
FINAL ENVIRONMENTAL IMPACT REPORT VOLUME 1

NEWBRIDGE SPECIFIC PLAN



Control Number: PLNP2010-00081
State Clearinghouse Number: 2013012028
Date: August 21, 2020

COUNTY OF SACRAMENTO
OFFICE OF PLANNING AND
ENVIRONMENTAL REVIEW
827 7TH STREET, ROOM 225
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This Environmental Impact Report has been prepared pursuant to the California Environmental Quality Act of 1970 (Public Resources Code Division 13). An Environmental Impact Report is an informational document which, when this Office requires its preparation shall be considered by every public agency prior to its approval or disapproval of a project. The purpose of an Environmental Impact Report is to provide public agencies with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which any adverse effects of such a project might be minimized; and to suggest alternatives to such a project.

Prepared by the
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INTRODUCTION

PURPOSE OF THE EIR

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the development and implementation of the NewBridge Specific Plan (Proposed Project). CEQA requires that the lead agency, in this case Sacramento County, prepare an EIR for any project that may have a significant effect on the environment.

An EIR discloses known or possible impacts on the environment that may result from a project and measures to mitigate those impacts to decision makers (the County Board of Supervisors), public agencies, and the general public. The intent of the EIR is to provide objective information to allow the Board of Supervisors to make an informed decision when considering whether to approve or deny a project; the EIR does not comment on the merits of the project and does not make a recommendation for or against its approval.

PROCESS

Sacramento County (the County) is the CEQA lead agency for the Proposed Project. A Notice of Preparation (NOP) for the Proposed Project was released for review by public agencies and the general public on January 8, 2013 for a 30-day scoping period. A public scoping meeting and a public agency scoping meeting were held on February 6, 2013. Comments were received in response to the NOP.

The Draft EIR was published on July 27, 2018 and circulated for public review for 45 days. The public comment period was July 27, 2018 through September 10, 2018. The Sacramento County Planning Commission conducted a public hearing on the Draft EIR on September 10, 2018.

The EIR has been made available on the County's website at:

<http://www.per.saccounty.net/PlansandProjectsIn-Progress/Pages/NewBridgeSpecificPlan.aspx> and at the following Sacramento Public Library locations for review:

Central Library
828 I Street
Sacramento, CA 95814

Rancho Cordova Library Branch
9545 Folsom Boulevard
Sacramento, CA 95827

The EIR may also be reviewed between 8:30 am and 4:30 pm Monday through Friday at the County Office of Planning and Environmental Review (PER) office located at:

827 7th Street, Room 225
Sacramento, CA 95814

TYPE AND SCOPE OF EIR

This EIR is a Program EIR that has been prepared pursuant to CEQA Guidelines Section 15168. A Program EIR is prepared on a series of actions that together, make up a large project or continuing program, including the implementation of specific plans. Some elements of the Project are evaluated in this EIR at a project level based on more detailed information that was available.

A Program EIR can be used to simplify subsequent environmental analyses for future projects and entitlements that occur within the specific plan area, as long as they are consistent with the specific plan. Future projects within the specific plan that are consistent with specific plan and the analysis found in a Program EIR do not require additional CEQA documentation. If a future project or activity within the specific plan was not considered in this EIR, is inconsistent with the specific plan, or may result in additional or more severe impacts or require additional mitigation, additional CEQA analysis will be needed.

Even for future projects that propose some change to the specific plan may benefit from a Program EIR, as it provides for streamlining in the form of a subsequent or supplemental EIR or a negative declaration as allowed pursuant to CEQA Guidelines Sections 15162 and 15163.

INTENDED USES OF THE EIR

The Sacramento County Planning Commission and the Board of Supervisors will use the information contained in the EIR to evaluate the Proposed Project and render a decision to approve or deny the requested entitlements. Responsible agencies, such as the California Department of Fish and Wildlife, the United States Fish and Wildlife Service, the United States Army Corps of Engineers, the Central Valley Regional Water Quality Control Board, and Local Agency Formation Commission may also use the EIR for planning/permitting purposes that include, but are not limited to, the following:

- Federal Clean Water Act Section 404 Permit (U.S. Army Corps of Engineers)
- Federal Endangered Species Act Section 7 Consultation (U.S. Fish and Wildlife Service)
- Section 401 Water Quality Certification (Regional Water Quality Control Board– Central Valley Region)
- California Endangered Species Act Incidental Take Permit (California Department of Fish and Wildlife)

- Section 402 National Pollutant Discharge Elimination System Permit (Regional Water Quality Control Board–Central Valley Region)
- Annexations (LAFCo)

LIST OF ACRONYMS

AAQS	Ambient Air Quality Standards
AC	Advisory Circular
ADT	Average Daily Traffic
AFY	Acre Feet per Year
ALUC	Airport Land Use Commission
ALUPC/CLUP	Airport Land Use Compatibility Plan
APPA	Airport Planning Policy Area
AQMP	Air Quality Management Plan
ARA	Aggregate Resource Area
ARB	California Air Resources Board
BCECP	Basic Construction Emission Control Practices
CalEEMod	California Emissions Estimator Model
Cal EPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Uniform Building Code
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CDHP	California Department of Public Health
CDFW	California Department of Fish and Wildlife
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
CRPD	Cordova Recreation and Park District
CWA	Clean Water Act
dB	Decibel
DOC	California Department of Conservation
DTSC	State Department of Toxic Substances Control
DU	Dwelling Unit
DWMR	Sacramento County Department of Waste Management and Recycling
DWR	California Department of Water Resources
EGUSD	Elk Grove Unified School District
EIR	Environmental Impact Report
EMD	Sacramento County Environmental Management Department
EMFAC	Emissions Factor Model

EPA	Environmental Protection Agency
ESD	Equivalent single-family dwelling units
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMMP	State Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
ICLEI	Local Governments for Sustainability
IDA	International Dark Sky Association
KSF	Thousand Square Feet
LAFCO	Local Agency Formation Commission
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MTP	Metropolitan Transportation Plan
NAHC	Native American Heritage Commission
NOA	Naturally Occurring Asbestos
NPDES	National Pollutant Discharge Elimination System Permit
NSA	North Service Area
NSP	NewBridge Specific Plan
PER	Office of Planning and Environmental Review
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
Regional Water Board	Central Valley Regional Water Quality Control Board
ROG	Reactive Organic Gasses
SacDOT	Sacramento County Department of Transportation
SACOG	Sacramento Area Council of Governments
SACMET	Sacramento Regional Travel Demand Model
SASD	Sacramento Area Sewer District
SCC	Sacramento County Code
SCS	Sustainable Communities Strategy
SCWA	Sacramento County Water Agency
SNFA	Sacramento Federal Nonattainment Area
SMAQMD	Sacramento Metropolitan Air Quality District
SMARA	Surface Mining and Reclamation Act
SMFD	Sacramento Metropolitan Fire District

SMUD	Sacramento Municipal Utility District
SIP	State Implementation Plan
SRC	Sacramento Rendering Company
SRCS	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSD	Sacramento County Sheriff's Department
SSHCP	South Sacramento Habitat Conservation Plan
State Water Resources	California State Water Resources Control Board
SWA	Sacramento Regional Solid Waste Authority
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TMA	Transportation
TMDL	Total Maximum Daily Load
UPA	Urban Policy Area
USB	Urban Services Boundary
USBR	U.S. Bureau of Reclamation
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Gasses
WROS	Water Recycling Opportunities Study
WSA	Water Supply Assessment
WSMP	Water Supply Master Plan

EXECUTIVE SUMMARY

The subject of this Environmental Impact Report (EIR) is a project known as NewBridge Specific Plan. The NewBridge Specific Plan project area is located in the Vineyard community of unincorporated Sacramento County, southeast of Mather Airport, and just west of the City of Rancho Cordova. The Project is outside the Urban Policy Area (UPA), but is within the Urban Services Boundary (USB). The proposed Project is bounded on the east by Sunrise Boulevard (the City of Rancho Cordova and County boundary line); to the south by Jackson Road; to the north by Kiefer Boulevard; and the west boundary is 2,000 feet west of Eagles Nest Road.

The following environmental impact and mitigation summary table (*Table ES-1: Executive Summary of Impacts and Mitigation on page 1-2*) briefly describes the project impacts and the mitigation measures recommended to eliminate or reduce the impacts. The residual impact after mitigation is also identified. Detailed discussions of each of the identified impacts and mitigation measures, including pertinent support data, can be found in the specific topic sections and appendices in the remainder of this report.

This report has identified project-related impacts associated with air quality (related to construction emissions associated with NO_x), biological resources (related to birds, western pond turtle, western spadefoot toad, special status plants, and trees), cultural resources, hazardous materials, hydrology (related to onsite flood hazards), noise (related to traffic noise and onsite community and stationary noise sources), public utilities (related to air quality, biological resources, and cultural resources impacts associated with infrastructure construction), and traffic and circulation (related to implementation of bike and pedestrian trails and transit improvements) as significant or potentially significant, which could be reduced to a less than significant level through inclusion of recommended mitigation measures.

This report identifies significant and unavoidable impacts related to aesthetics (related to a substantial new source of light), agricultural resources (related to cumulative loss of grazing land and conversion of farmland for urban uses), air quality (related to construction and operational emissions and conflict with implementation of the State Implementation Plan), biological resources (related to singular and cumulative losses of wetlands and waters of the U.S. and all species dependent on this habitat type), climate change (related to cumulative impacts), hydrology (related to the project's contribution to an existing offsite floodplain downstream), noise (related to ambient noise), and traffic and circulation (related to implementation of recommended mitigation measures in other jurisdictions and the timing of transportation improvements).

Impacts associated with agricultural resources (related to land use conflicts), air quality (related to CO emissions and TAC emissions), geology and soils, hazardous materials (related to routine transport, use, and disposal of hazardous materials, proximity to known contaminated sites, removal or abandonment of existing wells or septic systems, asbestos or lead exposure, and exposure to wildland fire), hydrology (related to water

quality), land use, noise (associated with construction activity and Mather Airport) public services, public utilities (related to water supply, sewer disposal capacity, and energy demands), **are considered less than significant.**

Table ES-1: Executive Summary of Impacts and Mitigation

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
AESTHETICS			
<u>Degradation of Existing Views and Visual Quality</u> <p>The Project is located in an area of the County that is developing with urban uses. The northern portion of the Project site is currently developed with the Sacramento Rendering Plant. The southern portion of the Project site is vacant grasslands. The Project will permanently alter the viewshed by introducing a wide array of colors and textures into an area that is quite uniform. While the Project has prepared specific design guidelines to craft a uniform look between developments, the loss of continuity and partial obstruction of views significantly impacts the quality of the viewshed. No mitigation is available.</p>	S	No feasible mitigation available.	SU
<u>New Sources of Light or Glare</u> <p>The Project will not introduce new sources of glare, but it will introduce a substantial</p>	S	No feasible mitigation available.	SU

¹ PS = Potentially Significant S = Significant SU = Significant and Unavoidable LS = Less Than Significant

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
amount of new lighting sources such as street lights and security lights. The Project site is within a rural area that has minimal lighting and has low levels of ambient nighttime light. The Project's Development Standards includes a policy to use International Dark Sky standards for outdoor lighting to reduce nighttime lighting impacts.			
AGRICULTURAL RESOURCES			
<u>Conflict with Existing Agricultural Use</u> Currently, there are no intensive agricultural uses on the Project site; however, these uses are allowed on Ag-80 zoned properties (lower West Planning Area). The Project will not result in significant conflicts between agricultural and non-agricultural uses; however, buyers of properties within the development may be subject to inconvenience or discomfort from accepted farming practices.	LS	AG-1: The applicant shall disclose to all buyers of properties located within 500 feet of the north, west, and south NewBridge Specific Plan boundaries that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the County Right-To-Farm Ordinance. Large Lot Subdivision Maps and Small Lot Subdivision Maps shall contain a note stating that residents may be subject to inconvenience or discomfort resulting from accepted farming activities per provisions of the County Right-To-Farm Ordinance.	LS
<u>Conflict with Williamson Act Contract</u> There is one existing Williamson Act contract within the Project limits	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>encompassing approximately 121 acres on APN 067-0120-059 and -067. The land owner has initiated the non-renewal process which will expire in 2021. The area under contract is not immediately proposed for rezoning or subdividing and therefore, the Project will not result in significant conflicts with the Williamson Act.</p>			
<p><u>Conversion of Protected Farmland to Non-Agricultural Uses</u></p> <p>The Project is requesting the conversion of 83.87 acres of Farmland of Statewide Importance and Farmland of Local Importance to urban uses. This exceeds General Plan Policy AG-5 of 50 acres or more. Policy AG-5 also stipulates that the Board of Supervisors retains the ability to override impacts, if the project is required to provide mitigation pursuant to the South Sacramento Habitat Conservation Plan (SSHCP).</p>	S	<p>AG-2: Prior to the issuance of a grading permit, the project proponent shall offset the loss of 83.8 acres of Important Farmland (8.6 acres of Farmland of Statewide Importance and 75.2 acres of Farmland of Local Importance) through 1:1 preservation of farmland within a permanent conservation easement. Pursuant to General Plan Policy AG-5, land set aside by the applicant as mitigation for the <u>participate in the</u> South Sacramento Habitat Conservation Plan <u>by setting aside 635 acres of land, which</u> will satisfy this <u>any</u> mitigation requirement <u>from General Plan Policy AG-5 and compensate for the loss of 8.6 acres of Farmland of Statewide Importance as well as the loss of the 75.2 acres of undeveloped land currently mapped by DOC as Farmland of Local Importance and being used for effluent disposal and passive grazing.</u></p>	LESSU

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
AIR QUALITY			
<p><u>Construction Emissions.</u> The project will involve the mass grading of vacant land which will release air pollutants (NO_x, ROG and Particulate Matter) in concentrations likely to exceed thresholds determined by the Sacramento Metropolitan Air Quality Management District (SMAQMD). Modeling conducted by SMAQMD has indicated that applying basic construction rules will ensure that impacts will not be significant provided that construction is limited to no more than 15 acres of active grading. On a project of this size, it is unreasonable to assume that construction will be limited to such a small area. The Project will generate particulate matter emissions which exceed thresholds.</p>	S	<p>AQ-1. <u>Construction exhaust and fugitive dust emissions controls. All individual public and private subsequent projects within the project area shall implement SMAQMD's Basic Construction Emission Control Practices and SMAQMD's Enhanced Exhaust Control Practices during any construction or ground disturbance activities to reduce construction-related fugitive dust emissions, diesel PM, and NO_x emissions. These measures are included below.</u></p> <p><u>BASIC CONSTRUCTION EMISSIONS CONTROL PRACTICES (BEST MANAGEMENT PRACTICES)</u></p> <p><u>The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds.</u></p> <p><u>Control of fugitive dust is required by District Rule 403 and enforced by District staff.</u></p> <ul style="list-style-type: none"> • <u>Water all exposed surfaces two times</u> 	SU

