinch per second and based on the root mean square velocity amplitude; PPV = peak particle velocity			
¹ 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 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 µin/sec and based on the root mean square velocity amplitude) at 25 feet, as shown in Table 3.12-16.

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 vibration-sensitive uses within 45 feet of the edge of the SOIA Area off-site that would be affected by vibration. However, there would be vibration-sensitive uses within 45 feet of Project-related construction activities within the SOIA Area and potentially adjacent to off-site 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 SOIA Area and off-site 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's recommended standard with respect to the prevention of structural damage for normal buildings) beyond 70 feet of normal vibration-sensitive receptors. Although very unlikely, construction activities include the use of a pile driver, vibration levels would not exceed 0.2 in/sec PPV beyond 100 feet of historic vibration sensitive receptors. There are vibration-sensitive uses within 70 to 100 feet of the SOIA Area off-site that would be affected by vibration.

With respect to historic buildings damage, predicted vibration levels of typical construction activities (assuming large bulldozer as the highest vibration generating equipment) would not exceed 0.08 in/sec PPV (Caltrans's recommended standard with respect to the prevention of structural damage for historic buildings) beyond 30 feet of historic structures. There are historic buildings that could be within 30 feet of Project-related construction activities within the SOIA Area that would be affected by vibration. Although very unlikely, construction activities include the use of a pile driver, vibration levels would not exceed 0.08 in/sec PPV beyond 180 feet of historic structures.

Vibration-sensitive receptors could be located in the vicinity of off-site improvement areas. It is anticipated that most off-site improvements would be adjacent to road rights-of-way. In some cases, the setback may not be wide enough to reduce vibration impact to below the threshold levels for all construction equipment. 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. Construction of new pipelines in existing streets would require preparing the site, cordoning off the construction area, removing pavement, excavating a trench, installing the pipeline, backfilling the trench, and repaving as necessary. Pipeline installation would be a continuous operation, with crews installing the pipeline as other crews excavate and prepare the trench and still others backfill and repave the street. The trench would be excavated using conventional excavation equipment (e.g., backhoes); excavated material would be stockpiled adjacent to the trench and any extra material would be hauled away.

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 vibration levels could expose sensitive receptors and buildings to levels that exceed applicable standards. Thus, this is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.12-3: Reduce Groundborne Noise and Vibration Levels at Sensitive Receptors and Buildings (LAFCo and the City of Elk Grove)

During construction of off-site improvements, and at the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate groundborne noise and vibration for off-site improvements within 60 feet of existing non-historical structures and within 25 feet of historic 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.

At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall require the following measures to mitigate groundborne noise and vibration for pile driving within 200 feet of any vibration-sensitive receptor, if required:

- 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 structures.
- Pile driving required within a 285-foot radius of sensitive receptors or within 180 feet of a historic 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 limit the effects of groundborne vibration on sensitive receptors. Therefore, Project-generated groundborne noise and vibration levels would be reduced. However, it is not now possible to determine the effectiveness of mitigation with certainty in every case over the course of buildout of the proposed SOIA Area. With enforcement of the above mitigation measure, future development in the SOIA Area and off-site improvements 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. The impact is considered **significant and unavoidable**.

IMPACT Long-term traffic noise levels at existing noise-sensitive receivers. *Future development in the SOIA Area, including the multi-sport park complex project would result in an increase in vehicle trips. The increased traffic volumes would result in a noticeable (3 dB or greater) increase in traffic noise along roadways in and within the vicinity of the proposed SOIA Area. Therefore, this impact is considered **significant**.*

3.12-4

Possible future development within the SOIA Area, including the multi-sport park complex project, could result in an increase in traffic volumes on the local roadway network. To assess the impact of Project-generated traffic 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, with and without the multi-sport park complex. Average daily traffic (ADT) volumes and the distribution thereof were obtained from the traffic study prepared to support this EIR (Fehr & Peers 2017). Vehicle speeds and truck volumes on local area roadways were determined based on field observations. Additional input data included day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Refer to Appendix D of this EIR for complete modeling inputs and results.

Future development within the SOIA Area, including the multi-sport park complex project, is anticipated to result in an increase in traffic volumes on the roadway network and, consequently, an increase in noise levels from traffic sources along affected segments. To determine the incremental impact of buildout of the SOIA Area, the predicted noise levels without buildout of the SOIA Area were compared to predicted noise levels with buildout of the SOIA.

Table 3.12-17 summarizes the modeled traffic noise levels at 100 feet from the centerline of affected roadway segments in. Exhibits 3.12-5c and 3.12-5d illustrate the predicted distances to the 60 dBA, 65 dBA and 70 dBA L_{dn} traffic noise contours with full buildout of the SOIA Area, including the multi-sport park complex project. Modeled increases that would be considered substantial, an increase of 3 dBA, 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 3.12-17, the modeling conducted shows that full buildout of the SOIA Area, including the multi-sport park complex project, would result in traffic noise level increases ranging from + 1 dBA to + 7 dBA L_{dn} , compared to noise levels without full buildout of the SOIA Area.⁹ Specifically, traffic generated under existing and future conditions by full buildout of the SOIA Area would contribute a substantial increase in future traffic noise conditions along four roadways: Grant Line Road between SR 99 SB Ramps to SR 99 NB Ramps, Grant Line Road between East Stockton Boulevard to Waterman Road, Mosher Road between Waterman Road to Grant Line Road, and Waterman Road between Mosher Road to Grant Line Road. However, 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. Noise-sensitive-uses are located along Mosher Road between Waterman Road and Grant Line Road. Therefore, full buildout of the SOIA Area, including the multi-sport park complex project could result in a substantial permanent increase in ambient noise levels (an increase of 3 dBA or greater). This is a **potentially significant** impact.

⁹ 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.

Table 3.12-17 Predicted Traffic Noise Levels, Existing Plus Full Buildout of the SOIA Area					
Roadway	Segment Location	L _{dn} at 100 Feet, dB			
		No SOIA	Plus SOIA	Net Change	Significant Impact?
Bradshaw Road	From Elk Grove Boulevard to Grant Line Road	63	65	2	No
Grant Line Road	From SR 99 SB Ramps to SR 99 NB Ramps	68	71	3	No**
Grant Line Road	From SR 99 NB Ramps to East Stockton Boulevard	70	72	2	No
Grant Line Road	From East Stockton Boulevard to Waterman Road	68	72	4	No**
Grant Line Road	From Waterman Road to Mosher Road	67	69	2	No
Grant Line Road	From Mosher Road to Bradshaw Road	67	68	1	No
Grant Line Road	From Bradshaw Road to Elk Grove Boulevard	64	65	1	No
Kammerer Road	From Lent Ranch Parkway to Promenade Parkway	65	66	1	No
Kammerer Road	From Promenade Parkway to SR 99 SB Ramps	67	68	1	No
Mosher Road	From Waterman Road to Grant Line Road	58	65	7	Yes
Waterman Road	From Mosher Road to Grant Line Road	63	66	3	No**
SR 99	From Dillard Road to Grant Line Road	77	78	1	No
SR 99	From Grant Line Road to Elk Grove Boulevard	76	77	1	No
<p>Notes: dB = A-weighted decibels; L_{dn} = day-night average noise level, SB = Southbound, NB=Northbound.</p> <p>* 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.</p> <p>** No noise-sensitive uses within 100 feet of the segment.</p> <p>Source: Data modeled by AECOM 2017</p>					

The multi-sport park complex project would not result in increase in significant traffic noise increases along affected segments. The multi-sport park complex project contribution to the existing traffic noise levels along roadways was determined by comparing the predicted noise levels with and without project-generated traffic. Table 3.12-18 summarizes the modeled traffic noise levels at 100 feet from the centerline of affected roadway segments in. Modeled roadway noise levels assume no natural or artificial shielding between the roadway and the receptor.

As shown in Table 3.12-18, the modeling conducted shows that the multi-sport park complex project would result in traffic noise level increases ranging from 0 dBA to + 1 dBA L_{dn}. Therefore, the multi-sport park complex project would not result in a substantial permanent increase in ambient noise levels (an increase of 3 dBA or greater) under Phase 1 conditions. Exhibits 3.12-5a and 3.12-5b illustrate the predicted distances to the 60 dBA, 65 dBA and 70 dBA L_{dn} traffic noise contours with development of the multi-sport park complex project.

Table 3.12-18 Predicted Traffic Noise Levels, Existing Plus Multi-Sport Park Complex Project

Roadway	Segment Location	L _{dn} at 100 Feet, dB			
		No Project	Multi-Sport Park Complex Project	Net Change	Significant Impact?
Bradshaw Road	From Elk Grove Boulevard to Grant Line Road	63	63	0	No
Grant Line Road	From SR 99 SB Ramps to SR 99 NB Ramps	68	69	1	No
Grant Line Road	From SR 99 NB Ramps to East Stockton Boulevard	70	70	0	No
Grant Line Road	From East Stockton Boulevard to Waterman Road	68	69	1	No
Grant Line Road	From Waterman Road to Mosher Road	67	67	0	No
Grant Line Road	From Mosher Road to Bradshaw Road	67	67	0	No
Grant Line Road	From Bradshaw Road to Elk Grove Boulevard	64	65	1	No
Kammerer Road	From Lent Ranch Parkway to Promenade Parkway	65	65	0	No
Kammerer Road	From Promenade Parkway to SR 99 SB Ramps	67	67	0	No
Mosher Road	From Waterman Road to Grant Line Road	58	58	0	No
Waterman Road	From Mosher Road to Grant Line Road	63	63	0	No
SR 99	From Dillard Road to Grant Line Road	77	77	0	No
SR 99	From Grant Line Road to Elk Grove Boulevard	76	76	0	No

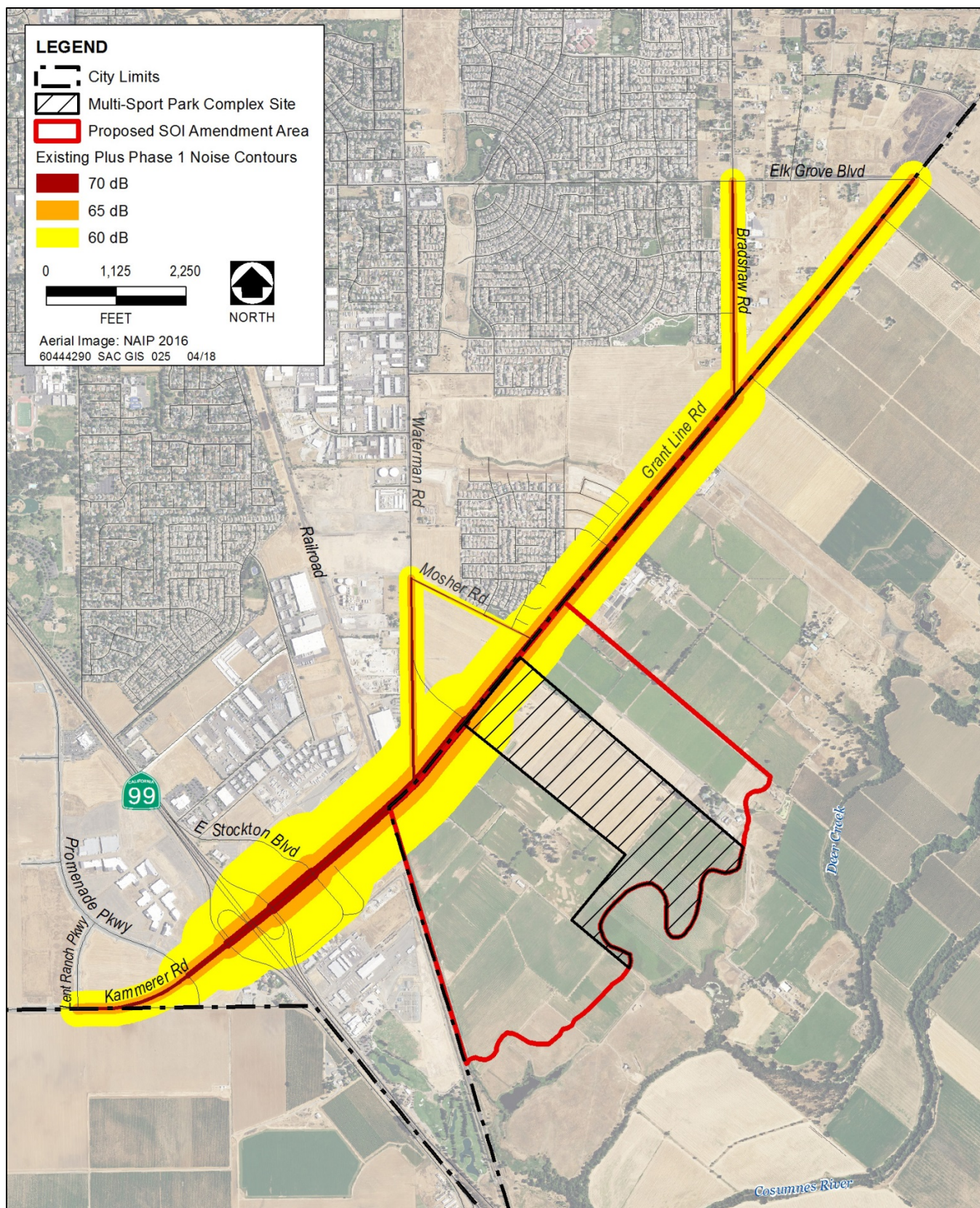
Notes: dB = A-weighted decibels; L_{dn} = day-night average noise level, SB = Southbound, NB=Northbound.

* 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.

Source: Data compiled by AECOM in 2017

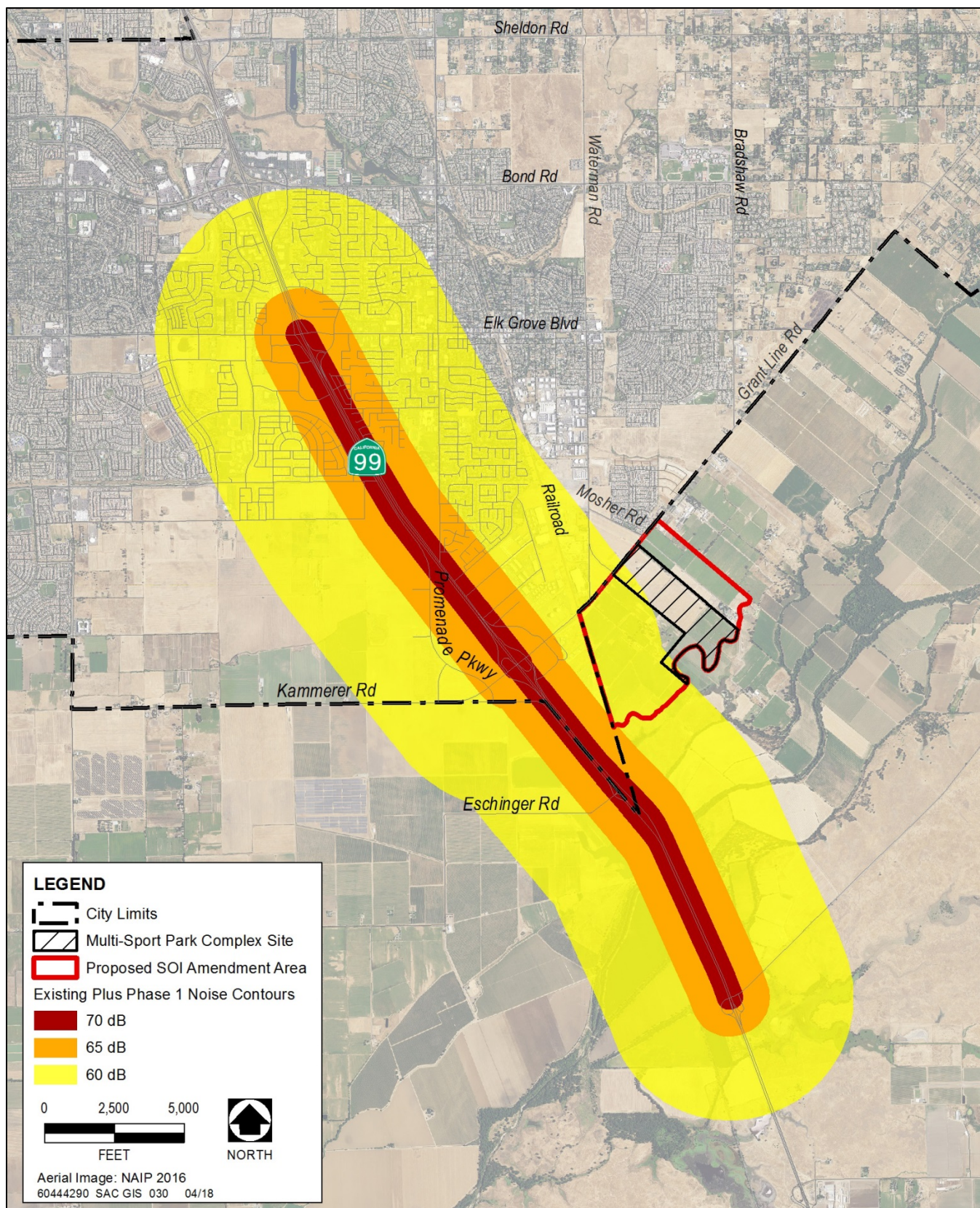
Mitigation Measures

TELk Grove Policy NO-7-Action-1 would implement a citywide noise reduction program to reduce traffic noise levels. This could be accomplished through distribution versus concentration of traffic and measures to 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 SOIA Area 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 Grant Line Road between SR 99 SB Ramps to SR 99 NB Ramps, Grant Line Road between East Stockton Boulevard to Waterman Road, Mosher Road between Waterman Road to Grant Line Road, and Waterman Road between Mosher Road to Grant Line Road. There is no additional feasible mitigation. The impact is considered **significant and unavoidable**.



Source: Data compiled by AECOM in 2016

Exhibit 3.12-5a Future Roadway Noise Contours with Multi-sport Park Complex



Source: Data compiled by AECOM in 2016

Exhibit 3.12-5b Future Highway Noise Contours with Multi-sport Park Complex Project

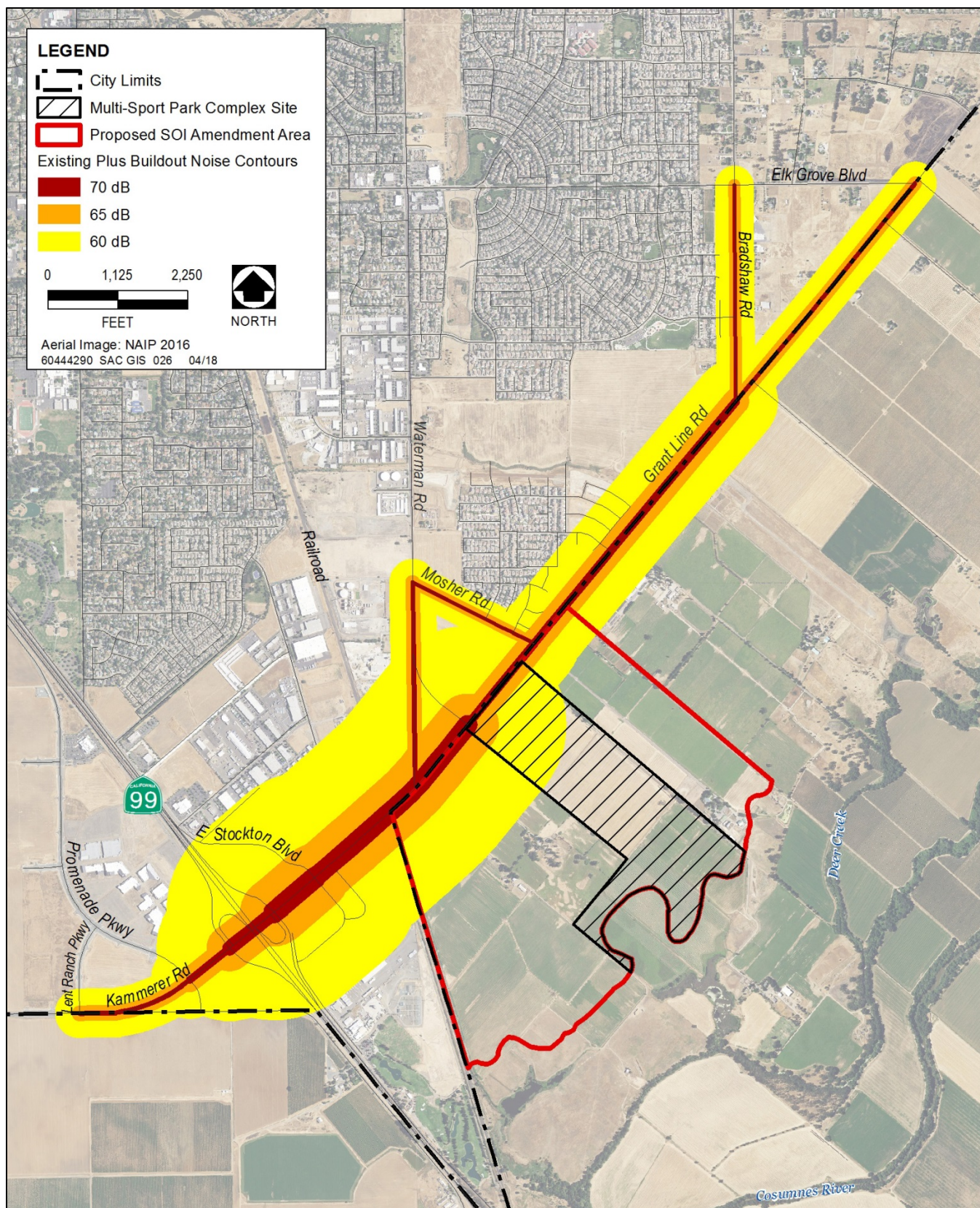
IMPACT **Land use compatibility of on-site sensitive receptors with future transportation noise levels.** *Future development would result in future traffic noise that could expose proposed new land uses to levels that exceed the City's standards. This traffic noise could result in annoyance and/or sleep disruption to nearby noise-sensitive receptors. Therefore, this impact is considered **potentially significant**.*

3.12-5

The FHWA Traffic Noise Prediction Model was used to estimate the land use compatibility of possible future on-site noise-sensitive receptors with noise levels from future vehicle traffic sources. These contour distances are used to identify areas within the SOIA Area that would be considered potentially subject to noise impacts from traffic. The roadway traffic noise levels shown represent conservative potential noise exposure to existing roadways, since the calculations do not assume natural or artificial shielding or reflection from existing or proposed structures or topography. Actual noise levels would vary from day to day, depending on factors such as local traffic volumes and speed, shielding from existing and proposed structures, variations in attenuation rates resulting from changes in surface parameters, and meteorological conditions.

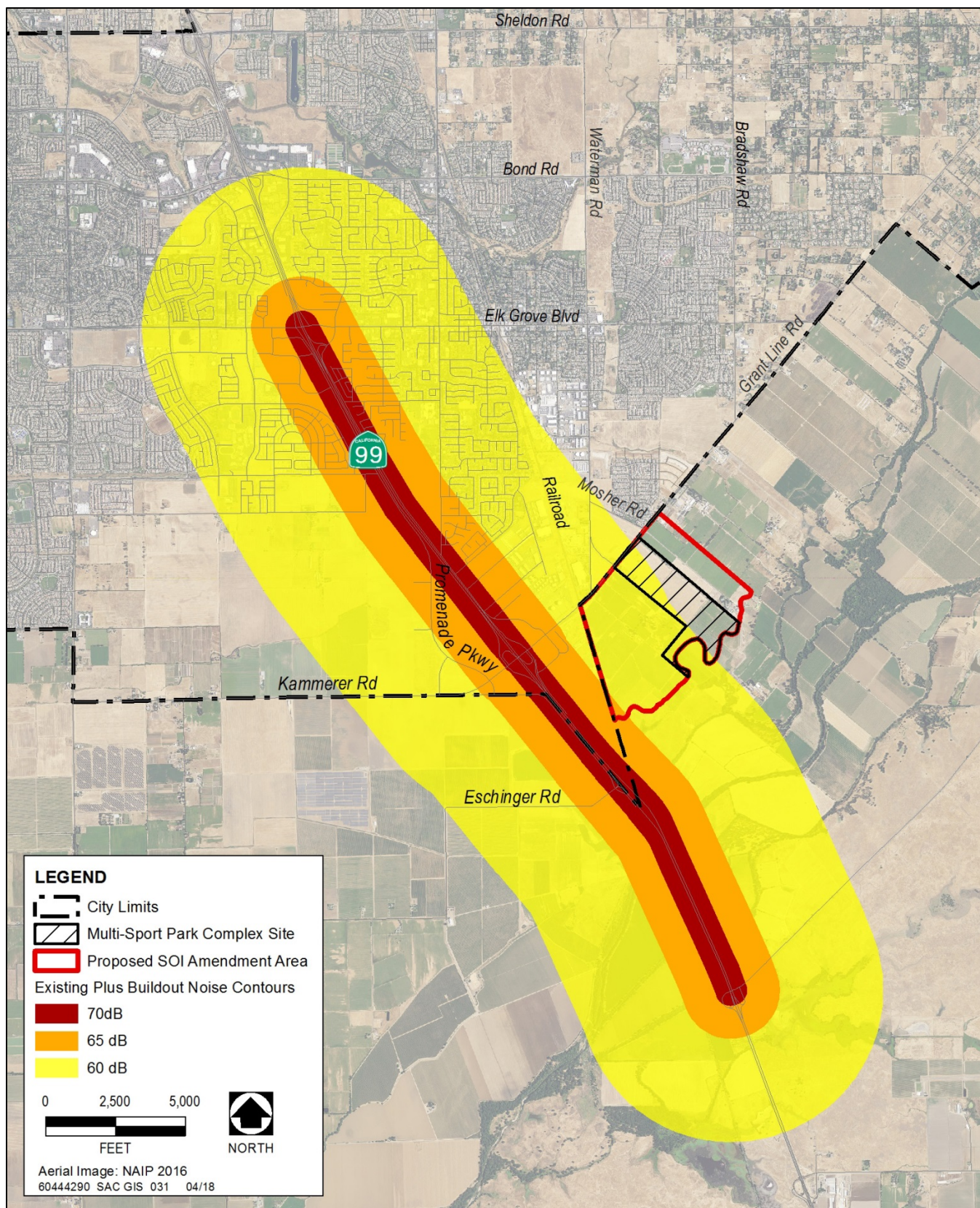
Exhibits 3.12-5c and 3.12-5d illustrate the predicted distances to the 60 dBA, 65 dBA and 70 dBA L_{dn} traffic noise contours with full buildout of the SOIA Area, including the multi-sport park complex project. Noise-sensitive receptors located within future 60 dB L_{dn} noise contours, could be exposed 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. It is possible that future development within the SOIA Area could occur in these locations. The Mosher mixed-use property could possibly have residential uses. Therefore, impacts related to land use-noise compatibility are considered **potentially significant**.

If there is residential development in the mixed use area located adjacent to Grant Line Road, this could result in compatibility issues. 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 here and how far from high-volume roadways this residential development would be located. The same is true in other locations within the SOIA Area – although predominant planned uses are not noise sensitive (industrial, light industrial, etc.), it is possible that there could be ancillary uses, such as day care, that would be noise sensitive.



Source: Data compiled by AECOM in 2016

Exhibit 3.12-5c Roadway Noise Contours with Full Buildout



Source: Data compiled by AECOM in 2016

Exhibit 3.12-5d Highway Noise Contours with Full Buildout

As shown in Table 3.12-6, depending on the number of daily operations, railroad noise reach would range from 217 feet to 344 feet without horn, and 467 feet to 742 feet with horn, from the railroad tracks. Portions of the SOIA Area near the railroad are not proposed for noise-sensitive uses.

The multi-sport park complex site would be designated as Public Open Space/Recreation and zoned Commercial Open Space. Lands to the southwest with frontage on Grant Line Road would be designated in the City General Plan as Commercial/Office and Light Industrial and prezoned General Commercial and Light Industrial. Lands adjacent to the Union Pacific Railroad tracks would be designated in the City General Plan as Light Industrial and Heavy Industrial and prezoned Light Industrial and Heavy Industrial, respectively. The parcel to the northwest would be designated for mixed use, but does not have a specific identified prezoning designation at this time.

The multi-sport park complex project would generate traffic that would increase noise levels along roadways that could have noise sensitive uses nearby. Exhibits 3.12-5a and 3.12-5b illustrate the predicted distances to the 60 dBA, 65 dBA and 70 dBA L_{dn} traffic noise contours with development of the multi-sport park complex project. Noise-sensitive receptors located within future 60 dB L_{dn} noise contours, could be exposed to noise levels exceeding the City of Elk Grove General Plan Noise Element standard of 60 dB L_{dn} for residential uses. However, the areas that could have noise levels above 60 dB L_{dn} with implementation of the multi-sport park complex project do not have residential uses along high-volume roadways that would be affected by the multi-sport park complex project.

Mitigation Measures

Mitigation Measure 3.12-5: Improve Land Use Compatibility to Reduce Exposure of On-Site Sensitive Receptors to Traffic Noise (City of Elk Grove)

Consistent with Noise Policy NO-8 and NO-9, or these policies as they may be updated in the future, the City will incorporate feasible strategies to improve land use/transportation noise compatibility, 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 now possible to determine the effectiveness of mitigation with certainty. With enforcement of the above mitigation measure, future development in the SOIA Area 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. Significant traffic noise impacts at existing and 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. The impact is considered **significant and unavoidable**.

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. *Future development of new noise-sensitive land uses would occur within areas that either are currently affected by noise from non-transportation noise sources, or will be in the future. These non-transportation noise sources could exceed the applicable noise standards (hourly L_{eq} dBA) and result in a substantial increase in ambient noise levels. Therefore, this impact is considered significant.*

As described in Section 2, “Project Description”, the proposed multi-sport park complex would provide tournament and practice fields, training space, and a competition venue. The area designated for multipurpose sports fields would include 12 full-size soccer fields (each 120 by 80 yards) and four training fields (each 80 by 50 yards). The multi-sport park complex’s stadium/amphitheater would have a maximum capacity of approximately 9,000 seats. The proposed fairgrounds and agrizone park would provide a 15-acre area for agricultural events such as the Sacramento County Fair. The proposed 100,000-square-foot indoor facility would include training and meeting rooms, offices, and a medical center. The multi-sport park complex would require approximately 6,300 parking spaces. The sports fields would operate from approximately 7 a.m. to 10 p.m., and the stadium would operate from approximately 12 noon until 11 p.m. During a large event such as a county fair, the fairgrounds and agrizone park would operate on multiple successive days around Memorial Day weekend from 10 a.m. to 10 p.m.

Noise from the proposed multi-sport park complex, including a stadium, that could be developed as part of the proposed Project could affect sensitive receptors. Sacramento County General Plan Policy 6.2 requires that where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not exceed the interior and exterior noise level standards of Table 3.12-12 at existing noise-sensitive areas in the project vicinity. Also, City of Elk Grove’s Municipal Code 6.32.080 contains performance standards for the purpose of preventing unnecessary, excessive and annoying sound levels from all sources and includes noise standards for non-transportation sources and railroad sources.

The stadium is shown in the conceptual plan as being located in the southeast portion of the proposed SOIA, adjacent to the agricultural areas to the east and south. The stadium would not be a constant noise source, but would only produce noise during periodic events, which could last from a few hours on a given day to most of the day for events such as track meets. Possible activities include football and soccer games, track and field competitions, and concerts.

Stadiums that accommodate large crowds can increase noise levels in the area surrounding the stadium during sporting events. Noise monitoring was performed on August 19th, 2017 at Bonney Field in Sacramento, California during a match between the Sacramento Republic Football Club (FC) and Reno 1868 FC. Bonney Field capacity is approximately 11,500 attendees. During the noise measurement survey, approximately 80% of the seats were

filled. The monitoring data indicated that both crowd noise and noise from the public address system (cheering, stomping feet, announcements, and music) produced noticeable noise. Two noise measurements (for 30 to 60 minutes) were also conducted during the soccer match; one at a distance of 430 feet from the center of the stadium, and the second at 50 feet from the crowd stand where fans were beating drums, cheering, and stomping their feet. A Larson Davis 824 noise meter was used to monitor the game noise. The noise levels during the event were found to be 67.2 dBA L_{eq} at 430 feet the center of the stadium, and 83.3 dBA L_{eq} at 50 feet from the crowd stand. Although there was some amplified sound to signal the start and end of soccer matches, the dominant noise source during the game was generated by crowd noise (i.e., fans beating drums, cheering, and stomping their feet).

For this analysis, it is assumed that the game noise (including use of public address systems) generated within and outside of the proposed stadium during a major league soccer match would be the similar to those measured at Bonney Field. Bonney Field is constructed of temporary bleacher systems that are open metal construction, compared to the concrete seating bowl with partial roof structures in the proposed stadium. Thus, this assumption is conservative in light of the different construction of Bonney Field from the proposed stadium. Assuming a 7.5 dBA drop-off rate per doubling of distance and a reference noise level of 83.3 dBA L_{eq} at a distance of 50 feet, existing sensitive land uses located approximately 3,000 feet to the east and 4,000 feet to the north along Grant Line Road from the stadium would be exposed to game noise levels of 45.2 dBA L_{eq} to 47.7 dB L_{eq} . This level would not exceed the City of Elk Grove's daytime noise standard of 55 dBA L_{eq} , and the County's 50 dBA daytime standard for residential properties. Other sensitive land uses in the vicinity would be located farther away and would have extensive intervening structures between the stadium and the other residences that would shield noise levels to some extent.

The soccer fields would be to the north of the stadium south of Grant Line Road. Nearby existing receptors to the north of Grant Line Road could be exposed to noise levels that are generally considered incompatible with residential uses. Design of the stadium would be required to consider nearby sensitive uses and implement design features that would minimize potential impacts. Soccer game noise measurements (for 30 to 60 minutes) were conducted at Mather Sports Field in Sacramento on December 12, 2015; at distances of 50 feet and 100 feet from the soccer fields and the crowd stand where fans were cheering. The noise levels during the event were measured to be 59.2 dBA L_{eq} to 64.9 dBA L_{eq} . The dominant noise source during the game was generated by crowd noise.

For this analysis, it is assumed that the noise generated within and outside of the proposed soccer fields during a soccer practice and match events would be similar to those measured at Mather Sports Field. Assuming a 7.5 dBA drop-off rate per doubling of distance and a reference noise level of 69.4 dBA L_{eq} at a distance of 50 feet, existing sensitive land uses located approximately 250 feet to the north along Grant Line Road from the proposed fields would be exposed to events noise levels of 47.4 dB L_{eq} . This level would not exceed the City of Elk Grove's daytime noise standard of 55 dBA L_{eq} for residential uses. Other sensitive land uses in the vicinity would be located farther away and would have extensive intervening structures between the stadium and the other residences that would shield noise levels to some extent.

It is possible future development within the SOIA Area could involve residential, commercial, office, and industrial; open space and recreation; and institutional and public facilities (e.g., electrical substations, and schools). 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 50 dB L_{eq} nighttime. Also, future noise studies may be prepared to determine their specific noise-generating sources and associated

noise levels at nearby sensitive receptors. The noise studies may include, but is not limited to, recommendations for noise attenuation (e.g., sound wall barrier or berm, noise-level limits on the use of a public address/announcement systems, etc.) to ensure Project compliance with the City of Elk Grove and County of Sacramento noise standards.

The long-term operation of these uses could result in non-transportation noise from, but not limited to, the following potential sources:

- ▶ Soccer Fields and Stadium/Amphitheater
- ▶ Fairgrounds/Agrizone Park
- ▶ Regional Utility Extension (Off-Site)
- ▶ Wastewater Conveyance, Wastewater Treatment
- ▶ 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.

Potential Sources of Stationary and Area Noise

Soccer Fields and Stadium/Amphitheater

As described above under Project Level Analysis, noise generated by the proposed soccer fields and stadium, would not exceed the City of Elk Grove's daytime noise standard of 55 dBA L_{eq} , and below the County's 50 dBA standard for residential properties.

Fairgrounds/Agrizone Park

Common sources of noise at a fairground would include concerts, festivals, and shows. A study conducted at Del Mar Fair Ground in 2016 (RECON 2016) shows that measured noise levels were 73 to 85 dBA L_{eq} at 500 feet from the fairground stage area. Noise sources at the measurement location included ambient noise including nearby trains. For this analysis, an average noise level of 80 dB L_{eq} at 500 feet was assumed. The closest residences to the fairground would be located approximately 2,000 feet to the south, and 4,000 feet to the north along Grant Line Road. Assuming an average noise level of 80 dB L_{eq} at 500 feet, noise level from the fairground activities would be approximately 68 dBA L_{eq} at the nearest residences to the south, and approximately 62 dBA L_{eq} at the residences to the north along Grant Line Road.

Landscape and Building Maintenance Activities

Landscape maintenance activities include the use of leaf blowers, power tools, and gasoline-powered lawn mowers, could result in intermittent noise levels that range from approximately 88.3 dB at 6.5 feet, respectively. Based on an equipment noise level of 88.3 dB, the use of such equipment, assuming a noise attenuation rate of 6 dB per doubling of distance from the source, would result in exterior noise levels of approximately 70.1 dB at 50 feet. Although such activities would likely occur during the daytime hours, the exact hours and locations are unknown at this time. Such activities are intermittent and would occur during the daytime, which is a less noise-sensitive time of day. The use of such equipment is not so frequent that applicable daily noise standards or maximum single-event noise standards would be exceeded for noise-sensitive land uses.

Mechanical Equipment

The operation of mechanical equipment at residential, commercial, office, and industrial; and institutional and public facilities (e.g., electrical substations, wastewater treatment facility and filtered water treatment facility, and schools) is another non-transportation noise source. The operation of mechanical equipment (e.g., pumps, generators; heating, ventilation, and cooling systems) could result in intermittent noise levels of approximately 90 dB at 3 feet (EPA 1971). Based on this equipment noise level, the operation of such equipment, assuming a noise attenuation rate of 6 dB per doubling of distance from the source, may result in exterior noise levels of approximately 60 dB at 95 feet.

Although these types of equipment are typically shielded from direct exposure (e.g., housed on rooftops, in equipment rooms, or in exterior enclosures), the actual placement of such equipment on future land uses is not known at this time. It is possible that noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors and create a substantial permanent increase in ambient noise levels at existing noise-sensitive receptors if measures are not taken to reduce such noise exposure.