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.</u></p> <ul style="list-style-type: none"> • <u>Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.</u> • <u>Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.</u> • <u>Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).</u> • <u>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.</u> <p><u>The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>off-road diesel powered equipment. The California Air Resources Board enforces the idling limitations.</u></p> <ul style="list-style-type: none"> • <u>Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.</u> <p><u>Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies.</u></p> <ul style="list-style-type: none"> • <u>Maintain all construction equipment is in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.</u> <p><u>Lead agencies may add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).</u></p> <p><u>ENHANCED ON-SITE EXHAUST CONTROL PRACTICES</u> All future construction projects which exceed the</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>SMAQMD construction ozone precursor screening thresholds in effect at the time of project submittal shall include an ozone precursor analysis. If the analysis results indicate that the project will generate ozone precursors that exceed the current Sacramento Metropolitan Air Quality Management District thresholds, this mitigation shall apply. This mitigation may be modified if guidance from the Sacramento Metropolitan Air Quality Management District changes in the future.</p> <p>A. The project shall provide a plan for approval by the District 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 20% NO_x reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. 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. The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>this reduction.</p> <p>B. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the lead agency and District shall be notified within 48 hours of identification of non-compliant equipment will be documented and a summary provided to the lead agency and SMAQMD monthly. 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. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other District or</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>state rules or regulations.</p> <p>C. If at the time of construction, the District has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the District prior to construction will be necessary to make this determination.</p> <p>1. <u>The project applicant, or its designee, shall provide a plan for approval by the Sac Metro Air District that demonstrates the heavy-duty off-road vehicles (50 horsepower or more) to be used 8 hours or more during the construction project will achieve a project wide fleet-average 10% NOX reduction compared to the most recent California Air Resources Board (CARB) fleet average. The plan shall have two components: an initial report submitted before construction and a final report submitted at the completion.</u></p> <ul style="list-style-type: none"> <u>Submit the initial report at least four (4) business days prior to construction activity using the Sac Metro Air District's Construction Mitigation Tool (http://www.airquality.org/businesses/ce-qa-land-use-planning/mitigation).</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • <u>Provide project information and construction company information.</u> • <u>Include the equipment type, horsepower rating, engine model year, projected hours of use, and the CARB equipment identification number for each piece of equipment in the plan. Incorporate all owned, leased and subcontracted equipment to be used.</u> • <u>Submit the final report at the end of the job, phase, or calendar year, as pre-arranged with Sac Metro Air District staff and documented in the approval letter, to demonstrate continued project compliance.</u> <p><u>2. The Sac Metro Air District may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other air district, state or federal rules or regulations.</u></p> <p><u>3. This mitigation will sunset on January 1, 2028, when full implementation of the CARB In-Use Off-Road Regulation is expected.</u></p> <p>AQ-2. To mitigate the additional emissions that cannot be offset through implementation of Mitigation Measure AQ-1, above, the</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>following shall apply: Prior to the approval of improvement plans or the issuance of grading permits, the proponent will submit proof that the off-site air quality mitigation fee <u>(at the prevailing rate including associated administrative fee)</u> has been paid to SMAQMD, and that the construction air quality mitigation plan has been approved by SMAQMD and Sacramento County.</p> <p><u>The fee calculation shall be based on the sum of emissions associated with all individual construction activities or phases occurring within the project area boundary at any one time during the buildout period. Payment schedules shall be negotiated between SMAQMD and the developer and based on finalized construction parameters before the issuance of any grading permit or groundbreaking activities. If, for instance, the construction contractor of one builder is constructing one village while the construction contractor of another builder is constructing another village, the developer is responsible for determining the proportion of necessary combined offset fees that each builder must</u></p>	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<p><u>contribute. Once initial construction activities are finalized by the developer, quantification of construction-related emissions shall be verified. As each individual construction phase is finalized throughout the duration of the project buildout, the mitigation fee shall be calculated based on current information, available construction equipment, and proposed construction activities. As construction activities occur over the buildout period, the developer shall work with SMAQMD to continually update mitigation fees based on actual on-the-ground emissions. The final mitigation fees shall be based on contractor equipment inventories provided by the developer to SMAQMD and shall reconcile any fee discrepancies due to schedule adjustments, and increased or decreased equipment inventories. Equipment inventories and NO_x emission estimates for subsequent construction phases shall be coordinated with SMAQMD, and the off-site mitigation fee measure shall be assessed to any construction phase that would result in an exceedance of SMAQMD's mass emission threshold for</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>NO_x.</u></p> <ol style="list-style-type: none"> <u>1. The environmental document identified that construction-generated emissions of nitrogen oxide (NO_x) will exceed the Sac Metro Air District's threshold of significance.</u> <u>The project applicant, or its designee, shall pay a mitigation fee and an administrative fee to the Sac Metro Air District to reduce the project impacts from construction NO_x emissions to a less than significant level.</u> <u>2. The project applicant, or its designee, shall pay the mitigation and administrative fees in full prior to the lead agency issuing a grading permit that would allow activity that would exceed Sac Metro Air District's threshold.</u> <u>3. An alternative payment plan may be negotiated by the project applicant, or its designee, based on the timing of construction phases that are expected to exceed the Sac Metro Air District's threshold of significance. Any alternative payment plan must be acceptable to the Sac Metro Air District and agreed upon in writing prior to issuance of a grading permit by the lead agency.</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>4. In coordination with the lead agency and the Sac Metro Air District, the project applicant, or its designee, may reanalyze construction NO_x emissions from the project prior to starting construction to account for any changes to CARB's In-Use Off-Road Diesel Equipment Regulation and/or statewide equipment emissions factors that form the baseline assumptions in the Sac Metro Air District's construction mitigation program, or any changes to the assumptions in the construction analysis in the EIR.</u></p> <p><u>a. The analysis must be conducted using Sac Metro Air District approved emissions model(s) and the fee rates published at the time of reanalysis.</u></p> <p><u>b. The analysis may include on-site measures to reduce construction emissions if deemed feasible by the lead agency and project applicant. All on-site measures assumed in the analysis must be included in the construction contracts and be enforceable by the lead agency.</u></p>	
<u>Operational Emissions.</u> The project will convert approximately 700 acres of largely	S	AQ-3. Comply with the provisions of the <u>updated</u> Air Quality Management Plan dated June 2015 <u>July 2020</u> , and incorporate the	SU

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
<p>vacant land into urban uses including: residential, commercial and recreation. The completed project will introduce operational emissions. The project includes an Air Quality Mitigation Plan that achieves a 36% reduction in ozone precursor emissions, but the daily emissions will still exceed the SMAQMD threshold of significance for operational emissions of 65lbs per day for NOx and ROG.</p>		<p>requirements of this plan into the NewBridge Specific Plan conditions.</p> <p>AQ-4. <u>Implement Mitigation Measure CC-1. The project developer shall incorporate the following mitigation measures into the project to reduce operational emissions of criteria air pollutants and precursors.</u></p> <p><u>TRANSPORTATION</u></p> <ul style="list-style-type: none"> • <u>For each single-family residential unit, install a listed raceway, associated overcurrent protective device and the balance of a dedicated 208/240-volt branch circuit at 40 amperes (amp) minimum. The raceway shall not be less than the trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or unit subpanel and shall terminate into a listed cabinet, box, or other enclosure near the proposed location of an electric vehicle (EV) charger. Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. The service panel and/or subpanel shall provide capacity for a 40-amp minimum dedicated branch circuit. All electrical circuit components and Electric Vehicle</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>Service Equipment (EVSE), including a receptacle or box with a blank cover, related to Section A4.106.8 of the California Green Building Standards Code shall be installed in accordance with the California Electrical Code.</u></p> <ul style="list-style-type: none"> • <u>Multifamily residential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.</u> • <u>Nonresidential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.</u> • <u>Nonresidential land uses with 20 or more on-site parking spaces shall dedicate preferential parking spaces to vehicles</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>with more than one occupant and ZEVs (including battery electric vehicles and hydrogen fuel cell vehicles). The number of dedicated spaces should be no less than two spaces or 5 percent of the total parking spaces on the individual project site, whichever is greater. These dedicated spaces shall be in preferential locations such as near the main entrances to the buildings served by the parking lot and/or under the shade of structures or trees. These spaces shall be clearly marked with signs and pavement markings. This measure shall not be implemented in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or disabled veterans.</u></p> <p><u>BUILDING ENERGY</u></p> <ul style="list-style-type: none"> • <u>All project buildings shall be designed to include Cool Roofs in accordance with the requirements set forth in Tier 2 of the California Green Building Energy Code, Sections A4.106.5 and A5.106.11.2.</u> • <u>All project buildings shall comply with requirements for water efficiency and</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>conservation as described in the California Green Building Standards Code, Divisions 4.3 and 5.3.</u></p> <ul style="list-style-type: none"> • <u>Multiple electric receptacles shall be included on the exterior of all nonresidential buildings and accessible for purposes of charging or powering electric landscaping equipment and providing an alternative to using fossil-fuel-powered generators. The electrical receptacle shall have an electric potential of 100 volts. There should be a minimum of one electrical receptacle on each side of the building and one receptacle every 100 linear feet around the perimeter of the building.</u> • <u>Ensure that all appliances and fixtures installed in buildings developed under the project are Energy Star®-certified if an Energy Star®-certified model of the appliance is available. Types of Energy Star®-certified appliances include boilers, ceiling fans, central and room air conditioners, clothes washers, compact fluorescent light bulbs, computer monitors, copiers, consumer electronics, dehumidifiers, dishwashers, external power adapters, furnaces, geothermal</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>heat pumps, programmable thermostats, refrigerators and freezers, residential light fixtures, room air cleaners, transformers, televisions, vending machines, ventilating fans, and windows (EPA 2018). If EPA's Energy Star® program is discontinued and not replaced with a comparable certification program before appliances and fixtures are selected, then similar measure which exceed the 2016 California Green Building Standards Code may be used.</u></p> <ul style="list-style-type: none"> • <u>Require all space and water heating to be solar- or electric-powered.</u> • <u>All cooking appliances shall be solar- or electric-powered. Natural gas usage for any household appliance shall be prohibited.</u> • <u>Research incentives for future residents to purchase electric vehicles, such as monetary incentives or other compensatory programs, and either implement selected incentives or provide information and/or assistance to future residents on how to utilize other existing electric vehicle incentive programs.</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • <u>Install high-efficiency lighting (i.e., light emitting diodes) in all streetlights, security lighting, and all other exterior lighting applications.</u> <p><u>WASTE GENERATION</u></p> <ul style="list-style-type: none"> • <u>Create a local composting program for residents to achieve the statewide 75 percent waste diversion target.</u> 	
<p><u>Conflict With or Obstruct Air Quality Plans.</u> The current State Implementation Plan (SIP) did not assume that the project area would develop, and thus even if the Project's emissions of ozone precursors were not significant, the Project would still conflict with implementation of the SIP.</p>	S	<p>No feasible mitigation available. <u>Implement Mitigation Measures AQ-1 through AQ-3, which represents all feasible mitigation.</u></p>	SU
<p><u>Project Operation Would Result in TAC Emissions.</u> Using the published California Air Resources Board siting criteria for sources of toxic air contaminants (TAC) and sensitive receptors, there are no off-site TAC sources proximate to the sensitive receptors of the Project, and the Project will not generate TAC that would impact off-site sensitive receptors. The Project could result in exposure of proposed on-site uses to proposed on-site</p>	PS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
stationary source TAC, but mitigation is included in the NewBridge Specific Plan to ensure that the siting of new uses conforms to ARB recommendations.			
BIOLOGICAL RESOURCES			
<p>The project site contains approximately 23 acres of wetlands, vernal pools, swales, creek and stock pond. The project proposes to preserve 16 acres of wetland resources including Frye Creek. The project is located within the Mather Core Area for recovery of vernal pools and associated species and is within the Draft South Sacramento Habitat Conservation Plan area. While the project will preserve a large amount of the existing wetland resources, since the project is located within the Mather Core Area, any loss of vernal pool resources and associated species is a significant impact.</p>	S	<p>BR-1. To compensate for the permanent loss of wetlands, the applicant shall <u>undertake compensatory mitigation sufficient to achieve no net loss of wetland resources, consistent with General Plan policy. This performance standard shall be achieved through</u> perform one or a combination of the following prior to the approval of grading permit, civil improvement plans, or building permit, whichever occurs first:</p> <p>A. Where a Section 404 Permit has been issued by the Army Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of achieving a no net-loss of wetlands. The required Plan shall be submitted to the Environmental</p>	SU