Garbage Collection Activities

Garbage collection activities (e.g., emptying large refuse dumpsters, possible multiple times per week, and the shaking of containers with a hydraulic lift), could result in instantaneous maximum noise levels of approximately 89 dB L_{max} at 50 feet. Such activities are anticipated to be very brief, intermittent, and would occur during daytime hours, which are considered to be less noise-sensitive times of day. Garbage collection activities are infrequent, and therefore would not be expected to exceed daily noise standards. Noises would typically emanate from public rights-of-way, which would normally be separated from outdoor gathering spaces associated with residential uses. Noise associated with garbage collection would not be expected to create single-event noise that would be substantially disruptive to daily activities or cause sleep disturbance.

Parking Lots

Parking lots and parking structures include noise sources such as vehicles entering/exiting the lot, alarms/radios, and doors slamming. The size (i.e., capacity) of parking lots are not known at this time. However, two parking lots are planned under the proposed SOIA, as shown in Exhibit 2-4. Existing residences along Grant Line Road would be located approximately 1,800 feet from the nearest lot planned in SOIA. Assuming 1,000 vehicles per day would enter and exit the closest parking lot, resulting peak hour and daily noise levels would be approximately 65.4 dB L_{eq} and 58 dB L_{dn} at 50 feet; and approximately 34.3 dB L_{eq} and 27 dB L_{dn} at the nearest existing residences.

Commercial, Office, and Industrial Activities

Commercial, office, and industrial noise sources include loading dock activities, air circulation systems, delivery areas, and the operation of trash compactors and air compressors. Such activities could result in intermittent noise levels of approximately 91 dB L_{max} at 50 feet (EPA 1971) and high single-event noise levels from backup alarms from delivery trucks during the more noise-sensitive hours of the day. Neither the exact hours of operation nor the location of such potential noise sources are known at this time. Thus, land use related noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors, especially if such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and create a substantial increase in ambient noise levels at existing noise-sensitive receptors. In addition, if such activities were to occur

during these more noise-sensitive hours, Project-generated noise levels may result in annoyance and/or sleep disruption to occupants of the on-site (e.g., existing and proposed) noise-sensitive land uses.

Other Residential, School, and Recreation Activities and Events

Noise sources typical of residential, school, recreation, and event uses could include voices and amplified music/speaker systems. Such sources could result in noise levels of approximately 60–75 dB L_{eq} at 50 feet. Although such activities would likely occur primarily during the daytime hours, neither the hours of operation nor location of such sources are known at this time. It is possible that noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors, especially if such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and create a substantial increase in ambient noise levels at existing noise-sensitive receptors.

Agricultural Activities

Agricultural activities adjacent to the proposed SOIA Area could involve the use of various types of heavy-duty equipment. Agricultural operations can occur during noise sensitive times of the day and involve substantial noise levels. The operation of heavy-duty equipment associated with agricultural activities typically results in noise levels of approximately 75 dB L_{eq} at 50 feet (EPA 1971). The closest distances between proposed noise-sensitive land uses and agricultural land uses would be approximately 50 to 200 feet in several locations. Based on the above noise levels and a typical noise-attenuation rate of 6 dB per doubling of distance, exterior noise levels at noise-sensitive receptors approximately 50 to 200 feet from agricultural activities could exceed 75 and 63 dB L_{eq} , respectively. It is important to note that the closest noise-sensitive receptors would not be exposed to this noise level for extended periods, given the mobile nature of agricultural activities (e.g., disking, plowing, harvesting). If for instance, residential land uses were exposed to 75 dB L_{eq} for one entire hour during the daytime, and ambient noise levels were 50 dB L_{eq} during the rest of the daytime hours and 45 dB L_{eq} during the nighttime hours, the 24-hour noise level would be 62 dB L_{dn} .

Thus, for the reasons described above, impacts from stationary and area noise sources is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.12-6: Implement Measures to Reduce Potential Exposure of Sensitive Receptors to Non-Transportation Source-Generated Noise. (City of Elk Grove)

The City of Elk Grove shall require discretionary projects to reduce potential exposure of sensitive receptors to non-transportation source-generated noise.

To reduce potential long-term exposure of 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., 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 Ordinance 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. Restricting noise generating activities to daytime hours as outlined in the City's Noise Control Ordinance 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 enforcement of the above mitigation measure, future development in the SOIA Area would be designed to minimize potential impacts. LAFCo would condition future annexation on compliance with Mitigation Measure 3.12-6. 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. The impact is considered **significant and unavoidable**.

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3.13 PUBLIC SERVICES AND RECREATION

This section describes the existing public services and facilities, including fire protection, law enforcement, public schools, and parks and recreation and potential effects attributable to the Project. Future development could require additional public services and facilities. The impact analysis is focused on the actions that may be needed to expand or extend public services and facilities to serve future development associated with the proposed Project.

3.13.1 ENVIRONMENTAL SETTING

Descriptions and analysis in this section are based on information provided 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), and applicable regulations.

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

The CCSD Fire Department provides fire protection, prevention, life safety and emergency medical services to a 157-square-mile area encompassing the city of Elk Grove, the city of Galt, and areas of unincorporated southern Sacramento County.

The CCSD Fire Department currently provides fire protection, fire prevention, and emergency medical services to the SOIA Area. The Fire Department is headquartered at 10573 East Stockton Boulevard, Elk Grove. The CCSD operates eight fire stations: six in Elk Grove and two in Galt, as well as areas of unincorporated Sacramento County and a fire training facility. The Fire Department Headquarters is the closest existing fire station and is approximately 1.5 miles southwest of the SOIA Area. Additional fire stations in the vicinity of the SOIA Area are Station 71 and Station 72, at 8760 Elk Grove Boulevard and 10035 Atkins Drive, respectively (CCSD 2016). Station 71 is approximately 2.25 miles northwest of the SOIA Area and Station 72 is approximately 5 miles west of the SOIA Area. In addition, three new fire stations are planned in the vicinity of the SOIA Area, one in the Laguna Ridge Specific Plan Area (Station 77), west of the SOIA Area (on Poppy Ridge Road just east of Big Horn Road); one within the Sterling Meadows project (Station 78) west of the SOIA Area (along Lotz Parkway near Kammerer Road); and one near the intersection of Bradshaw Road and Grantline Road (Station 79) that will be built as these projects develop and as the need arises (City of Elk Grove 2014a).

Service Response

The CCSD Fire Department responds to various emergencies, including fires, vehicle collisions, hazardous materials spills, and medical and public assistance calls. The department has over 165 sworn personnel in the Operations Division, which has units devoted to fire suppression, training, and emergency medical services. The department currently staffs eight Type I engine companies (designed to fight structure fires), one ladder truck company, seven ambulances, and a command officer each day on a 24-hour basis. The Department also operates six Type III engines (for fighting wildland and grass fires) and other specialty apparatus are staffed using these personnel as seasons and emergency circumstances dictate their use. Specialty apparatus includes one heavy foam unit, a heavy rescue vehicle, a mass decontamination trailer, a mass casualty incident trailer, two flood boat response trailers (containing eight boats total) and a swift water rescue boat. The department provides ambulance transportation and pre-hospital care throughout its service area, including the cities of Elk Grove and Galt. The

department employs more than 100 paramedics and more than 47 emergency medical technicians (EMTs). The Department's seven full-time ambulance companies are staffed and operate 24 hours a day.

Communications and Mutual Aid

Fire and emergency services in Sacramento County have developed a Joint Powers Authority (JPA) for a unified dispatch system. The Sacramento Fire EMS Communications Center dispatches all fire agencies in Sacramento County.

CCSD is the primary fire protection and emergency medical response service within the SOIA Area. Sacramento Metro Fire District (SMFD), the City of Sacramento Fire Department (SFD), and the CCSD share common jurisdictional boundaries and participate in a regional automatic/mutual aid agreement. The CCSD also has a mutual aid agreement with the surrounding volunteer fire districts in southern Sacramento County, including Wilton, Courtland, Walnut Grove, and Herald Fire districts. As a result of the existing automatic and mutual aid agreements, the closest unit available is dispatched to an incident and fire district boundaries are not an issue when an incident occurs (Ramos, pers. comm., 2017).

POLICE PROTECTION

Sacramento County Sheriff's Department

The SOIA Area 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. Specialized law enforcement includes providing court security services, operating a system of jails for pretrial and sentenced inmates, and operating a training complex. Local police protection includes response to calls, investigations, surveillance, and routine patrolling. As of 2015, the Sacramento County Sheriff's Department employed 1,293 sworn officers, including 289 patrol officers (City of Elk Grove 2015b). The closest station to the SOIA Area is located at 7000 65th Street in Sacramento, approximately 9 northwest of the SOIA Area. The Sacramento County Sheriff's Department would continue to provide law enforcement services to unincorporated portions of the SOIA Area 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 SOIA Area through a mutual aid agreement and would be the primary provider, following annexation. The Police Department provides comprehensive police services throughout the City, including emergency and routine call response, follow-up investigations of crime, traffic enforcement, specialized anti-gang initiatives, and other crime prevention activities. The Police Department has a force of 139 sworn officers and 86 civilian employees. This is equivalent to a staffing ratio of 0.82 sworn officers per 1,000 residents (City of Elk Grove 2015a). 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 SOIA Area.

As part of this facility, the Police Department operates a Community Service Center to report non-urgent or ongoing crimes, to have crime reports taken, and to take fingerprints and process other, routine requests for information. The Police Department handles approximately 100,000 service calls per year with a goal of responding to Priority One calls (those involving a violent crime in-progress or other life-threatening emergency) within five minutes.

During 2015, Police Department's actual average Priority One response time was 5.3 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 SOIA Area is located within the CHP Valley Division, which is comprised of 20 area offices, one commercial vehicle enforcement facility, and four communications centers (CHP 2018).

SCHOOLS

The EGUSD provides K–12 education to the City of Elk Grove and the SOIA Area. Located in southern Sacramento County, the district covers 320 square miles. EGUSD had a 2015–2016 school year enrollment of 62,000 students. EGUSD has 66 schools: 40 elementary schools, 9 middle schools, 9 comprehensive high schools, 3 continuation high schools, an independent study school, an adult school, a special education school, a virtual academy, and 1 charter school (EGUSD 2016a).

As shown on the maps of EGUSD school attendance boundaries, the SOIA Area is served by Elk Grove Elementary School, Joseph Kerr Middle School, and Elk Grove High School (EGUSD 2016a, 2016b). Table 3.13-1 identifies the 2015–2016 school-year enrollments for these schools. All three schools are currently operating below design capacity.

Table 3.13-1 Elk Grove Unified School District Enrollment, 2015–2016				
School Name	Grade	Enrollment	Design Capacity	Estimated Remaining Capacity
Elk Grove Elementary School	K–6	863	880	17
Joseph Kerr Middle School	7–8	941	1,519	578
Elk Grove High School	9–12	1,810	2,659	849
Source: EGUSD 2016a				

Elk Grove Elementary School, 9373 Crowell Drive, serves students in grades K–6. The school was completed in 1993 and has 32 classrooms, a library, a multipurpose room, a cafeteria, playfields, and hard courts.

Joseph Kerr Middle School, 8865 Elk Grove Boulevard, serves students in grades 7–8. This middle school opened in 1935 and was modernized in 1994 and again in 1999. School facilities include 49 permanent classrooms, a library/media center, a cafeteria, multipurpose rooms, a gymnasium, playfields, and hard courts.

Elk Grove High School, 9800 Elk Grove-Florin Road, serves students in grades 9–12. This school opened in 1964 and was modernized in 1999. School facilities include 94 permanent classrooms, a library/media center, a cafeteria, a gymnasium, athletic fields, and hard courts.

EGUSD prepared the *Facilities Master Plan 2015–2025 Update* (Master Plan) to provide updated enrollment, school capacity, student generation rates, and to determine the approximate number of new students generated by new residential development between 2015 and 2025. The Master Plan anticipates that due to significant development (which did not include any future development within the SOIA Area) within its boundaries, enrollment at Franklin Elementary School, Elizabeth Pinkerton Middle School, and Cosumnes Oaks High School

is projected to increase and exceed the schools' traditional calendar capacity by 2025, which could be addressed by constructing new schools and/or adjusting attendance boundaries. Changing to a multi-track year-round calendar or other measures may also be necessary (EGUSD 2016a).

EGUSD Funding

Under California's current funding model for new school construction, theoretically, 50 percent of the funding comes from the State and 50 percent from local sources. According to the EGUSD, the State participation is less than 50 percent for new schools (Williams, pers. comm., 2017). In order to construct new schools to mitigate growth from new residential 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 (described below in Section 3.13.2, "Regulatory Framework") that are higher than the statutory fee. As of September 2016, Level II fees for residential development are \$5.01 per square foot and \$0.56 per square foot for commercial/industrial construction.

Additional school funding is also provided through the EGUSD Mello-Roos Community Facilities District (CFD) No. 1. CFD No. 1 authorized the issuance of bonds not to exceed \$275 million. The proceeds of the bonds are intended to be used for improvements to existing elementary, middle and high schools and to construct future elementary, middle and high schools and additions to existing schools. However, this funding source is not intended to address needs resulting from new development.

PARKS

Cosumnes Community Services District

The CCSD provides parks and recreation facilities for residents of an area of roughly 157 square miles, including the City limits of the City of Elk Grove, plus unincorporated areas of Sacramento County. CCSD serves an estimated population of 183,000, of which 163,000 is served by the Parks and Recreation Department. The CCSD Parks and Recreation Department manages 94 parks totaling an estimated 705 acres, 256 acres of landscape corridors and medians, and 18 miles of trails, and provides for several community programs, including youth sports, adults sports, aquatic programs, and manages a 9-hole golf course (CCSD Parks and Recreation 2016a). The closest CCSD park facilities are Berens Park, approximately 500 feet northwest of the SOIA Area, and the Emerald Lakes Golf Course, directly to the east of the SOIA Area. Elk Grove Regional Park is approximately 2 miles north of the SOIA Area.

CCSD updated a Parks and Recreation Master Plan in 2016 to plan for future parks and recreational facilities over the next 10- to 15-year period and determined that a need currently exists for more park acreage. No parks and recreation services are provided for or planned within the SOIA Area (City of Elk Grove 2016). The CCSD is working on a new Parks and Recreation Master Plan, which is scheduled to be completed in early 2018.

Cosumnes Community Services District & City of Elk Grove Memorandum of Understanding (MOU)

Parks and recreation facilities in new development areas specifically, Laguna Ridge Specific Plan, Southeast Policy Area (SEPA), Silverado Village, and Sterling Meadows are developed and operated in accordance with the MOU between the CCSD and the City. The City is responsible for funding the development and operations of the

park and recreation facilities. The CCSD will own these facilities and exclusively provide their programming. Seven new parks have been already completed within the Laguna Ridge Specific Plan.

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 located about 1 mile northwest of the SOIA Area, as described above. In addition, the City will solely own and maintain the future Civic Center Community Park located in the Laguna Ridge Specific Plan planned for a grand opening in 2018 (City of Elk Grove 2004).

3.13.2 REGULATORY FRAMEWORK

FEDERAL AND STATE PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulation, or laws pertaining to public services and recreation are applicable to the proposed Project.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 “Fire Prevention” and 6773 “Fire Protection and Fire Equipment,” the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include but are not limited to guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

California Fire Code

The California Fire Code, which is contained in Title 24, Part 9 of the California Code of Regulations, (CFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The CFC contains specialized technical regulations related to fire and life safety and those have been incorporated in to the City Building Code.

California Health and Safety Code

State fire regulations are set forth in Sections 13000, et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code); fire protection and notification systems; fire protection devices such as extinguishers and smoke alarms; high-rise building and childcare facility standards; and fire suppression training.

Per the California Health and Safety Code, the Fire Code Official is both authorized to perform life safety inspections, and responsible for the enforcement of and life safety regulations adopted by the California State Fire Marshal in the California Buildings Standards. The Fire Prevention Bureau performs plan reviews and provides

comments and field inspection on all construction projects within the jurisdiction. The Fire Inspectors also inspect occupancies and hazardous operations as required by the California Health and Safety Code.

State of California Emergency Medical Services regulations are set forth in Division 2.5 of the Health and Safety Code (Sections 1797-1799), which is known as the Emergency Medical Service System and the Prehospital Emergency Medical Personnel Act. The regulations include system administration, certification, medical control, facilities, and other facets of emergency medical care.

Quimby Act

The Quimby Act (California Government Code Section 66477) was established by the California legislature in 1965 to preserve open space and parkland in the rapidly urbanizing areas of the state. The Quimby Act authorizes local governments to establish ordinances requiring developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or perform a combination of the two. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan recreation element if it is to adopt a parkland dedication/fee ordinance. The City's standards for parkland dedication under the Quimby Act are provided in the discussion of local regulations below. Both the County and the City collect Quimby Act in-lieu fees. These fees contribute to a fund that would be used to acquire properties for parkland.

State School Funding

California Education Code Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement against any development project for the construction or reconstruction of school facilities, provided that the district can show justification for levying of fees. California Government Code Section 65995 limits the fee to be collected to the statutory fee unless a school district conducts a School Facility Needs Assessment (California Government Code Section 65995.6) and meets certain conditions.

Senate Bill 50 (Chapter 407, Statutes of 1998) instituted a school facility program by which school districts can apply for state construction and modernization funds. This legislation imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. It also provided the authority for school districts to levy fees at three different levels:

- ▶ Level I fees are the current statutory fees allowed under Education Code Section 17620. As mentioned above, this code section authorizes school districts to levy a fee against residential and commercial construction to fund school construction or reconstruction. These fees are adjusted every 2 years in accordance with the statewide cost index for Class B construction as determined by the State Allocation Board.
- ▶ Level II developer fees are outlined in Government Code Section 65995.5. This code section allows a school district to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multitrack year-round scheduling, having an assumed debt equal to 15 to 30 percent of the district's bonding capacity (the percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past 4 years that received at least 50 percent plus one of the votes cast. A facility needs assessment must demonstrate that the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the

next five years. As of September 2016, EGUSD's Level II fees are \$5.01 per square foot for residential development and \$0.56 per square foot for commercial/industrial construction.

- ▶ Level III developer fees are outlined in Government Code Section 65995.7. This code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction if State funding becomes unavailable. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of State funding.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

City of Elk Grove General Plan

The City of Elk Grove General Plan establishes goals and policies to guide both present and future development within the City's jurisdiction. Note that Elk Grove is currently updating their General Plan and that future development would need to comply with the most current version of the General Plan. The City of Elk Grove's current General Plan policies and actions relevant to public services are provided below.

Parks

- ▶ **Policy PTO-1:** The City of Elk Grove supports the development, maintenance, and enhancement of parks and trails serving a variety of needs at the neighborhood, area, and citywide level. The City may seek to accomplish the provision of parks and trails in cooperation with the Cosumnes Community Services District (CCSD).
 - **PTO-1-Action 1** As part of the review of development projects, ensure that public parks and trails are provided which meet the City's and CCSD's criteria and which implement the CCSD/City Parks Master Plan and City Bicycle, Pedestrian, and Trail Master Plan.
- ▶ **Policy PTO-3:** Funding for maintenance of parks and/or trails shall be assured to the City's satisfaction prior to the approval of any Final Subdivision Map which contains or contributes to the need for a public parks and facilities.
- ▶ **Policy PTO-4:** New residential developments may be required to, at a minimum, provide parks consistent with the Quimby Act (CA Govt. Code Section 66477), through land dedication, fees in lieu, or on-site improvements at a standard of 5 acres of land for parks per 1,000 residents. Land dedication and/or payment of in-lieu fees shall be required consistent with state law. Land dedication and/or fees may be required pursuant to other policies in this Element with or without the use of the authority provided in the Quimby Act, or in combination with the Quimby Act and other legal authority.

Public Facilities and Finance

- ▶ **Policy PF-1:** Except when prohibited by state law, the City shall require 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.

- ▶ **Policy PF-7:** The City shall require that water flow and pressure be provided at sufficient levels to meet domestic, commercial, and firefighting needs.
- ▶ **Policy PF-16:** Specific Plans shall identify all existing and planned school sites and should include guidelines and conceptual examples for incorporating new schools into overall neighborhood design.
- ▶ **Policy PF-17:** While recognizing that 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 criteria:
 - Traffic impacts on nearby roadways are addressed and mitigated to meet City standards for level of service.
 - Schools should serve as a focal point of neighborhood activity and be interrelated with churches, parks, greenways and off-street paths whenever possible.
 - Almost all residences will be within walking distance of a school (1 mile or less) and all residences are within 2 miles of a school whenever possible.
 - New schools are 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 PF-18:** 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.
- ▶ **Policy PF-19:** Public facilities should be phased in a logical manner which avoids “leapfrog” development and encourages the orderly development of roadways, water and sewer, and other public facilities. The City shall not provide public financing or assistance for projects that do not comply with the planned phasing of public facilities. Interim facilities may be used only if specifically approved by the City Council.
- ▶ **Policy PF-21:** New development shall fund its fair share portion of its impacts to all public facilities and infrastructure as provided for in state law.

Safety

- ▶ **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-29:** The City shall 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 SA-32:** Cooperate with the Cosumnes Community Services District (CCSD) Fire Department to reduce fire hazards, assist in fire suppression, and emergency medical services and promote fire safety in Elk Grove.
 - **SA-32-Action 1** Review new development for adequate water supply and pressure, fire hydrants, and access to structures by firefighting equipment and personnel.

- **SA-32-Action 2** Review projects for compliance with the Fire Code as part of the building permit process.
- **SA-32-Action 4** 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.

City of Elk Grove Municipal Code Chapter 22.40 “Park and Recreation Dedication and Fees”

Elk Grove Municipal Code Chapter 22.40 “Park and Recreation Dedication and Fees” provides standards and formulas for the dedication of parkland and in-lieu fees. These policies help the City acquire new parkland. As previously stated, the General Plan sets forth the standard that a minimum of 5 acres of park land for each 1,000 persons residing within the City is to be devoted to local recreation and park purposes, or other ratio as provided through an adopted community plan, specific plan, or similar master or strategic plan (e.g., the Laguna Ridge Specific Plan requires a minimum of 7 acres of park land dedication for each 1,000 residents).

The amount of land to be provided is determined based on the appropriate standards and formula contained in Chapter 22.40. Under the appropriate circumstances, the sub-divider must, in lieu of dedicating land, pay a fee determined based on the appropriate standards and formula contained in Chapter 22.

City of Elk Grove Municipal Code Chapter 16.95 “Development Impact Fees”

The Elk Grove City Code imposes six citywide development impact fees. Fees are assessed on landowners who develop property to provide funds for facilities required to meet the needs of, and address impacts caused by, the additional persons residing in or employed on the property as a result of the development. The fees are:

1. Capital Facilities Fee, which funds the following facilities: Civic Center; Police Facilities; Corporation Yard; Library Facilities; and Transit
2. Affordable Housing Fee, which funds the construction, acquisition or financing of new or existing multi or single family affordable housing projects within the City for low or very low income residents.
3. Roadway Fee, which is a multi-zonal fee program that funds the center lanes and medians of major roadways, and funds major intersections, freeway interchanges, and bridges
4. Fire Fee, which is a multi-zonal fee program that funds fire capital facilities and equipment.
5. Measure A Transportation Mitigation Fee, which funds regional transportation facilities. The City collects this fee on behalf of the Sacramento Transportation Authority (STA).

Elk Grove Bicycle, Pedestrian, and Trails Master Plan

The Elk Grove Bicycle, Pedestrian, and Trails Master Plan (Master Plan) is intended to offer recreational opportunities and an alternative method for transportation for Elk Grove residents (City of Elk Grove 2014b). The City Council adopted the Master Plan in January 2007, but the plan is continually updated as goals are achieved, as new funding sources become available, and in order to ensure consistency with the Elk Grove General Plan.

Cosumnes Community Services District Parks Master Plan

The Cosumnes Community Services District Parks Master Plan was initially approved by the CCSD in 2008, and the City gave its approval in 2010. The subsequent Master Plan 2016 Update was approved by both the City and CCSD in 2016. The Park Master Plan takes a system-wide approach to address recreation needs in Elk Grove and provides infrastructure direction for all areas in the CCSD/City service area. CCSD had coordinated efforts with the City to update the Master Plan and ensure the document's vision, standards, and strategies meet the needs of both agencies. The CCSD Parks and Recreation Department is undertaking a new Parks and Recreation Master Plan which is scheduled to be completed early 2018.

CCSD Service Standards

CCSD Fire Department has established a response time goal of arriving on scene within seven-minutes of the 911 call, 90 percent of the time. CCSD has been given an Insurance Services Office (ISO) rating of 2 in "watered" areas and 2Y in "unwatered" areas, such as the proposed SOIA Area. The ISO rating is the recognized classification for a fire department or district's ability to defend against major fires. A rating of 10 generally indicates no protection; whereas an ISO rating of 1 indicates high firefighting capability. The proposed SOIA Area is considered "unwatered." According to the ISO, newly developing urban areas should have a fire station opened within 1½ mile of all commercial development and 2½ miles from all residential development when "buildout" exceeds 20 percent of the planned area.

Elk Grove Police Department Service Standards

The Police Department handles approximately 100,000 service calls per year with a goal of responding to Priority One calls (those involving a violent crime in-progress or other life-threatening emergency) within five minutes. Actual average Priority One response time was 5.5 minutes for the fiscal year 2014–2015 (City of Elk Grove 2015).

3.13.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Impacts of the proposed Project related to public services were identified by comparing existing service capacity and facilities against future demand and identifying reasonably foreseeable service and facilities expansion required to serve the SOIA Area. Where possible, a quantitative comparison was used to determine the proposed Project's impacts on future demands.

It is assumed for the purposes of this EIR that the 271-acre commercial and industrial area could support more than 3.5 million square feet of commercial and industrial space that generates more than 10,000 employees, depending on future development applications. In addition, it is assumed that the 118-acre area identified for mixed uses could include development of 708 dwelling units that generate 2,329 persons or other land uses with a similar demand for public facilities.

The evaluation of potential public services and recreation impacts was based on a review of regional and local planning documents pertaining to the SOIA Area and vicinity, including the City General Plan (City of Elk Grove 2015b), *Elk Grove Unified School District Facilities Master Plan 2015–2025 Update* (EGUSD 2016a), *Cosumnes Community Services District Parks Master Plan* (CCSD Parks and Recreation 2009), and updated Sacramento

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, as amended. 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.** *Future development of the SOIA Area, including the multi-sport park complex project, could increase demand for CCSF fire protection and emergency medical services. Project applicants for future projects would pay development impact fees to ensure fire protection personnel and equipment is provided to meet increased demand for fire protection services. 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. This impact is considered **less than significant**.*

CCSF will provide fire protection, fire prevention, life safety, and emergency medical services to the SOIA Area. Future development of the SOIA Area includes the potential for construction of approximately 3.5 million square feet of commercial and industrial uses and additional commercial or residential uses in the area identified for mixed use. If annexation is approved and then development is proposed that requires discretionary review by the City of Elk Grove, this would require General Plan consistency findings. In addition to consistency with the City's General Plan, future project proponents would be required to incorporate California Fire Code, California Health and Safety Code, and 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. These topics are addressed by the City's General Plan Policy PF-7, Action SA-32-Action 1, SA-32-Action 2, and SA-32-Action 4. Physical impacts associated with construction and operations of on-site public facilities are evaluated throughout this EIR.

The CCSF 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 CFD has also been established to assist in the long-term mitigation of growth impacts. Annexation into the CFD or lump sum payment to offset growth impacts is required of property owners of new development through a balloting process. Fee programs are regularly evaluated and updated, consistent with Elk Grove General Plan Policy PF-21, to ensure that adequate service levels are maintained.

The multi-sport park complex project, including the tournament fields, stadium, and fairgrounds, would require fire protection services. Development of the multi-sport park complex would be required to meet City standards for access, fire hydrants, automatic sprinkler systems, fire alarm systems, and water flow, and other California Fire Code requirements. The City would coordinate with the CCSF Fire Department for an appropriate level of fire protection during future sporting events at the multi-sport park complex, as needed.

Future development of commercial, industrial, and mixed uses is assumed to occur over an approximately 20-year period. The CCSF 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 CCSF 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 CCSF 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 CCSF (Ramos, pers. comm., 2017). The development review process should minimize service impacts to joint responder agencies, such as SMFD and SFD (Ramos, pers. comm., 2017). CCSF 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 SOIA Area. 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. This impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.13-2 *Increased demand for law enforcement services. Future development of the SOIA Area, including the multi-sport park complex project, could increase demand for law enforcement services. Future development 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. This impact is considered less than significant.*

After annexation, the Elk Grove Police Department will provide law enforcement. Implementation of the multi-sport park complex project may require law enforcement staffing and Police Department support. The Police Department will be notified of events and coordinate with management for the multi-sport park complex project

to ensure appropriate security based on the type and anticipated size of each event. Management could include hiring off-duty officers or security guards from a firm approved by the Police Chief.

Future development could include construction of approximately 3.5 million square feet of commercial and industrial uses and additional mixed uses that could potentially include residential development. The Police Department currently has a staffing ratio of 0.82 officers per 1,000 residents. With the assumed addition of up to 2,329 persons, an estimated two (rounded up) officers could be needed.

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 March 2018, The City assesses a fee of \$1,115 per single family dwelling (for fewer than 3 units, including duplexes), \$605 per multi-family dwelling units, \$813 for single family age-restricted housing, \$437 for multi-family age restricted housing, \$0.09 per square foot of commercial uses, \$0.07 per square foot of car sales, \$0.04 per square foot of hotel uses, \$0.33 per square foot of office space, and \$0.19 per square foot of industrial uses (City of Elk Grove 2018). The City reviews development impact fees yearly and adjusts as necessary to adequately fund police protection services (City of Elk Grove 2018). Future development would be required to pay a fair share of costs associated with law enforcement services and facilities through payment of development impact fees, consistent with Elk Grove General Plan Policy PF-21. This would help to ensure sufficient police protection facilities if there is development in the future within the SOIA Area.

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 addition of two new officers would not result in the need for additional police protection facilities. Therefore, 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**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.13-3 **Increased demand for schools.** *Future development of the SOIA Area could result in the generation of school-aged children that increases the demand for schools. Future project applicant/s would be required to pay all applicable State-mandated school impact fees to EGUSD and 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). This impact is considered less than significant.*

Potential residential development within the SOIA Area in the area designated for mixed uses could generate school-aged children. The multi-sport park complex would not generate school-aged children. Using EGUSD's current student yield factors, the potential development of 708 dwelling units would generate could generate approximately 266 new elementary school students (grades K–6), 81 middle school students (grades 7–8), and 163 high school students (grades 9–12). The SOIA Area 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 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) (EGUSD 2016a). It anticipated that these schools will exceed design capacity by 2025 and may not have capacity to accommodate the students who would reside in the SOIA Area (EGUSD 2016a, 2016b; Williams, pers. comm., 2017).

City General Plan Policy PF-21 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 State school bond program (City General Plan Policy PF-18). Pursuant to SB 50, the project applicant would be required to pay all applicable State-mandated school impact fees to EGUSD. As of March 2018, EGUSD's fees were \$5.01 per square foot for residential construction and \$0.56 for commercial construction, although these fees may increase by the time development is proposed (City of Sacramento Community Development Department 2018). 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). This impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.13-4 **Increased demand for parks and recreation facilities.** *The multi-sport park complex would include construction of new City parkland and recreational facilities. Future buildout of the SOIA Area, which could include new residences in the area designated for mixed use, could increase demand for parks and recreational facilities. Future development applicants would be required to dedicate parkland or pay development fees for parks and recreational facilities created by any new residential housing units. The impact is considered less than significant.*

City and CCSD parkland standards require a minimum of 5 acres of developed parkland per 1,000 residents. Currently, CCSD serves an estimated population of 163,000, and manages 750.7 acres of developed parks and 18 miles of trails. In addition, the City and CCSD own 124.4 acres of parkland located within the City limits that is in the process being developed.

The proposed multi-sport park complex would provide tournament and practice fields, an indoor sports facility, a stadium, and fairgrounds, which would increase the amount of local and regional parks and recreational facilities.

Physical impacts associated with construction and operation of the multi-sport park complex is evaluated throughout this EIR in environmental topic-specific sections, such as Biological Resources, Greenhouse Gas Emissions, and Air Quality. These technical sections provide analysis and mitigation for the multi-sports complex project, and there are no known additional potentially significant impacts related to the provision of parks and recreational facilities or deterioration of existing facilities.

Future development within the SOIA Area could add an assumed 708 housing units, or 2,329 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. Whether or not this would occur depends on the amount of residential development within the SOIA Area and recreational interests of this population vis-à-vis the parks and recreational facilities that are developed within the SOIA Area in the future and existing and future parks and recreational facilities within and outside Elk Grove that are accessible to SOIA Area residents.

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) and the City of Elk Grove Municipal Code Chapter 22.40 or contribute to other fair share funding mechanisms required by the City as stated in General Plan Policy PTO-3. These impact fees could fund the development of a new park or the maintenance of existing parks. This impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

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3.14 TRANSPORTATION

This section summarizes the assumed land uses for the SOIA Area, which includes the multi-sport park complex, the development of traffic volume forecasts, and the analysis of transportation and traffic impacts associated with implementation of the proposed Project. The following scenarios were analyzed in a traffic study prepared to support this EIR (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.

3.14.1 ENVIRONMENTAL SETTING

The SOIA Area is located south of existing City of Elk Grove boundaries (Exhibit 2-1). Roadways are the primary existing type of transportation facility within the SOIA Area. The existing roadway network consists of freeways, thoroughfares, arterials, collectors, and rural roadways. Railroads and related facilities are also present in the vicinity of the SOI Area and are generally used for movement of goods. A description of the major transportation facilities, major roadway segments, current traffic volumes, and alternative transportation modes is provided below.

STUDY AREA

The following 11 roadway, two freeway segments and 18 intersections (Table 3.14-1) were selected for analysis based on their proximity to the SOIA Area and the expected use of these facilities if the SOIA Area is developed in the future. The roadway and freeway segments identified below represent the study area for the transportation analysis summarized in this EIR.

EXISTING CONDITIONS

The existing physical and operating characteristics of the roadway system, transit system, and bicycle/pedestrian system are described in this section to provide a context for understanding the severity of impacts caused by the proposed Project and future annexation and urbanization activities that could be experienced in the SOIA Area.

Roadway System

Implementation of the proposed Project will most directly affect roadways under the jurisdiction of the County of Sacramento and the City of Elk Grove, as well as the California Department of Transportation (Caltrans) (State Route 99).

Table 3.14-1 Study Area Roadway Intersections and Segments		
Number	Name	Jurisdiction
Intersections		
1.	I-5 SB Ramps/Hood Franklin Road	Caltrans
2.	I-5 NB Ramps/Hood Franklin Road	Caltrans
3.	Bruceville Road/Kammerer Road	City of Elk Grove
4.	Lent Ranch Parkway/Kammerer Road	City of Elk Grove
5.	Promenade Parkway/Kammerer Road	City of Elk Grove
6.	SR 99 SB Ramps/Grant Line Road	City of Elk Grove
7.	SR 99 NB Ramps/Grant Line Road	City of Elk Grove
8.	E. Stockton Boulevard/Grant Line Road	City of Elk Grove
9.	Waterman Road/Grant Line Road	City of Elk Grove
10.	Mosher Road/Grant Line Road	City of Elk Grove
11.	Bradshaw Road/Grant Line Road	City of Elk Grove
12.	Grant Line Road/Elk Grove Boulevard	City of Elk Grove
13.	Grant Line Road/Bond Road	City of Elk Grove
14.	Grant Line Road/Wilton Road	City of Elk Grove
15.	Grant Line Road/Sheldon Road	City of Elk Grove
16.	Grant Line Road/Calvine Road	City of Elk Grove
17.	Waterman Road/Elk Grove Boulevard	City of Elk Grove
18.	Waterman Road/Bond Road	City of Elk Grove
Roadway Segments		
1.	Bradshaw Road from Elk Grove Boulevard to Grant Line Road	City of Elk Grove
2.	Grant Line Road from SR 99 SB Ramps to SR 99 NB Ramps	City of Elk Grove
3.	Grant Line Road from SR 99 NB Ramps to East Stockton Boulevard	City of Elk Grove
4.	Grant Line Road from East Stockton Boulevard to Waterman Road	City of Elk Grove
5.	Grant Line Road from Waterman Road to Mosher Road	City of Elk Grove
6.	Grant Line Road from Mosher Road to Bradshaw Road	City of Elk Grove
7.	Grant Line Road from Bradshaw Road to Elk Grove Boulevard	City of Elk Grove
8.	Kammerer Road from Lent Ranch Parkway to Promenade Parkway	City of Elk Grove
9.	Kammerer Road from Promenade Parkway to SR 99 SB Ramps	City of Elk Grove
10.	Mosher Road from Waterman Road to Grant Line Road	City of Elk Grove
11.	Waterman Road from Mosher Road to Grant Line Road	City of Elk Grove

Table 3.14-1 Study Area Roadway Intersections and Segments		
Number	Name	Jurisdiction
State Route 99 Mainline		
1	Northbound 99 South of Grant Line Road	Caltrans
2	Southbound 99 South of Grant Line Road	Caltrans
3	Northbound 99 North of Grant Line Road	Caltrans
4	Southbound 99 North of Grant Line Road	Caltrans
State Route 99 Ramps (Southbound)		
1.	SB SR 99 Grant Line Road Slip Off-Ramp	Caltrans
2.	SB SR 99 Grant Line Road Loop On-Ramp	Caltrans
3.	SB SR 99 Grant Line Road Slip On-Ramp	Caltrans
State Route 99 Ramps (Northbound)		
1.	NB SR 99 Grant Line Road Slip Off-Ramp	Caltrans
2.	NB SR 99 Grant Line Road Loop On-Ramp	Caltrans
3.	NB SR 99 Grant Line Road Slip On-Ramp	Caltrans
Notes: SB = southbound; NB = Northbound; EB = eastbound; WB = westbound Source: Fehr & Peers, 2017, Data compiled by AECOM in 2017.		

Grant Line Road

Grant Line Road extends from SR 99 through Elk Grove to White Rock Road in Rancho Cordova. Grant Line Road is six lanes between SR 99 and East Stockton Boulevard. Grant Line Road is four lanes between East Stockton Boulevard and Waterman Road with a grade-separated crossing of the Union Pacific Railroad. Grant Line Road is two lanes east of Waterman Road. Grant line Road is designated as an eight-lane arterial between SR 99 and Bradshaw Road and as a six-lane arterial east of Bradshaw Road. Grant Line Road between Calvine Road and just east of Equestrian Drive is subject to the Elk Grove Rural Road Improvement Policy. Grant Line Road is also part of the Capital SouthEast Connector project.

Kammerer Road

Kammerer Road is an east-west road extending from Bruceville Road to West Stockton Boulevard. Kammerer Road is two lanes from just west of Lent Ranch Parkway to Bruceville Road. Kammerer Road is part of the Capital SouthEast Connector project and is designated in the General Plan as an eight-lane arterial from SR 99 to Lent Ranch Parkway and as a six-lane arterial from Lent Ranch Parkway to Franklin Boulevard. The General Plan includes the extension of Kammerer Road from Bruceville Road to Franklin Boulevard.

Waterman Road

Waterman Road is a north-south roadway that extends from Calvine Road to Grant Line Road in the City. Waterman Road is generally two lanes with widening at improved intersection to accommodate it General Plan designation as a four-lane arterial.

State Route 99 (SR 99)

SR 99 is a north-south freeway that 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. Access to SR 99 is provided through interchanges at Grant Line Road, Elk Grove Boulevard, Laguna Boulevard/Bond Road, and Sheldon Road. This section of SR 99 has two mainline travel lanes and one high-occupancy vehicle lane in either direction with a posted speed limit of 65 miles per hour.

Interstate 5 (I-5)

I-5 is a north-south freeway that traverses California and is a major national freeway that connects between Mexico and Canada. Near the Hood Franklin Road interchange, I-5 is a four-lane freeway.

Traffic Operations

The following summarizes traffic operations under existing conditions, including peak-hour roadway segment volume-to-capacity, intersection operations, and freeway operations at the SR 99/Grant Line Road interchange.

Peak-Hour Roadway Segment Volume-to-Capacity

Table 3.14-2 displays directional roadway segment traffic volumes and volume-to-capacity ratio for weekday PM and Saturday peak-hour conditions for key roadway segment that will provide primary access to the proposed Project, including Grant Line Road between SR 99 and Bradshaw Road.

Peak-Hour Intersection Operations

Table 3.14-3 displays the existing weekday AM, PM, and Saturday peak hour traffic operations analysis results at the 18 study intersections (refer to Appendix G for detailed calculations). Most of the existing study intersections have signal control, except for the following:

Side-Street Stop Control

- ▶ Hood Franklin Road/I-5 SB Ramps
- ▶ Hood Franklin Road/I-5 NB Ramps
- ▶ Kammerer Road/Bruceville Road (This intersection was converted to an all way stop on December 11, 2017)
- ▶ Grant Line Road/Mosher Road
- ▶ Grant Line Road/Bradshaw Road

All-Way Stop Control

- ▶ Grant Line Road/Elk Grove Boulevard

Operation of these intersections will likely degrade sooner than the signal-controlled intersections with the addition of Project traffic. As shown, all study intersections currently operate at LOS D or better.

Peak-Hour Freeway Operations

Table 3.14-4 displays the existing weekday AM and PM peak hour traffic operations analysis results at the 10 study freeway facilities (refer to Appendix G for detailed calculations). As shown, all study freeway facilities at

the SR 99/Grant Line Road interchange operate at LOS C or better. However, peak period operations on SR 99 may be worse than reported due to reoccurring bottlenecks. As documented in the California Department of Transportation (Caltrans Mobility Performance Report 2009 [Caltrans 2011], several bottleneck locations exist on SR 99 that meter traffic northbound in the morning and southbound in the evening. These bottlenecks cause congested conditions (i.e., vehicle speed of 35 miles per hour or less) and vehicle queuing on northbound SR 99 during the AM peak period. Similarly, bottlenecks on southbound SR 99 in the evening meter traffic on SR 99 through Elk Grove.

Table 3.14-2 Peak-Hour Roadway Segment Operations – Existing Conditions

Roadway Segment	Direction	Lanes	Hourly Capacity (Per Lane)	Weekday PM Peak Hour		Saturday Peak Hour	
				Volume ¹	VC ²	Volume ¹	VC ²
Grant Line Road from SR 99 SB Ramps to SR 99 NB Ramps	SB	2	990	250	0.25	165	0.17
	NB	2	990	254	0.26	135	0.14
Grant Line Road from SR 99 NB Ramps to East Stockton Boulevard	EB	6	910	618	0.23	425	0.16
	WB	6	910	1,108	0.41	595	0.22
Grant Line Road from East Stockton Boulevard to Waterman Road	EB	6	910	1,022	0.37	761	0.28
	WB	6	910	1,234	0.45	695	0.25
Grant Line Road from Waterman Road to Mosher Road	EB	4	910	826	0.45	622	0.34
	WB	4	910	911	0.50	570	0.31
Grant Line Road from Mosher Road to Bradshaw Road	EB	2	910	631	0.69	454	0.50
	WB	2	910	680	0.75	429	0.47
Grant Line Road from Bradshaw Road to Elk Grove Boulevard	EB	2	910	564	0.62	432	0.47
	WB	2	910	645	0.71	382	0.42
Kammerer Road from Lent Ranch Parkway to Promenade Parkway	EB	2	910	304	0.33	309	0.34
	WB	2	910	402	0.44	217	0.24
Kammerer Road from Promenade Parkway to SR 99 SB Ramps	EB	6	910	285	0.10	214	0.08
	WB	6	910	433	0.16	171	0.06
Mosher Road from Waterman Road to Grant Line Road	EB	6	910	547	0.20	316	0.12
	WB	6	910	655	0.24	296	0.11
Waterman Road from Mosher Road to Grant Line Road	SB	2	990	75	0.08	77	0.08
	NB	2	990	98	0.10	56	0.06
Bradshaw Road from Elk Grove Boulevard to Grant Line Road	SB	2	990	260	0.26	151	0.15
	NB	2	990	231	0.23	147	0.15
Notes: ¹ Both directions excluding center turn lanes or right-turn deceleration lanes. ² VC – Volume-to-Capacity Ratio Source: Fehr & Peers 2017.							

Table 3.14-3 Peak-Hour Intersection Level of Service – Existing Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
		Delay ¹	LOS ¹	Delay ¹	LOS ¹	Delay ¹	LOS ¹
Hood Franklin Rd/I-5 SB Ramps	SSSC	5 (10)	A (A)	8 (11)	A (B)		
Hood Franklin Rd/I-5 NB Ramps	SSSC	2 (11)	A (B)	2 (11)	A (B)		
Kammerer Rd/Bruceville Rd	SSSC	10 (19)	A (C)	10 (15)	B (C)		
Kammerer Rd/Lent Ranch Pkwy2	Signal	5	A	4	A		
Kammerer Rd/Promenade Pkwy	Signal	14	B	15	B	10	A
Kammerer Rd/SR 99 SB Ramps	Signal	7	A	7	A	5	A
Kammerer Rd /SR 99 NB Ramps	Signal	7	A	8	A	4	A
Grant Line Rd/E. Stockton Blvd	Signal	17	B	21	C	16	B
Grant Line Rd/Waterman Rd	Signal	12	B	8	A	9	A
Grant Line Rd/Mosher Rd	SSSC	3 (27)	A (D)	2 (20)	A (C)	2 (13)	A (B)
Grant Line Rd/Bradshaw Rd	SSSC	4 (13)	A (B)	5 (15)	A (C)	4 (11)	A (B)
Grant Line Rd/Elk Grove Blvd	AWSC	29	D	14	B		
Grant Line Rd/Bond Rd	Signal	19	B	18	B		
Grant Line Rd/Wilton Rd	Signal	37	D	27	C		
Grant Line Rd/Sheldon Rd ²	Signal	29	C	20	C		
Grant Line Rd/Calvine Rd ²	Signal	21	C	14	B		
Waterman Rd/Elk Grove Blvd	Signal	26	C	26	C		
Waterman Rd/Bond Rd	Signal	27	C	23	C		

Notes:

AWSC = All-Way Stop Control. SSSC = Side-Street Stop Control.

¹ Average delay (rounded to the nearest second) and LOS for signalized and all-way stop-controlled intersections is the weighted average for all movements. Average delay and LOS at side-street stop-controlled intersections shown for both worst-case side street movement (in parentheses) and intersection as a whole.

Source: Fehr & Peers 2017.

Table 3.14-4 Peak-Hour Freeway Analysis – Existing Conditions

Freeway Facility	Type	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Density	LOS	Density	LOS
NB SR 99 South of Grant Line Road	Basic Segment	22.7	C	24	C
NB SR 99 Grant Line Road Slip Off-Ramp	Diverge	17.6	B	18.7	B
NB SR 99 Grant Line Road Loop On-Ramp	Basic Segment	11.5	B	12.5	B
NB SR 99 Grant Line Road Slip On-Ramp	Merge	15.4	B	17.1	B
NB SR 99 North of Grant Line Road	Basic Segment	16.1	B	18.8	C
SB SR 99 North of Grant Line Road	Basic Segment	13.9	B	14.2	B
SB SR 99 Grant Line Road Slip Off-Ramp	Diverge	7.4	A	7.9	A
SB SR 99 Grant Line Road Loop On-Ramp	Basic Segment	9.6	A	10.7	A
SB SR 99 Grant Line Road Slip On-Ramp	Merge	12.9	B	13.9	B
SB SR 99 South of Grant Line Road	Basic Segment	15.8	B	17.3	B

Source: Fehr & Peers, 2017

Bicycle and Pedestrian Facilities

Bicycle and pedestrian trips account for approximately 2.8 percent of all work trips and 4.9 percent of all non-work trips made by residents and employees in suburban areas. This estimate is from the Pre-Census Travel Behavior Report Analysis of the 2000 SACOG Household Travel Survey.

Elk Grove Bicycle, Pedestrian, and Trails Master Plan

The City adopted the City of Elk Grove Bicycle, Pedestrian, and Trails Master Plan in July 2014 (City of Elk Grove 2014a). The Bicycle, Pedestrian, and Trails Master Plan BPMP identifies existing facilities opportunities, constraints, and destination points for bicycle users and pedestrians in Elk Grove. Below are descriptions of bicycle paths and their classifications.

- ▶ Class I bike paths provide a completely separated right-of-way for the exclusive use of bicycles and pedestrian with cross-flow minimized.
- ▶ Class II bike lanes are striped lanes for one-way bike travel on a street or highway.
- ▶ Class III bike routes provide for shared use with pedestrians or motor vehicle traffic.

Since the vicinity of the SOIA Area is not developed, it does not have existing bicycle or pedestrian facilities. There are Class II bike lanes along Promenade Parkways northeast of the SOIA Area and Kammerer Road/Grant Line Road has a Class II bike lane in the vicinity of SR 99.

Transit Facilities

The City operates e-tran, which consists of both local and commuter fixed-route transit services. Local transit service is provided on weekdays (seven routes) and Saturdays (four routes). E-tran provides ten commuter routes that operate weekdays during the AM/PM peak commute period, which includes two reverse commuter routes. E-tran provides the following services:

- ▶ Fixed-route local bus service (e-tran) within the City;
- ▶ Commuter service to Sacramento
- ▶ Connections to Sacramento Regional Transit District light rail transit stations at Cosumnes River college and Rancho Cordova; and
- ▶ Park and ride facilities located throughout the community.

The closest routes to the SOIA Area operate on East Stockton Boulevard, serving the City's Corporation Yard on Iron Rock Way. The SOIA Area is not currently served by e-tran, since there is no significant ridership present.

Pursuant to the Americans with Disabilities Act (ADA), the City also operates a paratransit, origin to destination, service within the City limits, known as e-van. This service is available for all ADA eligible residents that are unable to utilize the e-tran fixed-route system. This e-van service operates seven days a week.

3.14.2 REGULATORY FRAMEWORK

STATE PLANS, POLICIES, LAWS, AND REGULATIONS

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining State-owned roadways. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the State highway system within the Sacramento County or the City of Elk Grove need to be approved by Caltrans.

Caltrans operates and maintains SR 99, I-5, and SR 160, which provide regional access to the City and the SOIA Area. Additionally, the Caltrans Division of Planning has four major functions: the Office of Advance Planning, Regional Planning/Metropolitan Planning Organization (MPO, Local Assistance/Intergovernmental Relations/California Environmental Quality Act, and System Planning Public Transportation. The Office of System Planning Public Transportation prepares Transportation Concept Reports (TCRs) in coordination with the regional planning partners and other district divisions. The TCRs are long-term planning documents, which evaluate current and projected conditions along specified routes. The TCRs establish 20-year planning visions and concepts and recommend long-term improvements to achieve the concept. The TCRs also reflect the plans of the applicable Regional Transportation Planning Agencies and MPOs, such as SACOG for the Sacramento region) for managing local and regional travel demand on State routes. Caltrans has established a Concept Level of Service for all roadways under its jurisdiction. The Concept LOS assumes a 20-year horizon and improvements to the identified facility. For planning purposes, Caltrans has established LOS D as the minimal acceptable level of service for all roadways under its jurisdiction. However, the Concept LOS for SR 99 from Elk Grove Boulevard to Martin Luther King Jr. Boulevard is LOS F (Caltrans 2017).

Vehicle Miles Traveled (VMT)

Governor Brown signed Senate Bill (SB) 743 in September 2013, which creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts and to recommend analysis methodology and thresholds. Once the CEQA Guidelines are amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA (Public Resources Code Section 21099(b)(1).) OPR selected VMT as the preferred metric and has released guidance material that will go into effect in 2020. SB 743 did not change the discretion that lead agencies have to select methodology or define their own significance thresholds.

Under SB 743 (SB 743), the focus of transportation analysis shifted from driver delay to travel demand. Measurements of transportation impacts may include vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. Vehicle miles traveled, or VMT, has long been a common metric to use to measure travel demand. A VMT is one vehicle traveling on a roadway for one mile. Many communities have been estimating and developing policy related to VMT for years, including estimates and goals for VMT per person, VMT per employee, or other methods of normalization. SB 743 directs revisions to the CEQA Guidelines that would create criteria for assessing travel demand, such as "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated" (Public Resources Code Section 21099[b][1]). Once the CEQA Guidelines are in effect, delay related to congestion will no longer be

considered a significant impact under CEQA (OPR 2016). VMT has been a primary indicator of travel demand for decades for several reasons, including:

“First, it is relatively easy to measure by counting traffic on roadways at different locations. It is one of the few measures of transportation performance that has been consistently and comprehensively monitored and documented over time in the region... Second, VMT bears a direct relationship to vehicle emissions... Third, VMT can be influenced by policy in a number of different ways. By providing more attractive alternatives to driving alone, VMT can be reduced by shifting from vehicle to non-vehicle modes... or from low occupancy to higher occupancy... VMT can be influenced by land use patterns as well. A better mix of residential, employment, education, and service uses in an area can allow people to accomplish their daily activities with less driving, and consequently, less VMT. Fourth, VMT correlates with congestion... Finally, VMT correlates with frequency of traffic accidents” (SACOG 2016, Chapter 5b, page 76).

REGIONAL AND LOCAL PLANS, POLICIES, LAWS AND REGULATIONS

SACOG Metropolitan Transportation Plan

SACOG is responsible for the preparation of, and updates to, the Metropolitan Transportation Plan (MTP) and the corresponding Metropolitan Transportation Improvement Program (MTIP) for the six-county Sacramento region. The MTP provides a 20-year transportation vision and corresponding list of projects. The MTIP identifies short-term projects (7-year horizon) in more detail. The current MTP, the MTP/Sustainable Communities Strategy (SCS) 2036, was adopted in February 2016 (SACOG, 2016). SACOG is also responsible for the oversight and distribution of most federal and State transportation funding sources.

The Sacramento County Department of Transportation Traffic Impact Guidelines

The SOIA Area is currently in unincorporated Sacramento County, and County policies are presented for context, although the SOIA Area would be developed under the jurisdiction of the City of Elk Grove.

Sacramento County General Plan

The County defines the minimum acceptable operation level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. 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.

The County of Sacramento General Plan, Circulation Element (Amended in May 2014) (City of Elk Grove 2014b) establishes goals and policies to guide both present and future development within the County’s jurisdiction. If the SOIA is approved, if annexation is proposed and approved in the future, and if development is proposed and approved in the future, this would occur under the jurisdiction of Elk Grove. However, County policies and implementation measures are presented for context.

Mobility

Policies

- ▶ **CI-1.** Provide complete streets to provide safe and efficient access to a diversity of travel modes for all urban, suburban and rural land uses within Sacramento County except within certain established neighborhoods where particular amenities (such as sidewalks) are not desired. Within rural areas of the County, a complete street may be accommodated through roadway shoulders of sufficient width or other means to accommodate all modes of travel.
- ▶ **CI-2.** Promote continued mobility for individuals whose access to automobile transportation is limited by age, illness, income, desire, or disability.
- ▶ **CI-3.** Travel modes shall be interconnected to form an integrated, coordinated and balanced multi-modal transportation system, planned and developed consistent with the land uses to be served.
- ▶ **CI-4.** Provide multiple transportation choices to link housing, recreational, employment, commercial, educational, and social services.
- ▶ **CI-5.** Land use and transportation planning and development should be cohesive, mutually supportive, and complement the objective of reducing per capita VMT.
- ▶ **CI-6.** Provide support for community based corridor planning processes on existing roadways with excess vehicle capacity within built communities to optimize the public right-of-way by utilizing the excess width for other modes of travel or public amenities such as bike lanes, landscaping, walkways, parking, or medians.

Implementation Measures

Collaborate with transit providers and planning staff to ensure that all transit oriented development and identified commercial corridors are considered for comprehensive transit service and have full bicycle and pedestrian access.

Adopt measures to ensure that all transportation facility construction provides access between modes, or multi-modal connections, so that Sacramento County residents can easily use multiple travel modes in conjunction with one another.

Assess the use of developer fees and/or improvement districts to contribute to improved transit, pedestrian and bicycle facilities in commercial corridors.

Promote safety education and skills training programs.

Roadways

Policies

- ▶ **CI-7.** Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan. Transportation facilities shall be consistent with the Sacramento County, Municipal Services Agency Improvement Standards and Construction Specifications, the Connector Project Design

Guidelines, and supplemented by the Caltrans design standards. The County may deviate from the adopted County Improvement Standards and Construction Specifications in circumstances where conditions warrant special treatment. The Capital SouthEast Connector, as designated in the Transportation Plan map, shall be consistent with the most current Joint Powers Authority (JPA)-approved "Capital SouthEast Connector JPA Project Design Guidelines," provided that the Project Design Guidelines will not be applied to diminish or alter the rights of County-approved projects and provided that the design exception process within the Project Design Guidelines is not amended to diminish the County's land use authority to approve future projects proximate to or its authority to determine access to the Capital SouthEast Connector.

- ▶ The Capital SouthEast Connector is intended to serve the transportation demand for both existing land uses and future growth within the Urban Services Boundary (USB). The County reserves all of its rights and powers to assure that sufficient access to and from the Connector roadway is available to accommodate the existing land uses as well as the future growth within the USB. For areas of the unincorporated County outside of the USB, the County will limit access to and from the Connector roadway to only accommodate the existing and future land uses permitted outside of the USB.
- ▶ **CI-8.** Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.
- ▶ **CI-9.** Plan and design the roadway system in a manner that meets 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.
- ▶ **CI-10.** Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.
- ▶ **CI-11.** To preserve public mobility, freeways and thoroughfares should have limited access and maintain functional characteristics that predominantly accommodate through- traffic.
- ▶ **CI-12.** To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.
- ▶ **CI-13.** Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.
- ▶ **CI-14.** Pursue all available sources of funding for the development, improvement, and maintenance of the roadway system.
- ▶ **CI-15.** Support the relinquishment of State Highways to the County when the operation of the highway supports local travel demand rather than longer interregional travel demand. Relinquished State Highways shall be developed as a complete street that accommodates all modes of travel.
- ▶ **CI-16.** The County supports creating communities that promote access and mobility for all modes of travel through the development of roadway networks based on a grid or modified grid layout.

- ▶ **CI-17.** Ensure that transportation infrastructure improvement projects initiated by the County include a comprehensive public outreach process and involves affected local stakeholders and communities in the beginning and throughout the planning and development process for the project.
- ▶ **CI-18.** The County shall plan and prioritize the implementation of intersection improvements, where feasible, in corridors identified as congested.

Implementation Measures

- ▶ Update the County Improvement Standards as needed to maintain consistency with adopted transportation plans and current engineering practices.
- ▶ Fund, design and construct capital improvement projects as adopted in the Transportation Improvement Plan.
- ▶ Establish roadway maintenance and rehabilitation priorities through the Pavement Management System.
- ▶ Assess the transportation impacts of land development projects as set forth in the Sacramento County Traffic Impact Analysis Guidelines.
- ▶ Fund and implement traffic calming and other traffic management improvements in accordance with the Neighborhood Traffic Management Program.
- ▶ Actively participate in regional forums and staff interjurisdictional committees that address regional transportation issues.
- ▶ The County shall establish Level of Service standards and desirable thresholds for all modes of travel including pedestrian, bicycle, and transit modes of travel.
- ▶ The County shall establish connectivity policies and standards that promote walkable and bikeable communities through the development of roadway networks based on a grid or modified grid layout.
- ▶ The County shall establish speed management policies and standards that consider appropriate operating speeds for each mode of travel that will result in a safe environment for all users.
- ▶ Any applicable mitigation measures contained within the JPA's "Mitigation Monitoring and Reporting Program for the Connector Project" incorporated herein by this reference, shall be applied to any portion of the Connector Project that the County decides to carry out, finance, or approve.

Transit

Policies

- ▶ **CI-19.** Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.
- ▶ **CI-20.** Promote transit services in appropriate commercial corridors and where population and employment densities are sufficient or could be increased to support those transit services.

- ▶ **CI-21.** Collaborate with neighboring jurisdictions and other agencies to achieve land use patterns and densities in areas planned for development that support transit services, preserve adequate rights-of-way, and enhance transit services in the designated transit corridors.
- ▶ **CI-22.** Collaborate with the Sacramento Area Council of Governments and transit service providers to pursue all available sources of funding for transit services when consistent with General Plan policies and long-term funding capabilities.
- ▶ **CI-23.** Consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making recommendations regarding transit services.
- ▶ **CI-24.** Collaborate with transit service providers for the development of facilities that provide for efficient links and interconnectivity with different transportation modes, including bicyclists and pedestrians.
- ▶ **CI-25.** The County shall develop right-of-way acquisition guidelines for the implementation of transit services shown on the Transportation Plan.
- ▶ **CI-26.** Consider the expansion of Neighborhood Shuttle services in unincorporated area communities.
- ▶ **CI-27.** Public Facilities Financing Plans shall incorporate capital costs for transit. Infrastructure Master Plans shall include transit planning.
- ▶ **CI-28.** Collaborate with local transit service providers in obtaining all available sources of funding for the development, improvement, and maintenance of the transit system.
- ▶ **CI-29.** The County shall work with transit service providers to establish and implement development guidelines to maximize the ability of new development and redevelopment to support planned transit services. New development and redevelopment shall have an orientation to travel patterns that are conducive to transit service. This will include concentration of development in centers and along linear corridors such that trip origins and destinations are concentrated near transit services.
- ▶ **CI-30.** The County shall collaborate with transit service providers to promote the phased implementation of transit services to all growth areas as development occurs.
- ▶ **CI-31.** In BRT corridors that are anticipated to be congested in the future, the County shall implement all feasible measures to minimize the effects of congestion on transit travel times.

Bicycle and Pedestrian Facilities

Policies

- ▶ **CI-32.** Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.

- ▶ **CI-33.** Adopt, implement and periodically update the Sacramento County Bicycle Master Plan for unincorporated Sacramento County that sets forth the goals, policies, guidelines, programs and improvements necessary to accomplish the goals of this section.
- ▶ **CI-34.** Construct and maintain bikeways and multi-use trails to minimize conflicts between bicyclists, pedestrians, and motorists.
- ▶ **CI-35.** The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.
- ▶ **CI-36.** Collaborate with neighboring jurisdictions and regional agencies to coordinate planning and development of the County's bikeways, pedestrian facilities and multi-use trails with those of neighboring jurisdictions, and to support a regional bicycle and pedestrian network.
- ▶ **CI-37.** Pursue all available sources of funding for the development, improvement, and maintenance of bikeways, pedestrian facilities and multi-use trails, and to support bicycle and pedestrian safety, education, encouragement and enforcement programs.
- ▶ **CI-38.** Design and construct pedestrian facilities to ensure that such facilities are accessible to all users.

Implementation Measures

- ▶ Fund, design, construct and maintain bikeways and other bicycle improvement projects, and implement bicycle safety, education, encouragement and enforcement programs, in accordance with the adopted Sacramento County Bicycle Master Plan.
- ▶ Fund, design, construct and maintain pedestrian improvement projects in accordance with the adopted Pedestrian Master Plan.
- ▶ Fund, design, construct and maintain disability access improvements in accordance with the adopted Americans with Disabilities Act (ADA) Transition Plan.
- ▶ Design and construct roadway capital improvement projects consistent with the policies, guidelines and improvements set forth in the Sacramento County Bicycle Master Plan, Pedestrian Master Plan and ADA Transition Plan.
- ▶ Condition land development projects based on the policies, guidelines and improvements set forth in the Sacramento County Bicycle Master Plan, Pedestrian Master Plan and ADA Transition Plan.

Transportation Systems Management

Policies

- ▶ **CI-39.** Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.

- ▶ **CI-40.** Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in Transportation Systems Management (TSM) programs to manage travel demand associated with the project.
- ▶ **CI-41.** Consider TSM programs that increase the average occupancy of vehicles and divert automobile commute trips to transit, walking, and bicycling.
- ▶ **CI-42.** Collaborate with other agencies to develop measures to provide for more efficient traffic flow, reduce vehicular travel demand and meet air quality goals.
- ▶ **CI-43.** The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or non- motorized modes), “guaranteed ride home” for commute trips, and car-share or bike- share programs.

City of Elk Grove

The City of Elk Grove General Plan Circulation Element (March 2015) establishes goals and policies to guide both present and future development within the City’s jurisdiction (City of Elk Grove 2015). The City of Elk Grove’s General Plan policies regarding transportation that may apply to potential future development in the SOIA Area are provided below.

General

- ▶ **Policy CI-1.** Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution.
- ▶ **Policy CI-2.** 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.

Alternative Transportation

- ▶ **Policy CI-3.** The City’s efforts to encourage alternative modes of transportation will therefore focus on incentives to reduce vehicle use, rather than disincentives (which are generally intended to make driving and parking less convenient, more costly, or both). Incentives may include:
 - Preferential carpool and vanpool parking,
 - Bus turnouts, and
 - Pedestrian-friendly project designs
- ▶ **Policy CI-4.** Specific Plans, Special Planning Areas, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area.
- ▶ **Policy CI-5.** The City shall encourage the use of transportation alternatives that reduce the use of personal motor vehicles.

- **CI-5-Action 1.** Funding for development, operations, and maintenance of facilities for mass transit, bicycle, pedestrian modes of transportation shall be given appropriate priority in the City’s budgeting process.
 - **CI-5-Action 2.** Implement policies and actions in the Conservation/Air Quality Element which seek to encourage non-vehicle transportation alternatives in Elk Grove.
 - **CI-5-Action 3.** The City will support positive incentives such as carpool and vanpool parking, bus turnouts, and pedestrian-friendly project designs to promote the use of transportation alternatives.
 - **CI-5-Action 4.** The City shall participate in the preparation and implementation of a Congestion Management Plan (CMP) consistent with legal requirements which gives priority to air quality goals, alternatives to automobile travel, and the development of demand reduction measures over additional road capacity.
 - **CI-5-Action 5.** The City shall develop and implement Pedestrian and Bikeway Master Plans to provide safe and convenient pedestrian and on- and off-street bicycle facilities throughout the City.
- **Policy CI-6.** The City shall require that transit service is provided in all areas of Elk Grove, including rural areas, so that transit dependent residents of those areas are not cut off from community services, events, and activities.
- **CI-6-Action 1.** The City shall require that RT or any other local or regional transit agency serving Elk Grove include bus service to the rural areas of Elk Grove.
- **Policy CI-7.** The City shall encourage an approach to public transit service in Elk Grove which will provide the opportunity for workers living in other areas of Sacramento County to use all forms of public transit—including bus rapid transit and light rail—to travel to jobs in Elk Grove, as well as for Elk Grove workers to use public transit to commute to jobs outside the city.

Light Rail Service

- **Policy CI-8.** The City shall encourage the extension of bus rapid transit and/or light rail service to the planned office and retail areas north of Kammerer Road and west of Highway 99.
- **Policy CI-9.** Light rail service in Elk Grove should be designed to serve major employment centers and the regional mall at Kammerer Road/Highway 99. The City of Elk Grove encourages the development of light rail which will bring workers and shoppers to Elk Grove, while also serving as part of a coordinated, regional transportation network.
- **CI-9-Action 1.** Using the City’s preferred alignment, work with Regional Transit to select a final alignment for the extension of bus rapid transit and/or light rail into Elk Grove, and to develop final station and/or park-and-ride locations along the entire transit corridor in Elk Grove. As necessary, update this Circulation Element to reflect the final alignment.

- **CI-9-Action 2.** The City shall require irrevocable offers of dedication of rights-of-way and station sites along the City’s preferred light rail alignment. Offers of dedication shall be required as part of the approval of any tentative map or other discretionary approvals as appropriate.

Roadways

- ▶ **Policy CI-10.** The City shall implement the roadway master plan shown in Figure CI-2 of the General Plan Circulation Element. The following policies apply to selected roadways:
 - The City shall use the latest version of Caltrans’ TCR for I-5 and Highway 99 to determine the planned width of these freeways.
 - “Expanded right-of-way” indicates roadways on which sufficient width is provided for a middle two-way turn lane and/or expanded turn pockets at roadway intersections.
 - The City may make improvements to roadways in the Rural Area, when warranted, consistent with the provisions of the Rural Roads Improvement Policy.
 - Improvements to Grant Line Road shall consider regional planning activities and projects (e.g., the Capital South East Connector) and should be considered after effects to the Rural Area have been identified. To the extent feasible, these effects shall be addressed as part of facility design.
 - **CI-10-Action 1.** Require the dedication of right of way and the installation of roadway improvements as part of the review and approval of development projects. The City shall require the dedication of major road rights of way (generally, arterials and thoroughfares) at the earliest opportunity in the development process in order to implement this policy.
- ▶ **Policy CI-11.** The City shall assist Caltrans in implementing improvements to I-5 and Highway 99 within the city.
 - **CI-11-Action 1.** Require the reservation of right of way for projects adjacent to I-5 and Highway 99 sufficient to accommodate the freeway facilities outlined in the most recent Caltrans TCR.
 - **CI-11 Action 2.** A new Whitelock Parkway interchange, may be considered by the City Council in the future. Any interchange in this general location shall be designed to minimize impacts to the Elk Grove Regional Park as well as other assets to the fullest extent possible. Consultation with Caltrans, the Cosumnes Community Services District, and other stakeholder groups shall be conducted prior to approval of any interchange design.
- ▶ **Policy CI-12.** The City supports efforts to develop the Capital SouthEast Connector, providing a regional roadway connection from I-5 and SR 99 in Elk Grove to Highway 50.
 - The City recognizes the adopted conceptual route alignment for the Capital SouthEast Connector, utilizing Kammerer Road and Grant Line Road through the City.
 - **CI-12-Action 1.** The City will work with the Capital SouthEast Connector JPA in the delivery of the planned roadway improvements pursuant to the JPA’s Project Design Guidelines provided that the Project

Design Guidelines will not be applied to diminish or alter the rights of City-approved projects and provided that the Project Design Guidelines are not amended to diminish the City's land use authority to approve future projects proximate to or its authority to determine access to the Capital SouthEast Connector.

- ▶ **Policy CI-13.** The City shall require that all roadways and intersections in Elk Grove operate at a minimum LOS 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.
- ▶ **Policy CI-14.** The City recognizes that LOS D may not be achieved on some roadway segments, and may also not be achieved at some intersections. Roadways on which LOS D is projected to be exceeded are shown in the General Plan Background Report, based on the latest traffic modeling conducted by the City. On these roadways, the City shall ensure that improvements to construct the ultimate roadway system as shown in this Circulation Element are completed, with the recognition that maintenance of the desired level of service may not be achievable.
 - **CI-14-Action 1.** The City shall develop criteria to determine which roadway segments and intersections will not achieve the desired level of service standard.
- ▶ **Policy CI-15.** Development projects shall be required to provide funding or to construct roadway/intersection improvements to implement the City's Circulation Master Plan. The payment of established traffic impact or similar fees shall be considered to provide compliance with the requirements of this policy with regard to those facilities included in the fee program, provided that the City finds that the fee adequately funds all required roadway and intersection improvements. If payment of established fees is used to provide compliance with this policy, the City may also require the payment of additional fees if necessary to cover the fair share cost of facilities not included in the fee program.
 - **CI-15-Action 1.** Update the City's traffic analysis guidelines to implement the policies of this General Plan. Items to be addresses should include:
 - Guidelines for determining when traffic analysis is required
 - Guidelines for the preparation of traffic analysis
 - Significance criteria for use in CEQA analysis of proposed projects
 - The guidelines and significance criteria referenced above shall be reviewed by the Elk Grove Planning Commission within six months of adoption of this General Plan.
- ▶ **Policy CI-16.** Where a development project is required to perform new roadway construction or road widening, the entire roadway shall be completed to its planned width from curb-to-curb prior to the operation of the project for which the improvements were constructed, unless otherwise approved by the City Engineer.

Such roadway construction shall also provide facilities adequate to ensure pedestrian safety as determined by the City Engineer.

- ▶ **Policy 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.
 - **CI-17-Action 1.** The City shall on an as-needed basis review existing truck routes within Elk Grove and designate routes consistent with the need to reduce traffic, noise and other impacts, and negative effects on residential areas.
- ▶ **Policy CI-18.** To the extent possible, major traffic routes for residential areas should be separate from those used by the city's industrial areas, with the purpose of avoiding traffic conflicts and potential safety problems.
- ▶ **Policy CI-19.** The circulation system serving the city's industrial areas should be designed to safely accommodate heavy truck traffic.
- ▶ **Policy CI-20.** The City shall discourage the creation of private roadways unless the roadways are:
 - Constructed to public roadway standards, or
 - Are used in an affordable residential development.
- ▶ **Policy CI-21.** The City shall require the installation of traffic pre-emption devices for emergency vehicles (police and fire) at all newly constructed intersections, and shall seek to retrofit all existing intersections to incorporate these features.
- ▶ **Policy CI-22.** Where traffic calming devices or techniques are employed, the City shall coordinate design and implementation with the Elk Grove Police Department and the Elk Grove CSD to ensure adequate access for police and fire vehicles.
- ▶ **Policy CI-23.** All public streets should have sufficient width to provide for parking on both sides of the street and enough remaining pavement width to provide for fire emergency vehicle access.

3.14.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The transportation impact analysis identifies foreseeable and possible impacts to roadway, transit, and bicycle/pedestrian facilities. Project analysis includes both VMT and LOS.

Vehicle Miles Traveled

As discussed in the traffic study prepared to support this EIR (Appendix G), the City uses total daily VMT and VMT per service population as the basis for VMT analysis. VMT was calculated using a modified version of SACOG's SACMET regional travel demand forecasting model. The following describes these two VMT metrics and their intended use:

- ▶ **Total Daily VMT** – Includes the sum of all daily VMT produced by all uses within the City of applicable Study Area. The total daily VMT metric is used to assess a project against the Citywide or Study Area total VMT limits. The Project is located in the City’s East Study Area, so consistency with the East Study Area total daily VMT limit is evaluated.
- ▶ **VMT per Service Population** – Includes the sum of all home generated residential and worker VMT produced by uses in the applicable land use designation, divided by the sum of total employees and population in the subject area. The VMT per service population metric is used to assess a project against specific land use VMT limits.

Using the modified version of SACOG’s SACMET forecasting model, VMT per service population is calculated by first measuring daily home-based residential VMT per capita is calculated. This considers all home-based auto vehicle trips, traced back to the residence of the trip-maker, including home-based work, home-based other, home-based school, and home-based shopping trips. Non-home-based trips are excluded. Second, the home-based work VMT per worker is calculated. This looks at all vehicle trips between home and work. Commercial vehicle trips (e.g., delivery trucks) are excluded from the analysis.

Roadway System

Roadway segments were evaluated by comparing peak hour directional traffic volumes and V/C ratios for key study roadway segments. Consistent with the General Plan transportation analysis, the analysis presented in this report is based on peak-hour directional traffic volumes to address traffic flow directionality that occurs on some study facilities associated with morning and evening work commute patterns.

Table 2 of the traffic study prepared to support this EIR (Appendix G), displays peak-hour roadway segment service volume thresholds used to evaluation roadway capacity. Service volume thresholds to capacity thresholds presented in the City of Elk Grove’s Traffic Impact Analysis Guidelines (City of Elk Grove 2000). Consistent with assumptions in the City’s General Plan background report, study segments were analyzed using thresholds for arterial roadways with moderate access control.

Freeway Facilities

Per Caltrans standards, the freeway ramps and mainline were analyzed using procedures from the 2010 Highway Capacity Manual. This procedure determines the LOS based on the computed density, which is expressed in passenger cars per lane, per mile. Table 3 of the traffic study prepared to support this EIR (Appendix G) displays the density ranges associated with each LOS category for basic segments and ramp merge/diverge movements.

Travel Demand Forecasting

A modified version of SACOG’s MTP/SCS travel demand forecasting model was used to develop traffic volumes for the study facilities. The official version of the base year model is generally representative of 2012 conditions and the future year model has a 2036 forecast year. However, as is standard practice with large area travel demand models, a thorough model review was completed and the model was refined to ensure that it produced reasonable results in the study area.

The model was evaluated against specific validation criteria identified by Caltrans, the Federal Highway Administration, and the California Transportation Commission. These criteria were developed to ensure that a

model is developed such that it can accurately forecast existing conditions based on land use and roadway network information, which improves the model's ability to accurately forecast future conditions. The model validation statistics are summarized in Table 4 of the traffic study prepared to support this EIR (Appendix G). As shown in Table 4, the model meets or exceeds the identified model validation target criteria in the study area.

Traffic Volume Forecasts

The SACOG model was used to develop traffic volume forecasts for full buildout of the SOIA Area, including the multi-sports park complex project, conditions under existing and cumulative conditions, with analysis that includes stadium events (i.e., concerts and tournaments). Due to the unique trip generation and distribution characteristics of the multi-sports park complex project and stadium events, trips for these uses were manually added to the study facilities under existing and cumulative conditions. The SACOG model was modified to reflect buildout development levels in the City of Elk Grove, including buildout of the Laguna Ridge Specific Plan, Southeast Policy Area, Lent Ranch Special Planning Area, Sterling Meadows, the Elk Grove Promenade, and buildout of the following projects considered to be reasonably foreseeable:

- ▶ Wilton Rancheria Casino Resort Project
 - ▶ Bilby Ridge Sphere of Influence Amendment
 - ▶ Kammerer Road/Highway 99 Sphere of Influence Amendment
- Year 2036 levels of development are assumed outside the City of Elk Grove.