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<p>Coordinator, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service for approval prior to its implementation.</p> <p>B. If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, the Project applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.</p> <p>C. The Project applicant shall participate in the <u>adopted</u> South Sacramento Habitat Conservation Plan if it is adopted, and if the Project area and activities are covered. The applicant shall prepare Project plans in accordance with that Plan and any and all fees or land dedications shall be completed prior to <u>grading or</u> construction, <u>whichever occurs first.</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>BR-2. Prior to the approval of grading permit, civil improvement plans, or building permit, whichever occurs first, all areas designated within the NSP as Avoided shall be placed within a permanent conservation easement, which shall be reviewed and approved by the Office of Planning and Environmental Review. At a minimum, the permanent conservation easements must cover all areas which are required to be preserved as part of the Section 404 and Section 401 wetland permits or the South Sacramento Habitat Conservation Plan if adopted.</p> <p>BR-3. Prior to the approval of civil improvement plants for the sewer force main and water supply infrastructure in Eagles Nest Road, a hardpan restoration plan shall be developed by a qualified hydrogeologist and geotechnical expert and <u>approved by Sacramento County to ensure consistency with SSHCP Avoidance and Minimization Measure EDGE-7. The plan shall be</u> implemented for sewer and water line construction adjacent to the proposed preserves on Parcels N-30 and W-30. The detailed plan shall include identification and documentation of the hardpan depths during excavation of the sewer and water line trenches, and appropriate backfill</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>material to restore the hardpan functionality. The detailed hardpan restoration plan shall be included in the construction specifications for the proposed sewer and water supply lines. <u>The Sacramento County Office of Planning and Environmental Review shall coordinate with the Sacramento County Water Agency to develop a feasible treatment plan that does not hinder access to infrastructure maintenance.</u></p> <p>BR-4. Any land use entitlements proposed for the South Planning Area (APNs: 067-0120-059, -060, 066, and -067) or the lower West Planning Area (APNs: 067-0080-013 – 016, -025, -029, -030, -037, -047 and 067-0110-066) must obtain a wetland delineation and comply with Mitigation Measures BR-1 and BR-2.</p>	
The project site contains habitat for several special status species. Species either known, or have the potential to utilize the project site include: vernal pool crustaceans, western spadefoot toad, legenera, tricolored blackbird, Swainson's hawk, The habitat on the project site is largely open grassland, seasonal wetlands and vernal pools. The loss of habitat is a	S	BR-5. If construction, grading, or project-related improvements are to commence between March 1 and September 15, a focused survey for Swainson's hawk nests on the site and within ¼ mile of the site shall be conducted by a qualified biologist no later than 30 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Fish	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
significant impact.		<p>and Wildlife shall be contacted to determine appropriate protective measures, and these measures shall be implemented prior to the start of any ground-disturbing activities. <u>At a minimum, such protective measures shall include the creation of buffers sufficient to keep construction activities far enough away from any occupied nest to avoid disruption of rearing activities.</u> If no active nests are found during the focused survey, no further mitigation will be required.</p> <p>BR-6. North Planning Area (Land Owned by East Sacramento Ranch). Prior to issuance of a grading permit or building permits, whichever occurs first, implement one of the options below to mitigate for the loss of 295.6 acres of Swainson's hawk foraging habitat on the Project site.</p> <p>a. Establish a permanent conservation easement over parcels N-30 N-36, N-37, N-38, N-39 and W-30. Foraging habitat preserved shall consist of grassland or similar habitat, not cropland, because this mitigation measure also offsets impacts to other species that do not use cropland habitat.</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>b. If the <u>Comply with</u> SSHCP is adopted, the Project would be subject to the policies and requirements of that plan; including <u>intended to mitigate for the loss of Swainson's hawk foraging habitat to an extent sufficient to mitigate for the loss of 295.6 acres of such habitat, such as</u> the dedication of the proposed open space preserve areas identified as hardline and linkage preserves.</p> <p>BR-7. South Planning Area. Prior to the issuance of a grading permit or building permits, whichever occurs first, implement one of the options below to mitigate for the loss of Swainson's hawk foraging habitat on the Project site; based on current Project designs this is 119.7 acres. Foraging habitat preserved shall consist of grassland or similar habitat open habitat, not cropland, because this mitigation measure also offsets impacts to other species that do not use cropland habitat.</p> <p>A. The project proponent shall utilize one or more of the mitigation options (land dedication and/or fee payment) established in Sacramento County's Swainson's Hawk Impact Mitigation</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>Program (Chapter 16.130 of the Sacramento County Code).</p> <p>B. The Project proponent shall, to the satisfaction of the California Department of Fish and Wildlife, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.</p> <p>C. Should the County Board of Supervisors adopt a new Swainson's hawk mitigation policy/program (which may include the SSHCP) prior to the implementation of one of the measures above, the Project proponent may be subject to that program instead. <u>Comply with SSHCP policies and requirements intended to mitigate for the loss of Swainson's hawk foraging habitat to an extent sufficient to mitigate for the loss of 119.7 acres of such habitat, such as the dedication of the proposed open space preserve areas identified as hardline and linkage preserves.</u></p> <p>BR-8. If construction, grading, or Project-related</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>improvements are to occur between March 1 and September 15, a focused tree survey for nesting raptors within 500 feet of the site shall be conducted by a qualified biologist within 14 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Department of Fish and Wildlife shall be contacted to determine appropriate protective measures. <u>At a minimum, such protective measures shall include the creation of buffers sufficient to keep construction activities far enough away from any occupied nest to avoid disruption of rearing activities.</u> If no active nests are found during the focused survey, no further mitigation will be required.</p> <p>BR-9. Prior to the commencement of construction activities (which includes clearing, grubbing, or grading) within 500 feet of suitable burrow habitat, a survey for burrowing owl shall be conducted by a qualified biologist. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. Surveys shall be conducted in accordance with the following:</p> <ol style="list-style-type: none"> 1. A survey for-burrows and owls should <u>shall</u> be conducted by walking through suitable habitat over the entire project site and in areas within 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>150 meters (~500 feet) of the project impact zone.</p> <p>2. Pedestrian survey transects should shall be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should shall be no more than 30 meters (~100 feet), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors should shall maintain a minimum distance of 50 meters (~160 feet) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.</p> <p>3. If no occupied burrows or burrowing owls are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the Environmental Coordinator and no further mitigation is necessary.</p> <p>4. If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>of Appendix D of the California Department of Fish and Wildlife “Staff Report on Burrowing Owl Mitigation” (March 2012). Submit a survey report to the Environmental Coordinator which is consistent with the Survey Report section of Appendix D of the California Department of Fish and Wildlife “Staff Report on Burrowing Owl Mitigation” (March 2012).</p> <p>5. If occupied burrows or burrowing owls are found the applicant shall contact the Environmental Coordinator and consult with California Department of Fish and Wildlife prior to construction, and will be required to submit a Burrowing Owl Monitoring and Mitigation Plan (subject to the approval of the Environmental Coordinator and in consultation with California Department of Fish and Wildlife). This plan must shall include measures sufficient to avoid the destruction of occupied nests and mortality to individual owls, shall document all proposed measures, including avoidance, minimization, exclusion, relocation, or other measures, and shall include a plan to monitor mitigation success. The California Department of Fish and Wildlife “Staff Report on Burrowing Owl Mitigation” (March 2012) should be used in the development of the mitigation plan.</p> <p>BR-10. If construction occurs between March 1</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>and July 31 pre-construction surveys for nesting tricolored blackbirds shall be performed by a qualified biologist. Surveys shall include the project site and areas of appropriate habitat within 300 feet of the site. The survey shall occur no longer than 14 days prior to the start of construction work (including clearing, grubbing or grading). The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no tricolored blackbird were found during the pre-construction survey, no further mitigation would be required. If an active tricolored blackbird colony is found on-site or within 300 feet of the project site the project proponent shall do <u>both of</u> the following:</p> <p>a. Consult with the California Department of Fish and Wildlife to determine if project activity will impact the tricolored blackbird colony(s), and implement appropriate avoidance and impact minimization measures if so directed. <u>At a minimum, such measures shall include the creation of buffers sufficient to keep construction activities far enough away from the colony to avoid disrupting the normal biological functioning of the colony.</u> Provide</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>the Environmental Coordinator with written evidence of the consultation or a contact name and number from the California Department of Fish and Wildlife.</p> <p>b. The applicant may avoid impacts to tricolored blackbird by establishing a 300-foot temporary setback with fencing that prevents any project activity within 300 feet of the colony. A qualified biologist shall verify that setbacks and fencing are adequate and will determine when the colonies are no longer dependent on the nesting habitat (i.e. nestling have fledged and are no longer using habitat), which will determine when the fencing may be removed. The breeding season typically ends in July.</p> <p>BR-11. Prior to the commencement of ground-disturbing activity within 1,650 feet of aquatic habitat, the developer shall consult with California Department of Fish and Wildlife to establish appropriate avoidance procedures, and to establish procedures which would apply in the event that a turtle is found within the construction area. <u>Such procedures shall ensure the avoidance of</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>mortality to individual turtles.</u> The developer shall submit written evidence of the consultation and its conclusions to the Environmental Coordinator. If California Fish and Wildlife recommends obtaining a permit, the applicant shall obtain the permit prior to the commencement of ground-disturbing activities. Unless California Fish and Wildlife recommends other mitigation <u>that is equally or more protective</u>, the following shall also apply:</p> <ol style="list-style-type: none"> 1. Twenty four hours prior to the commencement of ground-disturbing activity (i.e. clearing, grubbing, or grading) within 1,650 feet of aquatic habitat, a qualified biologist shall perform a survey for western pond turtle. The survey shall include all suitable upland and aquatic habitat which is within 1,650 feet of all proposed construction areas. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. 2. If western pond turtles are found during the survey, activities shall not commence until the animal has moved out of the construction area on its own. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>area.</p> <p>3. If a western pond turtle is encountered during active construction, all construction shall cease until the animal has moved out of the construction area on its own. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area. California Fish and Wildlife and the Environmental Coordinator shall be notified within 24-hours that a turtle was encountered.</p> <p>BR-12. Individual Permit Process. Presence of California linderella, midvalley fairy shrimp, vernal pool fairy shrimp and vernal pool tadpole shrimp shall be assumed unless determinate surveys that comply with U.S. Fish and Wildlife protocol conclude that the species are absent. If the protocol surveys are performed and all listed crustacean species are absent, Ricksecker's water scavenger beetle may also be presumed absent, and no further mitigation shall be required for listed vernal pool invertebrates. If species are assumed or found during determinant surveys, one or a combination of the following shall apply:</p> <p style="padding-left: 40px;">a. <i>Total Avoidance: Species are present or assumed to be present. Unless a smaller buffer is approved through</i></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>formal consultation with the USFWS, construction fencing shall be installed a minimum of 250 feet from all delineated vernal pool margins. All construction activities are prohibited within this buffer area. For all vernal pools where total avoidance is achieved, no further action is required.</p> <p>b. <i>Compensate for habitat removed.</i> Obtain all applicable permits from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and the Central Valley Regional Water Quality Control Board (<u>e.g., incidental take authorization, streambed alteration agreement, waste discharge requirements</u>) for any proposed modifications to vernal pools and mitigate for habitat loss in accordance with the Biological Opinion and Section 404 permits obtained for the Project. At a minimum, mitigation ratios shall be consistent with County General Plan Policy, which requires no net loss of wetland resources. Any vernal pool loss not mitigated through the permitting process shall be mitigated</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>for by payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.</p> <p>BR-13. <u>SSHCP Process.</u> If the SSHCP is adopted, the Project will be is subject to that program instead the SSHCP. The project proponent shall follow all avoidance and minimization measures outlined the in the SSHCP and compensate for the loss of habitat pursuant to the plan. Evidence of compliance with the SSHCP shall be submitted to the Environmental Coordinator prior to approval of grading permit, civil improvement plans or building permits.</p> <p>BR-14. Prior to any grading, grubbing, or excavation within 250 feet of a vernal pool or other suitable habitat, rare plant surveys shall be performed. The surveys should shall be floristic in nature, meaning that all plant species found in the survey area shall be identified to the taxonomic level necessary to determine rarity and listing status. The rare plant surveyor shall have experience as a botanical field investigator and familiarity with the local flora and potential rare plants in the habitats to be surveyed. The surveys shall be conducted when the rare plants at the site</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>will be easiest to identify (i.e. flowering stage), and when the plants reach that stage of maturity. A minimum of <u>three site</u> visits shall be required during the plants flowering period in order to determine absence. Each site visit must be no less than 7 days apart.</p> <p>Submit a written report to the Environmental Coordinator which describes the survey. The survey report should include a brief description of the vegetation, survey results (which includes a list of all species observed), photographs, time spent surveying, date of surveys, a map showing the location of the survey route and any rare plant populations and copies of any rare plant occurrence forms. If no rare plants are found, no further mitigation for plant species is required. If a special status plant or natural community is located, complete and submit to the CNDDDB a California Native Species (or Community) Field Survey Form or equivalent written report, accompanied by a copy of the relevant portion of a 7.5-minute topographic map with the occurrence mapped. Total avoidance of habitats which contain rare plants shall be required unless deemed infeasible by the Environmental Coordinator. If avoidance is infeasible, <u>then compensatory mitigation shall be required. Compensation measures may include transplanting perennial species, seed collection and dispersal for annual species, and other</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>conservation strategies that shall restore and protect the viability of the local population, and shall replace any individual plants at a 1:1 ratio so as to achieve no net reduction in the numbers of individual plants. The performance standard for the compensatory mitigation shall be no net reduction in the size and viability of the local plant population.</u> pPrior to construction within 250 feet of the vernal pool(s) which contain the rare plant occurrences, notify California Department of Fish and Wildlife and U.S. Fish and Wildlife and comply with any permit or mitigation requirements stipulated by those agencies. Submit copies of all such correspondence, including a copy of any required permits, to the Environmental Coordinator.</p> <p>BR-15. Surveys shall be performed by a qualified botanist during the species non-dormant, flowering period (June – July) prior to work within suitable habitat. If the species is not found during the survey, no further mitigation would be required. If plant(s) are found the botanist shall establish distribution of the colony(s) and estimate the number of individuals in the population. Unless deemed infeasible by the Environmental Coordinator, all plants or tuber/rhizomes shall be removed from the area of impact and transplanted to a new or existing preserve or, if the impact is temporary, replanted in the same location after the</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>disturbance. Surveys shall be performed annually at the transplant location for a period of five years, to ensure success. If survival is not meeting a minimum 60% survivorship, transplantation will be deemed failed. In cases where transplanting is deemed infeasible, or where transplanting has failed, compensatory mitigation shall be provided. Compensatory mitigation shall <u>ensure that there is no net reduction in the size and viability of the local plant population and may</u> consist of placement of a conservation easement over a known, unprotected population of the species.</p> <p><u>BR-16 Removed due to SSHCP adoption.</u> [Measure applies if the South Sacramento Habitat Conservation Plan is not adopted.]The project applicant shall prepare an invasive species removal and prevention plan. The plan shall provide methods to remove invasive species from preservation areas and to restore the affected wetland features. The plan shall include methods for the prevention of the introduction of new invasive species from landscapes associated with the development. Minimum components of such a plan shall include: mapping of existing invasive plant populations within the avoided areas, with the map being updated a minimum of every five years; a description of acceptable methods for removing invasive species, examples of which include hand removal or biological controls (e.g. natural</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>parasites); and a prohibition on the use of non-native plants within either of the habitat areas set aside to mitigate wetland impacts. The plan shall be incorporated in the Operations and Management Plan which is a requirement of the Section 404 permit process.</p> <p>BR-17. Project proponents of subsequent development projects within the NSP area, shall submit <u>to the County prior to issuance of a grading permit or building permit, whichever occurs first,</u> an arborist report for the project impact areas when appropriate habitat exists. The report shall include the species, diameter, dripline, and health of the trees, and shall be prepared by an ISA certified arborist. The report shall include an exhibit that shows the trees and their driplines in proximity to the project improvements. The report shall identify any tree proposed for removal and shall quantify any encroachment from project equipment or facilities within driplines of native oaks.</p> <p>A) With the exception of the oak trees removed and compensated for through Part B below, all healthy native oak trees that are 6 inches dbh or larger on the project site, all portions of adjacent off-site healthy native oak trees that are 6 inches dbh or larger which have driplines that extend onto the project site, and all</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>off-site healthy native oak trees that are 6 inches dbh or larger which may be impacted by utility installation and/or improvements associated with this project, shall be preserved and protected as follows:</p> <ol style="list-style-type: none"> 1. A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of the tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of the tree. Removing limbs which make up the dripline does not change the protected area. 2. Chain link fencing or a similar protective barrier shall be installed one foot outside the driplines of the oak trees prior to initiating project construction, in order to avoid damage to the trees and their root systems. 3. Any removal of paving or structures (i.e. demolition) that occurs within the dripline of a protected oak tree shall 	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<p>be done under the direct supervision of a certified arborist. To the maximum extent feasible, demolition work within the dripline protection area of the oak tree shall be performed by hand. If the certified arborist determines that it is not feasible to perform some portion(s) of this work by hand, then the smallest/lightest weight equipment that will adequately perform the demolition work shall be used.</p> <p>4. No signs, ropes, cables (except cables which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the oak trees.</p> <p>5. No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the dripline of the oak trees.</p> <p>6. Any soil disturbance (scraping, grading, trenching, and excavation) is to be avoided within the dripline of the oak trees. Where this is necessary, an ISA Certified Arborist will provide</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>specifications for this work, including methods for root pruning, backfill specifications and irrigation management guidelines.</p> <p>7. Before grading, excavation or trenching within five feet outside the driplines of protected oak trees, root pruning shall be required at the limits of grading or excavation to cut roots cleanly to a depth of the excavation or 36 inches (whichever is less). Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades or other approved root-pruning equipment under the supervision of an ISA Certified Arborist.</p> <p>8. All underground utilities and drain or irrigation lines shall be routed outside the driplines of oak trees. If lines must encroach upon the dripline, they should shall be tunneled or bored under the tree under the supervision of a certified arborist.</p> <p>9. Any herbicides placed under paving materials must be safe for use around</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>trees and labeled for that use. Any pesticides used on site must be tree-safe and not easily transported by water.</p> <p>10. Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of the oak tree.</p> <p>11. No sprinkler or irrigation system shall be installed in such a manner that it sprays water within the dripline of the oak tree.</p> <p>12. Tree pruning required for clearance during construction must be performed by an ISA Certified Arborist or Tree Worker.</p> <p>13. Landscaping beneath the oak tree may include non-plant materials such as boulders, decorative rock, wood chips, organic mulch, non-compacted decomposed granite, etc. Landscape materials shall be kept two (2) feet away from the base of the trunk. The only plant species which shall be planted within the dripline of the oak tree are those which are tolerant of</p>	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<p>the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.</p> <p>B) To the maximum extent feasible, all on-site healthy native oak trees shall be protected and preserved. Any substantial (>20%) encroachment and/or removal of native oak trees shall be compensated by planting native trees (valley oak/<i>Quercus lobata</i>, interior live oak/<i>Quercus wislizenii</i>, blue oak/<i>Quercus douglasii</i>), equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Environmental Coordinator. Encroachment of over 20 percent within the dripline radius of native trees will require compensatory mitigation <u>as part of a Replacement Oak Tree Planting Plan</u> based on the percentage of encroachment multiplied by the dbh. Encroachment over 50 percent will require compensation for the entire tree.</p> <p>Equivalent compensation based on the following ratio is required:</p> <ul style="list-style-type: none"> • one D-pot seedling (40 cubic 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p> inches or larger) = 1 inch dbh <ul style="list-style-type: none"> • one 15-gallon tree = 1 inch dbh • one 24-inch box tree = 2 inches dbh • one 36-inch box tree = 3 inches dbh </p> <p>Replacement tree planting shall be completed prior to the issuance of building permits or a bond shall be posted by the applicant in order to provide funding for purchase, planting, irrigation, and 3-year maintenance period, should the applicant default on replacement tree mitigation. The bond shall be in an amount equal to the prevailing rate of the County Tree Preservation Fund.</p> <p>Prior to the approval of Improvement Plans or building permits, a Replacement Oak Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Oak Tree Planting Plan(s) shall include the following minimum elements:</p> <ol style="list-style-type: none"> 1. Species, size and locations of all replacement plantings; 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<ol style="list-style-type: none"> 2. Method of irrigation; 3. The Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring hole to provide for adequate drainage; 4. Planting, irrigation, and maintenance schedules; 5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement oak trees which do not survive during that period. <p>No replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark size trees that are retained on-site, or within 15 feet of a building foundation or swimming pool excavation. The minimum spacing for replacement oak trees shall be 20 feet on-center. Examples of acceptable planting locations are publicly owned lands, common areas, and landscaped frontages (with adequate spacing). Generally unacceptable locations are utility easements (PUE, sewer, storm drains), under overhead utility lines, private yards of single family lots</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>(including front yards), and roadway medians.</p> <p>If oak tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of \$325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.</p> <p><u>BR-18. Implement Applicable SSHCP Avoidance and Minimization Measures.</u></p> <p><u>The Project Applicant shall implement SSHCP AMMs EDGE-8 (Outdoor Lighting), EDGE-10 (Prevent Invasive Species Spread), and BMP-2 (Erosion Control). If equivalent or more effective mitigation is required as part of the Project's State and federal permits, those mitigation measures may be implemented subject to the final determination of the Sacramento County Environmental Coordinator.</u></p>	
CLIMATE CHANGE			

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>The project will introduce significant new sources of greenhouse gas (GHG) emissions. The County has set GHG emission thresholds to meet the 2020 target, and has developed draft GHG emission thresholds to meet the 2030 target. The thresholds are specific for each energy sector – Residential (per capita), Commercial (per KSF) and transportation (per capita). GHG emissions were calculated for the entire NSP using CalEEMOD. The project's net emissions would be 22,492.23 MTCO₂e/yr in 2020 and 17,855.5 MTCO₂e/yr in 2030.</p> <p>The project will exceed County thresholds for the transportation sector in 2020 and 2030 by 817.17 and 5,110.24 MTCO₂e/yr respectively. By meeting the draft 2030 threshold, the project will inherently meet the 2020. Given the plan level nature of the project, specific additional mitigation measures are speculative at this time. Mitigation is recommended to reduce Project specific GHG emissions to less than significant levels.</p> <p>In concert with state and federal activities, the design features of the Project are intended to offset the Project climate</p>	S	<p>CC-1: Future developments for residential (tentative maps) and non-residential projects (Design Review), shall demonstrate a fair-share reduction towards reducing project-wide GHG emissions by 5,110.24 MTCO₂e/yr (i.e., 0.63 MTCO₂e/yr/capita). A fair-share contribution is to be made based on the total acreage proposed for development in any given Rezone, Tentative Map or Design Review area compared to the entire area of development proposed within the project as a whole. For the purposes of this mitigation measure, areas not anticipated for development such as parks, open spaces, and agricultural land as well as areas previously developed, such as the existing electrical facility, are not included in the total development acreage. Therefore, the total development area is considered to be 474.5 acres. Considering the total development area, a hypothetical ten-acre project would represent 2.1 percent of the 5,110.24 MTCO₂e/yr reduction required for the project area as a whole. Examples of measures that may be used by future development projects include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Exceedance of Title 24 Energy Efficiency requirements; 	SU

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>change impact. Ideally, this mitigation would reduce the Project emissions and climate change impacts to levels that are not cumulatively significant, but there are many unknown variables and implementation challenges. Given the substantial emissions which will result from the Project and the uncertainties related to target-setting and the current state of modeling this analysis concludes that Project impacts may remain significant.</p> <p>The effects of climatic changes on the Sacramento region are potentially significant, and can only be mitigated through both adaptation and reduction strategies. By requiring mitigation of projects that may result in significant greenhouse gas emissions, and by adopting County programs and changes in government operations, the County is implementing all feasible strategies to reduce the effects of climate change on the region. Nonetheless, it is probable that these strategies will not be sufficient to offset all of the impacts of climate change, and that some of these impacts will be significant.</p>		<ul style="list-style-type: none"> • Electrifying loading docks to reduce emission from engine idling of Transport Refrigeration Units; • All-electric <u>ENERGY STAR</u> appliances, including water heaters and HVAC systems, <u>in residential and non-residential development projects;</u> • Inclusion of on-site carbon-zero renewable energy capable of serving energy needs of any urban development within the Project, including energy needed for street lights, sewer pumps, drainage pumps, traffic signals, and water pumps; • Residential photovoltaic systems designed to be scalable over time to accommodate varying energy demands; • Indoor water use efficiency; • Institution of a composting and recycling program in excess of local standards; • Implementation of an Urban Forestry Management Plan to reduce the urban heat island effect; • Use of energy efficient street lighting fixtures; • Inclusion of Electric Vehicle parking 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>infrastructure; and</p> <ul style="list-style-type: none"> • Purchase of off-site mitigation credits² that may include energy efficiency retrofits in existing residential and commercial buildings <p>Thus, as development progresses within the Project area, each individual development would be required to show GHG emissions reductions in keeping with the project-wide reduction requirements.</p> <p><u>CC-1: Reduce greenhouse gas emissions onsite. The project applicant and/or future developers shall incorporate the following mitigation measures into the project to reduce operational GHG emissions.</u></p> <p><i>TRANSPORTATION</i></p> <p><u>The project developer shall incorporate the following Tier 1 and/or Tier 2 California Green Building Standards mitigation measures into the project. Future developments for residential (tentative maps) and non-residential projects (Design Review), shall demonstrate inclusion of electric vehicle charging infrastructure in</u></p>	

² Purchase of off-site mitigation credits shall be negotiated with the County and SMAQMD at the time that credits are sought by future construction within the project areas.

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>compliance, at a minimum, with the Tier 2 requirements of the 2019 CalGreen Code, except that all EV capable spaces shall instead be EV Ready. EV Ready is defined by the California Air Resources Board as, “Installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations”³ As such, each residential or non-residential project shall comply with the following standards, as applicable:</u></p> <ul style="list-style-type: none"> • <u>For each single-family residential unit, install a listed raceway, associated overcurrent protective device and the balance of a dedicated 208/240-volt branch circuit at 40 amperes (amp) minimum, to pre-wire the home for electric vehicle charging. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or unit subpanel and shall terminate into a listed cabinet, box, or other enclosure near the proposed</u> 	

³ California Air Resources Board. *Electric Vehicle (EV) Charging Infrastructure: Multifamily Building Standards*. Available at: <https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf>. Accessed April 2020.

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>location of an Electric Vehicle (EV) charger. Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. The service panel and/or subpanel shall provide capacity for a 40-amp minimum dedicated branch circuit. All electrical circuit components and Electric Vehicle Service Equipment (EVSE), including a receptacle or box with a blank cover, related to Section A4.106.8 of the California Green Building Standards Code shall be installed in accordance with the California Electrical Code.</u></p> <ul style="list-style-type: none"> • <u>Multifamily residential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.</u> • <u>Nonresidential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.</u></p> <ul style="list-style-type: none"> • <u>Nonresidential land uses with 20 or more on-site parking spaces shall dedicate preferential parking spaces to vehicles with more than one occupant and zero emission vehicles (ZEVs) (including battery electric vehicles and hydrogen fuel cell vehicles). The number of dedicated spaces should be no less than two spaces or 5 percent of the total parking spaces on the individual project site, whichever is greater. These dedicated spaces shall be in preferential locations such as near the main entrances to the buildings served by the parking lot and/or under the shade of structures or trees. These spaces shall be clearly marked with signs and pavement markings. This measure shall not be implemented in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>disabled veterans.</u></p> <ul style="list-style-type: none"> • <u>Research incentives for future residents to purchase electric vehicles, such as monetary incentives or other compensatory programs, and either implement selected incentives or provide information and/or assistance to future residents on how to utilize other existing electric vehicle incentive programs.</u> <p><i>BUILDING ENERGY</i></p> <p><u>The project developers shall incorporate the following Tier 1 and/or Tier 2 California Green Building Standards mitigation measures into the project:</u></p> <ul style="list-style-type: none"> • <u>All project buildings shall be designed to include Cool Roofs in accordance with the requirements set forth in Tier 2 of the California Green Building Energy Code, Sections A4.106.5 and A5.106.11.2.</u> • <u>All project buildings shall comply with requirements for water efficiency and conservation as described in the California Green Building Standards Code, Divisions 4.3 and 5.3.</u> • <u>Multiple electric receptacles shall be</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>included on the exterior of all nonresidential buildings and accessible for purposes of charging or powering electric landscaping equipment and providing an alternative to using fossil fuel-powered generators. The electrical receptacle shall have an electric potential of 100 volts. There should be a minimum of one electrical receptacle on each side of the building and one receptacle every 100 linear feet around the perimeter of the building.</u></p> <ul style="list-style-type: none"> • <u>Ensure that all appliances and fixtures installed in buildings developed under the project are Energy Star®-certified if an Energy Star®-certified model of the appliance is available. Types of Energy Star®-certified appliances include boilers, ceiling fans, central and room air conditioners, clothes washers, compact fluorescent light bulbs, computer monitors, copiers, consumer electronics, dehumidifiers, dishwashers, external power adapters, furnaces, geothermal heat pumps, programmable thermostats, refrigerators and freezers, residential light fixtures, room air cleaners, transformers, televisions, vending machines, ventilating fans, and windows (EPA 2018). If EPA's</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>Energy Star® program is discontinued and not replaced with a comparable certification program before appliances and fixtures are selected, then similar measures which exceed the most current California Green Building Standards Code may be used.</u></p> <ul style="list-style-type: none"> • <u>All residential appliances, including all space and water heating and cooking appliances, shall be solar- or electric-powered. Use of natural gas for heating or cooking in residences shall be prohibited.</u> • <u>Install high efficiency lighting (i.e., light emitting diodes) in all streetlights, security lighting, and all other exterior lighting applications.</u> <p>WASTE GENERATION</p> <ul style="list-style-type: none"> • <u>Prior to issuance of the first residential certificate of occupancy, the project developer shall submit evidence to the County that it has created a local composting program for residents to achieve the statewide 75-percent waste diversion target.</u> <p>CC-2: (a) <u>Future developments for residential (tentative maps) and non-residential</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>projects (Design Review) shall demonstrate a fair-share reduction towards reducing project-wide GHG emissions by 29.82 MTCO₂e/yr (i.e., 0.004 MTCO₂e/yr/capita and 0.06 MTCO₂e/yr/acre). A fair-share contribution is to be made based on the total acreage proposed for development in any given Tentative Map or Design Review area compared to the entire area of development proposed within the project as a whole. For the purposes of this mitigation measure, areas not anticipated for development such as parks, open spaces, and agricultural land as well as areas previously developed, such as the existing electrical facility, are not included in the total development acreage. Therefore, the total development area is considered to be 474.5 acres. Considering the total development area, a hypothetical ten-acre project would represent 2.1 percent of the total development area and would be required to show a GHG emissions reduction or savings of 17.9 MTCO₂e/yr, which would represent 2.1 percent of the 0.63 MTCO₂e/yr reduction required for the project area as a whole. Examples of measures that may be used by future</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>development projects include, but are not limited to, the following:</u></p> <ul style="list-style-type: none"> • <u>Exceedance of Title 24 Energy Efficiency requirements;</u> • <u>Electrifying loading docks to reduce emission from engine idling of Transport Refrigeration Units;</u> • <u>All-electric building envelope systems, including water heaters and HVAC systems, or appliances, including clothes dryers and cooking equipment, in commercial developments;</u> • <u>Inclusion of on-site carbon-zero renewable energy systems capable of serving energy needs of any urban development within the Project, including energy needed for street lights, sewer pumps, drainage pumps, traffic signals, water pumps, and commercial developments;</u> • <u>Residential photovoltaic systems designed to be scalable over time to accommodate varying energy</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>demands;</u></p> <ul style="list-style-type: none"> • <u>Indoor water use efficiency;</u> • <u>Institution of a composting and recycling program in excess of local standards;</u> • <u>Implementation of an Urban Forestry Management Plan to reduce the urban heat island effect;</u> • <u>Use of energy efficient street lighting fixtures;</u> • <u>Purchase of off-site mitigation credits consistent with the requirements of paragraph (b) below; and/or</u> • <u>Energy efficiency retrofits in existing residential and commercial buildings.</u> <p><u>Thus, as development progresses within the project area, each individual development would be required to show GHG emissions reductions in keeping with the project wide reduction requirement.</u></p> <p><u>(b) Purchase of off-site mitigation credits</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p><u>shall be negotiated with the County and SMAQMD at the time that credits are sought by future construction within the project areas. Off-site mitigation credits purchased under paragraph (a) shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Sacramento County and/or the SMAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the CAPCOA GHG Rx and the SMAQMD.</u></p> <p><u>CC-3: If the County adopts a Communitywide Climate Action Plan, future development projects within the NewBridge Specific Plan</u></p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<u>may comply with the GHG emissions reductions measures contained therein. Such participation shall be subject to a demonstration that the emissions reductions measures selected are equivalent or more effective to Mitigation Measures CC-1 and CC-2 above.</u>	
CULTURAL RESOURCES			
<p>The portion of the project that is owned by East Sacramento Ranch, LLC., was surveyed for cultural resources over the course of several years. The surveys encompass approximately 810 acres and identified several cultural resources. Resources consist of remnants of historic homesteads and farms dating back to 1800s, two isolated objects, SMUD and PG&E transmission lines and two buildings over 50 years associated with the Sacramento Rendering Company. None of the resources appear eligible for the California Register, quality as a “unique archeological resource” under Public Resource Code Section 21083.2, or meet the criterion of eligibility for the national Register. Nonetheless, there is potential to encounter buried or yet undiscovered resources during land</p>	PS	<p>CR-1 Unanticipated Discoveries of Cultural Resources</p> <p>If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards for prehistoric and historic archaeology, shall be retained at the Applicant’s expense to evaluate the significance of the find. If it is determined due to the types of deposits discovered that a Native American monitor is required, the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites as established by the Native American Heritage Commission shall be followed, and the monitor shall be retained at the Applicant’s expense.</p> <p>Work cannot continue within the 200-foot radius of</p>	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>clearing and construction. This is a potentially significant impact. Recommended mitigation will ensure proper evaluation and treatment of unknown resources.</p> <p>Since the entire Project area could not be surveyed, the South Planning Area and the lower West Planning Area is evaluated Programmatically. Likely, similar resources are present on these properties and similar mitigation would be recommended; however, future development in these planning areas will have to be surveyed for cultural resources as part of the planning review. Impacts to cultural resources are potentially significant.</p>		<p>the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially eligible for listing on the National Register of Historic Places or California Register of Historical Resources.</p> <p>If a potentially eligible resource is encountered, then the archaeologist and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations or total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the North Central Information Center (NCIC) as verification that the provisions of CEQA for managing unanticipated discoveries have been met.</p> <p>In addition, pursuant to Section 5097.97 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.</p> <p>CR-2 Cultural Resources Inventory Report for the South and Lower West Planning Areas (APNs 067-0120-059, 060, 067; 067-0080-013 –</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>016, 025, 029, 030, 037, and 047)</p> <p><u>Upon submittal of an application for General Plan Amendment, Specific Plan Amendment, Tentative Large Lot Map, Tentative Subdivision Map, or Rezone, Cultural resources surveys will be required in areas not previously subject to intensive investigation. If ground disturbing activities are planned within or adjacent to the boundaries of any identified archaeological site, the following shall be required:</u></p> <ol style="list-style-type: none"> 1. The site area will be inspected by a qualified professional archaeologist to assess the condition of the property and determine the current status of the deposit. 2. Based on this review and, as appropriate, a subsurface testing program will be developed and implemented to determine if the property meets criteria to be listed on the California Register of Historic Resources or the national Register of Historical Places. The course of the testing program should <u>shall</u> be clearly delineated in a research design which outlines prehistory of the area; research domains, questions, and data requirements; research methods inclusive of field and laboratory studies; report preparation; and significance criteria. 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>3. Following field investigations, a technical report describing the evaluation program should shall be prepared. At a minimum this report shall include the elements discussed in the research design, as well as a description of the recovered site assemblage and a significance evaluation. If, based on the results of the testing program, a site is not determined to be an important archaeological resource, then effects to it would have been reduced to less than significant.</p> <p>4. If, based on the results of field investigations, resources were identified as being significant the following mitigation would apply:</p> <p style="padding-left: 40px;">a. Total Avoidance: Redesign the proposed project as to preserve and protect all significant cultural resources. This would reduce impacts to less than significant levels.</p> <p style="padding-left: 40px;"><u>OR</u>, if a redesign is determined infeasible by the Environmental Coordinator, then,</p> <p style="padding-left: 40px;">b. Data Recovery: After all design options have been exhausted that would result in the preservation of significant resources, institute a data</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		recovery program to the satisfaction of the Environmental Coordinator.	
<p><u>Prehistoric Resources</u></p> <p>The surveys performed on the majority of the project site did not identify known prehistoric resources. However, this does not preclude the possibility of buried prehistoric archeological materials or previously undiscovered surface resources within the Project area and therefore is potentially significant. Recommended mitigation measures CR-1 and CR-2 reduce impacts to less than significant.</p>	PS	<p>Implement Mitigation Measure CR-1 and CR-2. Cultural Resources Inventory Report for the South and Lower West Planning Areas (APNs 067-0120-059, 060, 067; 067-0080-013 – 016, 025, 029, 030, 037, and 047)</p> <p>Cultural resources surveys will be required in areas not previously subject to intensive investigation. If ground disturbing activities are planned within or adjacent to the boundaries of any identified archaeological site, the following shall be required:</p> <ol style="list-style-type: none"> 1. The site area will be inspected by a qualified professional archaeologist to assess the condition of the property and determine the current status of the deposit. 2. Based on this review and, as appropriate, a subsurface testing program will be developed and implemented to determine if the property meets criteria to be listed on the California Register of Historic Resources or the national Register of Historical Places. The course of the testing program should be clearly delineated in a research design which outlines prehistory of the area; research domains, questions, and data requirements; 	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>research methods inclusive of field and laboratory studies; report preparation; and significance criteria.</p> <p>3. Following field investigations, a technical report describing the evaluation program should be prepared. At a minimum this report shall include the elements discussed in the research design, as well as a description of the recovered site assemblage and a significance evaluation. If, based on the results of the testing program, a site is not determined to be an important archaeological resource, then effects to it would have been reduced to less than significant.</p> <p>4. If, based on the results of field investigations, resources were identified as being significant the following mitigation would apply:</p> <p style="padding-left: 40px;">a. Total Avoidance: Redesign the proposed project as to preserve and protect all significant cultural resources. This would reduce impacts to less than significant levels.</p> <p style="padding-left: 40px;">OR, if a redesign is determined infeasible by the Environmental Coordinator, then,</p> <p style="padding-left: 40px;">b. Data Recovery: After all design</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		options have been exhausted that would result in the preservation of significant resources, institute a data recovery program to the satisfaction of the Environmental Coordinator.	
<u>Human Remains</u> There are no known human remains on the Project site. However, the Project will involve mass grading and there is always the potential to encounter unknown burials. If human remains are encountered, recommended mitigation measures CR-1 and CR-2 will reduce impacts to less than significant.	PS	Implement Mitigation Measures CR-1 and CR-2.	LS
GEOLOGY AND SOILS			
<u>Soil Erosion</u> Geology and soils are relatively static and general information is available for the entire Project site. Soil erosion is a natural process that can be accelerated when the surface is disturbed. The soil characteristics on the Project site range in depth and erosion ranges from slight to sever. Implementation of the Project may increase soil erosion; however, the County	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
Land Grading and Erosion Control Ordinance and State Water Resources Control Board stormwater permitting requirement ensure that soil erosion and sediment control measures are in place. The Project will not result in substantial soil erosion.			
<p><u>Exposure to Expansive Soils</u></p> <p>The <i>Soil Survey of Sacramento County, California</i> indicates that the majority of soils in the Project area have either moderate or high Shrink-swell potential as various depths. The geotechnical report prepared for the 810 acres of the Project site noted that there are soils with low to moderate expansive properties with tested with ASTM D4829 test method.</p> <p>Development of the Project may include the addition of new structures and roadways located in areas containing expansive soils. All buildings are required to conform with the Universal and California Building Code. Codes and policies are part of the regulatory framework and reliance upon them is assumed for all new development. Adherence to existing code will ensure the maximum necessary protection available</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
for development within areas known to contain expansive soils. Impacts are less than significant.			
<p><u>Exposure to Naturally Occurring Asbestos</u></p> <p>The Project is located approximately 2,000 feet west of locations known to contain naturally occurring asbestos. Project impacts related unsafe exposure to naturally occurring asbestos are less than significant.</p>	LS	None required.	LS
<p><u>Obstruction of Access to Mineral Resources</u></p> <p>While there are mineral resource areas in Sacramento County, these areas are generally south/southwest of the Project site. The southern-most portion of the Project site is considered an aggregate resources area. This area is owned by Triangle Rock Products, Inc. and the mine operators intend to develop the area rather than extract the mineral resource.</p> <p>The Project will result in the placement of urban structures over approximately 116 acres of known aggregate resources, permanently obstructing access. While there is a small loss of mineral resources,</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
regionally, impacts to mineral resources are less than significant.			
<p><u>Exposure to Geological Hazards or Unstable Soils</u></p> <p>Seismic ground shaking hazards are considered relatively low; however, due to the proximity of active faults, could cause light to moderate damage to structures depending on construction methods. Further, the Project area is not in a known liquefaction area.</p> <p>The California Building Code contains design standards related to seismic activity and ground shaking. Structures built to the requirements of these codes will ensure people and structures are not exposed to substantial new adverse effects. Impacts are less than significant.</p>	LS	None required.	LS
HAZARDOUS MATERIALS			
<p><u>Accidental Release Due to Routine Transport, Use, or Disposal of Hazardous Materials</u></p> <p>Standard construction and operational activities would require the use, disposal or transport of hazardous materials. There</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
are many existing federal, State, and local regulation and codes in place to reduce upset of these materials during transportation, use, or disposal. Impacts are less than significant.			
<p><u>Proximity to Know Contaminated Sites</u></p> <p>There are nine agency-listed contaminated sites within approximately one mile of the Project site. All sites have a close status and would not result in the creation of a significant hazard to the public or environment.</p> <p>Former Mather Air Force Base boundary is over one mile from the Project site; however, it is a Superfund site currently undergoing groundwater remediation. The extent of the groundwater plumes is approximately two miles to the northwest of the Project site. Currently, the contamination is effectively contained and water supply to the Project site will not be through extraction of local groundwater, but will be served by the Sacramento County Water Agency. Completion of the Project will not exposed the public to a significant hazard as it relates to contaminated groundwater; impacts are</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
less than significant.			
<p><u>Presence of Onsite Hazardous Material of Conditions</u></p> <p>The Sacramento Rendering Company has been in operation in the current location since the late 1950s. Plant operations involve the maintenance of equipment and the discharge of waste water into settling ponds. The Environmental Site Assessment noted that during demolition of the plant, soil testing should be conducted in and around all sumps and drains for automotive-related contaminants. And prior to backfilling of wastewater settling ponds it is necessary to removal all accumulated organics and redoxymorphic soils from the bottom of the ponds. Considering the potentially hazardous conditions that exist on the portion of the property used by the plant. Mitigation is recommended to document soil sampling portocols and remediation in and around sumps, settling ponds and ditches to reduce potentially significant impacts.</p>	PS	<p>HM-1 Prior to grading permit, site improvement plan or building permit approval <u>for development on the Rendering Plant site</u>, submit evidence to the Sacramento County Environmental Coordinator that all remediation requirements associated with the closure and demolition of the Rendering Plant, including but not limited to the floor sumps, settling ponds and surrounding ditches, have been completed to the satisfaction of the Central Valley Regional Water Quality Control Board and the Sacramento County Environmental Management Department.</p>	LS
<p><u>Expose People or Structures to Wildland Fires</u></p>	LS	None Recommended.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
The Project consists of new urban development with on-site open space preserves. In addition, there are several large open space preserves surrounding the Project site. While the roadways will provide a moderate fire break, the introduction of urban uses with substantial open space areas increases the potential for wildland fires. The Project includes a site designated for a fire station. Needed fire protection services will be provided to the Project site and the Project will not significantly expose people or structures to wildland fire.			
HYDROLOGY AND WATER QUALITY			
Onsite Hydrology			
The Project included a Drainage Master Plan which evaluated the on- and off-site floodplains, the potential for hydromodification of stream channels, and the adequacy of existing and planned stormwater infrastructure. The existing floodplains on the site will be within the open space land use designations where no development will occur, and detention basins have been included to ensure that the post-Project flow rates do not exceed	PS	HY-1: Subsequent applications for future rezoning or tentative subdivision maps within the project area shall include a hydrology analysis that incorporates assumptions for changes in precipitation due to climate change. Development of these assumptions shall be coordinated with the County's Department of Water Resources and the Office of Planning and Environmental Review.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
pre-Project rates. Put in general terms, the design to prevent hydromodification is a detention basin outlet control structure which retains all stormwater runoff generated up to a 10-year event and slowly releases the runoff through a very small outlet. The Project also includes stormwater infrastructure which is sufficient to handle flows. However, changes in precipitation frequency and intensity may result in an increase in the floodplain on the project site and flooding of structures.			
Offsite Hydrology			
Despite implementation of the onsite detention basins and hydromodification measures, the Project will result increased offsite water volumes downstream. A conservative analysis concluded that the Project would add to the volume of water which would contribute to an existing floodplain downstream in the Beach Stone Lakes area. The County has an existing Beach Stone Lakes mitigation fund to reduce this potential flooding impact. However, flooding will still occur in the Beach Stone Lakes area.	S	<p>HY-2. The Project shall mitigate its downstream impacts by either of the following options:</p> <ul style="list-style-type: none"> a. Payment of the Beach Stone Lakes Mitigation Fee (Sacramento County Water Agency Zone 11A). b. Ensuring no net Project-related increase in volume in Beach Stone Lakes by metering outflow from the project site, increasing storage capacity of onsite facilities, directing drainage into downstream facilities offsite, or other regional drainage solutions as determined by the County Department of 	SU