All forecasts are adjusted using a growth increment method (i.e., the difference method) that adds the growth in forecasts travel demand to existing traffic counts. The base year model transportation network (in the study area) was modified to account of changes to the network that have occurred between 2008 and 2015 (i.e., when the traffic counts were collected). The 2036 transportation network is consistent with programmed improvements listed in the Final MTP/SCS 2016 project list.

Trip Generation

Trip generations for the practice activities, tournaments, and special events, including stage events, league events, and a county fair are presented in Tables 12 thru 16 of the traffic study prepared to support this EIR (Appendix G).

Table 12 displays weekday AM and PM peak-hour trip generation for practice activities at the proposed multi-sport park complex site, developed using trip generation rates presented in Trip Generation, 9th Edition (Institute of Transportation Engineers). Weekday AM and PM peak-hour trip generation uses trip rates for Soccer Complex (Land Use Code 488). As shown in Table 12, a typical weekday PM peak hour would generate about 283 trips with most trips entering the site.

Table 13 displays Saturday peak-hour trip generation for local/semi-regional and regional/national soccer tournaments, based on the measured trip generation rates presented in Table 11. As shown, the local/semi-regional tournament would generate nearly twice as many trips per day as the national/regional tournament.

Table 14 displays weekday PM peak-hour trip generation for league and stage events, based on the use description and the travel behavior characteristics outlined above. The trip generation is provided for the peak hour of adjacent street traffic and for the pre-event peak hour.

Table 15 displays weekday PM peak-hour trip generation for the county fair special event. The trip generation for the county fair was estimated based on the use description provided to the City of Elk Grove by the Sacramento county fair operator. A county fair represents the anticipated highest-operating event and is assumed to operate annually on the five days prior to and during the Memorial Day Holiday weekend. The fair is assumed to operate Thursday through Sunday from 10:00 AM to 10:00 PM and from 10:00 AM to 7:00 PM on Memorial Day.

Table 16 displays total AM peak hour and PM peak hour trip generation for the lands within the SOIA Area outside the multi-sports park complex site, based on the validated SACOG model. About 19 percent of the AM peak-hour trips and 24 percent of the PM peak-hour trips remain internal to the SOIA Area.

Trip Distribution

Figure 4 of the traffic study prepared to support this EIR displays the expected distribution of trips for the multi-sports park complex project activities under existing conditions, based on general population distribution. Figure 5 displays the expected distribution of trips for the multi-sports park complex project activities and special events under cumulative conditions. Figure 5 includes two distributions. The distribution based on general population distribution is for assignment of trips for practice activities, tournaments, stage events and activities associated with a county fair. These events are expected to have origins/destinations representative of the region's population. The distribution for league events is based on anonymous cell phone data collected for attendees at a Sacramento Republic FC matches. Like the Sacramento Republic FC matches, league events are expected to be attended by a segment of the general population. Therefore, cell phone data was used to capture the origins/destination of this population.

Table 17 of the traffic study prepared to support this EIR displays the trip distribution for lands adjacent to the multi-sports park complex site under existing and cumulative conditions. The validated SACOG model was used to distribute trips.

Bicycle / Pedestrian / Transit Facilities

The City's Bicycle, Pedestrian, and Trails Master Plan (adopted in 2014) (City of Elk Grove 2014) is intended to increase the mode shares for walking and bicycling for trips to work, to school, and to run errands, as well as promoting recreational walking and cycling. This plan provides direction on where facilities should be located, design standards and guidelines to describe the desired characteristics, identify funding sources, construction, and maintenance, establish prioritization criteria regarding which projects to implement first, and to describe the City and inter-agency collaborative actions required to create the system. The Bicycle, Pedestrian, and Trails Master Plan includes an implementation program, phasing priorities, and a map showing recommended locations of bikeway, pedestrian, and trails paths.

In the vicinity of the SOIA Area, the Bicycle, Pedestrian, and Trails Master Plan identifies a future Class I multi-use trail along Kammerer Road, along with a Class II bike lane. Additional planned Class I and Class II routes are shown north of Kammerer Road in areas of the City that are planned for development.

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 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.
- ▶ 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.

Consistent with the City of Elk Grove's Traffic Impact Analysis Guidelines (City of Elk Grove 2000) and the City's proposed VMT policy, the following evaluation criteria were used to determine the significance of Project impacts:

Intersections

An impact to a roadway segment is considered significant, and mitigation measures must be identified when:

- ▶ The traffic generated degrades the LOS from an acceptable LOS D or better (without the Project) to an unacceptable LOS E or LOS F (with the Project)
- ▶ The level of service (without Project) is unacceptable and Project-generated traffic increases the average vehicle delay by more than five seconds

Freeway Facilities

An impact is considered significant on freeway facilities if the Project causes the facility to change from acceptable to unacceptable LOS.

For facilities, which are or will be (in the cumulative condition), operating at unacceptable LOS without the Project, an impact is considered significant if the Project:

- ▶ Increases the V/C ratio on a freeway mainline segment or freeway ramp junction by 0.05
- ▶ Increase the number of peak-hour vehicles on a freeway mainline segment or freeway ramp junction ramp junction by more than five percent

According to the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002), Caltrans strives to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; therefore, LOS D was selected as the minimum standard for all study freeway facilities.

Bicycle / Pedestrian / Transit Facilities

An impact is considered significant if implementation of the Project will disrupt or interfere with existing or planned bicycle, pedestrian, or transit facilities.

Vehicle Miles Traveled

The City desires to achieve a reduction in the travel distances of automobile trips, referred to as VMT. Reductions in VMT can be accomplished through a combination of land use and mobility actions. The VMT Screening Map shown in the Transportation Impact Study for the Project (Fehr & Peers 2017) identifies areas in the City that are exempt from VMT analysis. The map includes sites that have been pre-screened through citywide VMT analysis. Pre-screened areas are shown in white and have been determined to result in 15 percent or below the average service population VMT established for that land use designation if built to the specifications of the Land Use Plan. With an average VMT per service population of 12.0, the City's target VMT per service population threshold is 10.2.

ISSUES NOT DISCUSSED FURTHER

- **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:** Implementation of the proposed Project would not be expected to 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 during construction or operational phases. The SOIA Area is not located in the vicinity of an airport and/or a private airstrip, and would therefore not be adversely affected by aircraft operations from such a facility.

IMPACT ANALYSIS

IMPACT 3.14-1	Conflict with an applicable transportation plan, ordinance, policy, or congestion management program. <i>Future annexation and development activities within the proposed Project may generate new vehicle trips that may contribute to unacceptable traffic operations under existing plus Project conditions. This would conflict with an applicable transportation 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. This would also 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. This impact is considered potentially significant.</i>
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Vehicle Miles Traveled

As noted, SB 743 directed OPR to prepare guidance for analyzing the impact of travel demand, which is expressed using the metric of VMT. OPR has now released draft revisions to the CEQA Guidelines. OPR has also

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).

As noted, the City is also developing an approach to analyzing and mitigating VMT, which is anticipated to be included as a part of the forthcoming General Plan update. The City's intent is for the General Plan policy approach and separate technical guidance to implement SB 743 within Elk Grove (City of Elk Grove 2017). The City's approach establishes VMT performance metrics by land use category and for the City as a whole, based on the City's draft land use plan. The City's approach also establishes VMT performance metrics based upon the draft land use programs for the Study Areas (including the East Study Area, where the proposed SOIA Area is located). Finally, the City's approach will establish a process for assessing the significance of VMT impacts for future plans and projects.

Reductions in VMT can be accomplished through a combination of land use and mobility actions. The City has identified pre-screened areas that would have relatively lower travel demand – 15 percent or below the average per-service-population VMT established for the subject land use designation. For projects that have not been pre-screened and that do not achieve the City's per-service population VMT are subject to all feasible mitigation measures necessary to reduce the VMT. New development is required to demonstrate a 15 percent reduction in VMT from baseline conditions. New development projects are required to demonstrate that the VMT will be equal to or less than the VMT limit of the underlying land use designation. The City will also have a cumulative VMT limit for the existing City limits. Development projects located within the existing (2017) City limits will be required to demonstrate that cumulative VMT would be equal to or less than the established Citywide limit of 5,565,587 VMT (total daily VMT), which incorporates a 15 percent-reduction. New development outside 2017 City limits, such as the SOIA Area, will be required to demonstrate that cumulative VMT would achieve a 15-percent reduction (Fehr & Peers 2017).

The project is located in a portion for the East Study area. The project and remainder of the East Study Area will meet the buildout VMT Limit 342,855. The vehicle miles traveled limit for East Study Area is 342,855 (Fehr & Peers 2017). The Project is located in a portion for the East Study Area. The City intends for the Project and remainder of the East Study Area to meet the buildout VMT limit and based on the analysis conducted as a part of the traffic study prepared to support this EIR, the Project will meet this limit.

Future travel demand will depend on the density and development intensity of development, mixing of land uses, the relationship between land uses in the SOIA Area 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. In 2036, SACOG estimates that 45 percent of all household-generated VMT will be associated with commuting. If development of the SOIA Area were to generate job opportunities for Elk Grove residents that are currently commuting, this could potentially shorten potential commute trips. 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.

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.”

Because the Project will meet the City’s VMT limits, the impact is considered **less than significant**.

Existing plus Project Traffic

Traffic volume forecasts includes manual assignment of the multi-sports park complex project and stadium events and use of the validated SACOG travel demand model for assignment of lands adjacent to the multi-sports park complex project, as explained in the traffic study prepared to support this EIR.

Peak-Hour Roadway Segment Volume-to-Capacity

Table 18 the traffic study prepared to support this EIR displays directional roadway segment traffic volumes and V/C ratio with the addition of the multi-sports park complex project trips. The following two analysis scenarios are presented: weekday PM peak-hour conditions with the addition vehicle trips from practice activities; and Saturday peak-hour conditions with trips from tournament activities. As shown in Table 18, all of the segments will operate below capacity at V/C ratio less than 1.00 under both analysis scenarios. Table 19 displays directional roadway segment traffic volumes and V/C ratio with the addition trips from the multi-sports park complex project and full buildout of the SOIA Area, including the multi-sports park complex project. Both analysis scenarios are presented for weekday PM peak-hour conditions with the addition vehicle trips from practice activities. As shown in Table 19, most of the segments would continue to operate below capacity, except for segments of Grant Line Road between East Stockton Boulevard and Bradshaw Road, resulting in a **potentially significant** impact.

Peak-Hour Intersection Operations

Intersection turning movement forecasts under Existing plus Project conditions are shown in Figures 6 thru 9 of the traffic study prepared to support this EIR. Table 20 of the traffic study prepared to support this EIR displays the existing weekday AM, PM, and Saturday peak hour traffic operations analysis results at the 18 study intersections with the addition of the multi-sports park complex project trips. The following two analysis scenarios are presented: weekday PM peak-hour conditions with the addition vehicle trips from practice activities; and Saturday peak-hour conditions with trips from tournament activities. As shown in Table 20, all study intersections would continue to operate acceptably at LOS D or better.

Table 21 of the traffic study prepared to support this EIR displays the existing weekday AM and PM peak-hour traffic operations analysis results at the 18 study intersections with the addition trips from full buildout of the SOIA Area, including the multi-sports park complex project, and with practice activities occurring at the multi-sport park complex. As shown in Table 21, most of the study intersections would continue to operate acceptably at LOS D or better, except for the following intersections with full buildout of the SOIA Area, including the multi-sports park complex project, and resulting in a **potentially significant** impact:

- ▶ Kammerer Road/Bruceville Road – LOS F on the controlled (i.e., Kammerer Road) approach
- ▶ Grant Line Road/Waterman Road – LOS F operations
- ▶ Grant Line Road/Mosher Road – LOS F on the controlled (i.e., Mosher Road) approach
- ▶ Grant Line Road/Bradshaw Road – LOS E on the controlled (i.e., Bradshaw Road) approach
- ▶ Grant Line Road/Elk Grove Boulevard – LOS E operations

Peak-Hour Freeway Operations

Table 22 of the traffic study prepared to support this EIR displays the existing weekday AM and PM peak-hour traffic operations analysis results at the 10 study freeway facilities with the addition of trips from full buildout of the SOIA Area, including the multi-sports park complex project. As shown in Table 22, all study freeway facilities at the SR 99/Grant Line Road interchange would continue to operate acceptably at LOS D or better.

A CMP also requires establishment of LOS standards to measure congestion at specific monitoring locations on the freeway and arterial systems. Policy CI-5-Action 4 indicates that the City shall participate in the preparation and implementation of a CMP consistent with legal requirements which gives priority to air quality goals, alternatives to automobile travel, and the development of demand reduction measures over additional road capacity. Policy CI-17 requires the City to regulate truck travel as appropriate for the transport of goods, consistent with circulation, air quality, congestion management, and land use goals.

Also, the MTP/SCS road investments emphasize access to infill development areas, congestion relief, support for bus and rail transit, and improved bicycle and pedestrian access. Local road investments increase capacity for local passenger travel, creating a benefit to goods movement on highways. The Capitol Southeast Connector in the MTP/SCS is an expansion of existing segments of Kammerer Road, Bruceville Road, Grant Line Road and White Rock Road in the SOIA Area.

Mitigation Measure 3.14-1: Improvements for Full Buildout of the SOIA Area, including the Multi-Sports Park Complex Project (City of Elk Grove).

Implementation of the following improvements is recommended to provide acceptable, LOS D or better operations:

Improvement 1 – Kammerer Road/Bruceville Road Intersection

- Installation of all-way stop control would provide acceptable LOS C operation in the AM peak hour.

Improvement 2 – Grant Line Road/Waterman Road Intersection

Provide the following lane configurations at the intersection:

- Two left-turn lane, one through lane, and one right-turn lane on the northbound approach
- One left-turn lane, one through lane, and two right-turn lanes on the southbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the westbound approach

Improvement 3 – Grant Line Road/Mosher Road Intersection

Install traffic signal control and provide the following lane configurations at the intersection:

- One left-turn lane, one through lane, and one right-turn lane on the northbound approach

- One left-turn lane, one through lane, and a right-turn lane on the southbound approach
- One left-turn lane, two through lanes, and one right-turn lane on the eastbound approach
- One left-turn lane, two through lanes, and one right-turn lane on the westbound approach

Improvement 4 – Grant Line Road/Bradshaw Road Intersection

- Realign Bradshaw Road to intersect Grant Line Road at 90 degrees. Install traffic signal control and provide the following lane configurations at the intersection:
 - One left-turn lane, one right-turn lane on the southbound approach
 - One left-turn lane and one through lane on the eastbound approach
 - One through lane and one right-turn lane on the westbound approach

Improvement 5 – Grant Line Road/Elk Grove Boulevard Intersection

Realign Elk Grove Boulevard to intersect Grant Line Road at 90 degrees. Install traffic signal control and provide the following lane configurations at the intersection:

- One left-turn lane, one right-turn lane on the southbound approach
- One left-turn lane and one through lane on the eastbound approach
- One through lane and one right-turn lane on the westbound approach

Significance after Mitigation

Improvement 1, the all-way stop, was installed at this intersection on December 11, 2017. With Improvement 2, traffic volumes at the intersection would satisfy the peak-hour volume warrant for installation of traffic signal control. With Improvement 2, the intersection would operate acceptably at LOS D in the AM and PM peak hours. With Improvement 3, the intersection would operate acceptably at LOS D in the AM and PM peak hours. Traffic volumes at the intersection would satisfy the peak-hour volume warrant for installation of traffic signal control. With Improvement 4, the intersection would operate acceptably at LOS A in the AM and LOS D in the PM peak hour. Traffic volumes at the intersection would satisfy the peak-hour volume warrant for installation of traffic signal control. With Improvement 5, the intersection would operate acceptably at LOS C in the AM and PM peak hours. Traffic volumes at the intersection would satisfy the peak-hour volume warrant for installation of traffic signal control. Therefore, Implementation of Mitigation Measure 3.14-1 would reduce the significant impacts associated with some roadway segments and intersections operations under the proposed Project to a **less-than-significant** level.

IMPACT 3.14-2 Hazards due to a design feature. *Future development activities within the SOIA Area, including the multi-sports park complex project, would not increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This impact is less than significant.*

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. However, Policy CI-2 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. Therefore, any future roadway improvements required within the Elk Grove City limits or SOIA Area 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, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.14-3 **Inadequate emergency access.** *Future development activities within the SOIA Area, including the multi-sports park complex project, would not result in inadequate emergency access. This impact is less than significant.*

This impact is related to site-specific design features and emergency access. Emergency access impacts would be evaluated at a project-specific level by the City at the time of future development application submittal. Existing Policy CI-21 indicates that the City shall require the installation of traffic pre-emption devices for emergency vehicles (police and fire) at all newly constructed intersections, and shall seek to retrofit all existing intersections to incorporate these features. Also, existing Policy CI-23 indicates that all public streets should have sufficient width to provide for parking on both sides of the street and enough remaining pavement width to provide for fire emergency vehicle access. In addition, compliance with City of Elk Grove General Plan Policy CI-2, 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 assure that continuous and adequate emergency access would occur throughout the SOIA Area. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

IMPACT 3.14-4 **Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.** *Future development activities within the SOIA Area, including the multi-sports park complex project, may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, this impact is considered potentially significant.*

Bicycle and Pedestrian Mobility

The proposed SOIA would construct and develop structures or infrastructure (including roadways) that could potentially result in the decreased performance or safety of public transit, bicycle, or pedestrian facilities. Also, annexation and development activities within the proposed SOIA Area may substantially increase demand for

bicycle and pedestrian facilities. Annexation and development of the SOIA Area, will require planning to ensure access and mobility for transit users, bicyclists, and pedestrians.

Policy CI-5 (CI-5-Action 5) of the Elk Grove General Plan states that the City will develop and implement Pedestrian and Bikeway Master Plans to provide safe and convenient pedestrian and on- and off-street bicycle facilities throughout the City. The City's current Bicycle and Pedestrian Master Plan includes proposed facilities on Kammerer Road, Grant Line Road, and potential extension on Bruceville Road into the SOIA Area and along the planned alignment of the Kammerer Road extension to Franklin Road. The City has not planned for comprehensive bicycle and pedestrian facilities in the SOIA Area, as the area is not within the City's jurisdiction. However, if there is annexation and development proposed to the City in the future, such development would require consistency findings with the City's General Plan, including policies addressing transit, bicycle, and pedestrian access and mobility. As this planning has not occurred, there is the potential for conflicts with policies that may be relevant in the future and the impact is conservatively assumed to be **potentially significant**.

Public Transit

The proposed Project would construct or develop structures or infrastructure (including roadways, a stadium, soccer fields and a fairground) that could potentially result in the decreased performance or safety of public transit, bicycle, or pedestrian facilities. Also, annexation and development activities within the proposed SOIA Area may substantially increase demand for public transit service.

Policy CI-5 of the Elk Grove General Plan states that the City will require transit service to be provided in all areas of Elk Grove, including rural areas, so that transit-dependent residents of those areas are not cut off from community services, events, and activities. Policy CI-7 states that the City will encourage an approach to public transit service in Elk Grove that will provide the opportunity for workers living in other areas of Sacramento County to use all forms of public transit, including bus rapid transit and light rail, to travel to jobs in Elk Grove, as well as for Elk Grove workers to use public transit to commute to jobs outside the City. As this planning has not occurred, there is the potential for conflicts with policies that may be relevant in the future and the impact is conservatively assumed to be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.14-4: Implement Mitigation Measure 3.4-2

Significance after Mitigation

Implementation of the above mitigation measure would ensure that future pedestrian, bicycle, and transit needs are properly planned and designed to support potential developments. With enforcement of the above mitigation measure, future development in the SOIA Area and off-site improvements would be designed to minimize potential impacts. The impact is **less than significant with mitigation**.

3.15 UTILITIES AND SERVICE SYSTEMS

This section provides an overview of existing utilities and service systems as relevant to the proposed Project, including water supply, wastewater service, and solid waste disposal. Impacts are evaluated in relation to increased demand for utilities and public services associated with the proposed Project and actions needed to provide the infrastructure that could potentially lead to physical environmental effects.

Section 3.16 of this EIR, “Energy” addresses energy demand and facilities.

3.15.1 ENVIRONMENTAL SETTING

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). The following discussion provides an overview of these utility service providers.

WATER SUPPLY

Presently, there are no public water supply facilities within the SOIA Area. The majority of the SOIA Area is located within the “overlap service area” of the Omochumne-Hartnell Water District (OHWD) and the SCWA with the exception of 17 acres and 48 acres that are located exclusively in the OHWD and SCWA service areas, exclusively (City of Elk Grove 2015) (see Table 1.0-2 and Figure 4.1-1 in Appendix H).

Domestic water supplies are currently provided by private groundwater wells and most agricultural water supplies are provided by OHWD’s irrigation wells. OHWD provides groundwater recharge and untreated irrigation water strictly for agricultural uses. OHWD’s current service area generally extends into the Deer Creek and Cosumnes River basins with Grant Line Road, State Route 99 (SR 99), and just north of Highway 16 forming the north, west, and east OHWD boundaries.

The water use for the SOIA Area 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).

Table 3.15-1 Estimate of Crop Water Usage within the SOIA Area				
Crop Type	Average Annual Water Use per Acre ¹		Estimated Acres within SOIA Area ²	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
Total	3.8	1,792,182	561	1,981.5
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				

Future development of the SOIA Area would require adequate treated water service. Water supply for the SOIA Area, including the multi-sport park complex, would be provided by the SCWA's Zone 40. Zone 40 consists of approximately 86,000 acres of agricultural, residential, and industrial land in central Sacramento County. Zone 40 is bordered by the County's Urban Services Boundary on the northeast, east, and southeast, and the northern edge of the 100-year floodplain of Deer Creek is also located to the east and southeast within the Zone 40 boundaries. Interstate 5 forms the western boundary and the Douglas Road and Grant Line Road areas form the southern boundary.

There are three primary planning documents that form the planning basis for the Zone 40 service area:

- ▶ The *2005 Zone 40 Water Supply Master Plan* (WSMP) (SCWA 2005) was developed in response to the requirements of the Water Forum Agreement (WFA).¹ As a signatory to the WFA, SCWA has agreed to ensure that water conservation and demand management—necessary steps to achieve WFA objectives—are integrated into future growth and water planning activities in its service area. The Zone 40 WSMP provides a flexible plan of water management options that can be implemented and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The Zone 40 WSMP evaluates several options for facilities to deliver surface water and groundwater to development to a subarea within Zone 40 known as the 2030 Study Area, as well as the financing mechanisms to provide water to the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the WSMP.
- ▶ The *2015 Zone 41 Urban Water Management Plan* (Zone 41 UWMP) (Brown and Caldwell 2016) addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including the Zone 40 service area and other areas outside of Zone 40 where Zone 41 has contracts to provide water (e.g., Zone 50, Sacramento Suburban Water District). Because SCWA's conjunctive-use groundwater program would be implemented only within Zone 40, the Zone 41 UWMP presents information about projected water supply and demand separately for areas within Zone 40 and areas outside of Zone 40.
- ▶ The *Zone 40 Water System Infrastructure Plan* (Zone 40 WSIP) (September 2016) provides descriptions of all existing Zone 40 water facilities and infrastructure consisting of sizes, capacities, and locations; water supply unit water demand factors; projected water demands through buildout of the SCWA service area (i.e., 2052); descriptions of water supply sources; the availability of water supplies in average and dry years; future water supply and pipeline facilities needed through buildout; future storage and pump station facilities through buildout and the timing of the need for the facilities; and locations of future pipelines and their timing.

Water Supply Sources for SCWA Zone 40

Since its formation, Zone 40 has had as its goal the development of a conjunctive-use water supply system. As such, the areas inside Zone 40 are served conjunctively with groundwater (pumped from the South American Sub-

¹ The coequal objectives of the Water Forum Agreement are (1) to provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River.

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 above. 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 2016):

- ▶ 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 2029. This water is considered “intermittent water” that typically would be available during normal years or wet years. The maximum, minimum, and average annual use of appropriative water is 44,800 acre-feet (af), 0 af, and 21,700 af, respectively.
- ▶ 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 Transfer Supplies – SCWA is pursuing purchase and transfer agreements with other entities north of its service area in the Sacramento River basin. SCWA's estimated long-term average use of these water supplies would be approximately 5,200 afy. This water would be purchased only in dry and critically dry years.

Recycled Water

Approximately 4,400 afy of 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.

Groundwater Supplies within SCWA Zone 40

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 2016). As shown in Table 3.10-2 in Section 3.10, "Hydrology and Water Quality," groundwater extraction has been within the Water Forum Agreement's sustainable yield from 2005 to 2015. (See Section 3.10, "Hydrology and Water Quality," for further discussion of groundwater conditions in the Central Basin.)

SCWA Zone 40 Water Supplies and Demands

The Zone 41 UWMP addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including Zone 40. In accordance with Senate Bill (SB) x7-7, the Zone 41 UWMP estimates water demands are based on an estimated gallons per-capita, per-day target chosen by SCWA (Brown and Caldwell:5-1). 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 3.15-2 identifies surface water and groundwater supply and demand within SCWA Zone 40 from 2020 to 2040 in normal, single dry, and multiple dry years. As shown in Table 3.15-1, SCWA would have water supplies that exceed demands in all water years.

SCWA anticipates that at buildout of its service area, and assuming that appropriative water and 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 (SCWA 2017).

WATER SUPPLY INFRASTRUCTURE

SCWA prepared the Zone 40 WSIP to address how water supplies in both the Zone 41 UWMP and the Zone 40 WSMP would be allocated among users within its service area. The purposes of this WSIP are to describe and quantify the facilities necessary to extract, treat, and convey groundwater to the Zone 40 service area. The SOIA Area is within the Zone 40 WSIP Study Area; however, no future infrastructure is planned for in the Zone 40 WSIP within the SOIA Area (SCWA 2016).

There are several major points of connection to major SCWA infrastructure near the SOIA Area boundaries. SCWA's nearest water transmission mains are located along Grant Line Road, along Waterman Road, at the Grant Line Road/SR 99 interchange. The Elk Grove Water Treatment Plant (WTP) and storage tanks are located east of Waterman Road and north of Grant Line Road (SCWA 2016). Other planned SCWA water system improvements shown in the Zone 40 WSIP include the future the Bond Road WTP and storage tanks, planned as Phase 2 facilities, and additional water conveyance pipelines along Grant Line Road and Waterman Road (SCWA 2016).

Water Year		Source	Projected Demands (afy)			
			2020	2025	2030	2035
Normal Year	Supply					
	Groundwater	47,000	47,000	52,000	62,000	62,000
	Surface water	25,300	25,300	25,300	25,300	25,300
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater to serve Rio del Oro in Zone 40	8,900	8,900	8,900	8,900	8,900
	Total Supply	82,900	82,900	87,900	97,900	97,900
	Total Demand	48,121	55,490	63,288	71,143	79,278
Difference (Supply minus Demand)		34,779	27,410	24,612	26,757	18,622
Single-Dry Year	Supply					
	Groundwater	47,000	47,000	52,000	62,000	62,000
	Surface water	17,600	17,900	18,000	18,000	18,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater to serve Rio del Oro in Zone 40	8,900	8,900	8,900	8,900	8,900
	Total Supply	75,200	75,500	80,600	90,600	90,800
	Total Demand	48,121	55,490	63,288	71,143	79,278
Difference (Supply minus Demand)		27,079	20,010	17,312	19,457	11,522
Multiple-Dry Year 1	Supply					
	Groundwater	47,000	47,000	52,000	62,000	62,000
	Surface water	25,300	25,300	25,300	25,300	25,650
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater to serve Rio del Oro in Zone 40	8,900	8,900	8,900	8,900	8,550
	Total Supply	82,900	82,900	87,900	97,900	97,900
	Total Demand	48,121	55,490	63,288	71,143	79,278
Difference (Supply minus Demand)		34,779	34,779	24,612	26,757	18,622
Multiple-Dry Year 2	Supply	47,000	47,000	52,000	62,000	62,000
	Groundwater	25,300	25,300	25,300	25,300	25,650
	Surface water	1,700	1,700	1,700	1,700	1,700
	Recycled water	8,900	8,900	8,900	8,900	8,550
	Remediated groundwater to serve Rio del Oro in Zone 40	82,900	82,900	87,900	97,900	97,900
	Total Supply	48,121	55,490	63,288	71,143	79,278
	Total Demand	34,779	34,779	24,612	26,757	18,622
Difference (Supply minus Demand)		47,000	47,000	52,000	62,000	62,000
Multiple-Dry Year 3	Supply					
	Groundwater	47,000	47,000	52,000	62,000	62,000
	Surface water	17,600	17,900	18,000	18,000	18,000
	Recycled water	1,700	1,700	1,700	1,700	1,700
	Remediated groundwater to serve Rio del Oro in Zone 40	8,900	8,900	8,900	8,900	8,900
	Total Supply	75,200	75,500	80,600	90,600	90,800
	Total Demand	48,121	55,490	63,288	71,143	79,278
Difference (Supply minus Demand)		27,079	20,010	17,312	19,457	11,522

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.

Source: Brown and Caldwell 2016; Data compiled by AECOM 2016

WASTEWATER COLLECTION, AND CONVEYANCE, TREATMENT FACILITIES

The SOIA Area is not served by a municipal wastewater service provider. Rather, wastewater service is currently provided by on-site septic systems. Future development within the SOIA Area 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. SASD maintains and provides wastewater collection and conveyance from the local residences and businesses in the urbanized, unincorporated areas of Sacramento County; the cities of Elk Grove, Rancho Cordova, and Citrus Heights; portions of the city of Sacramento; and a very small area in the city of Folsom. The service area covers approximately 270 square miles and has a population of over 750,000. The smaller local pipelines that SASD operates connect to the larger regional interceptors maintained by SRCSD.

Approximately 186 acres in southeastern portion of the SOIA Area is located within the SASD service area. The remainder of the SOIA Area, including the multi-sport park complex area, is outside of the SASD service area but within the SASD SOI (see Table 1.0-2 and Figure 4.2-1 in Appendix H).² SASD has indicated that they will provide sewer service to all of the SOIA Area (Moore, pers. comm., 2015).

SOIA Area is located in the LA Elk Grove Trunk Shed (SASD 2011). The LA Elk Grove Trunk Shed is located north and south of Elk Grove Boulevard and Grant Line Road between Waterman Road and Bradshaw Road. The southern portion of the trunk shed would be served by a major trunk sewer in Grant Line Road, which would connect into the existing Elk Grove Trunk at East Stockton Boulevard. The upstream portion of this trunk would require a trunk pump station, southeast of Grant Line Road (SASD 2011). The closest point of connection to major SASD infrastructure near the SOIA Area boundaries would be at the Grant Line Road/SR 99 interchange (City of Elk Grove 2015).

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 SOIA Area is within the SRCSD service area and the on-site and off-site wastewater facilities to serve the SOIA Area have been planned for in the SRCSD Interceptor Sequencing Study. The Interceptor Sequencing Study identifies the southeastern portion of the SOIA Area as located within the SRCSD service area. The remainder of the SOIA Area 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

² SASD's SOI is the service area officially designated for SASD's future planning.

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 2015, the SRWTP receives and treats an average of 150 mgd each day and the SRWTP discharge constituents are below permitted discharge limits specified in the NPDES permit (SRCSD 2015).

In 2005, the SRCSD sought an expansion to increase the design capacity of the SRWTP to 218 mgd. In June 2010, the SRCSD removed its formal request to the Central Valley RWQCB for an increase in permitted wastewater discharge capacity. Water conservation and a reduction in water-using industries reversed the growth in wastewater capacity use, despite the substantial growth in its service area. The SRCSD expects per-capita consumption to fall 25 percent over the next 20 or more years through the ongoing installation and use of water meters, as well as compliance with conservation mandates, such as the state Water Conservation Act of 2009 (SB x7- 7). As such, substantial additional conservation is expected throughout the service area, allowing the existing 181 mgd average dry-weather flow capacity to be adequate for at least 40 more years (SRCSD 2014:6-2).

The SRWTP provides secondary treatment using an activated sludge process. Incoming wastewater flows through mechanical bar screens through a primary sedimentation process. This allows most of the heavy organic solids to settle to the bottom of the tanks. These solids are later delivered to the digesters. Next, oxygen is added to the wastewater to grow naturally occurring microscopic organisms, which consume the organic particles in the wastewater. These organisms eventually settle on the bottom of the secondary clarifiers.

Clean water pours off the top of these clarifiers and is chlorinated, removing any pathogens or other harmful organisms that may still exist. Chlorine disinfection occurs while the wastewater travels through a two-mile “outfall” pipeline to the Sacramento River, near the town of Freeport. Before entering the river, sulfur dioxide is added to neutralize the chlorine.

The design of the SRWTP and collection system was balanced to have SRWTP facilities accommodate some of the wet-weather flows, while minimizing idle SRWTP facilities during dry weather. The SRCSD designed the SRWTP to accommodate some wet-weather flows with the storage basins and interceptors designed to accommodate the remaining wet weather flows. The Central Valley RWQCB issued an NPDES Discharge Permit to the SRCSD in December 2010.

In adopting the new Discharge Permit, the Central Valley RWQCB required the SRCSD to meet substantially more restrictive treatment levels over its current levels. Regional San began the necessary activities, studies, and projects to meet the permit conditions in August of 2014. The SRCSD must complete construction of the new treatment facilities to achieve the permit and settlement requirements by May of 2021 for ammonia and nitrate and by May of 2023 to meet these pathogen requirements.

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. It should be noted that the SRCSD currently does not have any planned facilities that could provide recycled water to the SOIA Area or its vicinity. Additionally, the SRCSD is not a water purveyor and potential use of recycled water in the SOIA Area must be

coordinated between the key stakeholders (e.g., land use jurisdictions, water purveyors, users, and the recycled water producers.

SOLID WASTE

Future development within the SOIA Area would be within the City of Elk Grove. 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 2015, the City disposed of a total of 78,881 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 – primarily Kiefer Landfill, L and D Landfill, and Yolo County Landfill. Table 3.15-3 shows the maximum capacity, remaining capacity, and closure date of these landfills.

Table 3.15-3 City of Elk Grove Primary Landfills		
Facility (County)	Location	Capacity
Kiefer Landfill (Sacramento County)	12701 Kiefer Boulevard Sloughhouse, CA 95683	Maximum permitted capacity: 117.4 million cubic yards Remaining capacity: 112.9 million cubic yards Closure date: January 1, 2064
L and D Landfill (Sacramento County)	8635 Fruitridge Road Sacramento, CA 95826	Maximum permitted capacity: 6.0 million cubic yards Remaining capacity: 4.1 million cubic yards Closure date: January 1, 2023
Yolo County Central Landfill (Yolo County)	County Road 28 and County Road 104 Davis, CA 95616	Maximum permitted capacity: 49.0 million cubic yards Remaining capacity: 23.7 million cubic yards Closure date: January 1, 2080
Sources: CalRecycle 2016a, 2016b, 2016c		

The City of Elk Grove provides a Special Waste Collection Center program that helps residents dispose/recycle their residential and business hazardous waste properly. Elk Grove residents and participating jurisdictions may drop off a full range of hazardous wastes, such as motor oil, antifreeze, batteries, and flammable liquids and paints. All waste collected is either reused, recycled, processed for energy recovery, or stabilized for proper disposal. As of April 2015, the Special Waste Collection Center received over 123 tons of household hazardous waste.

The California Integrated Waste Management Board of 1989 requires local agencies to implement source reduction, recycling, and composting that would result in a minimum of 50 percent diversion of solid waste from landfills, thereby extending the life of landfills (see below under “Regulatory Framework” for more detail)³ For 2015, the target solid waste generation rate for the City of Elk Grove was 5.9 per person and 27.5 pounds per day (ppd) per employee, and the actual measured generation rate was 2.7 ppd per person and 13.2 ppd per employee, which is less than the target solid waste generation rate (CalRecycle 2018).

³ As of 2007, the 50 percent diversion requirement is measured in terms of per-capita disposal expressed as pounds per day (ppd) per resident and per employee. The new per capita disposal and goal measurement system uses an actual disposal measurement based on population, disposal rates reported by disposal facilities, and evaluates program implementation efforts.

3.15.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulation, or laws pertaining to utilities and service systems are applicable to this Project.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Senate Bill 610

The State of California has enacted legislation that is applicable to the consideration of larger projects under CEQA. SB 610 (Chapter 643, Statutes of 2001; Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code) requires the preparation of “water supply assessments” for large developments (i.e., more than 500 dwelling units or nonresidential equivalent; shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space; commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space; or industrial, manufacturing, processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area). These assessments, prepared by “public water systems” responsible for serving project areas, address whether existing and projected water supplies are adequate to serve the project, while also meeting existing urban and agricultural demands and the needs of other anticipated development in the service area in which the project is located. If the UWMP did not account for the project’s water demand, or if the public water system has no UWMP, the project’s WSA must discuss whether the system’s total projected water supplies (available during normal, single-dry, and multiple-dry water years during a 20-year projection) would meet the project’s water demand in addition to the system’s existing and planned future uses, including agricultural and manufacturing uses.

Using water demand factors per dwelling unit derived from the SCWA WSIP, the water demand for a single-family dwelling unit is 0.4 afy; thus, 500 dwelling units on the multi-sport complex site would require approximately 200 afy of water supply.⁴ Therefore, the multi-sport complex would only result in a water demand of 178 afy, which is less than the water demand for a project consisting of 500 dwelling units (200 afy), which does not meet the threshold for preparation of a WSA for the multi-sport complex. However, it is possible that future development outside the multi-sport park complex site but within the proposed SOIA Area may meet the requirements stated above for preparation of a WSA. Once additional details are known about the future land uses within the SOIA Area beyond the multi-sport park complex, and prior to annexation, this will be completed.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014 provides for local control of groundwater sustainability with State oversight. The law became effective January 1, 2015 and states that groundwater resources should be managed sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses. SGMA requires local agencies to develop and

⁴ As shown in Table 3-2 of SCWA’s 2016 WSIP, it is assumed there are 4.8 connections per acre for single-family residential development, and as shown in Table 3-11 of SCWA’s 2016 WSIP, water demand for single-family units is 2.13 afy per acre. Assuming one connection per dwelling unit and a water demand factor of 2.13 afy per acre, the water demand factor per dwelling unit would be 0.4 afy (2.13 afy/acre divided by 4.8 dwelling units/acre).

implement groundwater sustainability plans in high and medium priority groundwater basins throughout California. In 2014, the California Department of Water Resources (DWR) designated the South American groundwater subbasin as high priority (DWR 2014). However, the South American Subbasin is not included on DWR's list of critically overdrafted basins (DWR 2016).