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		Water Resources.	
Water Quality			
<p>Compliance with adopted Ordinances and standards will ensure that future development projects implemented as a result of Project approval will not cause violation of a water quality standard or waste discharge requirement, result in substantial erosion or siltation, and will not result in substantial increases to polluted runoff associated with construction. Compliance with the County Stormwater Ordinance, implementation of Low Impact Development Standards, and implementation of the Drainage Master Plan will ensure that development of the site will not alter the course of local waterways in a manner that results in substantial erosion or siltation, will not cause violation of a water quality standard or waste discharge requirement, and will not result in substantial increases to polluted runoff.</p>	LS	None required.	LS
<u>Potential Climate Change Effects On The Project</u>			

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p><u>The hydrology analysis contained in the Drainage Master Plan demonstrates that the proposed land uses on-site would not be exposed to flooding, there remains some uncertainty regarding future precipitation frequency and intensity because of climate change. The County has not adopted any policies or guidance with regard to the evaluation of hydrologic climate-related impacts. Because of the uncertainty associated with the physical effects of climate change that would be experienced in the Plan Area, it is too speculative to determine with certainty the actual impacts that would occur and render an impact conclusion. The modeling performed for the project is based on a range of potential climate assumptions (scenarios) that could occur based upon the science as it currently stands. However, climate change science is a rapidly evolving area that is continually subjected to new legislation, policy, and scientific advancement. Concurrently, the County is considering regional policies and solutions to address climate-related</u></p>	<p><u>N/A</u></p>	<p><u>HY-3: At the time of submittal of backbone infrastructure plans, the project applicant shall submit a hydrologic analysis that is based upon adopted County guidance regarding a reasonably foreseeable climate change scenario. Based on the results of the hydrologic analysis and if impacts are identified, the project applicant shall implement design measures within the project's drainage system that can be shown to adequately maintain pre-project flows with consideration of climate change effects and are reasonably achievable, such as deepening the existing basin(s) within the Plan Area that would be subject to over-topping. Basin deepening would require minimal construction-related impacts including excavation and hauling of an additional increment of soil from the site. These construction-related impacts have been evaluated throughout this EIR.</u></p> <p><u>Alternatively, if the County has adopted a regional solution for flooding related to climate-change, the project applicant shall contribute its fair share towards funding the construction of the regional solution.</u></p> <p><u>If the County has not developed a regional solution or has not adopted guidance for evaluating hydrologic climate-related impacts,</u></p>	<p><u>N/A</u></p>

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<u>impacts, but as of the date of this document, no such solution has been developed.</u>		<u>the project applicant shall prepare submit a hydrologic analysis that is based on the best available technical information at that time, in consultation with the County's Department of Water Resources and the Office of Planning and Environmental Review.</u>	
LAND USE			
<u>Conflict with Adopted Land Use Plans.</u> The Project uses are compatible with surrounding existing and proposed land use plans, and would not result in substantial conflicts with land use plans designed to avoid environmental effects.	LS	None required.	LS
<u>Conflict With the SACOG Blueprint and General Plan Policy.</u> The Project includes a wide variety of transportation choices, an array of housing choices, a mix of uses, compact community design, and fosters a sense of place. In terms of internal community design the Project appears to be an example of "smart growth" development and is consistent with relevant General Plan policies. The Project is consistent with the principles with respect to the preservation of open space and the proximity to existing developed communities. The proposed	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
open space preserves represent a substantial area of the Project, and the Project has directed preservation toward the majority of the vernal pool areas of the site. The Project is adjacent to existing developed communities to the east in the City of Rancho Cordova.			
<u>Conflict with General Plan Growth Management Policy.</u> A project must be consistent with LU-120 before it may be considered for approval. The Office of Planning and Environmental Review has reviewed the Project for consistency with LU-120 and has found in the affirmative. The Project has been deemed consistent with criteria PC-1 through PC-10, and has achieved a total of 18 points in the criteria-based standards (CB-1 through CB-5). A total of 18 points is required and 24 points are possible. Given that the Project has been deemed consistent, Project impacts related to conflict with growth management policy are less than significant.	LS	None required.	LS
<u>Conflict With General Plan Policies Related to Public Services and Utilities.</u> Compliance with General Plan Policies LU-13, LU-66, LU-110, and LU-123 is	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
intended to ensure that minimum service standards for public services and utilities are met. The Project includes a facilities financing plan which was submitted to all of the applicable service entities for review and approval. Long-term funding sources have been identified for the maintenance of public services. The Project will not result in any substantial environmental impacts related to conflict with General Plan policies which pertain to public services or utilities.			
<u>Conflict with General Plan Policies Related to Air Quality and Transportation.</u> The Project results in significant impacts related to both transportation and air quality, but these impacts are not due to General Plan Policy inconsistency. The Project is consistent with policies intended to alleviate air quality and transportation impacts.	LS	None required.	LS
<u>Division of Disruption of Established Community</u> The Project is located in a rural area with agricultural-residential development located west of Eagles Nest Road. These properties will not be divided or disrupted	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
by the Project. Further there are no other established communities that will be divided or disrupted by the project.			
<u>Displacement of Housing</u> The Project does not propose any changes to the agricultural-residential properties west of Eagles Nest Road. The Project site is not included in the affordable housing inventory as part of implementation of the Sacramento County General Plan Housing Element. Impacts are less than significant.	LS	None required.	LS
<u>Create and Airport Safety Hazard for People Working or Residing in the Project Area</u> The Project is not located in an immediate airport safety area. However, the Project is located within five miles of Mather Airport and FAA Advisory Circular 150/5200-33B advised that all stormwater detention/retention facilities should be designed to discourage wildlife, specifically avian species. In order to meet County stormwater quality and flood detention ordinances, 16 basins will be constructed. These basins will have a combined wet area of approximately 5.2	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
acres. The existing water quality ponds associated with plant operations have a combined surface of approximately 15.4 acres. The Project will reduce the water surface area, thereby reducing potential attractant to wildlife within five miles of Mather Airport. Impacts are less than significant.			
NOISE			
<p><u>Construction Noise Would Temporarily Increase Noise Levels</u></p> <p>Initial site grading and road development would occur prior to occupancy; however, there are noise sensitive land uses west of Eagles Nest Road and as the Project phases develop, sensitive noise receptors will be present internal to the Project. Construction will temporarily increase noise levels in the vicinity of the Project. The Sacramento County Noise Ordinance specifically exempts construction-related noise from meeting noise limitations. It is acknowledged that construction related noise could be a nuisance; however, the increase in noise is short-term. Compliance with the County Ordinances will avoid significant community effects.</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
Impacts are less than significant.			
<p><u>On-site Traffic Noise Would Exceed Noise Standards</u></p> <p>Upon buildout of the Project, outdoor activity areas of residential uses along higher volume roadways may experience noise levels that exceed County General Plan policies. Highest noise levels occur at the Boundary roadways – Kiefer Boulevard, Jackson Road and Eagles Nest Road. Low and medium density residential land uses along these segments may experience a potentially significant impact. With appropriate use of features such as increased setbacks, or barriers, noise levels can be reduced to acceptable levels. Mitigation is recommended to require that all residential exterior activity areas exposed to noise environments greater than 65dB must incorporate noise-reducing designs. With application of mitigation, the Project will not expose residents to noise levels in excess of standards.</p>	PS	<p>NO-1. All residential development projects exposed to greater than 65 dB L_{dn} at the property line adjacent to Jackson Road, Eagles Nest Road or Kiefer Boulevard, shall be designed and constructed to reduce noise levels to within General Plan Noise Element standards for exterior activity areas. Potential options for achieving compliance with noise standards include, but are not limited to, noise barriers, increased setbacks, and/or strategic placement of structures. An acoustical analysis substantiating the required noise level reduction, prepared by a qualified acoustical consultant shall be submitted to and verified by the Environmental Coordinator prior to the issuance of any building permits for affected sites.</p>	LS
<p><u>Result in On-Site Community and Stationary Noise Sources that Will Exceed General Plan Noise Standards</u></p>	PS	<p>NO-2. All non-residential development projects located adjacent to residentially designated properties shall be designed and constructed to ensure that noise levels</p>	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>The Project is proposed at the conceptual planning level; however, it is known that there will be parks, and elementary school and commercial uses that could generate noise in excess of standards. Parks and schools are exempt from the County Noise Ordinance, however, the most noise-producing uses are placed in the interior of the park. Non-residential uses would have to comply with County Noise Ordinance and Zoning Code and Design Guidelines.</p> <p>It is expected that compliance with existing Codes and Ordinances will reduce exposure to significant noise; however, that cannot be determined at this time. Mitigation is recommended to ensure that stationary Project uses will not expose people to noise in excess of standards.</p>		<p>generated by the uses do not result in General Plan Noise Element standards being exceeded on adjacent properties. An acoustical analysis substantiating the required noise level reduction, prepared by a qualified acoustical consultant shall be submitted to and verified by the Environmental Coordinator prior to the issuance of any building permits for the non-residential projects with the potential to generate substantial noise (e.g. car wash, auto repair, or buildings with heavy-duty truck loading docks) if those uses are adjacent to residentially designated properties. The acoustical analysis shall include, but not be limited to, consideration of potential noise conflicts due to operation of the following items:</p> <ul style="list-style-type: none"> • Mechanical building equipment, including HVAC systems; • Loading docks and associated truck routes; • Refuse pick up locations; and • Refuse or recycling compactor units. 	
<p><u>Substantial Increase in the Existing Ambient Noise Level</u></p> <p>The Project will generate significant new volumes of traffic to the existing roadway</p>	S	<p>No feasible mitigation is available.</p> <p>NO-3. <u>Use rubberized hot-mix asphalt for the road widening project along Eagles Nest Road. The RHMA overlay shall be</u></p>	SU

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>system. In order to assess if this change is significant, the standard FICON noise study was used. Using information from the traffic study and aerial photography, sensitive receptors were identified and the corresponding traffic noise was evaluated under existing and plus project conditions. The project will expose people to a substantial increase in ambient noise. The properties most affected are those west of Eagles nest Road. Typical measures to reduce noise are placement of soundwalls, improvements to building façade, or increased setbacks; however, these measures are not feasible to implement since these properties are non-participatory. Impacts are significant and unavoidable.</p>		<p><u>designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt.</u></p> <p>NO-4. <u>Use rubberized hot-mix asphalt for all off-site road widening projects implemented as part of the Mather South, NewBridge, Jackson Township or West Jackson plans. The RHMA overlay shall be designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt.</u></p>	
<p><u>Mather Airport</u></p> <p>Mather Airport is located 3.6 miles to the</p>	LS	<p>NO-5. The following conditions will be required to ensure adequate disclosure of Mather Airport operations and have been included</p>	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>northwest. The Mather Airport Master Plan details projected aviation growth through the year 2035. The project growth was fully analyzed in the EIR prepared for the Airport Master Plan. According to the analysis, the Project is located outside of the 2035 project 60CNEL noise contour. The Project is still within the overflight path of approaching and departing aircraft that fly below 3,000 feet above ground level. A flight track analysis was prepared by County Airport System which shows that the majority of flights do not pass over the Project site. Further, the Project site is located within an area identified to potentially awaken 7.1 to 10 percent of the population.</p> <p>Overall, aircraft noise associated with Mather Airport will not exceed federal or State thresholds of significance. Since the Project is located within the flight path of the Airport, residents may experience nuisances and for this reason, all residential units will be conditioned to incorporate Mather Airport Policy Planning Area conditions and an Aviation Easement to inform future buyers. Mitigation will further reduce impacts.</p>		<p>into the Specific Plan Development Standards:</p> <ol style="list-style-type: none"> 1. Notification in the Public Report prepared by the California Department of Real Estate shall be provided disclosing to prospective buyers that the parcel is located within the applicable Airport Planning Policy Area and that aircraft operations can be expected to overfly that area at varying altitudes less than 3,000 feet above ground level. 2. Aviation Easements prepared by the Sacramento County Counsel's Office shall be executed and recorded with the Sacramento County Recorder on each individual residential parcel contemplated in the development in favor of the County of Sacramento. All Aviation Easements recorded pursuant to this policy shall, once recorded, be copied to the director of Airports and shall acknowledge the property location within the appropriate Airport Planning Policy Area and shall grant the right of flight and obstructed passage of all aircraft 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		into and out of the appropriate airport.	
PUBLIC SERVICES			
Fire Protection and Emergency Services			
<p>The Project site is within the service area of the Sacramento Metropolitan Fire District (SMFD). The proposed Project will increase the demand for SMFD fire protection and emergency services. The NewBridge Specific Plan includes a 2.5 acre fire station site south of Kiefer Boulevard near Sunrise Boulevard. It is anticipated that the station will require a truck company, an engine company, and a medic company. The Project will be subject to the building standards and regulations of Sacramento Metropolitan Fire District, and these regulations will be sufficient to ensure adequate protection.</p>	LS	None required.	LS
Law Enforcement Services			
<p>The Project is within the service area of the Sacramento County Sheriff's Department (SSD) and will increase the demand for SSD services. To meet the Sheriff Department's 0.75 officers per</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
<p>1,000 persons staffing goal, approximately 6 staff members would need to be added to the department to account for the increased demand generated by the Project.</p> <p>Funding for the expected increase in law enforcement services is detailed in the NSP Financing Plan. Law enforcement services will be funded through the County Police Services Community Facilities District 2005-1 (CFD 2005-1) annual special tax. Taxes will be levied on each new residential unit developed within the Project area in accordance with the provisions of CFD 2005-1 to ensure that the Sheriff's Department can adequately serve the new growth. Impacts to law enforcement services are <i>less than significant</i>.</p>			
Solid Waste Services			
<p>The Project area is provided with solid waste collection service by the Sacramento County Department of Waste Management and Recycling. The Kiefer Landfill is the primary municipal solid waste disposal facility in Sacramento</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
County. Development of the proposed Project will result in an increased demand for solid waste services. CalRecycle's website indicates that the landfill's permitted capacity is approximately 117 million cubic yards. According to the Cal Recycle website, the landfill's remaining capacity is approximately 112 million cubic yards and based on current disposal rates, Kiefer Landfill's anticipated "ceased operations date" (the estimated date when the facility will reach its permitted capacity) is 2064. The impacts of the proposed Project on solid waste service are considered <i>less than significant</i>			
School Services			
The Project site is within the service area of the Elk Grove Unified School District (EGUSD). Student enrollment resulting from the Project will be approximately 1,851 total students, with approximately 1,008 of these in grades K – 6 (elementary school), 315 in grades 7 – 8 (middle school), and 528 in grades 9 – 12 (high school). The land use plan includes one elementary school site. EGUSD Facilities and Planning Department staff (K. Williams) has indicated that EGUSD has	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
been working with the Project proponents to be sure that adequate school facilities can be accommodated within the Project area and is satisfied with the proposed development and financing plans for the needed schools.			
Park and Recreation Services			
The Project area is located within the Cordova Recreation and Park District (CRPD). The NSP describes proposed Project parks and open space in Section 6.1- 6.2, and indicates that a total of seven community and neighborhood parks will be distributed throughout the Project area with one adjacent to the new elementary school site. The parks range in size from 2.9 to 11.5 acres in size and will provide a variety of facilities that will accommodate local recreational needs. Between the seven neighborhood and community parks, 41.3 acres of formal parkland will be dedicated to the CRPD. The Project is consistent with the requirements of the Quimby Act.	LS	None required.	LS
Libraries			

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
The Project residents would increase the demand for library services provided by the Sacramento Public Library System and nearby libraries such as the Rancho Cordova Community Library. However, Sacramento Public Library staff reviewed the proposed plan and determined that Libraries does not see a need for a Library branch in the Plan area at this time (D. Tucker, 2013). The Project will contribute funding for library services from annual property tax revenues allocated to the Library Authority and from countywide library facilities development impact fees.	LS	None required.	LS
PUBLIC UTILITIES			
Construction Impacts			
Water, sewer, and dry utility lines constructed within the Project boundaries would not cause any additional utility-specific construction impacts, as utility construction will occur within areas that will already urbanize as part of the Project. The off-site utility lines are shown within areas already proposed for utility construction as part of service provider	S	Mitigation for physical impacts has already been included in the various topical chapters. Relevant measures include AQ-1, BR-1, BR-3, BR-4, BR-5, BR-7, BR-8, and CR-1. <u>PU-1: This mitigation measure only applies if Mather East Trunk HAS NOT been built by others. Comply fully with adopted mitigation measures for Mather Field Specific Plan/Special Planning Area (Control Number PLNP2013-</u>	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
master planning documents.		<u>00044): AQ-3, BR-1, BR-3, BR-4, BR-5, BR-6, BR-7, BR-10, BR-11, BR-12, BR-13, BR-14, BR-15, BR-16, BR-18, BR-22, CR-1, HM-1, HM-2, PS-1, and PS-2.</u>	
Adequacy of Water Supply			
The projected water demand is 1,380 acre feet per year (AFY), including system losses. The project will be served by Sacramento County Water Agency Zone 40, which has an available supply of 185,500 AFY. There is sufficient water supply to serve the Project.	LS	None required.	LS
Adequacy of Sewage Disposal			
The project's sewage disposal demand is 1.35 million gallons per day (mgd) average dry weather flow and the peak wet weather flow is 1.67 mgd. The SRWTP has a permitted ADWF design capacity of 181 mgd and wet weather flow (AWWF) of 392 mgd. The plant receives and treats approximately 141 mgd ADWF (Seyfried, 2008). The Project disposal demand can be met by this existing capacity.	LS	None required.	LS
Adequacy of Energy Services			

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
Electricity demand is 28,000,000 kilowatt hours annually, which is a fraction of the total 10,850.2 million kilowatt hours delivered in Sacramento County in 2016. Natural gas demand is 691,000 therms annually, which is a fraction of the 286.9 million therms delivered in Sacramento County in 2010. Energy service providers have sufficient capacity to serve the Project.	LS	None required.	LS
Cumulative Electrical Demands			
Sacramento County is currently processing four specific and community master plans within the Jackson Road corridor each of which is undergoing a separate evaluation for environmental impacts. Build out of the plans, if approved, would occur across a 20-plus year horizon. The projects include the Newbridge Specific Plan, the West Jackson Highway Master Plan, the Jackson Township Specific Plan, and the Mather South Community Master Plan. SMUD has estimated the future energy demands for all four projects and identified a need for a new bulk substation if all four projects are approved. In addition, new	PS	CU-1 <u>Coordination with SMUD Fair Share Contribution.</u> The project applicant of each of the following Specific and Community Master Plans: Newbridge Specific Plan, the West Jackson Highway Master Plan, the Jackson Township Specific Plan, and the Mather South Community Master Plan shall coordinate with SMUD to identify the timing of construction of the Jackson Bulk Substation and the project's fair share contribution, if any, towards construction of the facility including any mitigation requirements. While SMUD will ultimately be responsible for construction and implementation, the project applicant will be responsible for funding its fair share portion of the mitigation costs. It is unknown and too	PS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>distribution substations and ancillary infrastructure including on-site and off-site transmission lines will be needed. Project-specific impacts associated with transmission lines are generally included in each topical chapter. However, a site-specific project-level impact analysis of the bulk substation site(s) cannot be completed until designs are more refined. A preliminary design for two site options was developed by SMUD and analyzed in this EIR. SMUD will be responsible for the land acquisition, design, and construction of the bulk substation Programmatic mitigation measures are recommended for implementation by SMUD, subject to potential change as site designs are further refined.</p>		<p>speculative at this time to determine what specific mitigation would be required for the facility because detailed design of the facility has not occurred <u>seek to facilitate efficiencies in grading and pre-construction activities as feasible, as a condition of this project.</u></p> <p>CU-2 <u>Dust Control Plans.</u> SMUD shall develop a Fugitive Dust Control Plan (FDCP) for the bulk substation. The FDCP shall be prepared prior to the start of construction activities. Measures to be included in the plan include, but are not limited to, the following:</p> <ul style="list-style-type: none"> a. Water all exposed surfaces at least two times daily when soil moisture conditions have the potential to result in dust generation. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. b. Cover or maintain at least two feet of freeboard 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. 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>c. 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 power sweeping is prohibited.</p> <p>d. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).</p> <p>e. Temporary construction entrances shall be stabilized to control fugitive dust emissions.</p> <p>f. The FDCP shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust offsite and to ensure compliance with identified fugitive dust control measures. Their duty hours shall include holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the SMAQMD Compliance Division prior to the start of any grading, or earthwork.</p> <p>g. Signs shall be posted at the substation site entrance a minimum of 30 days prior</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>to initiation of Project construction. The signs shall include the following information: (a) Project Name; (b) Anticipated construction schedule(s); and (c) Telephone number(s) for designated construction activity monitor(s) or, if established, a complaint hotline. The designated construction monitor shall document and immediately notify SMUD and SMAQMD of any air quality complaints received. If <u>complaints are received</u> necessary, the contractor will coordinate with SMUD and SMAQMD to identify any additional <u>available</u> feasible measures and/or strategies to be implemented to address public complaints.</p> <p>CU-3 <u>NO_x Reduction Measures</u>. Consistent with SMAQMD-recommended “basic” and “enhanced” NO_x reduction measures, the following measures shall be implemented during bulk substation construction:</p> <p><i>Basic Measures:</i></p> <p>a. Minimize idling time of diesel-powered equipment 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,</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.</p> <p>b. 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 initial use in the project area. Documentation verifying compliance with this measure shall be retained on site and provided to SMAQMD upon request.</p> <p>c. When leasing equipment, the contractor shall use alternatively fueled equipment (e.g., electric, propane, etc.), in lieu of diesel- or gasoline fueled equipment, whenever possible and to the extent available.</p> <p><i>Enhanced Measures:</i></p> <p>d. A comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that would be used in aggregate of 40 or more hours during substation construction shall be submitted to the SMAQMD.</p>	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. • The contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. • This information shall be submitted at least four business days prior to the use of subject heavy-duty off-road 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. <p>e. A plan shall be submitted to the SMAQMD demonstrating that combined emissions from heavy-duty off-road equipment (50 horsepower or more), construction vehicles, and haul truck to be used during substation construction, including owned, leased, and subcontractor vehicles, will achieve NOX reductions sufficient to demonstrate compliance with the SMAQMD's</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>maximum allowable mass emissions threshold of 85 pounds per day (lbs/day) of NO_x.</p> <ul style="list-style-type: none"> • The plan shall include an inventory of all off-road equipment and haul trucks to be used during construction. • Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, limitations on the use of off-road equipment and/or haul trucks, changes in construction schedules, the payment of mitigation fees to the SMAQMD, and/or other options as they become available. The SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction. <p>f. SMUD shall ensure that emissions from all off-road diesel powered equipment used in the project area do not exceed 40% opacity for more than three minutes in any one hour.</p> <ul style="list-style-type: none"> • Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>shall be repaired immediately.</p> <ul style="list-style-type: none"> • Non-compliant equipment shall be documented and a summary provided to SMAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly. • 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. <p>Once more detailed construction information becomes available, a refined emissions modeling analysis can be performed to determine if all or a portion of the above “Enhanced Measures” should be implemented to demonstrate compliance with SMAQMD’s maximum allowable mass emissions threshold of 85 lbs/day of NO_x. This analysis shall be conducted in accordance with applicable SMAQMD-recommended methodologies.</p> <p>CU-4 <u>Biological Resources: General Construction Measures.</u> The following general construction measures shall be implemented in order to</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>avoid impacts to biological resources during construction of the bulk substation:</p> <ul style="list-style-type: none"> • Construction personnel shall minimize the work area footprint and the duration at a work area site, to the extent possible. • Construction personnel shall use existing paved and unpaved roads to access the work area where present. Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas <u>or other areas where no environmental resources could be disturbed</u> to the maximum extent feasible. • Trash dumping, littering, open fires (such as barbecues), hunting, and pets shall be prohibited in work areas. <p>CU-5 <u>Biological Resources: Pre-Construction Surveys.</u> The following measures shall be implemented in order to avoid impacts to special-status plants during construction of the bulk substation:</p> <ul style="list-style-type: none"> • Pre-construction surveys for special-status plants will be conducted within 250 feet of the Project Area, where access is possible, during the appropriate bloom period for identification. • If surveys for special-status plants cannot be completed during the appropriate 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>bloom period, topsoil (upper 2-4 inches) in the appropriate habitat for the surveyed specie(s) where ground disturbance will occur will be stockpiled prior to construction and respread after construction in suitable areas</p> <ul style="list-style-type: none"> • If any special-status plant species are found in the project area, orange or yellow construction flagging or fencing will be erected to provide a 20-foot -buffer area around the population to prevent encroachment by construction activities, if possible given the location of the population. The fencing will be maintained until construction is complete. • If any special-status plant species are found in the project area and avoidance is not possible due to the location of the population, SMUD will consult with the appropriate resource agencies (California Department of Fish and Wildlife [CDFW] and/or California Native Plant Society [CNPS]) to develop mitigation and/or compensation measures needed to reduce the impact to a less than significant level. • Where it is not feasible to avoid special-status plant locations within construction areas, <u>compensatory mitigation in the form of</u> seed collection and transplanting 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>shall be performed for annual plant species in suitable areas. <u>The performance standard for this compensatory mitigation shall be no net reduction in the size and viability of the local plant population.</u></p> <ul style="list-style-type: none"> • If an affected special-status plant is a perennial species, native plant nursery propagation shall be performed as well as planting within suitable areas. <p>All special-status plant restoration and planting areas shall be monitored for a minimum of one year.</p> <p>CU-6 Biological Resources: Avoid Disturbance or Harm to Wildlife Species. Following preconstruction surveys and initiation of project construction, it is possible that wildlife species could subsequently enter or return to the project area. The following measures will be implemented to avoid disturbance or harm to these species:</p> <ul style="list-style-type: none"> • If any special-status species or other wildlife species are observed in the project area during construction, construction will cease until the species is allowed to move out of harm's way on their own accord. • If they cannot be allowed to move out of harm's way on their own accord, SMUD field crews shall contact SMUD 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>Environmental Management at (916) 732-5836, who will report the sighting to the appropriate agency (USFWS and/or CDFW). SMUD Environmental Management will have authority to stop activities until appropriate corrective measures have been completed or it is determined that the individual will not be harmed. Capture and relocation of trapped or injured species can only be attempted by agency-approved biologists.</p> <p>CU-7 <u>Biological Resources: Clean Water Act Permitting.</u> SMUD will obtain relevant CWA permits (Section 404 and 401). Additionally:</p> <ul style="list-style-type: none"> • All proposed discharges of dredge or fill material into waters of the U.S. will first be authorized by the United States Army Corps of Engineers (Corps), pursuant to Section 404 of the CWA. All Corps permit conditions will be implemented. • Pursuant to Section 401 of the CWA, SMUD will obtain Water Quality Certification from the RWQCB for the proposed Project. <p>CU-8 <u>Biological Resources: Compensate for Permanent Loss of Wetlands.</u> SMUD will compensate for the permanent loss of wetland habitat through the purchase of</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>mitigation credits at a 1:1 creation ratio from the SMUD Nature Preserve Mitigation Bank or an alternative Corps-approved mitigation bank. This mitigation requirement may be refined or superseded by the terms of the Corps Section 404 permit for the project.</p> <p>CU-9 <u>Cultural Resources</u>: SMUD shall complete cultural resource surveys prior to any ground disturbing activities or construction activities associated with the bulk substation. Surveys will be completed prior to any ground disturbing activities or the Project construction activities in order to inventory and evaluate cultural resources affected by the Project, or affected by any components that might be added to the Project, or any existing components that may be modified.</p> <p>CU-10 Cultural Resources: SMUD shall prepare and implement Archaeological Resource Management and Treatment Plan to address significant or unique archeological resources.</p> <p>In the case of the inadvertent discovery of a resource that is listed or eligible for listing in the National Register or California Register or of a unique archaeological resource as</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>defined by CEQA, SMUD will have a qualified archaeologist prepare and implement an Archaeological Resource Management and Treatment Plan that specifies the treatment of the resources. Prior to implementation, this document shall be submitted for review to SMUD as CEQA Lead Agency. This plan shall be tailored to the specific needs of the Project and the particular resources present there. The proposed Archaeological Resources Management and Treatment Plan must minimally address the following:</p> <p>A general research design shall be developed that:</p> <ul style="list-style-type: none"> • Charts a timeline of all research activities. • Recapitulates any existing paleo-environmental, prehistoric, ethnohistoric, ethnographic, and historic contexts to create a comprehensive historic context for the Project Area. • Poses research questions and testable hypotheses specifically applicable to the resource types encountered. 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> Clearly articulates why it is in the public's interest to address the research questions that it poses. Artifact collection, retention/disposal, and curation policies shall be discussed, as related to the research questions formulated in the research design. These policies shall apply to archaeological materials and documentation resulting from evaluation and data recovery of the resource. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitoring team shall be identified. The manner in which Native American observers or monitors shall be included, the procedures to be used to select them, and their roles and responsibilities shall be described. All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from Project-related impacts.</p> <ul style="list-style-type: none"> • The commitment to curate of all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery), in accordance with CEQA Lead Agency requirements and the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections (HRC, 1993), into a retrievable storage collection in a public repository or museum shall be stated. <p>CU-11 <u>Storm Water Pollution Protection Plan.</u> SMUD shall prepare and implement a SWPPP that includes erosion control measures and construction waste containment measures to ensure that</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>waters of the U.S. and the State are protected during and after project construction. The SWPPP shall include site design measures to minimize offsite storm water runoff that might otherwise affect surrounding habitats. The SWPPP would also include a Spill Prevention and Response Plan (SPRP) and a construction-specific Hazardous Substance Control and Emergency Response Plan (HSCERP) to minimize the potential for accidental releases of hazardous materials into the environment.</p> <p>The SWPPP shall be prepared with the following objectives: (a) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project; (b) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the site during construction; (c) to outline and provide guidance for BMPs monitoring; (d) to identify project discharge points and receiving waters; (e) to address post-construction BMPs implementation and monitoring; and (f) to address sedimentation, siltation, turbidity, and non-visually detectable pollutant</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>monitoring, and outline a sampling and analysis strategy.</p> <p>The contractor shall implement the SWPPP including all BMPs and perform inspections of all BMPs. Potential SWPPP BMPs could include, but would not be limited to the following:</p> <ul style="list-style-type: none"> • Placing fiber rolls around onsite drain inlets to prevent sediment and construction-related debris from entering inlets. • Placing fiber rolls along the perimeter of the site to reduce runoff flow velocities and prevent sediment from leaving the site. • Placing silt fences down-gradient of disturbed areas to slow down runoff and retain sediment. • Stabilizing construction entrance to reduce the tracking of mud and dirt onto public roads by construction vehicles. • Staging and covering excavated and stored construction materials and soil stockpiles in stable areas to prevent erosion. <p>The construction-specific SPRP and HSCERP shall include preparations for quick and safe cleanup of accidental spills.</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>It shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan shall identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted, with secondary containment.</p> <p>Construction personnel shall not refuel or conduct equipment maintenance activities within 250 feet of any aquatic features. The SPRP and HSCERP shall identify BMPs in the event a spill occurs. BMPs may include, but are not limited to the following: use of oil-absorbent materials, tarps, and storage drums to contain and control any minor releases; and storage and use of emergency-spill supplies and equipment in locations adjacent to work and staging areas.</p> <p>CU-12 <u>Greenhouse Gas Reduction Measures.</u> Prior to project construction, SMUD shall provide a plan to SMAQMD which demonstrates that the combined emissions from all off-road equipment, construction vehicles, and haul truck to be used in the</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>construction project will implement GHG reduction strategies demonstrating that annual GHG emissions would be the SMAQMD's construction mass emissions threshold of 1,100 MTCO₂e/year.</p> <ul style="list-style-type: none"> • The plan shall include an inventory of all off-road equipment and haul trucks to be used during construction. • Strategies for reducing GHG emissions could include the use of alternative fuels, changes in construction schedules, the phasing of haul truck trips. and/or other options as they become available. <p>If more detailed construction information becomes available a refined emissions modeling analysis can be performed. This analysis shall be conducted in accordance with applicable SMAQMD-recommended methodologies. The analysis shall include reduction measures sufficient to ensure construction activity would not exceed SMAQMD's mass emissions threshold of 1,100 MTCO₂e/year.</p> <p>CU-13 <u>Worker Training for Hazardous Materials.</u> SMUD shall establish an environmental training program to communicate environmental concerns and appropriate</p>	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
		<p>work practices to all field personnel, including spill prevention, emergency response measures, and proper BMP implementation. All personnel will review all site-specific plans, including, but not limited to, the Project's SWPPP, health and safety plan, and fugitive dust control plan.</p> <p>CU-14 <u>Spill Prevention, Control, and Countermeasures Plan.</u> SMUD shall prepare and maintain an operation-specific Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) in accordance with state and federal requirements, including 40 CFR 112. The SPCC Plan shall identify engineering and containment measures for preventing oil releases into waterways. An SPCC Plan is required when there is over 1,320 gallons of petroleum products on site (excluding vehicles).</p> <p>CU-15 <u>Hazardous Materials Business Plan.</u> SMUD will evaluate applicability of the Hazardous Materials Business Plan (HMBP) requirements (the project would use or store hazardous materials equal to or greater than 55 gallons of liquids, 500 pounds of solids and/or 200 cubic feet [at standard temperature and pressure] of</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>compressed gases) and file operation-specific HMBP in accordance with local, state, and federal laws. The HMBP shall identify site activities, provide an inventory of hazardous materials used onsite, provide a facilities map, and identify an emergency response plan/contingency plan.</p> <p>CU-16 <u>Limit Construction Activity to Daytime Hours</u>. Per Sacramento County noise ordinance requirements (Sacramento County Code Section 6.68), construction activity associated with the development of the Jackson Bulk Substation shall be limited to the hours of 6:00 a.m. and 8:00 p.m. on weekdays and between 7:00 a.m. and 8:00 p.m. on weekends.</p>	
Exceed Sustainable Groundwater Yield			
The ultimate water demands associated with the Project will be met by a combination of groundwater and surface water provided by SCWA. SCWA currently exercises, and will continue to exercise, its rights as a groundwater appropriator to extract groundwater from the Central Groundwater Basin underlying	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
<p>Zone 40 for delivery to its customers. A long-term average annual yield of 40,900 AFY of groundwater has been identified in both the Water Forum Agreement (WFA) and WSMP for SCWA in the Central Basin. Additionally, as a signatory to the WFA and a member of the Sacramento Central Groundwater Authority (Groundwater Authority), SCWA recognizes the Water Forum-defined long-term sustainable average annual yield of the underlying groundwater basin of 273,000 AFY. The additional groundwater draw caused from implementation of the proposed Project will not result in exceedance of the agreed-upon sustainable yield of 273,000 AFY.</p>			
Adversely Affect Groundwater Recharge			
<p>Figure 5 of the Background Section of Conservation Element of the General Plan indicates that there are no areas of groundwater recharge on the project site. The Project will not 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</p>	LS	None required.	LS