Local agencies must form groundwater sustainability agencies by 2017, then agencies in critically overdrafted basins must develop plans by 2020, while agencies in all other high- and medium-priority basins must prepare plans by 2022. Designation of a groundwater sustainability agency is not required until 2017, and groundwater sustainability plans are not required until 2020 at the earliest.

The Sacramento Central Groundwater Authority is moving forward with SGMA compliance and submitted a notice of intent on July 21, 2016, to become a Groundwater Sustainability Agency for its area within the South American Subbasin and exclusive status was granted for the majority of that area by the DWR (Sacramento Central Groundwater Authority 2016). The northern portions of the Omochumne-Hartnell Water District and the Sloughhouse Resource Conservation District overlap areas along the southern boundary of the South American Subbasin (DWR 2017). Both water districts have submitted notices to be groundwater sustainability agencies. This process is not subject to LAFCo purview. (See Section 3.10, "Hydrology and Water Quality," for further discussion.)

California Integrated Waste Management Act

The California Integrated Waste Management Act (CIWMA) of 1989 is the result of two pieces of legislation, Assembly Bill (AB) 939 and SB 1322. The CIWMA was intended to minimize the amount of solid waste that must be disposed of by transformation and land disposal by requiring all cities and counties to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000.

The CIWMA created the California Integrated Waste Management Board (now known as CalRecycle). CalRecycle is the agency designated to oversee, manage, and track California's 92 million tons of waste generated each year. CalRecycle provides grants and loans to help cities, counties, businesses, and organizations meet the state's waste reduction, reuse, and recycling goals. In addition to many programs and incentives, CalRecycle promotes the use of new technologies for the practice of diverting resources away from landfills. CalRecycle is responsible for ensuring that waste management programs are primarily carried out through local enforcement agencies (LEAs).

The State Water Resources Control Board and the Central Valley RWQCB also regulate waste disposal (the latter regulated solid waste prior to CalRecycle). In Sacramento County, the County is responsible for municipal solid waste management planning and compliance efforts required by CalRecycle.

California Green Building Standards Code

The standards included in the 2016 California Green Building Standards Code (CALGreen Code) (Title 24, Part 11 of the California Code of Regulations) became effective on January 1, 2017. 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 2016).

Chapter 6 of the 2016 CALGreen Code describes measures to reduce indoor demand for potable water by 20 percent and to reduce landscape water usage by 50 percent. It also requires separate water meters for nonresidential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects.

Chapter 7, Section 708, of the 2016 CALGreen Code requires all construction contractors to reduce construction waste and demolition debris by 60 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 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.

Large Venue and Large Event Recycling Programs

AB 2176 is intended to encourage large venues and large events, including, but not limited to, large private, nonprofit, or publicly owned stadiums, sports arenas, theaters, halls, amusement parks, zoos, airports, fairgrounds, museums, and other large venue businesses, to purchase recyclable, reusable, compostable, and recycled-content products; encourage operators of large venues and large events to include solid waste reduction, reuse, and recycling elements in their design and operating plans; and develop solid waste reduction, reuse, and recycling rates, and a plan that would achieve those solid waste reduction, reuse, and recycling rates.

AB 2176 states that before issuing a permit to an operator of a large venue or large event, the local agency shall provide information to the operator on programs that can be implemented to reduce, reuse, and recycle solid waste materials generated at the venue or event and provide contact information about where solid waste materials may be donated, recycled, or composted.

Each operator of a large venue or large event shall submit to the local agency, upon request by the local agency, written documentation of waste reduction, reuse, recycling, and diversion programs, if any, implemented at the large venue or large event, and the type and weight of materials diverted and disposed at that large venue or large event. The operator of a large venue or large event shall meet with recyclers and with the solid waste enterprise that provides solid waste handling services to the large venue or large event to determine the solid waste reduction, reuse, and recycling programs that are appropriate for the large venue or large event.

Assembly Bill 341

In an effort to reduce greenhouse gas emissions from disposing of recyclables in landfills, AB 341 requires local jurisdictions to implement commercial solid waste recycling programs. Businesses that generate four cubic yards or more of solid waste per week or multifamily dwellings of five units or more must arrange for recycling services. In order to comply with AB 341, jurisdictions' commercial recycling programs must include education, outreach, and monitoring of commercial waste generators and report on the process to CalRecycle. Jurisdictions may enact mandatory commercial recycling ordinances to outline how the goals of AB 341 will be reached. For businesses to comply with AB 341, they must arrange for recyclables collection through self-haul, subscribing to franchised haulers for collection, or subscribing to a recycling service that may include mixed waste processing that yields diversion results comparable source separation.

Assembly Bill 1826

In order to further reduce greenhouse gas emissions from disposing of organics materials in landfills, AB 1826 requires businesses to recycle their organic waste beginning on April 1, 2016, depending on the amount of solid waste they generate per week. Similar to AB 341, jurisdictions are required to implement an organic waste recycling program that includes the education, outreach and monitoring of businesses that must comply. Organic waste refers to food waste, green waste, landscaping and pruning waste, nonhazardous wood waste, and food-soiled paper that is mixed with food waste.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance

The Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance (City Municipal Code Title 30, Chapter 30.70), adopted on July 1, 2010, makes construction and demolition debris recycling mandatory for all new construction (with a valuation greater than \$250,000) and demolition projects. Materials required to be recycled include scrap metal, inert materials (concrete, asphalt paving, bricks, etc.), corrugated cardboard, wooden pallets, and clean wood waste. A Waste Management Plan must be completed to identify waste that would be generated by a project, as well as the proposed recycling and hauling methods. During construction and/or demolition, a waste log must be maintained on the project area and submitted to the City at project completion.

Space Allocation and Enclosure Design Guidelines for Trash and Recycling

The Space Allocation and Enclosure Design Guidelines for Trash and Recycling (City Municipal Code Title 30, Chapter 30.90) provides recycling and waste collection requirements for all developments in the City. Integrated collection areas with recycling components assist in the reduction of waste materials, thereby prolonging the life of landfills and helping the City meet the State-mandated recycling requirements described previously in this subsection. The guidelines provide information and resources for designing trash and recycling sites that will be used by building occupants in new developments or significant remodels. Conventional recycling and greenwaste recycling must be designed into projects sites along with the trash capacity.

City of Elk Grove General Plan

The following policies and actions from the Public Facilities and Finance Element of the Elk Grove General Plan (2015) relate to utilities and service systems.

- ▶ **Policy PF-1:** Except when prohibited by state law, the City shall require 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.
- ▶ **Policy PF-2:** The City shall coordinate with outside service agencies—including water and sewer providers, the Elk Grove Community Services District, and the Elk Grove Unified School District--during the review of plans and development projects.
- ▶ **Policy PF-3:** Water supply and delivery systems shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

- **PF-3-Action 1:** The following shall be required for all development projects, excluding subdivisions:
 - An assured water supply and delivery system shall be available at the time of project approval. The water agency providing service to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project.
 - All required water 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. Water infrastructure may be phased to coincide with the phased development of large-scale projects.
- **PF-3-Action 2:** The following shall be required for all subdivisions to the extent permitted by state law:
 - Proposed water supply and delivery systems shall be identified at the time of tentative map approval to the satisfaction of the City. The water agency providing service to the project may provide several alternative methods of supply and/or delivery, provided that each is capable individually of providing water to the project.
 - The agency providing water 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 in the same service area, and other projects that have received commitments for water service.
 - Offsite and onsite 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.
 - Offsite and onsite 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 PF-8:** Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.
 - **PF-8-Action 1:** 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.
 - **PF-8-Action 2:** 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 commitment.
 - 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.
- **Policy PF-21:** New development shall fund its fair share portion of its impacts to all public facilities and infrastructure as provided for in state law.

3.15.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

It is assumed for the purposes of this EIR that the 271-acre commercial and industrial area could support more than 3.5 million square feet of commercial and industrial space that generates more than 10,000 employees, depending on future development applications. In addition, it is assumed that the 118-acre area identified for mixed uses could include development of up to 708 dwelling units that generate 2,301 persons. As noted in Chapter 2, “Project Description,” the assumption of 708 dwelling units is for the purposes of analysis only. This land use assumption does not mean that there will be 708 single-family units, only that the relative service demands would be equivalent to approximately 708 dwelling units.

Impacts related to utilities and service systems that would result from the proposed Project were identified by comparing existing service capacity against future demand associated with implementation of the proposed Project. 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 Resources,” and other sections that specifically analyze the potential for future development. Impacts related to stormwater management are addressed in Section 3.10, “Hydrology and Water Quality.”

Evaluation of potential utility and service system impacts was based on a review of the following planning documents pertaining to the proposed Project and surrounding area:

- Elk Grove General Plan (City of Elk Grove 2015),
- Sacramento County Water Agency Zone 40 Water Supply Master Plan (SCWA 2005),
- Sacramento County Water Agency Zone 40 Water System Infrastructure Plan (SCWA 2016),
- 2015 Zone 41 Urban Water Management Plan (Brown and Caldwell 2011),
- Sewer System Capacity Plan 2010 Update (SASD 2011), and
- Sacramento Regional County Sanitation District Interceptor Sequencing Study (SRCSD 2013).

Additional background information on current services, staffing, and equipment was obtained through consultation with appropriate agencies.

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, as amended. The proposed Project would have a significant impact related to utilities and service systems if it would:

- ▶ exceed wastewater treatment requirements of the applicable RWQCB;
- ▶ require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- ▶ result in a determination by the wastewater treatment provider that serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments;
- ▶ have insufficient water supplies available to serve the Project from existing or permitted entitlements and resources, or require new or expanded entitlements;
- ▶ generate solid waste beyond the capacity of existing landfills; or
- ▶ violate federal, State, or local statutes or regulations related to solid waste.

IMPACT ANALYSIS

IMPACT 3.15-1 **Increased demand for water supplies and water system facilities.** *Future development within the SOIA Area, including the multi-sport park complex, would require new treated water supplies and construction of on-site and off-site water supply system facilities. SCWA would be the future water service provider to the SOIA Area. SCWA's existing water supplies would be adequate to meet the water demands of future development. However, on-site and off-site water system facilities necessary to serve future development have not been identified at this time. This impact is considered **potentially significant**.*

Presently, there are no public water supply facilities within the SOIA Area. Domestic water supplies are provided by private groundwater wells and most agricultural water supplies are provided by OHWD's irrigation wells. Future development within the SOIA Area, including the multi-sport park complex site, would increase demands for water supply and water system facilities. Water supply for the SOIA Area, including the multi-sport park complex site, would be provided by the SCWA's Zone 40.

Water supply demand for irrigation of the full-size soccer fields, training fields, landscaped areas, and the sod farm and water supply demand for operation of the stadium and community support facility proposed as part of the multi-sport park complex has been conservatively estimated as 178 afy. It is assumed that the water supply demand for irrigation would account for 162 afy of that total, depending on the type of field installed. Water demands for the stadium would occur only during operation and is dependent on the even schedule. It is possible that the existing on-site wells could be used to irrigate the agrizone park.

SCWA's Zone 40 water-demand factors were applied to the acreage for each future land use designation that generates water use within the SOIA Area. As shown on Table 3.15-4, the estimated water supply demand for future commercial, industrial, and mixed-use development has been conservatively estimated as 741 afy.⁵ The total water supply demand for future development within the SOIA Area would be 1,199 afy, with the multi-sport park complex accounting for 178 afy of the total water supply demand and the commercial, industrial, and mixed use development within the SOIA Area accounting for 741 afy of the total water supply demand. IAs shown in Table 3.15-1, total water usage for agricultural crops on the SOIA Area as a whole is approximately 919 afy. Therefore, water demands under the SOIA would be approximately 1,240 afy less than the current water demand required for agricultural irrigation.

Table 3.15-4 Projected Water Demands for Future Commercial, Industrial, and Mixed Use Development within the SOIA Area			
Land Use Category	Unit Water Demand Factors (af/ac/yr)	Land Use (acres)	Water Demand (afy)
Commercial	2.02	93	187.86
Industrial	2.02	178	359.56
Mixed Use	2.15	118	253.70
Subtotal	--	389	801.12
Water System Losses (7.5%)	--	--	60.08
Total Demand	--	--	741.04
Notes: af/ac/yr = acre-feet per acre per year; afy = acre-feet per year. Source: SCWA 2016, adapted by AECOM in 2018			

The SOIA Area is within the Zone 40 service area. As discussed above, the Zone 41 UWMP 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 3.15-1, SCWA would have surface water and groundwater supplies that exceed demands within Zone 40 from 2020 to 2040 in all water years. SCWA anticipates that at buildout of its service area, and assuming that appropriate water and 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 (SCWA 2017). Therefore, water supply would be available to meet the water supply demands of the SOIA Area, including water supply demand associated with the multi-sport park complex.

SCWA's existing and proposed facilities were not planned or designed to serve beyond the existing Elk Grove city limits (SCWA 2016). However, existing SCWA off-site water storage and conveyance facilities in the vicinity of the SOIA Area could serve future development. SCWA's nearest water transmission mains are located along Grant Line Road, along Waterman Road, at the Grant Line Road/SR 99 interchange (SCWA 2016). The Elk Grove WTP and storage tanks are located east of Waterman Road and north of Grant Line Road (SCWA 2016). SCWA would assess service demands and the available capacity in these water system facilities to ensure adequate services if there is proposed annexation and proposed development within the SOIA Area in the future. Extension of off-site infrastructure and services could be required to fully serve the entire SOIA Area (City of Elk Grove 2015).

⁵ This water supply demand does not reflect 2016 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.

Other planned SCWA water system improvements may also serve future development. The Zone 40 WSIP shows the future the Bond Road WTP and storage tanks, planned as Phase 2 facilities, and additional water conveyance pipelines are proposed along Grant Line Road and Waterman Road (SCWA 2006). These water system improvements were identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction and operation were analyzed at a programmatic level.

Future development within the SOIA Area, including the multi-sport park complex, would require construction of an on-site water system to serve new development and construction of new or improvements to off-site SCWA water systems. Physical impacts associated with construction and operations of on-site utilities are evaluated throughout this EIR since these facilities are considered to be part of potential future development consistent with the proposed Project.

Development of the multi-sport park complex would not require a WSA, based on the requirements of SB 610 described above under Section 3.15.2, “Regulatory Framework.” However, it is possible that future development outside the multi-sport park complex site, but within the proposed SOIA Area may meet the requirements (i.e., more than 500 dwelling units or nonresidential equivalent) for preparation of a WSA. Once additional details are known about the future land uses within the SOIA Area beyond the multi-sport park complex, and prior to annexation, a WSA will be completed if necessary. SCWA intends to amend the existing Zone 40 WSMP based on the analysis provided in this EIR to include these new facilities (Smith, pers. comm.). SCWA would update or amend the existing Zone 40 WSIP to include details on calculations and infrastructure requirements added to the amended Zone 40 WSMP.

The City outlines specific requirements to ensure water systems are available to meet demands created by new development (Policy PF-3 of the City General Plan). These requirements include demonstrating that on-site and off-site water systems are available to serve proposed development (Action PF-3-Action 1 and PF-3-Action 2 of the City General Plan) or that new development would contribute its fair share portion for funding new water systems (Policy PF-21 of the City General Plan). In addition, the City requires assured water supplies are available prior to approval of new development projects (Policy PF-3, Action PF-3-Action 1, and PF-3-Action 2 of the City’s General Plan). On-site and off-site water supply facilities necessary to serve future development within the SOIA Area have not been identified at this time. Therefore, the impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.15-1: Prepare a Plan for Service that Demonstrates Adequate Water Supplies and On-Site and Off-Site Water System Facilities are Available (LAFCo and the City of Elk Grove)

At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare a Plan for Services as required by Government Code Section 56430, or its successor. The Plan for Services shall demonstrate 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, without adverse impacts to existing ratepayers. The Plan for Services shall demonstrate that the SCWA is a signatory to the Water Forum Agreement, that groundwater management would occur consistent with the Central Sacramento County Groundwater Management Plan, and that groundwater will be provided in a manner that ensures no overdraft will occur. The Plan for Services shall depict the locations and appropriate sizes of all on-site water system

facilities to accommodate the amount of development identified for the annexation territory, demonstrate SCWA has modified its service area boundary to include the territory within its Zone 40 and Zone 41 service area, and demonstrate adequate SCWA off-site water facilities are available to accommodate the amount of development identified in the annexation territory or that fair share funding will be provided for the construction of new or expansion and/or improvement of existing off-site water system facilities with no adverse impacts on existing ratepayers.

Significance after Mitigation

Implementation of Mitigation Measure 3.15-1 would reduce potentially significant impacts associated with increased for water supplies and demand for on-site and off-site water facilities required for future development within the SOIA Area, including the multi-sports park, to a **less-than-significant** level because the City of Elk Grove would demonstrate adequate SCWA water supplies and on-site and off-site water systems would be available for the amount of development identified in the annexation territory. LAFCo would condition future annexation of the SOIA Area on compliance with Mitigation Measure 3.15-1.

SCWA would assess service demands and the available capacity in these water system facilities to ensure adequate services if there is proposed annexation and proposed development within the SOIA Area in the future. Extension of off-site infrastructure and services could be required to fully serve the entire SOIA Area. SCWA's water supply planning and off-site improvements to their facilities are the responsibility of SCWA. SCWA 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 off-site facilities to serve the SOIA Area. Impacts resulting from off-site water 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. However, it is speculative to gauge the extent to which this would create any impact that is distinct from the analysis of direct Project impacts.

IMPACT 3.15-2 **Increased demand for wastewater collection, conveyance, and treatment facilities.** *Future development within the SOIA Area, including the multi-sport park complex, would require construction of on-site wastewater collection and conveyance facilities and construction of new and/or expansion of existing SASD and SRCSD facilities. Although the SRWTP would have capacity to treat wastewater generated by future development, verification of SRWTP treatment capacity to serve future development would still be required. Therefore, this is considered a **potentially significant** impact.*

The SOIA Area is not currently served by a municipal wastewater service provider. Rather, wastewater service is currently provided by septic systems. Future development within the SOIA Area, including the multi-sport park complex, would receive municipal wastewater service through construction of on-site wastewater transmission facilities and construction of new and/or expansion of existing off-site SASD and SRCSD infrastructure. Approximately 186 acres in southeastern portion of the SOIA Area is located within the SASD and SRCSD service areas. The remainder of the SOIA Area, including the multi-sport park complex site, is outside of the SASD and SRCSD service areas but within the SASD and SRCSD SOIs (Exhibit 3.15-2). As part of this Project, both providers would annex the remainder of SOIA Area into their respective service areas, which would not be subject to LAFCo purview.

The SASD has indicated that they will provide sewer service to the SOIA Area (Moore, pers. comm., 2015). Off-site wastewater infrastructure required to serve the multi-sport park complex has been planned for by SASD. The SASD sewer system capacity plan update identifies extension of the existing gravity sewer from the Grant Line Road/State Route 99 interchange to the multi-sport park complex site. A sewer force main and gravity sewers would be routed from Grant Line Road to serve the tournament fields, stadium, and fairgrounds (Exhibit 3.15-3).

Future development within the SOIA Area would require on-site wastewater collection and conveyance facilities. On-site wastewater collection and conveyance facilities could consist of gravity sewers, force mains, and pump stations. Wastewater flows from future development would be conveyed to the future extension of the Grant Line Road gravity sewer. Physical impacts associated with construction and operations of on-site utilities are evaluated throughout this EIR since these facilities are considered to be part of potential future development consistent with the proposed Project.

The City outlines specific requirements to ensure wastewater facilities are available to meet demands created by new development (Policy PF-8 of the General Plan). These requirements include demonstrating on-site and off-site wastewater infrastructure provides sufficient capacity to serve proposed development (Action PF-8-Action 1 and PF-8-Action 2 of the City General Plan).

The stadium would have a maximum capacity of approximately 9,000 seats. Using a wastewater generation factor for stadiums of 3 gpd per seat, it is estimated that the proposed multi-sport park complex would generate approximately 27,000 gpd (0.027 mgd) of wastewater during events (City of Elk Grove 2014).

The SASD, when completing master planning analysis for new growth areas with undefined development plans, uses a standard of six equivalent units per gross acre of commercial, industrial, mixed uses (SASD 2011). Based on this estimate, the 389-acre SOIA Area (excluding the multi-sport park complex) would generate 0.72 mgd average dry-weather flow that would be conveyed to the SRWTP.

The SRWTP has a design capacity of 181 mgd with the potential to expand to 218 mgd. As of 2015, the SRWTP receives and treats an average of 150 mgd each day. The SRCSD expects that substantial water conservation measures throughout the service area would allow 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 the multi-sport park complex, as well as future development within the SOIA Area. The on-site wastewater collection and conveyance facilities necessary to serve future development within the SOIA Area are not known at this time, but could include gravity sewers, force mains, and pump stations. Although it is likely that the SRWTP would have capacity to treat wastewater generated by the multi-sport park complex as well as future development within the SOIA Area, verification of SRWTP treatment capacity would still be required. Therefore, this is considered a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.15-2: Prepare a Plan for Service that Demonstrates Adequate On-Site and Off-Site Wastewater Collection and Conveyance Facilities and Wastewater Treatment Facilities are (LAFCo and the City of Elk Grove)

At the time of submittal of any application to annex territory within the SOIA Area, the City of Elk Grove shall provide a Plan for Services that depicts the locations and appropriate sizes of wastewater

collection and conveyance facilities to accommodate the amount of development identified for the annexation territory. The Plan for Services shall demonstrate SASD and SRCSD have annexed the territory into their respective service areas. The Plan for Services shall demonstrate that SASD and SRCSD wastewater collection and conveyance facilities and that the SRWTP will have sufficient capacity to accommodate the amount of development identified for the annexation territory or that fair-share funding will be provided for the expansion and/or improvement of existing wastewater facilities, as needed, to accommodate the increase in demand resulting from development of the annexation territory with no adverse impact to existing ratepayers.

Significance after Mitigation

Implementation of Mitigation Measure 3.15-2 would reduce significant impacts to a **less-than-significant** level because the City of Elk Grove would demonstrate adequate on-site and off-site wastewater collection, conveyance, and treatment facilities would be available for the multi-sport park complex and for the amount of future development identified in the annexation territory. LAFCo would condition future annexation on compliance with Mitigation Measure 3.15-2.

Extension of off-site infrastructure and services could be required to fully serve the entire SOIA Area. Off-site improvements to SASD and SRCSD wastewater facilities are the responsibility of SASD and SRCSD. SASD and SRCSD 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 off-site facilities to serve the SOIA Area. Impacts resulting from off-site water 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. However, it is speculative to gauge the extent to which this would create any impact that is distinct from the analysis of direct Project impacts.

IMPACT 3.15-3 **Increased generation of solid waste and compliance with solid waste regulations.** *Future development in the SOIA Area, including the multi-sport park complex, would result in the increase generation of solid waste. The Kiefer Landfill, L and D Landfill, and Yolo County Landfill have sufficient permitted capacity to accommodate solid-waste disposal needs of future development would be required to comply with applicable federal, State, or local solid waste regulations. This impact is considered than **less than significant**.*

Future development within the SOIA Area, including the multi-sport park complex, 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 2016 CALGreen Code (Title 24, Part 11 of the California Code of Regulations) requires all construction contractors to reduce construction waste and demolition debris by 60 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 2016). 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.

Development of the multi-sport park complex and future development within the SOIA Area would result in increased long-term generation of solid waste during operation. The City provides recycling programs, such as curbside recycling of paper, plastics, and bottles, to reduce the volume of solid waste transported to landfills. In addition, the Space Allocation and Enclosure Design Guidelines for Trash and Recycling (City Municipal Code Title 30, Chapter 30.90) reduces wastes further by requiring businesses and multi-family residential uses to provide integrated collection areas with recycling components. Furthermore, the operator of the multi-sport park complex would comply with AB 2176 by implementing reduction, reuse, and recycling programs.

The sports fields would support as many as 2,740 players, coaches, and spectators, as well as officials and site workers. Given the potential for fairs, concerts, and rodeos, the largest attendance for any single day would be approximately 22,000 people. It is estimated that use of the sports fields would generate 0.4 tpd of solid waste, stadium events would generate 0.2 tpd, and operation of the fairgrounds and agrizone park would generate 0.03 tpd.⁶ These totals do not account for recycling programs required by AB 2176 or other City recycling programs. Therefore, the actual amount of solid waste generated by the multi-sport park complex would be less.

Residential solid waste in the City of Elk Grove is collected and hauled by Republic Services its Elder Creek Transfer and Recovery Station, and non-recyclable materials are hauled to the Kiefer Landfill. 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 for disposal, including Kiefer Landfill and commercial solid waste is primarily disposed of at the Kiefer Landfill, the L and D Landfill, and the Yolo County Landfill. Future residential uses on the SOIA Area could generate approximately 3.1 tpd of solid waste.⁷ Future development of commercial and industrial uses could generate approximately 66.0 tpd of solid waste.⁸ Combined, these landfills have a large volume of landfill capacity (254 million cubic yards) available to serve future development. The closure dates of the Kiefer Landfill, L and D Landfill, and Yolo County Central Landfill are anticipated to be approximately January 1, 2064, January 1, 2023, and January 1, 2080, respectively.

Future development would comply with all statutes and regulations related to solid waste. Compliance with the CalGreen Code; AB 2176; the City's the Construction and Demolition Debris Reduction, Reuse, and Recycling Ordinance; Space Allocation and Enclosure Design Guidelines; and other City recycling programs would ensure that sufficient landfill capacity would be available to accommodate solid-waste disposal needs for future development. This impact is considered **less than significant**.

Mitigation Measures

No mitigation measures are required.

⁶ For the purposes of this analysis, it is assumed that the sports fields host events every weekend throughout the year (104 days a year), and stadium events would occur once a month (12 days a year). It is also assumed that the fairgrounds and agrizone park would operate for 3 days over the year. Based on CalRecycle's 2014 waste characterization study, large venues and events generate 0.53 tons per 1,000 visitors per year (CalRecycle 2015).

⁷ Based on CalRecycle's estimated 2015 annual per capita disposal rate of 2.7 pounds per resident per day, the estimated total population for the proposed project (2,301 persons) would generate approximately 6,213 pound per day of solid waste, which equates to 3.1 tpd (CalRecycle 2018).

⁸ Based on CalRecycle's estimated 2015 annual per capita disposal rate of 13.2 pounds per employee per day and an estimated 10,000 employees for the proposed project, approximately 132,000 pound per day of solid waste would be generated per day, which equates to 66.0 tpd (CalRecycle 2018).

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3.16 ENERGY

This section addresses energy use related to transportation and to electrical and natural gas services. Below is a brief overview of State and local laws and regulations pertaining to energy. The analysis considers the primary uses of energy for the proposed Project; the benefit of existing regulations that require energy-efficient construction and operation; the location, design, and mix of uses of the proposed Project relative to energy use; the degree to which the proposed Project would create physical environmental effects related to the construction or expansion of existing transmission facilities; and the potential for the proposed Project to result in the wasteful, inefficient, and unnecessary consumption of energy.

3.16.1 ENVIRONMENTAL SETTING

ELECTRICAL SERVICE

In 2014, the total system power for California was 293,268 gigawatt hours (GWh) of electricity, of which approximately 198,973 GWh of electricity was generated in-state (California Energy Commission [CEC] 2015b).

The Sacramento Municipal Utility District (SMUD) generates, transmits, and distributes to approximately 1.5 million customers within its estimated 900-square-mile service area, which covers Sacramento County, (including the city of Elk Grove), and a small portion of Placer County (SMUD 2015). SMUD is one of 46 publicly owned utilities in the state and in 2014 it was the fifth largest utility in California (CEC 2012a, 2013). In 2014, SMUD generated approximately 10,573 million kilowatt-hours (kWh) of electricity within its service area (CEC 2016 a). Table 3.16-1 shows SMUD's average historic electrical consumption and forecasts of future consumption. The average annual growth rate of electrical consumption is expected to decrease over time with energy conservation efforts, even though electric vehicle use is expected to increase electricity consumption within SMUD's service area by nearly 100 GWh in the mid demand case by 2022 (CEC 2012b).

Table 3.16-1 SMUD Service Area Average Electrical Consumption and Forecast¹

Year	Consumption (GWh) ²
1990	8,361
2000	9,502
2010	10,354
2011	10,486
2015	11,082
2020	11,812
2022	12,109

Notes: SMUD = Sacramento Municipal Utility District; GWh gigawatt hours; CEC = California Energy Commission

¹ Based on the 2011 Final-Mid Forecast

² Gigawatt equals 1 million kilowatts.

Source: CEC 2012b:82

Electricity Sources

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). As shown in Table 3.16-2, in 2014, SMUD received 25 percent of its electricity from natural gas-fired power plants; 0 percent from nuclear generation; 27 percent from eligible renewable resources, such as biomass, solar, wind, geothermal, and small hydroelectric power plants that generate 30 megawatts (MW) or less of electricity; 10 percent from large hydroelectric power plants; and 23 percent from other unspecified power sources (i.e., electricity that is not traceable to specific generation sources by any auditable contract) (SMUD 2018a).¹

Table 3.16-2 SMUD Electrical Power Mix, 2014	
Electrical Sources	Percent
Natural Gas	25
Nuclear	0
Renewable ¹	27
Large Hydroelectric	10
Other Unspecified ²	23
Notes:	
¹ Renewable energy sources include biomass & waste, geothermal, solar, wind, and small hydroelectric power plants that generate 30 MW or less of electricity. These energy sources are considered eligible to meet California's renewable portfolio standard of 33 percent renewable energy generation by 2020.	
² Other unspecified sources refer to electricity that is not traceable to specific generation sources by any auditable contract.	
Source: SMUD 2018a	

Energy Conservation and Renewable Energy Programs

SMUD has a number of energy-efficiency programs. The Home Performance Program allows customers a low cost appraisal of the overall energy efficiency of their homes and provides incentives for home energy improvements through a grant from the United States Department of Energy. Additionally, SUMD offers tools for home and business owners to track their energy use and identify ways to conserve energy through energy-efficient upgrades.

SMUD's voluntary "Greenergy" green pricing program began in 1997, which supports reducing electricity generated by fossil fuels. Greenergy is a voluntary program where customers may elect to obtain 100 or 50 percent, respectively of their electricity from a renewable source by paying a monthly fee (SMUD 2018b). Residential customers also have the option of selecting renewable energy supply for 50 percent of their electricity and offsetting the carbon footprint with special purchases in carbon offset projects.

SMUD's RPS program was approved by SMUD's elected board one year before the state RPS program was approved by the legislature and governor. The RPS program was implemented to support renewable energy generation and reduce the need to generate energy from fossil fuels. To meet its annual renewables goals, SMUD both contracts for renewable electricity from independent power producers and builds and owns renewable energy power plants. SMUD met its renewable energy supply goals of 24 percent for 2011 (20 percent RPS + 4 percent

¹ 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.

Greenergy in 2011). SMUD has chosen to meet or exceed the state requirements and anticipates meeting the 2020 goal of 37 percent (33 percent RPS plus 4 percent Greenergy) (SMUD 2018b).

SMUD and PG&E offer a variety of energy conservation incentives to homeowners and businesses. Furthermore, the City of Elk Grove offers the Property Assessed Clean Energy program to assist commercial property owners in Elk Grove with financing of renewable energy, energy efficiency and water conservation upgrades (Nax 2012).

Elk Grove is also planning to offer residents the Home Energy Renovation Opportunity program, which makes energy efficient products available to residents. Further, the City has adopted the General Plan Sustainability Element (City of Elk Grove 2015:Sustainability Element) containing goals and policies for energy efficiency, greenhouse gas reductions, and water conservation.

NATURAL GAS SERVICE

Natural gas service in Sacramento County is provided by Pacific Gas and Electric Company (PG&E) through portions of PG&E's approximately 46,000 miles of natural gas distribution pipelines. In 2016, PG&E delivered approximately 4, 560 million therms (MM therms) of natural gas throughout its service area (CEC 2018). Of this total, the County of Sacramento received 272 MM therms, which accounted for 6 percent of the total natural gas deliveries within the PG&E service area (CEC 2016 b). Table 3.16-3 shows PG&E's average historic natural gas consumption and forecasts of future consumption. The average annual growth rate of electrical consumption is expected to decrease over time with energy conservation efforts. All construction and maintenance activities for natural gas facilities are the responsibility of PG&E.

Table 3.16-3 PG&E Service Area Average Natural Gas Consumption and Forecast¹	
Year	Consumption (MM Therms)
1990	5,275
2000	5,291
2010	4,643
2015	4,862
2020	5,035
2022	5,081
Notes: PG&E = Pacific Gas and Electric Company; MM therms = million therms; CEC = California Energy Commission	
¹ Based on the 2011 Final –Mid Forecast	
Source: CEC 2012c:50	

ENERGY USE FOR TRANSPORTATION

Transportation is, by far, the largest energy consuming sector in California, accounting for more than 39 percent of all energy use in the state (U.S. Energy Information Administration 2017). Since transportation accounts for more energy consumption than heating, cooling, and powering of buildings, powering industry, or any other use, travel demand is very important for consideration in an assessment of energy efficiency (Lawrence Berkeley National Laboratory 2013).

The regional per-capita VMT in 2020 is estimated to be 25.6 miles per day, with the 2036 VMT estimated to be 24.2 per day (Sacramento Area Council of Governments [SACOG] 2016, Chapter 5B, page 79). The decrease in per-capita VMT can be attributed to several factors, including alternate modes of transportation in proximity to land uses within the region. Because per-capita VMT would decline, the use of transportation fuels is projected to become more efficient.

The City of Elk Grove has a Transportation Demand Management Program (TDM) which promotes and encourages the use of alternative commuter transportation within the City of Elk Grove. The City is working closely with employers to address local transportation and air quality issues. Some of the services provided include:

- ▶ Promotion of alternative transportation (walking, biking, public transit or ridesharing) to all residents;
- ▶ Outreach to employers about alternative transportation;
- ▶ Ridematching (Carpool/Vanpools/Bicycling); and
- ▶ Travel Training where residents are taught how to ride public transit, use bicycle and pedestrian trails in the City, to telecommute or rideshare in a car or van.

Successful implementation of this program could help reduce the city-wide, per-capita VMT.

3.16.2 REGULATORY FRAMEWORK

FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES

Energy Policy and Conservation Act of 1975

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.

National Energy Act of 1978

The National Energy Act of 1978, including the Public Utility Regulatory Policies Act (Public Law 95-617), Energy Tax Act (Public Law 95-318), National Energy Conservation Policy Act (Public Law 95-619), Power Plant and Industrial Fuel Use Act (Public Law 95-620), and the Natural Gas Policy Act (Public Law 95-621), is a broadscale, national energy conservation of renewable energy initiative.

The intent of the National Energy Act was to promote greater use of renewable energy, provide residential consumers with energy conservation audits to encourage slower growth of electricity demand, and promote fuel efficiency. The Public Utility Regulatory Policies Act created a market for nonutility electric power producers to permit independent power producers to connect to their lines and to pay for the electricity that was delivered.

The Energy Tax Act promoted fuel efficiency and renewable energy through taxes and tax credits. The National Energy Conservation Policy Act required utilities to provide residential consumers with energy conservation audits and other services to encourage slower growth of electricity demand.

Energy Policy Acts

The Energy Policy Act of 1992 (EPAct) was developed to reduce dependence on imported petroleum and improve air quality by addressing all aspects of energy supply and demand, including alternative fuels, renewable energy, and energy efficiency. EPAct requires certain federal, state, and local government and private fleets to purchase alternative fuel vehicles. The act also includes definitions for “alternative fuels,” and includes fuels such as ethanol, natural gas, propane, hydrogen, electricity, and biodiesel.

The Energy Policy Act of 2005 was signed into law on August 8, 2005. The Energy Policy Act set federal energy management requirements for energy-efficient product procurement, energy savings performance contracts, building performance standards, renewable energy requirements, and alternative fuel use. The Energy Policy Act also amends existing regulations, including fuel economy testing procedures.

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The Energy Independence and Security Act included the first increase in fuel economy standards for passenger cars since 1975. The act also included a new energy grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

Executive Order 13514

On October 5, 2009, the President signed Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance (3 CFR 13514). The Executive Order set sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. The Executive Order requires agencies to meet a number of energy, water, and waste reduction targets, including:

- ▶ 30 percent reduction in vehicle fleet petroleum use by 2020;
- ▶ 26 percent improvement in water efficiency by 2020;
- ▶ 50 percent recycling and waste diversion by 2015;
- ▶ 95 percent of all applicable contracts will meet sustainability requirements;
- ▶ Implementation of the 2030 net-zero-energy building requirement;
- ▶ Implementation of the stormwater provisions of the Energy Independence and Security Act of 2007, section 438; and
- ▶ Development of guidance for sustainable federal building locations in alignment with the Livability Principles put forward by the Department of Housing and Urban Development, DOT, and USEPA.

Executive Order 13693

On March 19, 2015, the President signed Executive Order 13693, Planning for Federal Sustainability in the Next Decade. The Executive Order sets a goal of reducing federal agency greenhouse gas (GHG) emissions by 40 percent over the next decade. The Executive Order sets agency GHG reduction targets and sustainability goals, including:

- ▶ Percentage reduction targets must be proposed by each federal agency, including FHWA, FTA, and Federal Railroad Association (FRA), for agency-wide GHG emissions reductions by the end of fiscal year 2025 relative to a fiscal year 2008 baseline.
- ▶ Sustainability goals for each federal agency, including:
 - Promoting building energy conservation, efficiency, and management;
 - Requiring the use of renewable and alternative energy for electric and thermal energy in federal buildings by up to 25 percent by fiscal year 2025;
 - Requiring the use of renewable and alternative energy for total building energy consumption in federal buildings by up to 30 percent by fiscal year 2025;
 - Improving federal agency water efficiency and management to reduce water consumption by 36 percent by fiscal year 2025;
 - Improving federal agency vehicle fleet efficiency and management to reduce GHG emissions by 30 percent by fiscal year 2025;
 - Promoting sustainable acquisition and procurement practices; and
 - Advancing waste prevention and pollution prevention by diverting at least 50 percent of non-hazardous solid waste.

STATE LAWS, REGULATIONS, PLANS, AND POLICIES

California Energy Commission Plans and Programs

The California Energy Commission (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 2014 IEPR 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 2015a).

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 California electricity market, regulated by the CPUC, serves 11.5 million customers with 32,698 miles of transmission lines and 239,112 miles of distribution lines for a total economic value of \$23.7 billion (CPUC 2015c).

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.

In 2008, the CPUC adopted the Long Term Energy Efficiency Strategic Plan, which is the roadmap to achieving maximum energy savings in California through 2020 (CPUC 2015). 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

In 2002, State law established the basic policy framework to increase the use of renewable energy resources in California, also known as the Renewable Portfolio Standard (RPS). In 2011, SB X1-2, was signed to require all retail suppliers of electricity to procure at least 33 percent of annual retail sales from eligible renewable energy sources by 2020. This requirement applies to all electricity retailers in the state, including publicly-owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. On October 15, 2015, SB 350 was signed by Governor Brown expanding the RPS to 50 percent by the end of 2030.

Performance Standard for Baseload Power Generation

SB 1368 (Chapter 598, Statutes of 2006) required the California Public Utilities Commission (PUC) to establish a GHG emissions performance standard for "baseload" generation from investor-owned utilities of 1,100 lbs. CO₂/Megawatt hour. The CEC established a similar standard for local publicly owned utilities. All electricity

provided to California, including imported electricity, must be generated from plants that meet or exceed this standard.

Senate Bill 1 (Chapter 132, Statutes of 2006)

The California Solar Initiative (Senate Bill 1, Chapter 132, Statutes of 2006), also known as the “Million Solar Roofs” legislation, set a goal of installing 3,000 megawatts of new solar capacity by 2017.

Title 24 Energy Standards

Energy Conservation Standards for new residential and nonresidential buildings were first adopted by the CEC in June 1977 and were most recently revised in 2013 (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 heating, ventilation, and air conditioning (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 2013. The 2013 Title 24 standards went into effect July 1, 2014, and improve on the 2008 Title 24 standards. 2016 Title 24 standards have been drafted and will supersede the 2013 standards by going into effect January 1, 2017.

Appliance Efficiency Regulations

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.

Green Building Standards

First adopted in 2010 (and taking effect in 2012), the California Green Building Standards Code (24 CCR Part 11 [CALGreen]) is the State’s primary sustainability code. The CALGreen code was updated in 2013 (and took effect January 1, 2014), with a supplement effective July 1, 2015. These comprehensive regulations will achieve major reductions in GHG emissions, energy consumption, and water use. CALGreen will require that every new building constructed in California reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low-pollutant-emitting materials. The code also requires separate water meters for non-residential buildings’ indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects and mandatory inspections of energy systems (e.g., heat furnace, air conditioner, and mechanical equipment) for nonresidential buildings larger than 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies. ARB estimates that the mandatory provisions will reduce GHG emissions from buildings by approximately 3 MMT CO₂e in 2020 in comparison with GHG emissions without implementation of the Green Building Standards (ARB 2014).

Another update to the energy efficiency standards for 2016 became effective January 1, 2017. The 2016 update to the Building Energy Efficiency Standards will improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards include improvements for attics, walls, water heating, and lighting. The new standards address non-residential development, as well, and build on the energy efficiency progress made within previous iterations.

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 Climate Action Plan

In 2013, the City of Elk Grove Climate Action Plan (CAP) was adopted by the City Council, along with the Sustainability Element of the City of Elk Grove General Plan. This planning document identifies sources of GHG emissions within the city boundary and identifies measures to reduce emissions, including measures that would also reduce energy use. The City estimates that implementation of the CAP will achieve a 15 percent reduction in emissions below 2005 levels by 2020. The CAP includes the following policy topics for emission reduction strategies: An innovative and Efficient Built Environment, Resource Conservation, Transportation Alternatives and Congestion Management, and Municipal Programs. Table 3.16-4 presents applicable energy-related measures.

Table 3.16-4 City of Elk Grove Climate Action Plan Applicable Energy Reduction Measures		
Reduction Measures		Policy Topic
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: Appliances and Equipment in New Development. Encourage the use of energy-efficient appliances and equipment in new buildings that maximize efficiency.	Built Environment
BE-10	On-Site Renewable Energy Installations. Promote voluntary installations of on-site solar photovoltaics in new and existing development, and revise standards to facilitate the transition to solar water heaters and solar photovoltaics in new development.	Built Environment
BE-11	Off-Site Renewable Energy. Encourage participation in SMUD's off-site renewable energy programs, which allow building renters and owners to choose locally produced cleaner electricity sources.	Built Environment
RC-2	Water Conservation. Reduce the amount of water used by residential and nonresidential uses.	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	Intracity Transportation Demand Management. The City shall support and contribute to regional efforts to reduce demand for intercity (regional) personal vehicle travel.	Transportation Alternatives & Congestion Management
TACM-5	Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle and Pedestrian Master Plan and increased bicycle parking standards.	Transportation Alternatives & Congestion Management

Table 3.16-4 City of Elk Grove Climate Action Plan Applicable Energy Reduction Measures		
Reduction Measures		Policy Topic
TACM-6	Public Transit. Continue to improve and expand transit services for commuters and non-commuters traveling within Elk Grove and regionally, providing the opportunity for workers living in other areas of Sacramento County to use all forms of public transit - including bus rapid transit and light rail - to travel to jobs in Elk Grove, as well as for Elk Grove residents to use public transit to commute to jobs outside the City.	Transportation Alternatives & Congestion Management
TACM-7	Jobs/Housing Balance. Continue to improve Elk Grove's jobs/housing ratio and seek to achieve sufficient employment opportunities in Elk Grove for all persons living in the City.	Transportation Alternatives & Congestion Management
TACM-9	Efficient and Alternative Vehicles. Promote alternative fuels and efficient vehicles throughout the community.	Transportation Alternatives & Congestion Management
TACM-10	Car Sharing. Promote the use of vehicles and transportation options other than single-occupant vehicles.	Transportation Alternatives & Congestion Management
TACM-11	Safe Routes to School. Implement SACOG's Safe Routes to School Policy.	Transportation Alternatives & Congestion Management
TACM-12	Traffic Calming and Anti-Idling. Improve traffic flow and reduce unnecessary idling through use of traffic calming devices and enforcement of idling restrictions.	Transportation Alternatives & Congestion Management
MP-2	Municipal Facilities. New. All City facilities shall incorporate energy-conserving design and construction techniques.	Municipal Programs
MP-7	Municipal Water Use. Improve the efficiency of municipal water use through retrofits and employee education.	Municipal Programs

City of Elk Grove General Plan

The City of Elk Grove 2030 General Plan includes policies that promote energy conservation and reduction strategies.

- ▶ **Policy CI-1:** Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution.
- ▶ **Policy CI-3:** The City's efforts to encourage alternative modes of transportation will therefore focus on incentives to reduce vehicle use, rather than disincentives (which are generally intended to make driving and parking less convenient, more costly, or both). Incentives may include:
 - Preferential carpool and vanpool parking,
 - Bus turnouts, and
 - Pedestrian-friendly project designs
- ▶ **Policy CI-4:** Specific Plans, Special Planning Areas, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area.
- ▶ **Policy CI-5:** The City shall encourage the use of transportation alternatives that reduce the use of personal motor vehicles.

- **CI-5-Action 1:** Funding for development, operations, and maintenance of facilities for mass transit, bicycle, pedestrian modes of transportation shall be given appropriate priority in the City’s budgeting process.
 - **CI-5-Action 2:** Implement policies and actions in the Conservation/Air Quality Element which seek to encourage non-vehicle transportation alternatives in Elk Grove.
 - **CI-5-Action 3:** The City will support positive incentives such as carpool and vanpool parking, bus turnouts, and pedestrian-friendly project designs to promote the use of transportation alternatives.
 - **CI-5-Action 4:** The City shall participate in the preparation and implementation of a Congestion Management Plan (CMP) consistent with legal requirements which gives priority to air quality goals, alternatives to automobile travel, and the development of demand reduction measures over additional road capacity.
 - **CI-5-Action 5:** The City shall develop and implement Pedestrian and Bikeway Master Plans to provide safe and convenient pedestrian and on- and off-street bicycle facilities throughout the City.
- **Policy CI-6:** The City shall require that transit service is provided in all areas of Elk Grove, including rural areas, so that transit dependent residents of those areas are not cut off from community services, events, and activities.
- **CI-6-Action 1:** The City shall require that RT or any other local or regional transit agency serving Elk Grove include bus service to the rural areas of Elk Grove.
- **Policy CI-7:** The City shall encourage an approach to public transit service in Elk Grove which will provide the opportunity for workers living in other areas of Sacramento County to use all forms of public transit—including bus rapid transit and light rail—to travel to jobs in Elk Grove, as well as for Elk Grove workers to use pub Policy CI-8. The City shall encourage the extension of bus rapid transit and/or light rail service to the planned office and retail areas north of Kammerer Road and west of Highway 99.
- **Policy CI-9:** Light rail service in Elk Grove should be designed to serve major employment centers and the regional mall at Kammerer Road/Highway 99. The City of Elk Grove encourages the development of light rail which will bring workers and shoppers to Elk Grove, while also serving as part of a coordinated, regional transportation network.
- **CI-9-Action 1:** Using the City’s preferred alignment, work with Regional Transit to select a final alignment for the extension of bus rapid transit and/or light rail into Elk Grove, and to develop final station and/or park-and-ride locations along the entire transit corridor in Elk Grove. As necessary, update this Circulation Element to reflect the final alignment.
 - **CI-9-Action 2:** The City shall require irrevocable offers of dedication of rights- of-way and station sites along the City’s preferred light rail alignment. Offers of dedication shall be required as part of the approval of any tentative map or other discretionary approvals as appropriate.
- **Policy 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.

- **CI-17-Action 1:** The City shall on an as-needed basis review existing truck routes within Elk Grove and designate routes consistent with the need to reduce traffic, noise and other impacts, and negative effects on residential areas.
- ▶ **Policy CI-18:** To the extent possible, major traffic routes for residential areas should be separate from those used by the city's industrial areas, with the purpose of avoiding traffic conflicts and potential safety problems.
- ▶ **Policy CI-19:** The circulation system serving the city's industrial areas should be designed to safely accommodate heavy truck traffic.
- ▶ **Policy CI-21:** The City shall require the installation of traffic pre-emption devices for emergency vehicles (police and fire) at all newly constructed intersections, and shall seek to retrofit all existing intersections to incorporate these features.
- ▶ **Policy CAQ-26:** It is the policy of the City of Elk Grove to minimize air pollutant emissions for all City facilities and operations to the extent feasible and consistent with the City's need to provide a high level of public service.
 - **CAQ-26-Action 1:** The City shall encourage all its employees to use transportation alternatives such as public transit, bicycling, walking, and carpooling for commute and other work-related trips. The City shall provide information on these and other applicable programs to all employees.
 - **CAQ-26-Action 2:** All City facilities shall incorporate energy-conserving design and construction techniques.
 - **CAQ-26-Action 3:** The City shall encourage City contractors and vendors to reduce emissions from their operations (such as by using low emission vehicles), and shall consider including a preference for low emission contractors and vendors in City requests for proposals where appropriate.
- ▶ **Policy CAQ-27:** The City shall promote energy conservation measures in new development to reduce on-site emissions and power plant emissions. The City shall 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.
 - **CAQ-27-Action 1:** Provide information to the public and builders on available energy conservation techniques and products.
 - **CAQ-27-Action 2:** Encourage the use of trees planted in locations that will maximize energy conservation and air quality benefits. Encourage the use of landscaping materials which produce lower levels of hydrocarbon emissions.
 - **CAQ-27-Action 3:** During project review, City staff shall consider energy conservation and, where appropriate, suggest additional energy conservation techniques.
 - **CAQ-27-Action 4:** During project review, ensure that "Best Available Control Technology" is properly used and implemented.

- **CAQ-27-Action 5:** Encourage new commercial uses to limit delivery hours to non-peak hours.

3.16.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Evaluation of potential energy impacts was based on a review of the following documents and regulations pertaining to the SOIA Area and surrounding area:

- ▶ *California Energy Demand, 2012–2022 Final Forecast* (CEC 2012b, 2012c);
- ▶ *City of Elk Grove 2030 General Plan* (City of Elk Grove 2015);
- ▶ *City of Elk Grove Climate Action Plan* (City of Elk Grove 2013); and
- ▶ Title 24 of the California Code of Regulations, including the 2013 California Green Building Code (Part 11, Title 24)

Future energy demand was calculated based on the multi-sport park complex and proposed rezoning within the balance of the SOIA Area and greenhouse gas emissions modeling conducted using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 (see Section 3.4, “Air Quality,” for further discussion of CalEEMod). Impacts related to energy were identified by comparing existing capacity against future demand.

THRESHOLDS OF SIGNIFICANCE

Appendix F of the CEQA Guidelines provides guidance for assessing impacts related to energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently including a list of six environmental impacts related to use of energy in Section II (c). For the purposes of this EIR, energy impacts are considered significant if the proposed Project would result in any of the following:

- ▶ Develop land use patterns that cause wasteful, inefficient, and unnecessary consumption of energy; or
- ▶ Require or result in the construction of new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

IMPACT ANALYSIS

IMPACT 3.16-1 **Energy efficiency.** *Development in the SOIA Area, including the multi-sports park complex project, would increase demand for energy, including fuel, electricity, and natural gas. Future development will be required to comply with existing regulations that are designed to improve energy efficiency. It is possible that future development could cause the inefficient, wasteful, or unnecessary consumption of energy. The impact is considered **significant**.*

The following analysis evaluates potential impacts of the multi-sport park complex and proposed rezoning and the assumptions contained in the City’s SOIA application, which are based on City General Plan land use designations and zoning categories, as well as off-site improvements, such as roads, sewer lines, and water lines.

Construction-Related Energy Consumption

Construction in the SOIA Area, including the multi-sport park complex, would result in an increase in energy consumption for the duration of the construction. The primary energy demand during construction would be refueling construction vehicles 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. 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 actions CAQ-26-Action 2, which requires City facilities to use energy-conserving construction techniques. The impact is considered **significant**.

Development-Related Energy Consumption

Operation of development in the SOIA Area, including the multi-sport park complex, would require energy for vehicle use, building energy demand, and other elements, such as lighting. Table 3.16-5 provides a summary of the potential electrical and natural gas demands by land use. Electrical and natural gas demand would be approximately 282,110,082 kWh/year and 170,222,801 thousand British thermal units (kBtu)/year, respectively.

Table 3.16-5 Estimated Annual Electrical and Natural Gas Demand, Conceptual Land Use Scenario		
Location	Electrical Demand (kWh/year)	Natural Gas Demand (kBtu/year)
Sports Complex	16,569,192	33,633,821
Commercial	129,155,000	59,241,600
Industrial	129,972,700	54,699,980
Mixed Use	6,413,190	22,647,400
Total	282,110,082	170,222,801
Notes: kWh = kilowatt-hours; kBtu = thousand British thermal unit		
Source: AECOM 2017		

SMUD would provide electricity and would continue to prioritize renewable energy and aims to provide dependable renewable resources for 33 percent of its load by 2020, excluding additional renewable energy acquired for certain customer programs, in compliance with SB X1-2 (SMUD 2018c). SMUD purchases power from various sources; however, SMUD's energy generation portfolio includes substantial renewable-energy sources including hydroelectric power from the Upper American River Project, wind power generation from Solano County, and solar power generation. Both SMUD and PG&E are increasing their renewable-energy portfolios. For example, SMUD recently approved expansion of its wind generation facilities in Solano County; its solar power generation at Rancho Seco in Sacramento County; and its hydroelectric power with approval of the new South Fork Powerhouse on the South Fork of the American River in El Dorado County. All SMUD's power generation projects are subject to CEQA review and approval (SMUD 2016a) and permitting by the regulatory agencies such as the Central Valley RWQCB. SMUD's Upper American River Project is licensed by the Federal Energy Regulatory Commission and SMUD's recent 50-year license renewal required environmental review under the National Environmental Policy Act, the Clean Water Act, and other federal and state regulations (SMUD 2016b).

Per SB 350, SMUD must achieve 50 percent of its load with renewable energy by 2050. In 2014, SMUD received 25 percent of its electricity from natural gas-fired power plants; 0 percent from nuclear generation; 27 percent from eligible renewable resources, such as biomass, solar, wind, geothermal, and small hydroelectric power plants that generate 30 MW or less of electricity; 10 percent from large hydroelectric power plants; and 23 percent from other unspecified power sources (i.e., electricity that is not traceable to specific generation sources by any auditable contract) (SMUD 2018a).

Buildings associated with future development of the SOIA Area, including of the multi-sport park complex, would require heating and cooling. These developments would be required to comply with applicable building code requirements, which would include State energy efficiency provisions that are in effect at the time of construction. For example, all new development would be required to comply with the Building Energy Efficiency Standards (Title 24 of the California Code of Regulations), including the 2016 Building Energy Efficiency Standards (effective January 1, 2017) or the standards in effect when future development is proposed. Reduction Measure BE-6 from the City's Climate Action Plan suggests that the City will adopt more stringent energy efficiency requirements than the State code. Compliance with these code requirements would reduce potential energy demand. The 2016 CalGreen Code (Part 11, Title 24), 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 2016 Building Energy Efficiency Standards will reduce statewide annual electricity consumption by approximately 281 GWh per year, electrical peak demand by 195 MW, and natural gas consumption by 16 million therms per year (CEC 2015c).

Development of the SOIA Area 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 Climate Action Plan that are intended to promote more efficient use of energy. This would include reduction measures BE-6, BE-7, and BE-10, policy CAQ-27, and CAQ-27 Action 1, CAQ-27 Action 2, and CAQ-27 Action 3, which are intended to increase building energy efficiency and promote generation of renewable energy. 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. The impact is considered **significant**.

Transportation-Related Energy Consumption

As noted, transportation is, by far, the largest energy consuming sector in California, and since transportation accounts for more energy consumption than heating, cooling, and powering of buildings, powering industry, or any other use, travel demand is a critical consideration in assessing energy efficiency (U.S. Energy Information Administration 2017; Lawrence Berkeley National Laboratory 2013).

Using the land use scenario developed for the purpose of analysis in this EIR, possible future development in the SOIA Area, including the multi-sport park complex, could generate 169,659 daily trips on weekdays, 164,580

daily trips on Saturdays, and 88,749 daily trips on Sundays.² This equates to an approximate average daily VMT of 742,088 which would generate an estimated annual energy demand of 1,374,460 MMBtu.^{3,4}

The Sacramento Area Council of Governments (SACOG) prepared a regional analysis of VMT and found average daily VMT for Sacramento County to be approximately 32,937,000. This travel demand is forecast to increase to 37,092,000 in 2020 and to 43,669,000 in 2036 under the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) (SACOG 2016). The regional VMT per capita in 2008 was estimated to be 26.2, decreasing by 2012 to 25.1 miles per day (SACOG 2016, Chapter 5B, page 79). Although regional VMT is anticipated to increase throughout the region, the VMT per capita is forecast to decline slightly during the planning horizon for the MTP/SCS (through 2036). Per-capita VMT in 2036 is estimated to be 24.2 per day, which is an 8-percent decrease from 2008 per-capita levels (SACOG 2016, Chapter 5B, page 79).

SACOG's VMT estimates include three primary categories: household-generated, commercial vehicle, and external. External VMT includes VMT generated by passenger vehicles traveling through the region. The total household-generated weekday VMT in the region was estimated to be 40,709,600 in 2012, increasing to 52,258,900 by 2036 (SACOG 2016, Chapter 5B, page 81). On a per-capita basis, weekday household VMT was estimated by SACOG to be 17.9 in 2012, decreasing by 5 percent to 17 in 2036.

Actual travel demand will depend on the density and development intensity of development, mixing of land uses, the relationship between land uses in the SOIA Area 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. SACOG estimates that in 2036, 45 percent of all household-generated VMT will be associated with commuting. Future commercial and industrial development could generate job opportunities for Elk Grove residents that are currently commuting, potentially shortening commutes. If development of the SOIA Area were to generate job opportunities for Elk Grove residents that are currently commuting, this could potentially shorten potential commute trips. 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 SOIA Area 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 Climate Action Plan that are intended to promote more efficient use of energy. This would include reduction measures TACM-1, TACM-2, TACM-3, TACM-4, TACM-5, TACM-6, TACM-7, TACM-9, TACM-10, TACM-11, and TACM-12; policies CI-1, CI-3, CI-4, CI-5, CI-6, CI-7, CI-9, and CI-17; and actions CI-5-Action 2, CI-5-Action 3, CI-5-Action 4, CI-5-Action 5, CI-6-Action 1, CI-9-Action 1, and CI-9-Action 2, which are intended to reduce VMT attributable to development in Elk Grove. Implementing these provisions would increase transportation-related energy efficiency. However, possible future development within the proposed SOIA Area 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

² This estimate of VMT is derived using default assumptions for the land use scenario from the CalEEMod air pollutant emissions model.

³ 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>).

⁴ Trip summary information modeled in CalEEMod can be reviewed in Appendix B of this EIR.

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 and 3.8-1

Mitigation Measure 3.16-1b: Incorporate Energy Conservation Strategies (City of Elk Grove)

Incorporate strategies for direct energy conservation, as well as strategies that indirectly conserve energy into the design and construction of the multi-sport park complex, 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

The sports complex and future development in the SOIA Area 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, 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 SUMD and local agencies to support renewable energy production, in addition to the implementation of State building and energy efficiency standards. Development within the SOIA Area 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, which would implement City General Plan policies CAQ-29, CI-1, CI-3, CI-4, CI-5, and CI-7 and actions CAQ-29-Action 1 and CAQ-29-Action 2, as well as the City’s Climate Action Plan reduction measures TACM-4, TACM-5, TACM-6, and TACM-11. This would also reduce energy. Mitigation Measure 3.8-1a would require reductions in GHG emissions, which would also reduce energy use. However, the location and intensity of future development is not known at this time. Mitigation Measure 3.16-1b would reduce energy demand and improve energy conservation for the multi-sport park complex by reducing energy associated with transportation of building materials, lighting, irrigation, and heating and cooling.

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. 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 impact of which is 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, given the scale of possible development that could be proposed within the SOIA Area in the future, the impact would continue to be considered significant. There is no additional feasible mitigation. The impact is **significant and unavoidable**.

IMPACT 3.16-2 **New or expanded electrical and natural gas utilities.** *Development of the multi-sport park complex and future development of the SOIA Area would require construction of new on-site electrical and natural gas infrastructure. PG&E would need to provide natural gas infrastructure and SMUD would need to provide electrical infrastructure to the area, as necessary, to extend service into the SOIA Area. Existing infrastructure would be extended from developed areas in the vicinity to serve the multi-sport park complex and any future development of the SOIA Area. Therefore, the impact is considered **potentially significant**.*

The city of Elk Grove is served by SMUD’s aboveground and underground electric transmission and distribution lines. As is described in Chapter 2.0, “Project Description”, the proposed multi-sport park complex project would include extension of electricity services by SMUD and natural gas by PG&E. Electricity for the multi-sport park complex could be served from the 69-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. PG&E currently provides natural gas service within the City of Elk Grove; however the natural gas lines do not currently serve the SOIA Area 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 SOIA Area.

Electrical demand for the fully developed SOIA Area would be approximately 170,222,801 kWh/year, and natural gas demand for the proposed Project would be approximately 282,110,082 kBtu/year (Table 3.16-5). Based on SMUD’s and PG&E’s total service area and total supply of energy, the energy demands created by the proposed Project are not considered substantial in relation to the total amount of existing and future energy supplied by SMUD (12,109 million kWh of electricity in 2022) and PG&E (5,081 MM therms of natural gas in 2022).

The increase in energy demand would not be substantial in relation to existing or future demands in SMUD’s and PG&E’s service area. However, existing infrastructure would need to be extended from developed areas in the vicinity to serve the proposed multi-sport park complex project and any future development of the SOIA Area. Physical impacts associated with construction and operations of on-site utilities are evaluated throughout this EIR since these facilities are considered to be part of potential future development consistent with the proposed Project. However, on-site and off-site infrastructure to serve future development within the SOIA Area has not been identified at this time. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.16-2: Prepare Utility Service Plans that Demonstrate Adequate Electrical and Natural Gas Supplies and Infrastructure are Available before the Annexation of Territory within the SOIA (City of Elk Grove)

At the time of submittal of any application to annex territory within the SOIA Area, 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.

Significance after Mitigation

Implementation of Mitigation Measure 3.16-2 would reduce potentially significant impacts associated with increased for electrical and natural gas demands and demand for on-site and off-site infrastructure required for future development within the SOIA Area, including the multi-sports park, to a **less-than-significant** level because the City of Elk Grove would demonstrate adequate electrical and natural gas supplies and on-site and off-site infrastructure would be available for the amount of development identified in the annexation territory. Implementation of Mitigation Measure 3.16-2 would reduce impacts associated with the construction and expansion of natural gas and electricity infrastructure.

Extension of off-site infrastructure could be required to fully serve the entire SOIA Area. SMUD's and PG&E's off-site improvements to their facilities are the responsibility of SMUD and PG&E. SMUD or PG&E 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 off-site facilities to serve the SOIA Area. 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. However, it is speculative to gauge the extent to which this would create any impact that is distinct from the analysis of direct Project impacts.

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4 CUMULATIVE IMPACTS

This section provides an analysis of cumulative impacts of the SOIA, taken together with other past, present, and reasonably anticipated future projects producing related impacts, as required by Section 15130 of the California Environmental Quality Act Guidelines (CEQA Guidelines). Other past, present, and future projects that would contribute to environmental impacts of the proposed SOIA are referred to as “related projects.”

The goal of such an exercise is twofold:

1. first, to determine whether the overall long-term impacts of all such related projects, when considered together, would be cumulatively significant; and
2. second, to determine whether the project itself would cause a “cumulatively considerable” (and thus significant) incremental contribution to any such cumulatively significant impacts. (See CEQA Guidelines Sections 15130[a]-[b], Section 15355[b], Section 15064[h], and Section 15065[c]).

Pursuant to Section 15130 of the CEQA Guidelines: “(t)he 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 impacts to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.” The proposed Project is considered to have a significant cumulative effect if:

3. The cumulative effects of development without the Project are not significant and the Project’s additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
4. The cumulative effects of development without the Project are already significant and the Project contributes measurably to the effect. The term “measurably” is subject to interpretation. The standards used herein to determine measurability are that either the impact must be noticeable to a reasonable person, or must exceed an established threshold of significance.

4.1 APPROACH

The CEQA Guidelines Section 15130(b)(1) identifies two approaches to preparing the cumulative context for analysis of cumulative impacts. The first is the summary approach (also known as the “plan” approach), which summarizes the relevant projections from an adopted general plan or related planning document evaluating regional or areawide conditions. The second is the list approach, which requires a listing of past, present, and reasonably anticipated future projects producing related or cumulative impacts.

For this EIR, both the plan and the list approach have been combined and the cumulative context is specific to each environmental impact. For some environmental issues, the cumulative scope should be broad. This is appropriate given the regional context of transportation, air quality, and greenhouse gas emissions issues. Issues considered in the more localized context (i.e., construction noise, public services) are not addressed in the regional context because cumulative impacts in these topic areas are generally limited to the service area of the service providers.

The broadest cumulative context used in this EIR is the state of California for greenhouse gas (GHG) emissions impacts. Although the effects of climate change are experienced globally, as detailed in Section 3.8 of this EIR, “Greenhouse Gas Emissions,” the assessment of GHG emissions impacts is established by State legislation. Please see Section 3.8 for the cumulative analysis of GHG emissions impacts.

The next broadest cumulative context used in this EIR is the Sacramento Valley Air Basin, which is comprised of Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, Yolo, the northeast portion of Solano, and western portion of Placer counties. California’s air basins have been created to group together regions that have similar natural factors that affect air quality.

The next broadest cumulative context is past, present, and probable future plans and projects that are described by the Sacramento Area Council of Governments (SACOG) in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). This is a land use change scenario for the Sacramento region that includes anticipated past development and future development through 2036 (SACOG 2016). Currently, the population is more than 2.4 million in the Sacramento region, and there are 959,216 housing units (DOF 2017). Developed acreage in the region is forecast to increase by 7 percent between 2012, the baseline year for the MTP/SCS, and 2036, the MTP/SCS planning horizon. This 7-percent increase in developed acreage contrasts with an anticipated increase in housing units of 32 percent and an increase in jobs of 49 percent, indicating that new development could accommodate jobs and population on relatively less acreage. SACOG estimates that Elk Grove will grow by a total of 13,910 housing units between the baseline year for the MTP/SCS and 2036. This is a 27-percent increase. The MTP/SCS identifies a 64-percent increase in employment in Elk Grove by 2036 (19,864 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 Department of Finance estimates of dwelling units in 2013 (DOF 2017).

The next broadest cumulative context used in this EIR is Sacramento County’s General Plan, which was updated and adopted on June 7, 2011, and provides a complete and current representation of cumulative conditions for the County. The land use assumptions embodied in the General Plan include not only new development, but also existing development and development currently in entitlement review by the County.

Finally, some cumulative impacts are experienced more locally, and this EIR considers buildout of the City of Elk Grove’s General Plan, and future development outside of the City limits, including the Kammerer Road/Highway 99 SOIA and Bilby Ridge, west of Bruceville Road and west of the SOIA Area (West Study Area), which is proposed to include a range of residential densities and commercial and light industrial uses.

4.2 CUMULATIVE IMPACT ANALYSIS

This subsection evaluates the potential environmental impacts of the proposed Project when considered together with other projects. The analysis addresses only the types of impacts that could occur as a result of construction and operation of the Project, based on the significance criteria included in each resource discussion in Chapter 3.

The potential for the proposed Project to contribute to cumulative impacts would occur during construction and operations. For example, construction impacts would result in workers and delivery vehicles throughout construction, whereas operations would place visitors to the multi-sport park complex site on local roads and

highways during routine and special sports events and workers and potentially residents as the SOIA Area is built out. These contributions to cumulative impacts may occur over many years.

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.

Because there are no scenic vistas or State scenic highways, the Project would not contribute to a cumulative impact for those resources. The following sections evaluate the potential for cumulative impacts on visual character and quality, as well as from the loss of trees of local importance and impacts from lighting and glare.

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, Laguna Ridge Specific Plan, Sterling Meadows, the proposed casino 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 and the Sunrise-Douglas Community Plan in Rancho Cordova. Furthermore, the planned Folsom expansion would add 3,585 acres located 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 scenic vista south of Grant Line Road and the visual character and quality of the area. As described in Chapter 3, “Environmental Impact Analysis,” of this EIR, 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 scenic vistas and visual character was evaluated in the City’s General Plan EIR (Impact 4.13.4), which determined that further conversion of the region’s rural landscape would be a significant cumulative impact. This evaluation included the then-planned developments of Laguna Ridge, as well as the SEPA and other developments.

The SOIA Area 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 in the SOIA Area provide a scenic vista and the area’s visual character is representative of Elk Grove’s agricultural heritage. The aesthetic and visual quality of the SOIA Area 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 developments to the south of Grant Line Road near the SOIA Area, including a plant nursery and the now-closed Sunrise Skyranch Airport.

Future development in the SOIA Area, including the multi-sport park complex, 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 complex's entrance, landscaping, and signage would be available as motorists approach the intersection of Grant Line Road and Waterman Road and drive northeast. Views toward the sports complex and other developments in the SOIA area 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 floodplain, and the foothills, including from the UPRR overpass. Views of the future development would constitute the foreground and views of the commercial/industrial developments and stadium 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 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 **significant and unavoidable**.

LOSS OF TREES OF LOCAL IMPORTANCE

Development in the city can 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 will 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 development would be required to implement Mitigation Measure 3.2-2, which requires establishment of a tree mitigation plan 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" and Mitigation Measure 3.2-2, which requires compliance with the City's Municipal Code related to the preservation of, and compensation for the loss of trees.

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 east and 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 City of Elk Grove recently evaluated potential cumulative lighting effects from the Southeast Policy Area, which included a sports complex overlay (Impact 5.1.5) and concluded that the sky glow impacts of buildout, including a stadium, would add a substantial new source of lighting in a previously rural area and its impacts would be a **significant cumulative impact**.

Future development in the SOIA Area, including the multi-sport park complex, would require lighting for construction and would permanently introduce street, parking lot, and building lighting over several hundred acres, which could be substantial sources of light and glare.

Construction lighting for future development in the SOIA Area, including the multi-sport park complex, would be limited because construction would occur during the day (with the possible exception of nighttime utility crossing of Grant Line Road). Additionally, there are no adjacent construction projects.

Once operational, the proposed multi-sport park complex would be equipped with lighting for nighttime events that would affect adjacent areas. Furthermore, bright lighting of the complex, particularly during tournaments, would contribute to skyglow. These effects would occur primarily in early evening and up to 10 p.m., at which time the lights would be dimmed and then turned off at 11:00 p.m. Nevertheless, the impact from sports complex lighting during these times is **cumulatively considerable**.

As described in Section 3.2, “Aesthetics,” of this EIR, the City would minimize lighting effects by complying with the Elk Grove General Plan policies and the Elk Grove Design Guidelines as well as Mitigation Measure 3.2-3a, Mitigation Measure 3.2-3b, and Mitigation Measure 3.2-3c. However, these measures would not substantially reduce the combined effects of facility lighting, cars, and event lighting, and this impact would remain **significant and unavoidable**.

4.2.2 AGRICULTURAL RESOURCES

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 SOIA Area, the Lent Ranch Marketplace, and other large regional projects, including the potential casino west of the SOIA Area. 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 SOIA Area 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 2016), an estimated 129 acres of Farmland of Statewide Importance could be directly and permanently converted to nonagricultural, urban use. 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.¹ The total conversion of Farmland of Statewide Importance would be relatively small in the context of the

¹ Appendix G of the CEQA Guidelines focuses the analysis on conversion of agricultural land on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

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 in the SOIA Area could impact nearby agricultural uses and result in the conversion of adjacent agricultural lands. The impact is **cumulatively considerable**.

Furthermore, 179 acres of land within the SOIA Area is under Williamson Act contracts. Cancellation of these Williamson Act contracts before their expiration date would be required before construction of the multi-sport park complex project and future development within the SOIA Area identified for mixed use. 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 SOIA Area would be relatively small acreage in the context of the county's entire acreage of land under Williamson 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. The impact is **cumulatively considerable**.

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. In addition, cancellation of Williamson Act contract on land under agricultural production would further contribute to the incremental decline of farmland. Individual development projects would be responsible for incorporating any feasible mitigation to avoid or minimize impacts to agricultural resources. However, this would not create new farmland. There is no additional feasible mitigation. The cumulative impact would be **significant and unavoidable**.

4.2.3 AIR QUALITY

By its nature, air pollution is largely a cumulative impact. The cumulative setting for air quality is the Sacramento Valley Air Basin (SVAB). Table 3.4-2 in Section 3.4 of this EIR, "Air Quality," summarizes the air quality data from the closest stations to the SOIA Area that measure various criteria air pollutants for the most recent 3 years of complete data (2014–2016). As shown below, the 8-hour ozone concentration exceeded the NAAQS in all three monitoring years. The 24-hour PM_{2.5} NAAQS was estimated to be exceeded multiple times in 2015, but not at all in 2014 and 2016. No exceedances have been registered for NO₂ nor PM₁₀ near the SOIA Area for the last 3 years. Monitoring stations in the proximity of the SOIA Area have not monitored for CO or SO₂ in the past 3 years. As shown in Table 3.4-3 in Section 3.4 of this EIR, "Air Quality," Sacramento County currently meets NAAQS for all criteria air pollutants except ozone and the 24-hour PM_{2.5} standard. Sacramento County meets the CAAQS for all criteria air pollutants except ozone, PM₁₀, and PM_{2.5}.

All future development in the SVAB, including the potential casino northwest of the SOIA Area and the proposed Kammerer/99 SOIA, would result in new air pollutant emissions during construction and/or operation, which could exceed thresholds. This is considered a **significant cumulative** impact. For cumulative impacts, SMAQMD states that if a project's impacts would be significant at the project-level (i.e., exceed any of the thresholds listed in Section 3.4 of this EIR, "Air Quality,"), it could also be considered significant on a cumulative level (SMAQMD 2016).

Future development activities within the SOIA Area could accommodate more population and jobs than anticipated by the SACOG 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) growth assumptions, and, therefore, could be inconsistent with both applicable SMAQMD air quality attainment plans.

Development of the SOIA Area may result in a cumulatively considerable net increase of any criteria pollutant for which the SVAB is in nonattainment under an applicable federal or State ambient air quality standard. Mitigation Measures 3.4-1a through 3.4-6 were designed to reduce impacts to air quality. These mitigation measures seek to address emissions generated during construction and operational activities with associated land uses. Even with implementation of these mitigation measures, it is possible that the multi-sports park project and development of the SOIA Area could involve operational air pollutant emissions that still exceed SMAQMD thresholds. According to SMAQMD, if a project's impacts would exceed any of the thresholds listed in Section 3.4 of this EIR, "Air Quality," it would be considered a **cumulatively considerable contribution** to the potentially significant cumulative impact. There is no additional feasible mitigation available that would avoid this impact. The impact is **significant and unavoidable**.

4.2.4 BIOLOGICAL RESOURCES

SENSITIVE BIOLOGICAL RESOURCES

The cumulative setting for biological resources is land surrounding the SOIA Area and Sacramento County, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, Citrus Heights, and all existing, proposed, and reasonably foreseeable development projects within these jurisdictions. This 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 proposed Kammerer Road/Highway 99 SOIA, which does not propose development, but if development occurs in the future, this would also contribute (City of Elk Grove 2017). These planned development areas occur less than 5 miles away from the SOIA Area, 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 greater sandhill crane.

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 Swainson's hawk and greater sandhill crane population. 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 SOIA could have a **cumulatively considerable** contribution to this **significant cumulative** impact on Swainson's hawk. 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 greater sandhill crane populations in the Central Valley may also be adversely affected by climate change. No greater sandhill crane roosting sites or occurrences have been documented in the SOIA Area, but roosting occurrences have been recorded in the Cosumnes River Preserve to the south (County of Sacramento et al. 2017). While the habitat in the SOIA area is not currently considered of high value to greater sandhill cranes, this upland area could become suitable foraging habitat in the future if climate change shifts the location of roosting and foraging sites. The changes to greater sandhill crane habitats that may occur as a result of climate change are uncertain and speculative, but it is likely that climate change will adversely affect the wintering population of greater sandhill cranes using the Cosumnes River floodplain. It is possible that development of the SOIA Area may contribute in some way to the cumulative impact of climate change related to this species. The draft 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. 2017)

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, 2015). 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 SOIA 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. This is a **significant cumulative** impact.