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
TRAFFIC AND CIRCULATION			
Existing Plus Project			
<p>The Project results in significant existing condition impacts to two County intersections, four County roadway segments, one City of Elk Grove roadway segment, two City of Rancho Cordova roadway segments, two City of Sacramento roadway segments, nine freeway segments, three freeway ramps, and bicycle and pedestrian facilities. Some of these facilities cannot be expanded sufficiently to offset the impact, as neither Caltrans nor the local jurisdictions have identified any plans or secured any funding for such a project. In the case of some of the roadway facilities, a General Plan Amendment would be required to increase the allowed facility size, and significant right-of-way would need to be acquired, which would impact existing businesses. For these reasons, no feasible mitigation exists to offset the impacts.</p>	S	<p>TC-1: JACKSON CORRIDOR TRANSPORTATION MITIGATION STRATEGY PARTICIPATION</p> <p>The Project shall participate in the implementation of the Jackson Corridor Transportation Mitigation Strategy <u>as adopted by the Board of Supervisors on July 23, 2019</u> by constructing or providing funding for its fair share of transportation improvements identified in the master list of cumulative improvements <u>(see Appendix TR-1). The applicants shall enter into an agreement at the time of project approval to use the Dynamic Implementation Tool (Tool) to identify improvements for each phase of the project. The applicant shall also agree that required improvements will be constructed concurrent with each development increment.</u> The Dynamic Implementation Tool will be used to identify improvements for each phase of the Project. Improvements shall be constructed concurrent with the each phase of the Project. For projects or phases of development with less than 50 dwelling unit equivalents (DUEs), at the discretion of the Director of the Department of Transportation, specific improvements may not be required to be constructed, but rather, allow the mitigation revenue from the payment of the impact fees to accrue in the mitigation budget that the County will be managing to address unforeseen capacity and operations issues on the impacted improvements identified within the</p>	SU

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation																				
		<p>Transportation Mitigation Strategy. For projects or phases of development with more than or equal to 50 DUEs, the Project proponent has the option to advance fund the mitigation improvements for each phase of development or portions thereof, as identified by the Tool being the required improvements for that proponent's development, through the creation of a CFD or similar financial mechanism, provide a cash contribution upfront, and/or construct the required improvements.</p> <p>At this time, the set of improvements assigned to the NewBridge Specific Plan is the following:</p> <table border="1"> <tr> <th colspan="4">NewBridge Specific Plan Transportation Improvements</th></tr> <tr> <th colspan="4">Phase A Improvements</th></tr> <tr> <th colspan="2">Roadway Segments</th><th>From/To</th><th>Improvement Description</th></tr> <tr> <td>78</td><td>Kiefer Boulevard</td><td>Zinfandel Drive to Sunrise Boulevard</td><td>Construct 2-lane roadway based on Sacramento County Improvement Standards.</td></tr> <tr> <td>19.a</td><td>Eagles Nest</td><td>Kiefer Boulevard to Phase A Boundary/Northern</td><td>Construct 2-lane roadway based on</td></tr> </table>	NewBridge Specific Plan Transportation Improvements				Phase A Improvements				Roadway Segments		From/To	Improvement Description	78	Kiefer Boulevard	Zinfandel Drive to Sunrise Boulevard	Construct 2-lane roadway based on Sacramento County Improvement Standards.	19.a	Eagles Nest	Kiefer Boulevard to Phase A Boundary/Northern	Construct 2-lane roadway based on	
NewBridge Specific Plan Transportation Improvements																							
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Roadway Segments		From/To	Improvement Description																				
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19.a	Eagles Nest	Kiefer Boulevard to Phase A Boundary/Northern	Construct 2-lane roadway based on																				

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure				Level of Significance After Mitigation
			Road	intersection of Bridgewater Drive	Sacramento County Improvement Standards.	
		Intersections			Improvement Description	
		69	Sunrise Boulevard	Kiefer Boulevard	Construct a 4x4 intersection improvement based on Sacramento County Improvement Standards.	
		Phase B Improvements				
		Roadway Segments		From/To	Improvement Description	
		19.b	Eagles Nest Road	Kiefer Boulevard to Jackson Road	Construct 2-lane roadway based on Sacramento County Improvement Standards.	
		67	Jackson	South Watt Avenue to Hedge	Widen to a 4-lane roadway	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure				Level of Significance After Mitigation
			Road	Avenue	based on Sacramento County Improvement Standards.	
		70	Jackson Road	Bradshaw Road to Excelsior Road	Construct functional improvements for a full 2- lane width including shoulders based on Sacramento County Improvement Standards.	
		Intersections			Improvement Description	
		60	Jackson Road	Eagles Nest Road	Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.	

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure				Level of Significance After Mitigation
		23	Jackson Road	Hedge Avenue	Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.	
		16 (alt 2)	Jackson Road	South Watt Avenue	Construct a 4x4 intersection improvement based on Sacramento County Improvement Standards.	
		38	Jackson Road	Bradshaw Road	Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.	
		Project Development: Contribute \$1 million toward the Preliminary Engineering, Environmental Documentation, and Plans, Specifications and				

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure				Level of Significance After Mitigation
		Estimate phases of the Douglas Road Extension from Mather Field Road to Excelsior Road.				
		Phase C Improvements				
		Roadway Segments		From/To	Improvement Description	
		72	Jackson Road	Eagles Nest Road to Sunrise Boulevard	Widen to a 5-lane thoroughfare based on Sacramento County improvement standards.	
		74	Jackson Road	Excelsior Road to Eagles Nest Road	Construct functional improvements for a full 2-lane width including shoulders based on Sacramento County Improvement Standards.	
		Intersections			Improvement Description	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation				
		<table border="1"> <tr> <td>70</td><td>Jackson Road</td><td>Sunrise Boulevard</td><td>Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.</td></tr> </table> <p> TC-2: USE OF DYNAMIC IMPLEMENTATION TOOL <u>The applicant at the time of project approval shall acknowledge that The</u> project-specific list of improvements specified in Mitigation Measure TC-1 may be modified over time through the use of the Dynamic Implementation Tool at each phase of project development, subject to the approval of the Department of Transportation. As development proceeds, the Dynamic Implementation Tool will be used to select which improvements the project would be required to <u>fair-share fund and/or</u> construct if its previously assigned improvement or improvements have already been constructed, thus maintaining a degree of desired flexibility <u>as described in the Jackson Corridor Transportation Mitigation Strategy adopted by the Board of Supervisors on July 23, 2019.</u> </p> <p> TC-3: BICYCLE AND PEDESTRIAN SYSTEM IMPLEMENTATION Future development within the NewBridge Specific </p>	70	Jackson Road	Sunrise Boulevard	Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.	
70	Jackson Road	Sunrise Boulevard	Construct a 2x4 intersection improvement based on Sacramento County Improvement Standards.				

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>Plan shall implement the proposed bicycle and pedestrian path/trail system as described in the NewBridge Specific Plan and Design Guidelines. <u>Before approval of any tentative map, Future</u> Future projects with NSP shall be coordinated with Sacramento County to identify the design-level details of necessary on- and off-site pedestrian and bicycle facilities to serve the proposed development <u>and which would ensure bicycle and pedestrian safety.</u> These facilities shall be incorporated into subsequent projects and could include sidewalks, stop signs, standard pedestrian and school crossing warning signs, lane striping to provide a bicycle lane, bicycle parking, signs to identify pedestrian and bicycle paths, raised crosswalks, pedestrian signal heads, and all appropriate traffic calming measures as defined in the County's Neighborhood Traffic Management Program (NTMP). Sidewalks would be required as part of the frontage improvements along all new roadway construction in the Project vicinity in conformance with County design standards. Circulation and access to all proposed public spaces shall include sidewalks that meet Americans with Disabilities Act standards.</p> <p>TC-4: TRANSIT SYSTEM</p> <p>The Project applicant shall coordinate with Sacramento County and Sacramento Regional Transit District (or other transit operators) to provide the additional transit facilities and services assumed</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>in the transportation analysis, or a cost-effective equivalent level of transit facilities and services. Ultimate transit service consists of 15-minute headways during peak hours and 30-minute headways during non-peak hours on weekdays. The implementation of the transit routes and service frequency must be phased with development <u>buildout</u> of the Project. <u>This shall be accomplished through the annexation to County Service Area 10 or formation of a transportation services district. Such annexation or formation shall occur prior to recordation of any final small lot subdivision map for the project.</u></p> <p>TC-5: US 50 CORRIDOR</p> <p>The Project will participate in one or more of these alternative improvements that could directly reduce the severity of the project's impact and/or provide operational benefits to the US-50 corridor in general. These improvements would be subject to Caltrans approval; therefore, the timing and implementation of the improvements are not guaranteed.</p> <p><u>US-50 EASTBOUND ALTERNATIVE IMPROVEMENTS</u></p> <p>To lessen the impact to the eastbound US-50 mainline between Stockton Boulevard and 59th Street, the project may pay a fair share toward the construction of:</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • Ramp meter improvements (Caltrans ITS/OPS Project List) <p>To lessen the impact to the eastbound US-50 mainline between Bradshaw Road and Mather Field Road, and to the weave between Mather Field Road to Zinfandel Drive, the project may pay a fair share toward the construction of:</p> <ul style="list-style-type: none"> • Auxiliary lanes between Bradshaw Road and Mather Field Road (2035 SACOG MTP) • An interchange modification of US-50 at Mather Field Road (2035 SACOG MTP) <p>To lessen the impact to the eastbound US-50 mainline between Zinfandel Drive and Hazel Avenue, the project may pay a fair share toward the construction of:</p> <ul style="list-style-type: none"> • Auxiliary lanes between Zinfandel Drive and Sunrise Boulevard (2035 SACOG MTP) • Auxiliary lanes between Sunrise Boulevard and Hazel Avenue (2035 SACOG MTP) • Widen Sunrise Boulevard to 6 lanes with special treatments, including intersection improvements at White Rock Road, Folsom Boulevard, Coloma Road, Gold Express Drive, and Gold Country Boulevard (2035 SACOG MTP) • A new interchange at Rancho Cordova 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>Parkway, including a 4-lane arterial from US-50 to White Rock Road (2035 SACOG MTP)</p> <ul style="list-style-type: none"> Multi-modal corridor improvements and interchange improvements at Hazel Avenue (2035 SACOG MTP) <p><u>US-50 WESTBOUND ALTERNATIVE IMPROVEMENTS</u></p> <p>To lessen the impact to the westbound US-50 on-ramp at Sunrise Boulevard, the project may pay a fair share toward the construction of:</p> <ul style="list-style-type: none"> Auxiliary lanes between Sunrise Boulevard and Zinfandel Drive (2035 SACOG MTP) A transition lane from the Sunrise Boulevard slip off-ramp to the Sunrise Boulevard slip on-ramp (2035 SACOG MTP) <p>To lessen the impact to the westbound US-50 mainline between Mather Field Road and Watt Avenue, the project may pay a fair share toward the construction of:</p> <ul style="list-style-type: none"> Auxiliary lanes between Mather Field Road and Bradshaw Road (2035 SACOG MTP) An interchange modification of US-50 at Mather Field Road (2035 SACOG MTP) <p>To lessen the impact to the westbound US-50 mainline between Watt Avenue and SR-51/SR-99, the project may pay a fair share toward the</p>	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<p>construction of:</p> <ul style="list-style-type: none"> • Bus/HOV lanes from Watt Avenue to Downtown Sacramento (2035 SACOG MTP) • Replacement of existing communication lines with fiber optics to improve performance between SR-51/SR-99 and Watt Avenue (2013 10-Year SHOPP Plan) • Auxiliary lane between the NB Howe Avenue on-ramp and the SB Howe Avenue on-ramp (2035 SACOG MTP) • Ramp meter improvements (Caltrans ITS/OPS Project List) <p><u>To alleviate the impacts of the Jackson Corridor Developments, the Sacramento County Department of Transportation has consulted with Caltrans and they have identified the following improvements. The applicant shall provide a fair share contribution toward Caltrans' freeway facilities to the satisfaction of the Sacramento County Department of Transportation and Caltrans:</u></p> <ul style="list-style-type: none"> ○ <u>Pay fair share toward the future conversion of HOV lanes to Toll Lanes or a Reversible Lane along U.S. Highway 50 from I-5 to Watt Avenue.</u> ○ <u>Pay fair share toward the U.S. Highway 50 Integrated Corridor</u> 	

Impacts	Level of Significance Before Mitigation ¹	Mitigation Measure	Level of Significance After Mitigation
		<u>Management for the deployment of various Intelligent Transportation System improvements along U.S. Highway 50 and the City of Rancho Cordova, and regionally significant corridors in Sacramento County and the City of Folsom for incident management (non-capacity increasing) [Caltrans ID SAC25113].</u>	
Cumulative Plus Project			
The Project results in significant cumulative condition impacts to six County roadway segments, two City of Rancho Cordova roadway segments, four County intersections, and two City of Rancho Cordova intersections nine freeway segments, three freeway ramps, and bicycle and pedestrian facilities. For the same reasons discussed for existing condition impacts, feasible mitigation does not exist to improve operations to acceptable levels. In addition, the Project will result in significant impacts to intersections and roadway/freeway segments which do not lie wholly within the jurisdiction of Sacramento County. While in most cases mitigation has been	S	Implement Mitigation Measures TC-1 through TC-5.	SU

Impacts	Level of Significance Before Mitigation 1	Mitigation Measure	Level of Significance After Mitigation
identified which would reduce impacts to less than significant levels, Sacramento County does not have the land use authority to assure that non-County facilities will be constructed.			