The SOIA Area is comprised entirely of 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 SOIA Area also contains burrow habitat for burrowing owl and American badger. Although mitigation measures are proposed to compensate for the loss of habitat from the multi-sport park complex project and SOIA Area, fully compensating for the impact 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 84 acres of cropland from the proposed sports complex area and up to 412 acres of irrigated pasture and cropland in the balance of the SOIA Area could have a **cumulatively considerable contribution** to this significant cumulative impact. Impacts on the sensitive biological resources resulting from future development of the SOIA Area requires implementation of Mitigation Measures 3.5-1, 3.5-2a, 3.5-2b, 3.5-3a, 3.5-3b, 3.5-3c, 3.5-4, 3.5-5, 3.5-6, 3.5-7, 3.5-8, 3.5-10, and 3.5-12. Implementation of these mitigation measures would reduce impacts on sensitive biological resources resulting from future development of the multi-sport park complex project and SOIA Area. However, no additional feasible mitigation is available that would avoid this impact. The impact is **significant and unavoidable**.

4.2.5 CULTURAL RESOURCES

The cumulative setting for cultural resources is 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 Southeast Policy Area (SEPA) west of the SOIA Area, the Lent Ranch Marketplace, and other large regional projects, including the potential casino west of the SOIA Area. 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. This is a **significant cumulative** impact.

As stated previously, there would be no significant adverse change on any known historical resources, including prehistoric or historic cultural resources, as defined by CEQA Guidelines, associated with the SOIA Area. Future development in the SOIA Area could entail earth-moving activities and grading during on- and off-site construction. The potential for an impact on-site is moderate to 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 and City of Elk Grove policies and actions, as described in Section 3.6, "Cultural Resources," 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. 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. Although the potential for an impact is low, and compliance with California law and City of Elk Grove policies and actions would further reduce the potential for an impact, the impact is considered **cumulatively considerable**. No additional feasible mitigation is available. The impact is **significant and unavoidable**.

4.2.6 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

Cumulative impacts on geology and soils would be less than significant due to the implementation of existing regulations and policies intended to manage geological hazards; and due to the site-specific nature of geological, mineral, and paleontological resource impacts. Increases in population, jobs, buildings, and infrastructure cumulatively considered would create a corresponding increase in exposure to humans and structures to risks associated with seismic activity, expansive soils, and unstable ground. However, each individual project which would contribute to these increases in people and development must meet the requirements of the California Building Code (CBC), local ordinances, and land use plan policies, such as following BMPs and developing grading erosion control plans.

Compliance with City of Elk Grove and Sacramento County General Plan policies and local ordinances require site-specific investigations and implementation of best management practices (BMPs) to decrease the potential for geologic or seismic hazards. All developments within the vicinity of the SOIA Area in Sacramento County would be required to follow the same site-specific investigative procedures, which would prevent the effects of cumulative impacts from related projects and other development in the area. This would eliminate the possibility of additive impact effects, and there would be **no cumulatively considerable impacts** related to geologic or seismic hazards.

Development in the Sacramento region could occur in areas with geologic and soils constraints, in areas that could have paleontological resources sensitivity. Sensitive geologic units considered for paleontological resources are widespread in the Sacramento region, particularly in valley areas and adjacent lower foothills (SACOG 2015). Land use change and infrastructure improvements throughout the region have the potential to adversely affect buried paleontological resources. Since many resources are buried under the ground surface, it is difficult to predict the location of resources in the context of site planning, and therefore difficult to avoid in project designs. This is a **significant cumulative** impact.

Development as a result of the proposed SOIA, including the multi-sports complex, would have the potential to damage previously unknown and potentially significant paleontological resources. In addition, off-site improvements such as roads, sewer lines, drainage facilities, and water lines could also be required if future development were to occur in the SOIA Area, which could damage paleontological resources. However, the Mitigation Measure 3.7-6 requires disturbance prevention activities and a cease-work requirement upon paleontological resource discovery. The proposed mitigation measure, along with City policies and actions would minimize impacts to previously unknown paleontological resources in the proposed SOIA Area, including the multi-sport park complex site. This impact would be **less than cumulatively considerable**.

Because there are no known mineral resources that could be of regional or state value, and no known locally important mineral resource discovery sites within the SOIA Area, there would be **no significant cumulative impact** related to mineral resources.

4.2.7 GREENHOUSE GAS EMISSIONS

Please see Section 3.8, “Greenhouse Gas Emissions,” of this EIR for the analysis of cumulative greenhouse gas emissions impacts.

4.2.8 HAZARDS AND HAZARDOUS MATERIALS

The health and safety impacts associated with a proposed project usually occur on a project-by-project basis, rather than cumulatively. Development associated with the Project and future development within the area could result in increased hazard-related impacts. As previously described, development 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 would use hazardous materials on site after the Project and any off-site improvements are constructed would be required to obtain 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 would be required by law to implement and comply with these existing hazardous-materials regulations.

Past, present, and future related project sites likely contain existing hazards materials (e.g., piles of debris, underground or aboveground storage tanks, septic systems, stained soils [indicating potential contamination], lead-based paints, asbestos-containing materials, or PCBs. However, if hazardous materials are encountered on site during construction of the related projects, the associated impacts would be localized to those projects and would not be additive to other hazardous materials-related impacts in the SOIA Area.

Federal, State, and local regulations would determine appropriate land uses and would assist in reducing the impacts. Because future development would be required to undergo environmental review and comply with Mitigation Measures 3.9-2 and 3.9-4 to abate the site-specific hazards, any potential cumulative impacts associated with the Project would be expected to be decreased. There is **no significant cumulative** impact.

4.2.9 HYDROLOGY AND WATER QUALITY

GROUNDWATER

The SOIA Area is located within Groundwater Basin 5-21.65 Sacramento Valley, South American subbasin (identified locally as the Central Basin). This subbasin encompasses the area bounded on the north by the American River, on the south by the Cosumnes and Mokelumne rivers, on the west by the Sacramento River, and on the east by the Sierra Nevada mountain range. Sacramento Central Groundwater Authority monitoring data shows that groundwater elevations generally declined by approximately 20 to 30 feet consistently until about 1980. Water levels recovered by about 10 feet from 1980 through 1983, and remained stable until the beginning of the 1987–1992 drought, where until 1995, water levels declined by about 15 feet. Most water levels recovered between 1995 and 2003 generally to levels higher than prior to the 1987–1992 drought. According to the Sacramento Central Groundwater Authority, “much of this recovery can be attributed to the increased use of surface water in the Central Basin, and the fallowing of previously irrigated agricultural lands transitioning into new urban development areas in accordance with the Sacramento County and City of Elk Grove General Plans”

The Sacramento Central Groundwater Authority's *South American Subbasin Alternative Submittal* (Sacramento Central Groundwater Authority 2016) (Alternative Submittal) 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 is calculated to be approximately 4,000 acre-feet per year (afy). In terms of order of magnitude, this equates to four to five large municipal wells in the subbasin, and is representative of a basin in 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 Central Basin continues to recover at its 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, in accordance with the Central Sacramento County Groundwater Management Plan (Central Sacramento County GMP) (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).

New development within the Central Basin will increase the need for groundwater. As a signatory to the Water Forum Agreement, SCWA is committed to adhering to the long-term average sustainable yield of the Central Basin. The Water Forum estimated that the long-term average annual sustainable yield of the Central Basin was 273,000 afy, while extractions were estimated at 217,000 afy in 2015. The Alternative Submittal requires annual reporting of subbasin conditions every five years to demonstrate how subbasin operations have stayed below the sustainable yield. In addition, the Central Sacramento County GMP identifies provisions to maintain groundwater pumping levels within the sustainable yield, including reducing demand, conjunctive use, and aquifer storage and recovery projects that apply to all signatories of the Water Forum Agreement, including SCWA. Therefore, a **cumulatively significant impact would not occur.**

As described in Section 3.10, "Hydrology and Water Quality," future development in the SOIA Area, including the multi-sports complex area, would increase demands for water supply and thus groundwater uses. The SOIA Area is located in Zone 40 of the Sacramento Water Agency (SCWA) service area. The Zone 41 UWMP 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. SCWA would have surface water and groundwater supplies that exceed demands within Zone 40 from 2020 to 2040 in all water years. As discussed further in Section 3.15, "Utilities," water supply would be available to meet the water supply demands of the SOIA Area, including water supply demand associated with the multi-sport park complex.

As described in Mitigation Measure 3.10-3 (also known as Mitigation Measure 3.15-1), prior to development of the multi-sports complex or approval of any application to annex territory within the SOIA Area, the City of Elk Grove shall prepare a Plan for Services to demonstrate that the SCWA is a signatory to the Water Forum Agreement, that groundwater management would occur consistent with the Central Sacramento County Groundwater Management Plan, and that groundwater will be provided in a manner that ensures no overdraft will occur. LAFCo would condition future annexation on compliance with Mitigation Measure 3.10-3. This impact would be **less than cumulatively considerable.**

EROSION, SILTATION, POLLUTED RUNOFF, FLOODING AND FLOOD HAZARDS

Development in Elk Grove and Sacramento County would result in increased impervious surfaces, excavation and grading activities, and construction of buildings, homes, and other structures which could affect hydrology and water quality in the cumulative study area. However, compliance with the National Pollutant Discharge Elimination System permitting requirements, Clean Water Act permitting requirements, and applicable local regulations such as flood control ordinances and grading permits would ensure that there would be **no significant cumulative impact**.

4.2.10 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES

The cumulative setting is Sacramento County, including the cities of Elk Grove, Sacramento, Rancho Cordova, Folsom, and Citrus Heights, and all existing, approved, proposed, and reasonably foreseeable development projects within these jurisdictions. This includes the SEPA, Lent Ranch Marketplace, Bilby, the potential casino, and other large regional projects.

CONSISTENCY WITH LAND USE

Land use and policy inconsistencies would not inherently result in physical effects or significant environmental effects. Therefore, the proposed Project would not result in cumulative impacts. The cumulative effects of the proposed Project's physical changes are discussed throughout this section.

POPULATION, HOUSING, AND EMPLOYMENT

Population growth would not inherently result in significant cumulative effects because it does not result in physical environmental impacts. However, its indirect effects, such as construction of housing and infrastructure, can result in physical environmental effects. Development is continuing in the region, which is increasing both the population and housing and employment growth. Effects of this development include increased air pollution, traffic, noise, aesthetic impacts, and others. The impacts of this continued development would be **cumulatively significant**.

Future development could indirectly result in population growth through development of up to 708 dwelling units and creation of up to 10,000 jobs. The SOIA Area is located outside of the City's planning area; therefore, the population that could be accommodated in the SOIA Area was not considered as part of the adopted 2003 City General Plan.

The SOIA Area is not included in SACOG's future employment projection; therefore, the number of jobs potentially generated by future development would represent a substantial number of jobs not accounted for in SACOG's employment projections for the City. In addition, the 2016 MTP/SCS designates the SOIA Area as "Blueprint Vacant Urban Designated Lands Not Identified for Development in the MTP/SCS Planning Period" (SACOG 2016). The increase in population and housing attributed to future development is not accounted for in these planning documents. The jobs generated by future development would contribute toward creating a better numeric match between the number of jobs in Elk Grove and the number of employed residents. However, at full buildout of the City, the unplanned employment growth attributed to future development in the SOIA Area, including the multi-sport park complex, could substantially improve Elk Grove's jobs/housing balance.

One of the objectives of the proposed Project is to provide employment and possibly housing opportunities. No feasible mitigation is available to reduce population growth to less than significant, 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 extent of the cumulative setting for noise consists of the SOIA Area and the surrounding areas in the City. Cumulative development conditions would result in increased cumulative roadway noise levels and would also result in increased noise associated with future development. As noted earlier, ambient noise levels in the SOIA Area are influenced primarily by traffic noise emanating from area roadways, particularly SR 99, Kammerer Road, Grant Line Road, Mosher Road, Waterman Road, and Bradshaw Road. No major stationary sources of noise, transit noise, or groundborne vibration sources have been identified in the SOIA Area. The primary factor for cumulative impact analysis is, therefore, the consideration of future traffic noise levels.

CONTRIBUTION TO CUMULATIVE TRAFFIC NOISE

Predicted future cumulative traffic noise levels along primarily affected roadways, with Project implementation, are summarized in Table 4.10-1. On-site Project roadway network locations are not known at this time and cannot be described in this EIR. Also, roadway design information, including design speeds, are not currently available for planned on-site roadways.

Table 4.10-1 Predicted Traffic Noise Levels, Cumulative Conditions					
Roadway	Segment Location	L _{dn} at 100 Feet, dB			
		No Project	Plus Project	Net Change	Significant Impact?
Bradshaw Road	From Elk Grove Boulevard to Grant Line Road	68	74	6	Yes
Grant Line Road	From SR 99 SB Ramps to SR 99 NB Ramps	75	81	6	No**
Grant Line Road	From SR 99 NB Ramps to East Stockton Boulevard	74	80	2	No
Grant Line Road	From East Stockton Boulevard to Waterman Road	72	79	7	No**
Grant Line Road	From Waterman Road to Mosher Road	71	77	6	Yes
Grant Line Road	From Mosher Road to Bradshaw Road	70	77	7	Yes
Grant Line Road	From Bradshaw Road to Elk Grove Boulevard	66	73	7	Yes
Kammerer Road	From Lent Ranch Parkway to Promenade Parkway	73	79	6	Yes
Kammerer Road	From Promenade Parkway to SR 99 SB Ramps	76	82	6	Yes
Mosher Road	From Waterman Road to Grant Line Road	64	72	8	Yes
Waterman Road	From Mosher Road to Grant Line Road	67	73	6	No**
SR 99	From Dillard Road to Grant Line Road	78	78	0	No
SR 99	From Grant Line Road to Elk Grove Boulevard	78	78	0	No
Notes: dB = A-weighted decibels; L _{dn} = 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 2017					

Under future cumulative conditions, predicted traffic noise levels along affected off-site roadways would increase and would range from approximately 72 to 82 dBA CNEL/L_{dn} at 100 feet from the roadway centerline (Table 4.10-1). As discussed in Impact 3.12.4, future development in the SOIA Area would result in significant increases in existing traffic noise levels along nearby existing segments of Grant Line Road between SR 99 SB Ramps and the SR 99 NB Ramps, Grant Line Road between East Stockton Boulevard and Waterman Road, Mosher Road between Waterman Road and Grant Line Road, and Waterman Road between Mosher Road and Grant Line Road. Under future cumulative conditions, predicted traffic noise levels along all studied roadway segments would further increase approximately 2 to 8 dB. 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. Although predicted increases in traffic noise levels for future cumulative conditions would be largely attributable to projected increases in development within the surrounding community, the Project's contribution to future cumulative traffic noise levels along these roadway segments would still be **cumulatively considerable**.

Predicted future cumulative transportation noise levels at the property line of existing and future land uses located adjacent to some on-and off-site roadway segments would exceed the City's noise standards (refer to Table 3.12-9). Given that the proposed Project would result in a significant contribution to projected future cumulative traffic noise levels that would exceed the City's noise standards along some area roadways, this impact would be **cumulatively considerable**.

Reducing traffic-generated noise levels at existing noise-sensitive uses adjacent to studied roadway segments may not be feasible. Elk Grove Policy NO-7-Action-1 would implement a city-wide noise reduction program to reduce traffic noise levels. This could be accomplished through distribution versus concentration of traffic and measures to 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.

However, 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, this impact is **significant and unavoidable**.

CONTRIBUTION TO CUMULATIVE CONSTRUCTION NOISE AND VIBRATION

As discussed in Impact 5.10.1, construction activities associated with future development projects may result in significant increases in ambient noise levels. Mitigation measures have been incorporated to reduce short-term construction noise impacts. 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. Construction noise impacts are typically highly localized; therefore, even if the timing of construction activities associated with on-site and/or off-site construction projects did overlap, noise and vibration associated with other off-site construction projects would not combine with construction in the SOIA Area such that a significant cumulative effect would be anticipated to occur. Furthermore, because compliance with the City's noise requirements would limit construction activities to daytime hours and given that construction activities would be short term in duration, construction noise and vibration would **not be cumulatively considerable**.

4.2.12 PUBLIC SERVICES AND RECREATION

Future development in the City of Elk Grove would increase demand for public services and recreation. In terms of cumulative impacts, appropriate service providers are responsible for ensuring adequate provision of public services within their service boundaries.

Public services would be provided by the City of Elk Grove, the Cosumnes Community Service District (CCSD), the City of Elk Grove's Police Department, and the Elk Grove Unified School District (EGUSD). The following discussion analyzes the cumulative impacts on these service providers from implementation of the project and future, related projects within their respective service areas.

FIRE PROTECTION SERVICES

The 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 0.82 officers per 1,000 residents. With the assumed addition of up to 2,329 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, future development in the SOIA Area and 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 SOIA Area. Development within the EGUSD service area could increase the demand for school facilities. The SOIA Area 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 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 these schools will exceed design capacity by 2025 and may not have capacity to accommodate the students who would reside in the SOIA Area.

City General Plan Policy PF-16 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 PF-18). In addition, City General Plan Policy PF-21 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 SOIA Area 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 SOIA Area, would generate demand for new and existing recreational facilities in Elk Grove and the unincorporated county. Future development within the SOIA Area could add an assumed 708 housing units, or 2,329 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) and the City of Elk Grove Municipal Code Chapter 22.40 or contribute to other fair share funding mechanisms required by the City's General Plan.

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

Cumulative conditions are discussed in Section 5 of the traffic study prepared to support this EIR (Appendix G). The planned transportation network and population and employment growth assumptions are discussed in the section to provide context for the impact analysis. The transportation network includes programmed improvements included in the SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) 2016 constrained roadway network, with construction anticipated by 2036. The section also compares the MTP/SCS 2016 transportation network on Kammerer Road and Grant Line Road to the planned SouthEast Connector JPA and the City of Elk Grove General Plan.

The section then analyzes the potential impacts of the proposed Project on the surrounding roadway network under cumulative conditions without and with the proposed Project. The analysis considers potential impacts due to implementation the multi-sport park complex and full buildout of the SOIA Area (stadium park, fairgrounds, 285 acres of commercial/industrial land use, and 185 acres of mixed-use development). A modified version of SACOG's MTP/SCS travel demand forecasting (TDF) model was used to develop traffic volumes for the study facilities. The future year TDF model was modified to reflect buildout development levels in the city of Elk Grove, including buildout of the Laguna Ridge Specific Plan, Sterling Meadows, the Elk Grove Promenade, and buildout of the following projects considered to be reasonably foreseeable for the transportation impact analysis:

- ▶ Wilton Rancheria Casino Resort Project
- ▶ Bilby Ridge Sphere of Influence Amendment

- ▶ Kammerer Road/Highway 99 Sphere of Influence Amendment
- ▶ Elk Grove Promenade

TRAFFIC OPERATIONS – CUMULATIVE NO PROJECT CONDITIONS

The Cumulative Section in the traffic study summarizes traffic operations under Cumulative No Project conditions, including peak-hour roadway segment volume-to-capacity, intersection operations, and freeway operations at the SR 99/Grant Line Road interchange. Figure 10 in Appendix G shows weekday peak-hour turning movement forecasts, lane configurations, and traffic control at each study intersection. Figure 11 in Appendix G shows Saturday peak-hour turning movement forecasts, lane configurations, and traffic control at Intersections 5 through 11.

Table 23 in Appendix G displays directional roadway segment traffic volumes and V/C ratio for weekday PM and Saturday peak-hour conditions for key roadway segment that will provide primary access to the proposed Project, including Grant Line Road between SR 99 and Bradshaw Road. As shown in Table 23 in Appendix G, substantial growth in weekday and Saturday peak hour and would occur on Kammerer Road and Grant Line Road as a result of planned and reasonably foreseeable land use growth in the study area. Of particular note are the proposed Bilby Ridge and Kammerer Road/Highway 99 Sphere of Influence amendments west of SR 99. These projects were not assumed in the MTP/SCS 2016 or in the transportation analysis for the SouthEast Connector. Consequently, there is an imbalance created with the constrained transportation network. As a result of this imbalance, seven segments during the weekday PM peak hour and two segments during the Saturday peak hour would operate above capacity, V/C greater than 1.00.

Table 24 in Appendix G displays the existing weekday AM, PM, and Saturday peak-hour traffic operations analysis results at the 20 study intersections (refer to Appendix D of Appendix G for detailed calculations) under Cumulative No Project conditions. As shown in Table 24 in Appendix G, 10 intersections during the weekday AM and PM peak hours and 2 intersections during the Saturday peak hour would operate unacceptably at LOS E or F under Cumulative No Project conditions. These results are due largely to growth in the study area.

Table 25 in Appendix G displays weekday AM and PM peak-hour traffic operations analysis results at the 10 study freeway facilities under Cumulative No Project conditions (refer to Appendix D in Appendix G for detailed calculations). As shown in Table 25 in Appendix G, all study freeway facilities at the SR 99/Grant Line Road interchange would operate at LOS D or better.

TRAFFIC OPERATIONS – CUMULATIVE PLUS PROJECT CONDITIONS

The Cumulative Section in the traffic study (Appendix G) also summarizes traffic operations under Cumulative Plus Project conditions, including peak-hour roadway segment volume-to-capacity, intersection operations, and freeway operations at the SR 99/Grant Line Road interchange.

Intersection turning movement forecasts under Cumulative plus Project conditions are shown in Figures 12 through 16 in Appendix G. Table 26 in Appendix G displays directional roadway segment traffic volumes and V/C ratio under Cumulative Plus Project conditions for weekday PM peak-hour conditions for key roadway segment that will provide primary access to the proposed SOIA Area, including the multi-sports park complex site, including Grant Line Road between SR 99 and Bradshaw Road. As shown in Table 26 in Appendix G, the addition of Project trips will increase the V/C of on most study segments compared to cumulative conditions. The

addition of trips from stage events, league events, and the county fair would cause the segment of Grant Line Road between East Stockton Boulevard and Waterman Road (Eastbound) to exceed capacity compared to cumulative conditions.

Table 27 in Appendix G displays directional roadway segment traffic volumes and V/C ratio for weekday Saturday peak-hour conditions under Cumulative Plus Project conditions for key roadway segments that will provide primary access to the proposed SOIA Area, including the multi-sports park complex site, including Grant Line Road between SR 99 and Bradshaw Road. As shown in Table 27 in Appendix G, the addition of trips from a local/semi-regional tournament would cause segments of Grant Line Road between the SR 99 NB Ramp and Waterman Road (Westbound) to exceed capacity.

Table 28 in Appendix G displays the weekday PM and Saturday peak hour traffic operations analysis results at the 20 study intersections under Cumulative Plus multi-sports park complex project conditions (refer to Appendix D in Appendix G for detailed calculations). As shown in Table 28 in Appendix G, the addition of trips from multi-sports park complex project (Practice Activities) would impact operations at the following intersections:

- ▶ Kammerer Road/Lent Ranch Parkway – The addition of project trips would exacerbate unacceptable LOS F conditions.
- ▶ Kammerer Road/Promenade Parkway – The addition of project trips would exacerbate unacceptable LOS F conditions.
- ▶ Kammerer Road/SR 99 SB Ramps – The addition of project trips would exacerbate unacceptable LOS F conditions.
- ▶ Grant Line Road/East Stockton Boulevard – The addition of project trips would exacerbate unacceptable LOS F conditions.
- ▶ Grant Line Road/Waterman Road – The addition of project trips would result in unacceptable LOS E conditions.
- ▶ Grant Line Road/Elk Grove Boulevard – The addition of project trips would exacerbate unacceptable LOS E conditions.
- ▶ Grant Line Road/Wilton Boulevard – The addition of project trips would exacerbate unacceptable LOS E conditions.
- ▶ Waterman Road/Elk Grove Boulevard – The addition of project trips would exacerbate unacceptable LOS E conditions.
- ▶ Kammerer Road/Big Horn Boulevard – The addition of project trips would exacerbate unacceptable LOS E conditions.
- ▶ Kammerer Road/Lotz Parkway – The addition of project trips would exacerbate unacceptable LOS E conditions.

The addition of trips from the multi-sports park complex project (Tournaments) would impact operations at the following intersections during Saturday peak hour conditions:

- ▶ Kammerer Road/SR 99 SB Ramps – The addition of project trips would exacerbate unacceptable LOS E operation.
- ▶ Grant Line Road/Waterman Road – The addition of project trips would result in unacceptable LOS F conditions.
- ▶ Grant Line Road/Elk Grove Boulevard/East Stockton Blvd– The addition of project trips would exacerbate unacceptable LOS F operation.

Table 29 in Appendix G displays the weekday AM and PM peak-hour traffic operations analysis at the 20 study intersections under Cumulative Plus full buildout of the SOIA Area, including the multi-sports park complex project conditions with practice activities and stage events. (Refer to Appendix D in Appendix G for detailed calculations). As shown in Table 29 in Appendix G, full buildout of the SOIA Area, including the multi-sports park complex project, would impact the following study intersections in addition to the intersection list above:

- ▶ Kammerer Road/Bruceville Road – The addition of project trips would exacerbate LOS E operations in the AM peak hour and would result in unacceptable LOS E operations in the PM peak hour.
- ▶ Kammerer Road/SR 99 SB Ramps – The addition of project trips would exacerbate unacceptable LOS F operation.
- ▶ Grant Line Road/East Stockton Blvd– The addition of project trips would exacerbate unacceptable LOS F operations in the PM peak hour.
- ▶ Grant Line Road/Waterman Road – The addition of project trips would result in LOS E operations in the AM peak hour and would result in unacceptable LOS F operations in the PM peak hour.
- ▶ Grant Line Road/Mosher Road – The addition of project trips would result in LOS F operations in the AM and PM peak hours.
- ▶ Grant Line Road/Bradshaw Road – The addition of project trips would result in LOS E operations in the AM peak hour.
- ▶ Grant Line Road/Elk Grove Boulevard– The addition of project trips would exacerbate unacceptable LOS F conditions in the AM peak hour and unacceptable LOS E conditions in the PM peak hour.
- ▶ Grant Line Road/Wilton Boulevard – The addition of project trips would exacerbate unacceptable LOS F conditions in the AM peak hour and unacceptable LOS E conditions in the PM peak hour.
- ▶ Waterman Road/Elk Grove Boulevard – The addition of project trips would exacerbate unacceptable LOS E conditions in the AM peak hour and would result in unacceptable LOS E operations in the PM peak hour.
- ▶ Kammerer Road/Big Horn Boulevard – The addition of project trips would result in unacceptable LOS E conditions in the AM peak hour and would exacerbate unacceptable LOS E conditions in the PM peak hour.

- Kammerer Road/Lotz Parkway – The addition of project trips would exacerbate unacceptable LOS E conditions in the PM peak hour.

Table 30 in Appendix G displays the weekday AM and PM peak hour traffic operations analysis results at the 10 study freeway facilities under Cumulative Plus Project conditions. During the AM peak hour, full buildout of the SOIA Area, including the multi-sports park complex project, with Practice Activities was analyzed. During PM peak-hour conditions, operations with full buildout of the SOIA Area, including the multi-sports park complex project, including practice activities, were analyzed (refer to Appendix D in Appendix G for detailed calculations). As shown in Table 30 in Appendix G, all study freeway facilities at the SR 99/Grant Line Road interchange would operate at LOS D or better.

Therefore, the proposed SOIA would cause the roadway segments and intersections identified above operate at levels worse than the stated significance criteria, resulting in a **cumulatively significant** impact. However, as discussed in Section VI of the Transportation Impact Study for the Project (Appendix G), the following improvements are proposed to address Project-related impacts.

Mitigation Measure 4.2-1: Improvements Suggested under Cumulative Conditions

Implementation of the following improvements is recommended to provide acceptable, LOS D or better operations:

Improvement 6 – Bruceville Road/Kammerer Road

Provide six lane on Kammerer Road east of Bruceville Road. Six lanes on this section of Kammerer Road would be consistent with the Connector JPA ultimate project. Provide the following lane configurations at the intersection:

- One left-turn lane, one through lane, and one right-turn lane on the northbound approach
- Two left-turn lanes, one through lane, and a right-turn lane on the southbound approach
- One left-turn lane, three through lanes, and one right-turn lane on the eastbound approach
- One left-turn lanes, three through lanes, and one right-turn lane on the westbound approach

Improvement 7 – Lent Ranch Parkway/Kammerer Road

Provide the following lane configurations at the intersection:

- One left-turn lane, one through lane, and one right-turn lanes on the northbound approach
- Two left-turn lanes, one through lane, and one right-turn lane on the southbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the westbound approach

Improvement 8 – SR 99 SB Ramps/Grant Line Road

Widen in the median to provide the following lane configurations on the westbound and eastbound approaches:

- Four through lanes and one right-turn lane on the eastbound approach
- Four through lanes and one right-turn lane on the westbound approach

Improvement 9 – E. Stockton Boulevard/Grant Line Road

Widen in the median to provide the following lane configurations on the westbound and eastbound approaches:

- Two left-turn lanes, four through lanes, and one right-turn lane on the eastbound approach
- One left-turn lane, four three through lanes, and two one shared through/right-turn lanes on the westbound approach

Improvement 10 – Waterman Road/Grant Line Road Intersection

Widen Grant Line Road to provide eight through lanes and provide the following lane configurations:

- 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
- One left-turn lane, four through lanes, and one right-turn lane on the westbound approach

Improvement 11 – Mosher Road/Grant Line Road Intersection

Widen Grant Line Road to provide six through lanes and provide the following lane configurations:

- One left-turn lane, one through lane, and one right-turn lane on the northbound approach
- One left-turn lane, one through lane, and one right-turn lane on the southbound approach
- One left-turn lane, three through lanes, and one right-turn lane on the eastbound approach
- One left-turn lane, three through lanes, and one right-turn lane on the westbound approach

Improvement 12 – Grant Line Road/Elk Grove Boulevard Intersection

Install traffic signal control and provide the following lane configurations:

- One left-turn lane and one through lane on the northbound approach
- One through lane and one right-turn lane on the southbound approach
- One left-turn lane and one right-turn lane on the eastbound approach

Improvement 13 – Grant Line Road/Wilton Road Intersection

Provide the following lane configurations at the intersection:

- One left-turn lane, one through lane, and one right-turn lane on the northbound approach
- One left-turn lane, and a shared through/right-turn lane on the southbound, eastbound, and westbound approaches.

Improvement 14 – Waterman Road/Elk Grove Boulevard

Provide the following lane configurations at the intersection:

- Two left-turn lanes, two through lanes, and one right-turn lane on the northbound approach
- One left-turn lane, one through lane, and one right-turn lane on the southbound, eastbound, and westbound approaches.

Improvement 15 – Big Horn Boulevard/Kammerer Road

Provide six lanes on Kammerer Road east of Bruceville Road. Six lanes on this section of Kammerer Road would be consistent with the Connector JPA ultimate project. Provide the following lane configurations at the intersection:

- Two left-turn lanes, two through lanes, and one right-turn lane on the northbound approach
- Two left-turn lanes, two through lanes, and one right-turn lane on the southbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the westbound approach

Improvement 16 – Lotz Parkway/Kammerer Road

Provide six lanes on Kammerer Road east of Bruceville Road. Six lanes on this section of Kammerer Road would be consistent with the Connector JPA ultimate project. Provide the following lane configurations at the intersection:

- Two left-turn lanes, two through lanes, and one right-turn lane on the northbound approach
- Two left-turn lanes, two through lanes, and one right-turn lane on the southbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach
- Two left-turn lanes, three through lanes, and one right-turn lane on the westbound approach

With Improvement 6, the intersection would operate acceptably at LOS D in the PM peak hour. With Improvement 7, delay would be less than delay under cumulative conditions without the Project. The intersection would continue to operate at LOS F during the PM peak hours. With Improvement 8, delay would be less than delay under cumulative conditions without the Project. The intersection would continue to operate at LOS F during the PM peak hours. Widening to eight lanes on this section of Grant Line Road would be consistent with the Elk Grove General Plan. With Improvement 9, delay would be less than delay under cumulative conditions without the Project. The intersection would continue to operate at LOS F during the PM peak hours. Widening to eight lanes on this section of Grant Line Road would be consistent with the Elk Grove General Plan. With Improvement 10, delay would be less than delay under cumulative conditions without the Project. The intersection would continue to operate at LOS F during the PM peak hours. Widening to eight lanes on this section of Grant Line Road would be consistent with the Elk Grove General Plan. With Improvement 11, the intersection would operate acceptably at LOS D in the PM peak hour. Widening to six lanes on this section of Grant Line Road would be consistent with the Connector JPA ultimate project with the Elk Grove General Plan. With Improvement 12, the intersection would operate acceptably at LOS A in the PM peak hour. With Improvement 13, the intersection would operate at LOS E in the PM peak hour. With Improvement 14, the intersection would operate at LOS D in the PM peak hour. With Improvement 15, the intersection would operate acceptably at LOS D in the PM peak hour. With Improvement 16, the intersection would operate acceptably at LOS D in the PM peak hour. Therefore, Implementation of this mitigation would reduce the cumulatively

significant impacts associated with some roadway segments and intersections operations under the proposed Project to a **less-than-cumulatively considerable** level.

4.2.14 UTILITIES

In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their service boundaries. 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 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

The SOIA Area is adjacent to the southwestern boundary of SCWA's Zone 40; therefore, it is most likely that water service would be provided by SCWA. Zone 40 provides water supply through a conjunctive-use water supply system consisting of surface water, groundwater, and recycled water. The Zone 41 UWMP addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within Sacramento County where Zone 41 provides retail water services, including Zone 40. The Zone 41 UWMP 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.

Water supply demand for irrigation of the full-size soccer fields, training fields, landscaped areas, and the sod farm and water supply demand for operation of the stadium and community support facility proposed as part of the multi-sport park complex has been conservatively estimated as 178 afy. It is assumed that the water supply demand for irrigation would account for 162 afy of that total, depending on the type of field installed. Water demands for the stadium would occur only during operation and is dependent on the even schedule. It is possible that the existing on-site wells could be used to irrigate the agrizone park.

As shown on Table 3.15-3 in Section 3.15, "Utilities and Service Systems," the estimated water supply demand for future commercial, industrial, and mixed-use development has been conservatively estimated as 1,021 afy.² The total water supply demand for future development within the SOIA Area would be 1,199 afy, with the multi-sport park complex accounting for 178 afy of the total water supply demand.

As shown in Table 3.15-1 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. SCWA anticipates that at buildout of its service area, and assuming that appropriate water and 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 (SCWA 2017). Therefore, water supply would be available to meet the water supply demands of the SOIA Area, including

² This water supply demand does not reflect 2016 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.

water supply demand associated with the multi-sport park complex and future development within the SCWA service area. **A significant cumulative impact would not occur**, and the proposed Project **would not result in a cumulatively significant incremental contribution** to impacts related to water supply demand.

Off-site water supply facilities necessary to serve future development have not been identified at this time. Implementation of Mitigation Measure 3.15-1 would reduce significant impacts associated with increased for water supplies and demand for off-site water facilities because the City of Elk Grove would demonstrate adequate water supplies and water system facilities would be available for development of the SOIA Area, including the multi-sports complex project.

SCWA's nearest water transmission mains are located along Grant Line Road, along Waterman Road, at the Grant Line Road/SR 99 interchange, and the Elk Grove Water Treatment Plant (WTP) and storage tanks are located east of Waterman Road and north of Grant Line Road (see Section 3.15, "Utilities and Service Systems"). Other planned SCWA water system improvements shown in the Zone 40 WSIP include the future the Bond Road WTP and storage tanks, planned as Phase 2 facilities, and additional water conveyance pipelines along Grant Line Road and Waterman Road. These water system improvements were identified in the 2005 Zone 40 WSMP EIR, and the environmental impacts of the construction and operation were analyzed at a programmatic level.

If construction and operation of SCWA's off-site facilities are required to serve future development within its service area, the Project and other individual projects could indirectly contribute to cumulative impacts. SCWA's water supply planning and off-site improvements to its facilities are the responsibility of SCWA. SCWA 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.

WASTEWATER COLLECTION, CONVEYANCE, AND TREATMENT FACILITIES

Wastewater collection and conveyance facilities would be provided by SASD and wastewater treatment would be provided by SRCSD. The closest point of connection to major SASD infrastructure near the SOIA Area boundaries would be at the Grant Line Road/SR 99 interchange.

The SRWTP has a design capacity of 181 million gallons per day (mgd) with the potential to expand to 218 mgd. As of 2015, the SRWTP receives and treats an average of 150 mgd each day. The SRCSD expects that substantial water conservation measures throughout the service area would allow the existing 181 mgd average dry-weather flow capacity to be adequate for at least 40 more years. Therefore, the SRWTP would have adequate capacity to treat wastewater flows generated by the multi-sport park complex, as well as future development within the SOIA Area. **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.

Future development within the SASD or SRCSD service areas would receive municipal wastewater service through existing infrastructure or the construction of on-site wastewater transmission facilities and new and/or expansion of existing infrastructure. The SASD has indicated that they will provide sewer service to the SOIA Area. Off-site wastewater infrastructure required to serve the multi-sport park complex and future development has been planned for by SASD, but has not been constructed. Implementation of Mitigation Measure 3.15-2 would reduce significant impacts associated with increased for off-site wastewater collection and conveyance facilities because the City of Elk Grove would demonstrate adequate on-site and off-site wastewater collection,

conveyance, and treatment facilities would be available for the multi-sport park complex and for the amount of future development identified in the annexation territory.

If construction and operation of SASD or SRCSD off-site facilities are required to serve future development within their service areas, the Project and other individual projects could indirectly contribute to cumulative impacts. SASD's or SRCSD's off-site improvements to their facilities are the responsibility of SASD or SRCSD. SASD or SRCSD 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.

SOLID WASTE

Residential solid waste in the City of Elk Grove is collected and hauled by Republic Services its Elder Creek Transfer and Recovery Station, and non-recyclable materials are hauled to the Kiefer Landfill. 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 for disposal, including Kiefer Landfill and commercial solid waste is primarily disposed of at the Kiefer Landfill, the L and D Landfill, and the Yolo County Landfill. These landfills currently provide solid waste disposal services to both municipal and commercial customers in Sacramento and Yolo Counties. Development of new land uses within those counties would increase the amount of solid waste disposal at the Kiefer Landfill, the L and D Landfill, and the Yolo County Landfill. The Kiefer Landfill, the L and D Landfill, and the Yolo County Landfill have a large volume of landfill capacity (254 million cubic yards) available to serve future development within their service areas through 2064. Therefore, **no significant cumulative** impact would occur.

4.2.15 ENERGY

ENERGY USE

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 of this EIR, "Energy," transportation is, by far, the largest energy consuming sector in California, accounting for approximately 39 percent of all energy use in the state (U.S. Energy Information Administration 2017). 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 2030 General Plan and Climate Action Plan includes 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 SOIA Area, including the multi-sports complex area. This is considered a **significant cumulative** impact.

The multi-sports park complex project and future development in the SOIA Area 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, 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 SUMD and local agencies to support renewable energy production, in addition to the implementation of State building and energy efficiency standards. Development within the SOIA Area 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 identified in Section 3.16, 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 for the multi-sport park complex by reducing energy associated with transportation of building materials, lighting, irrigation, and heating and cooling. However, given the scale of possible development that could be proposed in the future, the impact would be considered significant and unavoidable. Therefore, future development within the SOIA Area, including the multi-sport complex park project, 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 **significant and unavoidable**.

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 would be required to implement feasible mitigation to reduce impacts found to be significant. However, cumulative impacts associated with construction and operation of new electrical and natural gas infrastructure to serve the SOIA Area and future development within the SMUD and PG&E service areas could remain significant after implementation of mitigation (i.e., cumulatively significant and unavoidable), or no feasible mitigation may be available to fully reduce cumulative impacts to a less-than-significant level. If construction and operation of off-site infrastructure is required to serve the SOIA Area and future development is required, the Project and future development would indirectly contribute to these cumulative impacts. Future development within the SOIA Area, including the multi-sport complex area, could have a **cumulatively considerable contribution** to this significant cumulative impact. No additional feasible mitigation is available. The impact is **significant and unavoidable**.

ELECTRICITY AND NATURAL GAS

Future development within the SOIA Area, including the multi-sports park complex project, 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 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 future development within the SOIA Area and 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.

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5 ALTERNATIVES

CEQA requires that an EIR describe the relative environmental effects of alternatives to the proposed project and evaluate their comparative impacts and merits. LAFCo and the City of Elk Grove have considered a range of alternatives that can feasibly attain most of the basic Project objectives and avoid or substantially lessen one or more significant effects.

The alternatives analysis must identify the potential alternatives, and include sufficient information about each to allow meaningful evaluation, analysis, and comparison with the proposed Project. The discussion must focus on potentially feasible alternatives that can avoid or substantially reduce the significant effects of the proposed Project. The environmentally superior alternative must be identified among the alternatives considered.

Qualitative and quantitative measures of alternative feasibility may include site suitability, economic viability, availability of infrastructure, general plan consistency, consistency or conflict with other plans or regulatory limitations, jurisdictional boundaries, and whether the project applicant can reasonably acquire, control, or otherwise have access to an alternative site. Similarly, if an alternative would cause one or more significant effects, in addition to those that would be caused by the proposed Project, the significant effects of the alternative must be discussed, but in less detail than the project analysis.

As required by CEQA, the alternatives analysis must evaluate the “no project” alternative. “No project” is defined as what would occur within the project site if the project were not to be approved. The “no project” alternative may consider what could reasonably occur on the project site if existing development trends continue, to the degree that adopted or proposed general plans and zoning, and existing infrastructure, services, or other relevant conditions allow.

5.1 SELECTION OF ALTERNATIVES

Alternatives were selected for evaluation in this EIR 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. These criteria are discussed in more detail below.

LAFCo and the City of Elk Grove also received input as a part of the Notice of Preparation (NOP) and scoping process regarding potential alternatives.

- ▶ Range of alternatives should include alternatives that avoid impacts on wetlands and provide mitigation if no practicable alternatives exist.
- ▶ The EIR should consider alternative sites that will allow for shorter trips, closer proximity to services, and access to transit.
- ▶ The EIR should evaluate an alternative scenarios based on the negative impacts of light encroaching on the FEMA Floodplain limit, Deer Creek, Cosumnes River, and Cosumnes River Corridor.
- ▶ LAFCo’s policy on discouraging annexation of peninsula-shaped parcels is difficult for the public to understand and expands the original City application. The EIR should include an alternative with only the

100-acre city-owned property, because the additional 479 acres is potentially growth-inducing and relies on speculative zoning.

Please see Appendix A for the NOP and comment letters and Chapter 1.0, “Introduction” for a summary of responses to the NOP.

5.1.1 ABILITY OF THE ALTERNATIVE TO ATTAIN MOST PROJECT OBJECTIVES

LAFCo and the City of Elk Grove have 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.

PROJECT PURPOSE AND OBJECTIVES

The following objectives have been established for the proposed Project:

- ▶ Provide a sports training and competition venue space for residents of Elk Grove and surrounding areas.
- ▶ Complement existing sports facilities such as those operated by the Cosumnes Community Services District.
- ▶ Relieve pressure on local community parks and sports facilities located in residential areas that are not designed to host tournaments.
- ▶ Provide space for agricultural events such as the Sacramento County Fair.
- ▶ Provide future areas for commercial, industrial, and mixed-use development to improve the City’s jobs-housing balance.
- ▶ Establish an expanded SOI that is consistent with relevant Sacramento LAFCo policies and standards.

5.1.2 FEASIBILITY OF THE ALTERNATIVES

Alternatives were evaluated according to the “rule of reason” and general feasibility criteria suggested by the CEQA Guidelines CCR Section 15126.6 as follows:

The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

The inclusion of an alternative in an EIR indicates that lead agency staff has determined that the alternative is potentially feasible. Criteria include the suitability of the site or alternative site; the economic viability of the alternative; the availability of infrastructure; the consistency of the alternative with the General Plan, zoning, and other plans and regulatory limitations; and the effect of applicable jurisdictional boundaries.

5.1.3 AVOIDANCE OR SUBSTANTIAL REDUCTION OF SIGNIFICANT EFFECTS

The evaluation of alternatives must also take into account the potential of the alternative to avoid or substantially lessen any of the significant effects of the proposed Project, as identified in this EIR. The potential environmental effects of the proposed Project are summarized in the “Executive Summary” of this EIR.

5.2 ALTERNATIVES CONSIDERED BUT REJECTED FROM DETAILED ANALYSIS IN THE EIR

5.2.1 ALTERNATE LOCATION

A commenter stated that the EIR should consider alternative sites that will allow for shorter trips, closer proximity to services, and access to transit. As described in the SOIA Application, the City selected its property for the Multi-Sport Park Complex after an extensive investigative period. Initial criteria for a site included the following:

- ▶ A minimum of 100 gross acres
- ▶ Proximity to urban services
- ▶ Proximity to major transportation corridor(s)
- ▶ A reasonable land value
- ▶ Willing buyer-willing seller arrangement

Based upon these criteria, the City looked at a number of sites in and proximate to the City. These included sites in the City’s Southeast Policy Area, sites along Waterman Road in the East Elk Grove Specific Plan, sites along Franklin Boulevard at either end of the City, and sites in rural Elk Grove.

While the City initially intended to only secure its property within the Sphere of Influence (and ultimately annex the property), after discussion with LAFCo staff and the full Commission, the adjoining lands were added as part of the application. Doing so creates a more meaningful SOI and does not create a peninsula configuration. Sacramento LAFCo Policy 3b states that LAFCo will not approve applications with boundaries which result in islands, corridors or peninsulas of incorporated or unincorporated territory.

This was the only site that met all of the criteria. In addition, there is no indication that an alternate site would reduce significant environmental impacts more than a reduced size alternative, described below as Alternative 2.

5.2.2 REDUCING LIGHT

A commenter stated that the EIR should evaluate an alternative scenario based on the negative impacts of light encroaching on Deer Creek, Cosumnes River, and Cosumnes River Corridor.

Future development within the SOIA Area would be within the City’s jurisdiction and applicable City General Plan policies and regulations. To minimize lighting effects, the City would 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. Future projects 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 future development within the SOIA Area. Section 3.2, “Aesthetics” of this EIR found that light and glare effects from new lighting sources would be less than significant with mitigation incorporated at both the program- and project-level. Thus, this Alternative would not reduce any significant environmental effects and LAFCo and the City of Elk Grove have elected not to examine this alternative in detail.

5.2.3 100-ACRE ALTERNATIVE

A commenter stated that LAFCo’s policy on discouraging annexation of peninsula-shaped parcels is difficult for the public to understand and expands the original city application. The commenter stated that the EIR should include an alternative with only the 100-acre city-owned property, because the additional 479 acres is growth-inducing and relies on “speculative zoning.” Speculative zoning is generally understood as rezoning property without a clearly defined use for the purpose and intent of increasing the property’s value or attractiveness in the real estate market.

This suggestion does not meet the Project’s objective to establish an expanded SOI that is consistent with relevant Sacramento LAFCo policies and standards. LAFCo’s policies are intended to promote planned, orderly, and efficient development of an area in order to reduce impacts on agriculture and other environmental resources. Sacramento LAFCo Policy 3b states that LAFCo will not approve applications with boundaries which result in islands, corridors or peninsulas of incorporated or unincorporated territory.

In addition, this suggestion would not meet the Project objectives – specifically, to provide future areas for commercial, industrial, and mixed-use development to address the City’s jobs-housing balance. No jobs associated with the commercial, industrial, and mixed-use development would be created and development of the multi-sport complex would generate substantially less employment opportunities than the proposed Project, thereby not providing a meaningful number of potential jobs to address the jobs-housing ratio. Thus, LAFCo and the City of Elk Grove have elected not to examine this alternative in detail. A reduced size alternative which meets the Project objectives and is consistent with LAFCo policies is considered below as Alternative 2.

5.3 ALTERNATIVES CONSIDERED IN DETAIL IN THE EIR

This section provides a comparative analysis of the alternatives that were selected by LAFCo and the City of Elk Grove for detailed analysis in the 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.”

The 171-acre multi-sport park complex site currently consists of agricultural land and a small corrugated metal warehouse (no residences). The remainder of the SOIA Area also is in agricultural use, for crops and pasture. Two homes and multiple barns, sheds, and other agricultural structures are situated in the SOIA Area. For the purposes of this Alternative, development is assumed to occur consistent with the General Plan. Approximately 525 acres of the SOIA Area are designated in the General Plan as agriculture. Approximately 2 acres of the SOIA Area are

designated in the General Plan as natural preserve. Approximately 41 acres of the SOIA Area are designated in the General Plan as intensive industrial, intended for manufacturing and related activities including research, processing, warehousing, and supporting commercial uses. Therefore, the No-Project Alternative for purposes of this analysis consists of 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 provide a sports training and competitive venue space.

5.3.2 ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Another common alternative is an alternative that reduces the size of a proposed project. The 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/office as planned in the 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 site would continue to be used for agriculture.

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. There would be less space available for agricultural events and there would be less commercial, industrial, and mixed-use development to address the City's jobs-housing balance.

5.4 COMPARISON OF ALTERNATIVES

Following is a comparison of the environmental effects of each alternative relative to the proposed Project for each of the environmental topics examined in this EIR.

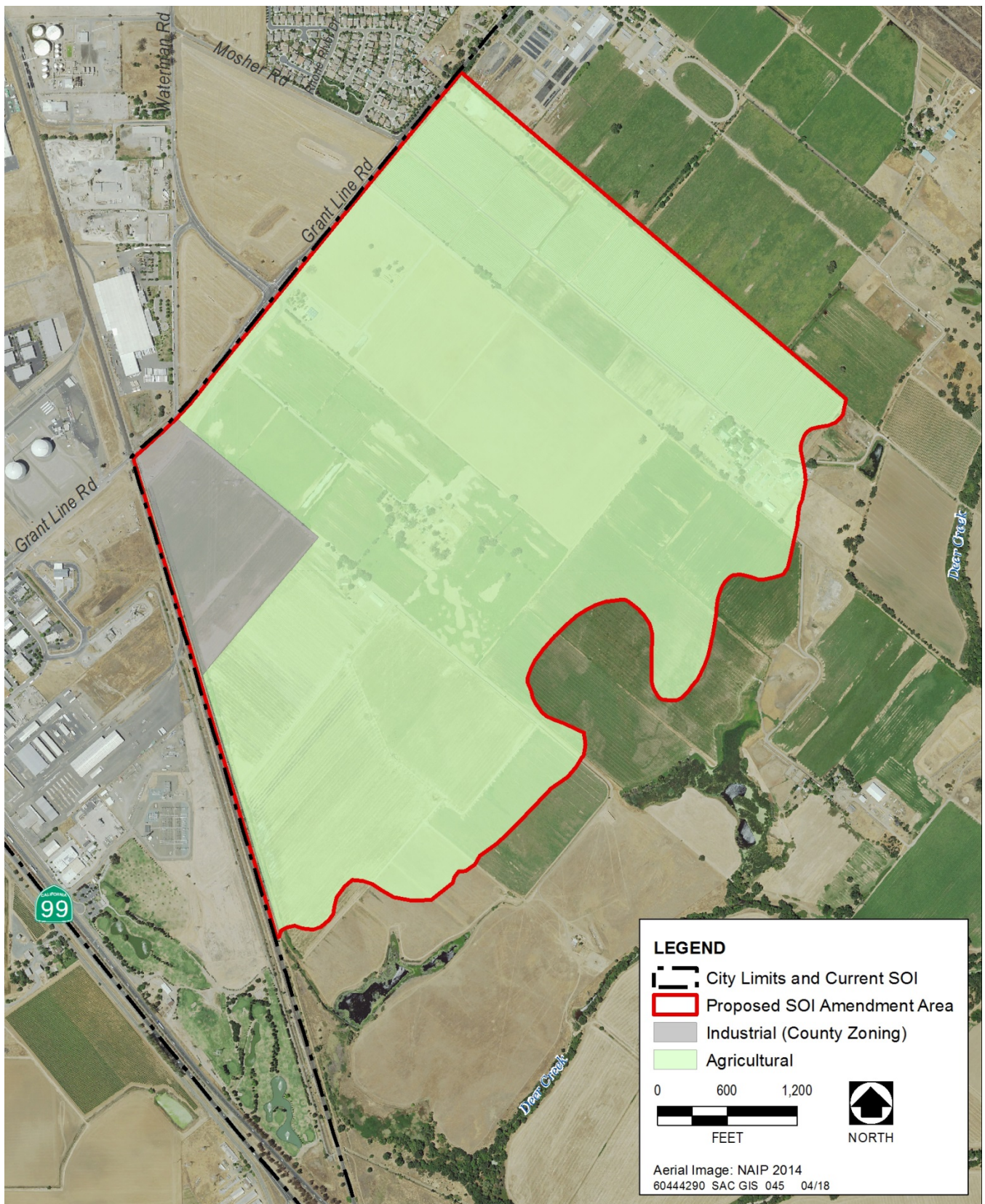
5.4.1 AESTHETICS

The proposed Project was found to have the following significant and unavoidable impacts:

- **Impact 3.2-1:** Substantial degradation of existing visual character

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

In the agricultural portion, 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.



Source: AECOM 2017

Exhibit 5-1 Alternative 1: No Project Alternative

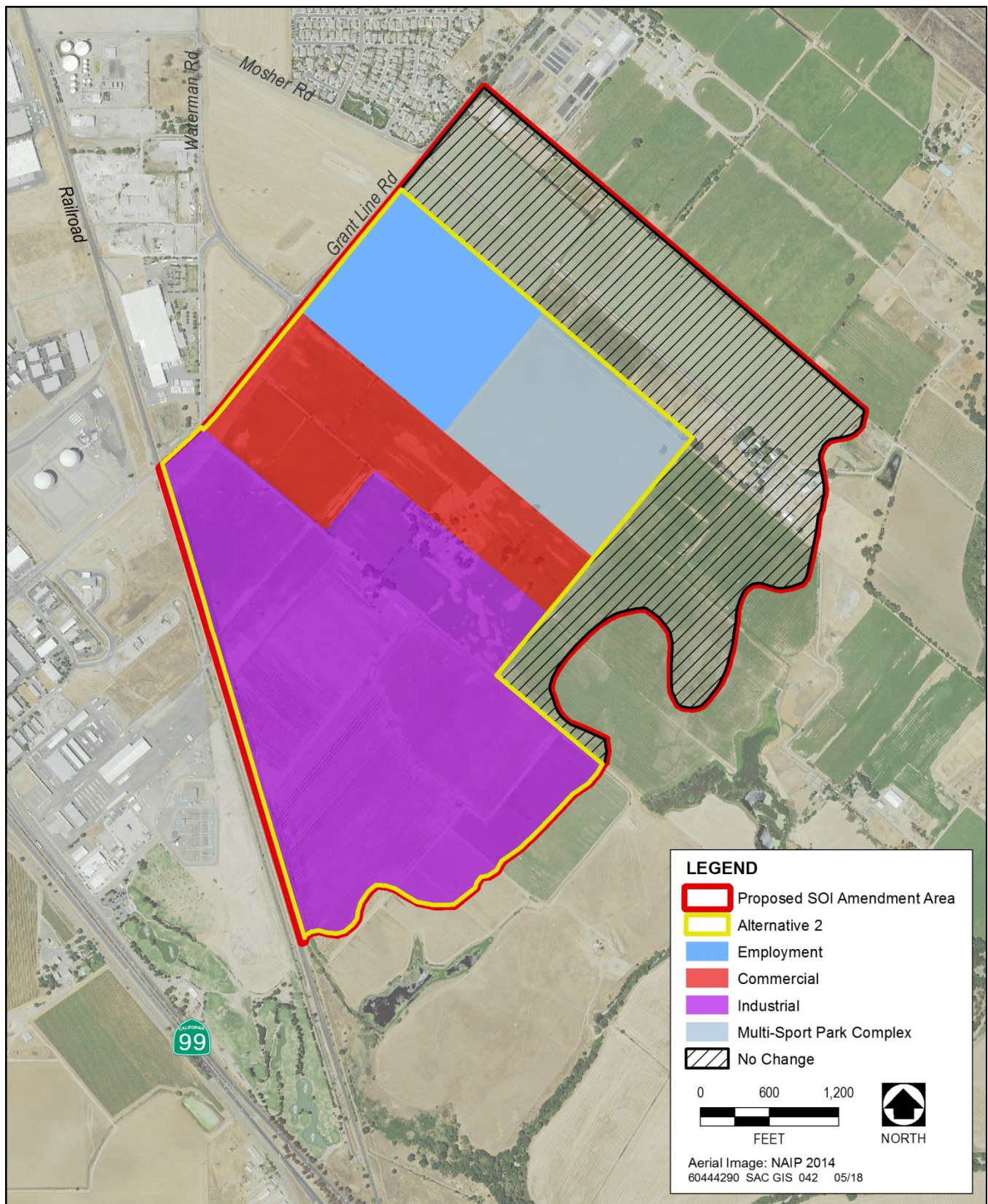


Exhibit 5-2. Alternative 2: Reduced Size Alternative

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 (41 acres for Alternative 1 compared to 285 acres of commercial and industrial development for the proposed Project). Thus, impacts would be reduced compared to the proposed Project. *[Reduced]*

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, publicly available views are limited. The SOIA Area is visible from Grant Line Road and from the intersections of Grant Line Road and Mosher and Waterman Roads and pedestrians walking on the new sidewalks installed as part of the UPRR grade separation. Motorists traveling east have views of the SOIA Area after crossing over the elevated portion of Grant Line Road at the UPRR grade separation, for approximately 0.65 mile. The SOIA Area is also visible to motorists traveling west on Grant Line Road as they approach the intersection with Waterman Road and the UPRR grade separation. For these public views, the Project 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, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.2 AGRICULTURAL RESOURCES

The proposed Project was found to have the following significant and unavoidable impacts:

- ▶ **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.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

There is no Prime Farmland on the Project site. According to the Sacramento County Important Farmland map, published by the DOC Division of Land Resource Protection (DOC 2014c), there is no Prime Farmland on the Project site. The California Department of Conservation designates approximately 424 acres of the SOIA Area as Farmland of Statewide Importance, including the southeastern portion of the multi-sport park complex site, and 129 acres 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. Existing agricultural operations could continue on 527 acres of the SOIA Area. 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.

Similar to the proposed Project, Alternative 1 would not have a significant impact related to prime agriculture resources as defined by Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act. The SOIA area 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. Any grazing activities within the SOIA Area would continue. The Project site does not contain fruit or nut-bearing trees, vines, or bushes. In addition, 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. Any grazing activities within the SOIA Area would continue.

Overall, because there is less conversion of agricultural land, including Important Farmland, under Alternative 1, impacts would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

As stated above, Alternative 2 would not convert Prime Farmland. Alternative 2 could have similar impacts to the proposed Project, including direct conversion and conflicts with existing adjacent Williamson Act contracts and agricultural operations. However, existing agricultural operations could continue on the 385 acres not proposed for development. 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.

Similar to the proposed Project, Alternative 1 would not have a significant impact related to prime agriculture resources as defined by Government Code Section 56064 of the Cortese-Knox-Hertzberg Local Government Reorganization Act. The SOIA area 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. Any grazing activities within the SOIA Area would continue. The Project site does not contain fruit or nut-bearing trees, vines, or bushes. In addition, 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.

Overall, because there is less conversion of agricultural land, including Important Farmland, under Alternative 2, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.3 AIR QUALITY

The proposed Project was found to have the following significant and unavoidable impacts:

- **Impact 3.4-2:** Generation of Long-Term Operational Emissions of Criteria Pollutants and Precursors.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

Existing air pollutant emissions associated with agricultural activities would still occur. It is possible that there could be temporary emissions associated with maintenance activities or construction of new agriculture-related structures on-site. If development were to be approved on the industrial portion, it would likely be similar in type to the industrial development considered under the proposed Project. However, since significantly less construction or development would occur. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. There would be less 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 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. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 acres under the proposed Project. There would be less exhaust emissions associated with off-road construction equipment and construction worker commutes. Therefore, significantly less construction or development would occur, and the amount of construction-related air pollutants that would be generated 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. There would be less industrial commercial/office development and no stadium or development of residential uses; thereby resulting in less traffic-related exhaust emissions. Thus, the air quality impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.4 BIOLOGICAL RESOURCES

The proposed Project was found to have the following significant and unavoidable impact:

- **Impact 3.5-3:** Loss of nesting and foraging habitat for special-status and other protected raptors. (Swainson's Hawk)

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

The agricultural portion would continue to be habitat for special-status species and plants, as described in Section 3.5, "Biological Resources," of this EIR. As with the proposed Project, future industrial development could adversely affect special-status plants and habitat for special-status species. 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. 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" ¹ of protected species (including raptors), and prohibit destruction of nests or eggs of any bird. Property owners would also still be required to comply with Section 404 of the Federal Clean Water Act, which requires that a permit be obtained from the United States Army Corps of Engineers before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. 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.

Conversion from agricultural land uses to urban land uses would result in loss of suitable nesting and foraging habitat for Swainson's hawk. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. Although less development would occur under Alternative 1 and less habitat would be disturbed, the change from agricultural land to industrial development would affect Swainson's hawk by reducing the availability of suitable nesting and foraging habitat. Thus, the biological resources impacts would be similar compared to the proposed Project. *[Similar]*

¹ "Take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The United States Fish and Wildlife Service has also interpreted the definition of "harm" to include substantial habitat modification that could result in take.

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

As with the proposed Project, future development could adversely affect special-status plants and habitat for special-status species. 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. 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”² of protected species (including raptors), and prohibit destruction of nests or eggs of any bird. Property owners would also still be required to comply with Section 404 of the Federal Clean Water Act, which requires that a permit be obtained from the United States Army Corps of Engineers before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. 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.

Conversion from agricultural land uses to urban land uses would result in loss of suitable nesting and foraging habitat for Swainson’s hawk. Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 acres under the proposed Project. Although less development would occur under Alternative 2 and less habitat would be disturbed, , the change from agricultural land to industrial development would affect Swainson’s hawk by reducing the availability of suitable nesting and forging habitat. Thus, the biological resources impacts would be similar compared to the proposed Project. *[Similar]*

5.4.5 CULTURAL RESOURCES

The proposed Project was found to have the following significant and unavoidable impact:

- **Impact 3.6-2:** Substantial adverse change to unknown historical resources or unique archeological resources.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

Continuing agricultural uses would require a very small amount of earth-moving activities compared to the proposed Project. If development were to be approved on the industrial portion, it would likely be similar to the industrial development considered under the proposed Project. If cultural materials are unearched, 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 and would be subject to similar regulations protecting cultural resources, it would have impacts on cultural resources similar to the proposed Project.

[Similar]

² “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The United States Fish and Wildlife Service has also interpreted the definition of “harm” to include substantial habitat modification that could result in take.

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Mosher and Mahon (See Section 3.6, “Cultural Resources,” of this EIR) are both outside of the boundary of Alternative 2 and would not be impacted. However, Alternative 2 still could have impacts on an old farmstead, an Italianate house that dates to the late nineteenth century, and other old farm structures that may be historical resources for CEQA if evaluated at a later date. 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 and would be subject to similar regulations protecting cultural resources, it would have impacts on cultural resources similar to the proposed Project. *[Similar]*

5.4.6 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

The proposed Project was found to have no significant and unavoidable impacts.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

If development is proposed, the same regulations related to site preparation and the construction of buildings, including the California Building Code, which provides minimum standards for building design throughout California, would apply. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. There would be less ground moving activities and less potential for soil erosion. However, Alternative 1 also has the potential to unearth paleontological resources. Although the amount of ground moving activities and the associated potential to unearth paleontological resources would be reduced, it is not possible to know whether or where subsurface resources are within the Alternative 1 area. Thus, impacts would be similar to the proposed Project. *[Similar]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

If development is proposed, the same regulations related to site preparation and the construction of buildings, including the California Building Code, which provides minimum standards for building design throughout California, would apply.

Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 acres under the proposed Project. There would be less ground moving activities and less potential for soil erosion. However, Alternative 2 also has the potential to unearth paleontological resources. Although the amount of ground moving activities and the associated potential to unearth paleontological resources would be reduced, it is not possible to know whether or where subsurface resources are within the Alternative 2 area. Thus, impacts would be similar to the proposed Project. *[Similar]*

5.4.7 GREENHOUSE GAS EMISSIONS

The proposed Project was found to have the following significant and unavoidable impacts:

- **Impact 3.8-1:** Contribution to significant climate change cumulative impact

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

On any portion used for agricultural uses, it is possible that there could be temporary GHG emissions associated with maintenance activities or construction of new agriculture-related structures on-site. Livestock and fertilizer application are sources of GHG emissions.

If development is proposed on the industrial portion, that development would have less short-term construction-related GHG emissions compared to the proposed Project. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 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.

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. It is not known what land use, transportation, pricing, or design strategies would be incorporated under Alternative 1, and therefore not possible to know the rate of long-term, operational GHG emissions relative to the proposed Project. However, it is reasonable to assume that the total GHG emissions would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

If development is proposed, that development would have less short-term construction-related emissions. Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 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.

There would be less industrial commercial/office development and no stadium or development of residential uses. Therefore, 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. 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 compared to the proposed Project. *[Reduced]*

5.4.8 HAZARDS AND HAZARDOUS MATERIALS

The proposed Project was found to have no significant and unavoidable impacts.

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) that would handle any hazardous substances would be required by law to implement and comply with these existing hazardous-materials regulations. Any agricultural activity would be required to comply with applicable building, health, fire, and safety codes. If industrial development is proposed, 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 of subsequent 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 would not reduce the likelihood that a potential hazardous materials upset and accident condition would occur. However, with reduced development and associated population density, the significant impacts of an event would be reduced. Thus, impacts would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

If future development is proposed, 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 of subsequent 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 would not reduce the likelihood that a potential hazardous materials upset and accident condition would occur. However, with reduced development and associated population density, the significant impacts of an event would be reduced. Thus, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.9 HYDROLOGY AND WATER QUALITY

The proposed Project was found to have no significant and unavoidable hydrology and water quality impacts.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

Depending on crop types and agricultural practices, existing 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, any future industrial development would affect long-term water quality due to increased impervious surfaces and urban stormwater runoff. Construction and grading activities associated with future development have the potential to cause temporary and short-term increased erosion and sedimentation and increase pollutant loads in stormwater runoff. Development could involve substantial earth-disturbing activities (e.g., cut and fill, vegetation removal, grading, trenching, movement of soil) that could expose disturbed areas and stockpiled soils to winter rainfall and stormwater runoff.

However, under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. With the substantial reduction in development, the level of temporary, construction-related impacts could be reduced under Alternative 1 compared to the proposed Project. In addition, Alternative 1 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. Continued agricultural uses would potentially increase the amount of groundwater recharge as compared to the proposed Project. As with the proposed Project, Alternative 1 is located mostly outside the 100-year floodplain, with only

small overlaps occurring along the site's southern boundary. The floodplain boundary approximately parallels the existing Sacramento County Urban Services Boundary. As noted in the City's 200-year floodplain map, portions of the southern and eastern boundaries of the SOIA Area are within the limit of the 200-year floodplain (City of Elk Grove 2016). With less overall development under Alternative 1, impacts would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

As with the proposed Project, future development would 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 could involve substantial earth-disturbing activities (e.g., cut and fill, vegetation removal, grading, trenching, movement of soil) 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 SOIA Area compared to 561 acres under the proposed Project. There would be less industrial commercial/office development and no stadium or development of residential uses. With the substantial reduction in development, the level of temporary, construction-related impacts could 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 and increase the potential for groundwater recharge. As with the proposed Project, Alternative 2 is located mostly outside the 100-year floodplain, with only small overlaps occurring along the site's southern boundary. The floodplain boundary approximately parallels the existing Sacramento County Urban Services Boundary. As noted in the City's 200-year floodplain map, portions of the southern and eastern boundaries of the SOIA Area are within the limit of the 200-year floodplain (City of Elk Grove 2016). With less overall development under Alternative 2, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.10 LAND USE, POPULATION, HOUSING, EMPLOYMENT, ENVIRONMENTAL JUSTICE, AND UNINCORPORATED DISADVANTAGED COMMUNITIES

The proposed Project was found to have the following significant and unavoidable impact:

- **Impact 3.11-4:** Conversion of open space

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 and continuation of agricultural uses would be consistent with the Sacramento County General Plan's land use designation of the SOIA Area. It would not conflict with any applicable land use or habitat conservation plan, displace people or housing, induce population growth, or divide an established community. Alternative 1 land uses are consistent with the land uses identified in the Sacramento County General Plan. This alternative involves significantly 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. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Similar to the proposed Project, if development under Alternative 2 were approved, the portion of the SOIA Area that is zoned and designated for agriculture in the Sacramento County General Plan would be annexed to the City and would be outside of the County's jurisdiction. In addition, areas within the SOIA Area annexed into the City would be required to comply with the City of Elk Grove General Plan policies.

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. Similar to the proposed Project, Alternative 2 was not accounted for in the City's General Plan or SACOG's 2016 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. Alternative 2 would convert less open space than the proposed Project. Overall, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.11 NOISE AND VIBRATION

The proposed Project was found to have the following significant and unavoidable impacts:

- ▶ **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.

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. If development were proposed, the same types of construction equipment would be used, but for less time compared to the proposed Project, given the substantially reduced Project site. In addition, operational noise impacts would be reduced since, if there is development of the industrial area, it would be a reduced amount of development compared with the proposed Project. Thus, impacts would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. If development were proposed, the same types of construction equipment would be used, but for

less time compared to the proposed Project, given the substantially reduced Project site. 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, if there is future development, it would be a reduced amount of development compared with the proposed Project. There would be less industrial commercial/office development and no stadium or development of residential uses. Therefore, Alternative 2 would result in less long-term traffic noise levels at existing noise-sensitive receivers, land use compatibility of on-site sensitive receptors with future traffic noise levels, and land use compatibility of on-site sensitive receptors to or generation of non-transportation noise levels in excess of local standards compared to the proposed Project. Overall, impacts would be reduced compared to the proposed Project. *[Reduced]*

5.4.12 PUBLIC SERVICES AND RECREATION

The proposed Project was found to have no significant and unavoidable public services and recreation impacts.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

On any portion used for agricultural uses, there would be no increased demand on fire protection, emergency medical, or law enforcement services. Since Alternative 1 would reduce the development potential on-site, 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. Thus, impacts would be similar compared to the proposed Project. *[Similar]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Since Alternative 2 would reduce the development potential on-site, 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. Thus, impacts would be similar compared to the proposed Project. *[Similar]*

5.4.13 TRANSPORTATION

The proposed Project was found to have no significant and unavoidable transportation impacts.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

If agricultural operations continue consistent with existing operations, no increase in traffic would occur and no conflicts with transportation-related policies would occur. Relative to conflicts with transportation-related policies, since neither Alternative 1 nor the proposed Project have any specificity at this time on transportation planning or design, it is not possible to determine whether or not there would be conflicts that would arise that would represent significant adverse physical environmental effects. Under Alternative 1, less development would occur. Since travel demand is typically determined based on the size and type of development proposed, the traffic and transportation effects would be reduced under this alternative relative to the proposed Project. Impacts would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Relative to conflicts with transportation-related policies, since neither Alternative 2 nor the proposed Project have specificity at this time on transportation planning or design, it is not possible to determine whether or not there would be conflicts that would arise that would represent significant adverse physical environmental effects. However, under Alternative 2, less development would occur. Since travel demand is typically determined based on the size and type of development proposed, the traffic and transportation effects would be reduced under this alternative relative to the proposed Project. Impacts would be reduced compared to the proposed Project.

[Reduced]

5.4.14 UTILITIES AND SERVICE SYSTEMS

The proposed Project was found to have no significant and unavoidable utilities and service systems impacts.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

For continued agricultural use, there would be no increased demand for utilities and services. Water demands would be similar to existing conditions and septic systems would provide wastewater treatment. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 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 would be reduced compared to the proposed Project.

[Reduced]

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 acres under the proposed Project. Development under Alternative 2 would have less water supply demands, generate less wastewater, and generate less solid waste. Thus, impacts would be reduced compared to the proposed Project.

[Reduced]

5.4.15 ENERGY

The proposed Project was found to have the following significant and unavoidable impact:

- **Impact 3.16-1:** Energy efficiency.

ALTERNATIVE 1: NO-PROJECT ALTERNATIVE

If no development is proposed, energy requirements would be similar to existing conditions. Since development would be reduced in size compared to the proposed Project, energy demands would likely be similarly reduced. Under Alternative 1, construction could occur on 41 acres of the SOIA Area compared to 561 acres under the proposed Project. This development would be subject to the same State building energy efficiency requirements as would occur under the proposed Project. There would be less construction-related, development-related, and transportation-related energy consumption. There would be substantially less demand for electricity and natural gas. Thus, the impact would be reduced compared to the proposed Project. *[Reduced]*

ALTERNATIVE 2: REDUCED SIZE ALTERNATIVE

Since development would be reduced in size compared to the proposed Project, energy demands would likely be similarly reduced. Under Alternative 2, construction would occur on 385 acres of the SOIA Area compared to 561 acres under the proposed Project. 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 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, the impact would be similar compared to the proposed Project. *[Similar]*

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Although both Alternative 1 and Alternative 2 have the same number of reduced impacts, as shown in Table 5-1, 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 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	Similar	Similar
Cultural Resources	Similar	Similar
Geology, Soils, Minerals, and Paleontological Resources	Similar	Similar
Greenhouse Gas Emissions	Reduced	Reduced
Hazards and Hazardous Materials	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	Similar	Similar
Transportation and Traffic	Reduced	Reduced
Utilities and Service Systems	Reduced	Reduced
Energy	Reduced	Similar
Total Reduced Impact Topics	11	10
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).		

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6 OTHER CEQA CONSIDERATIONS

This chapter provides a summary of significant environmental impacts; significant and unavoidable impacts; significant irreversible environmental changes; growth-inducing effects; and cumulative impacts.

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 EIR provides a detailed analysis of significant and potentially significant environmental impacts related to approval of the SOIA including the multi-sports park complex 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 SOIA, including the multi-sports park complex project. Cumulative impacts associated with the SOIA, including significant impacts, are summarized in Chapter 4.

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 Resources

- ▶ **Impact 3.6-2:** Substantial adverse change to unknown historical resources or unique archeological resources.

Section 3.8, Greenhouse Gas Emissions

- ▶ **Impact 3.8-1:** Contribution to significant climate change cumulative impact.

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:** Energy efficiency.

6.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires that significant irreversible environmental changes caused by a plan be addressed in an EIR. 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.

Future development of the SOIA Area including the multi-sports park complex project would result in commitment of land to this mix of urban uses instead of the agricultural uses that exist today. Future development of the SOIA Area including the multi-sports park complex project, would use both renewable and nonrenewable natural resources during both construction and operational phases – both within the SOIA Area and also to construct any required off-site improvements. Future development would likely use nonrenewable fossil fuels during construction and operation. Other nonrenewable and slowly-renewable resources consumed as a result of development of the SOIA Area including the multi-sports park complex project, would include, but not necessarily be limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, and water. Future 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. Future 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 SOIA Area including the multi-sports park complex project 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 and enforced by various local, regional, and State agencies. 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 EIR. 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 SOIA Area is located outside of the existing City limits; therefore, the population that could be accommodated within the SOIA Area was not considered as part of the adopted Elk Grove General Plan.

In addition to residential development, future development could generate a substantial amount of employment-generating land uses. As described in Chapter 2, “Project Description,” of this EIR, the SOIA Area could accommodate a broad range of commercial, office, and industrial uses that generate approximately 10,000 jobs. SACOG estimates the City of Elk Grove would have approximately 50,865 jobs by 2036 and 72,225 at buildout of the City.

In addition, the future development under the SOIA could require off-site improvements for services, facilities, and utilities. Some of these improvements could benefit development elsewhere within Elk Grove. Potential growth-inducing impacts resulting from the extension of circulation facilities and expansion of utility infrastructure are addressed in Sections 3.14, “Transportation” and 3.15, “Utilities” respectively.

Future development in the SOIA Area 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 SOIA. LAFCo does not anticipate substantial impacts associated with growth inducement associated with the temporary relocation of construction workers.

The additional population associated with the future development within the SOIA Area 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 SOIA Area 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. Existing vacant light industrial and commercial space may be sufficient to meet additional demand created by implementation of the SOIA that is not accommodated within the SOIA Area.

In summary, the SOIA may indirectly induce substantial 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 unincorporated Sacramento County and other nearby communities. It is possible that a successful SOIA could place pressure on adjacent areas to seek development entitlements or annexation applications.

However, the SOIA Area would provide sufficient acreage to accommodate population and employment growth. Therefore, the SOIA would likely not induce substantial growth outside of the SOIA Area. Furthermore, growth outside of the SOIA Area would require its own LAFCo SOI amendment and environmental review outside of the SOIA process.

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