MITIGATION MONITORING AND REPORTING PROGRAM

It shall be the responsibility of the project applicant/owner to comply with the Mitigation Monitoring and Reporting Program (MMRP) for this project and to reimburse the County for all expenses incurred in the implementation of the MMRP, including any necessary enforcement actions. The applicant/property owner shall pay an initial deposit of \$20,000.00. This deposit includes administrative costs of \$900.00, which must be paid to the Office of Planning and Environmental Review prior to recordation of the MMRP and prior to recordation of any final parcel or subdivision map. The remaining balance will be due prior to review of any plans by the Environmental Coordinator or issuance of any building, grading, work authorization, occupancy or other project-related permits. Over the course of the project, the Office of Planning and Environmental Review will regularly conduct cost accountings and submit invoices to the applicant/property owner when the County monitoring costs exceed the initial deposit.

TERMINOLOGY USED IN THIS EIR

This Final EIR uses the following terminology to describe environmental effects of the project.

Significance Criteria. A set of criteria used by the lead agency to determine at what level, or “threshold,” an impact would be considered significant. Significance criteria used in this EIR include those that are set forth in the CEQA Guidelines, or can be discerned from the CEQA Guidelines; criteria based on factual or scientific information; criteria based on regulatory standards of local, state, and federal agencies; and criteria based on goals and policies identified in the Sacramento County General Plan.

Less-than-Significant Impact. A project impact is considered less than significant when it does not reach the standard of significance and would therefore cause no substantial change in the environment. No mitigation is required for less-than-significant impacts.

Potentially Significant Impact. A potentially significant impact is a substantial, or potentially substantial, adverse change in the environment. Physical conditions which exist within the area will be directly or indirectly affected by the proposed project. Impacts may also be short-term or long-term. A project impact is considered significant if it reaches the threshold of significance identified in the EIR. Mitigation measures may reduce a potentially significant impact to less than significant.

Significant Unavoidable Impact. A project impact is considered significant and unavoidable if it is significant and cannot be avoided or mitigated to a less-than-significant level once the project is implemented.

Cumulative Significant Impact. A cumulative impact can result when a change in the environment results from the incremental impact of a project when added to other related past, present or reasonably foreseeable future projects. Significant cumulative impacts may result from individually minor but collectively significant projects.

Mitigation. Mitigation measures are revisions to the project that would minimize, avoid, or reduce a significant effect on the environment. CEQA Guidelines §15370 identifies 5 types of mitigation:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments.

1 PROJECT DESCRIPTION

PROJECT LOCATION

The NewBridge Specific Plan project area is located in the Vineyard community of unincorporated Sacramento County, southeast of Mather Airport, and just west of the City of Rancho Cordova. The Project is outside the Urban Policy Area (UPA), but is within the Urban Services Boundary (USB). The proposed Project is bounded on the east by Sunrise Boulevard (the City of Rancho Cordova and County boundary line); to the south by Jackson Road; to the north by Kiefer Boulevard; and the west boundary is 2,000 feet west of Eagles Nest Road. Reference Plate PD-1.

ASSESSOR'S PARCEL NUMBERS

067-0050-048

067-0080-013, 014, 015, 016, 025, 029, 030, 037, and 047

067-0090-002, 005, 018, 019, and 021

067-0120-018, 059, 060, 066, and 067

PROJECT PROPONENTS

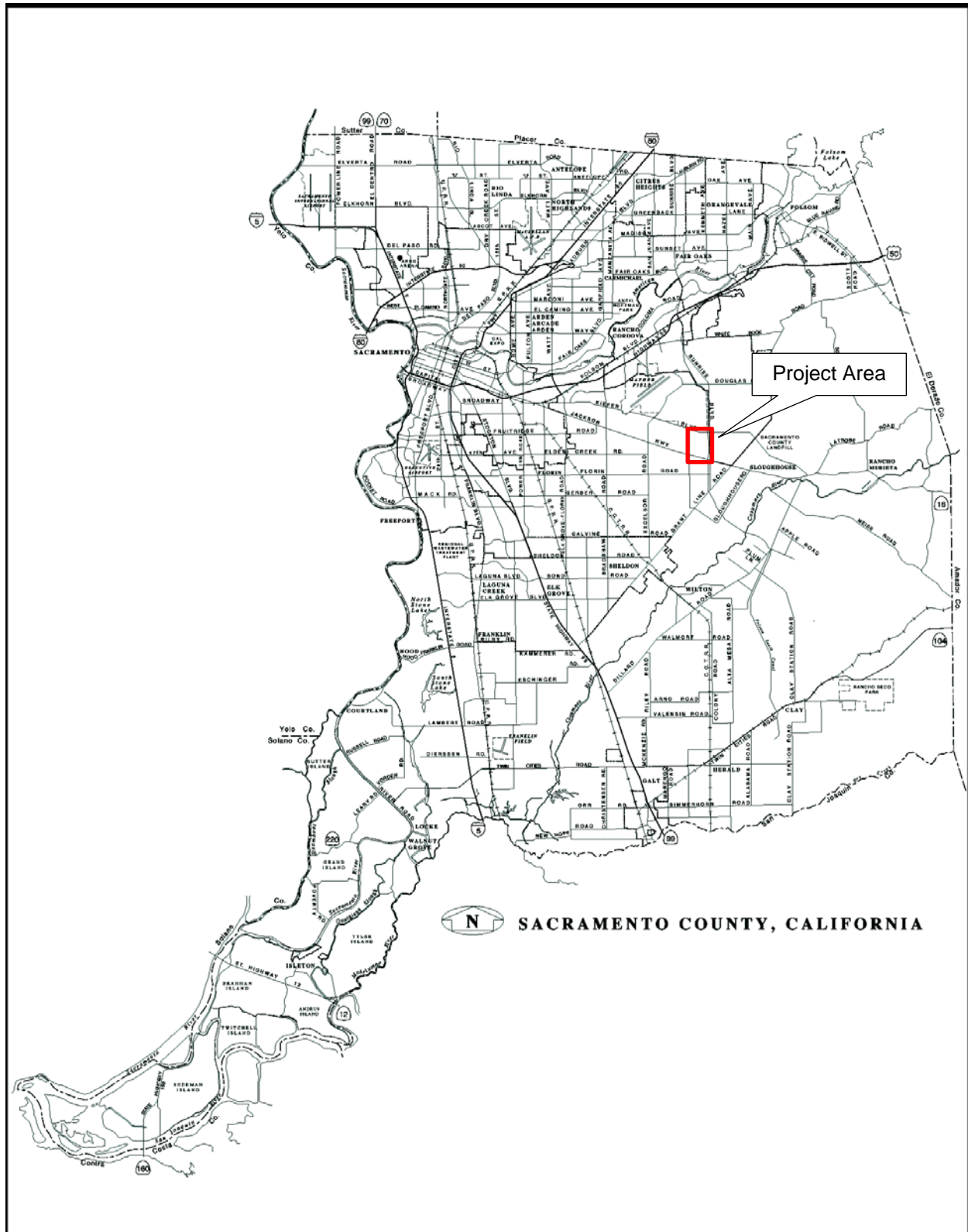
OWNER/APPLICANT

East Sacramento Ranch, LLC
11350 Kiefer Boulevard
Sacramento, CA 95830
Attn: Michael Koewler

APPLICANT REPRESENTATIVE

George Phillips/Kris Steward
Phillips Land Law, Inc.
5301 Montserrat Lane
Loomis, CA 95650

Plate PD-1: Regional Map



ENVIRONMENTAL SETTING

The Project site largely consists of open swaths of grassland, intermixed with agricultural-residential and industrial uses. In the northern portion of the Project area is the Sacramento Rendering Company (SRC). South of the SRC is open agricultural land which is used for cattle grazing. The southwestern portion of the Project site (west of Eagles Nest Road) consists of ten agricultural-residential properties of varying sizes. One of the larger parcels west of Eagles Nest Road is the Sacramento Muslim Cemetery. A smaller parcel north of the cemetery is a household pet cemetery. The remaining parcels are generally residential with limited agricultural activities. Reference Plate PD-2.

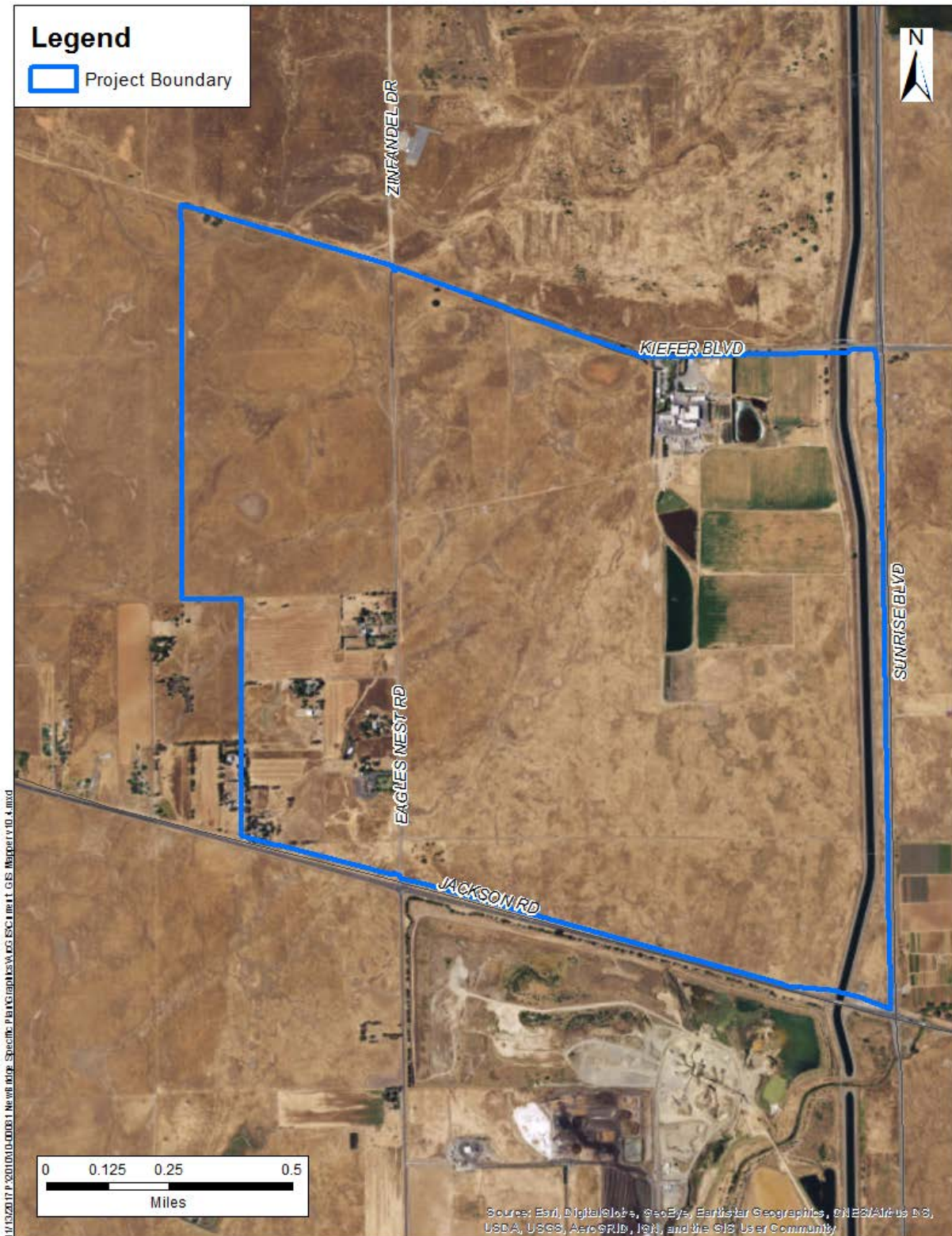
The largest facility and associated structures on the Project site is the SRC. The SRC renders animal products into by-products, such as pet food, livestock feed, and detergents. The facility is generally considered an intensive industrial use with ancillary uses including percolation ponds. Its footprint includes ornamental plantings to screen the facilities from adjacent roadways, a parking area for employees and visitors, an office building, and various industrial buildings used for rendering animal waste into animal by-products. Such a process requires an extensive network of delivery pipe for water and pressurized gas, pressure valves, storage tanks, heating chambers, building shells, and manufacturing equipment to produce a wide range of products. Most notable on the site are two tall venting stacks to expel emissions at a slight elevation above ground level. These stacks also contain sophisticated gas heat devices to burn noxious odors originating from the rendering process. The scrubbers are considered state-of-the-art odor control devices which minimize noxious odors emanating from SRC.

Other notable man-made features on the Project site are: the Folsom South Canal with associated bike trail; the 230-kilovolt electrical towers and lines that traverse the northern third of the site; and a small Sacramento Municipal Utility District electrical distribution facility in the southeast corner.

The Project site is gently rolling with elevations of the site ranging from approximately 126 feet to 150 feet. Habitats present on the site include grassland, wetland and vernal pool areas, and intermittent drainages and swales. Wetlands are concentrated in the northwestern half of the Project site and swales and intermittent drainages are found throughout the site; however, there is a central intermittent drainage, Frye Creek, traversing northeast to southwest. Many of the swales and other drainages trend in the same direction as Frye Creek, which eventually flows into Laguna Creek south of Florin Road. A southern tributary of Morrison Creek skirts the very northwest corner of the Project site and is identified on the FEMA floodplain map. Other than this small segment there are no other federal 100-year floodplains identified within the Project area. Mature vegetation consists mainly of ornamental trees screening the SRC and associated facilities with residential landscaping. There are two oak trees west of the SRC, and there is a small grouping of ornamental trees in the northeastern corner of Jackson and Eagles Nest Roads.

There is a wide range of land uses surrounding the Project site. Immediately east of Sunrise Boulevard is the City of Rancho Cordova. There are several approved developments (Sunrise Douglas Community Plan including the SunRidge and SunCreek Specific Plans) and one proposed plan (Arboretum Specific Plan) on the east side of Sunrise Boulevard. These plans incorporate a mix of land uses, such as residential, commercial, office park, park, and schools. Immediately south of Jackson Highway is an active aggregate mine operated by Triangle Rock. To the west are agricultural, agricultural-residential, and industrial uses. There are proposed master plans to the west and north of the project site – Jackson Township Specific Plan, West Jackson Highway Master Plan, and Mather South Community Master Plan. Mather Airport is located approximately 3.6 miles to the northwest.

Plate PD-2: Aerial Photo of Project Area (2017)



PROJECT PROPOSAL

The NewBridge Specific Plan project is located on approximately 1,095.3± acres near the geographic center of Sacramento County, adjacent to the western city limits of Rancho Cordova and southeast of Mather Field. The Project is divided into three Planning Areas: North, South and West (Plate PD-3). Within the Project area, properties within the North and South Planning Areas which encompass 790.3± acres are proposed for land development. Thus, land development will occur east of Eagles Nest Road, north of Jackson Road, west of the Folsom South Canal, and south of Kiefer Boulevard. The West Planning Area is comprised of a large, single parcel, in the southwest corner of Kiefer Boulevard and Eagles Nest Road (upper West Planning Area), which will serve as open space/habitat mitigation (197.6 acres), and ten smaller parcels in the northwest corner of Jackson Road and Eagles Nest Road (lower West Planning Area) that are not proposed for land development as a component of this project (105.4 acres), and major roadways (2 acres).

Within the North and South Planning Areas the applicant proposes land uses that include: mixed use; low, medium and high-density residential; commercial; public/quasi-public, parks; and open space (Plate PD-4 and Plate PD-5). A change to the General Plan land use designation is proposed for the upper West Planning Area to reflect the open space designation. No change to the General Plan land use designation is proposed for the lower West Planning Area.

The Project will require amendments to the General Plan in order to include the site within the Urban Policy Area and recognize the proposed land uses, streets, and bikeways on the General Plan's Land Use Diagram, Transportation Plan, and Bicycle Master Plan. In the Vineyard Community Plan, the entire site will be redesignated from Agriculture and Industrial uses to the NewBridge Specific Plan Area (NSP). The adopted NSP will then become the primary land use document which stipulates uses and design guidelines and development standards that are allowable within the Project area. The draft NSP is included in Appendix PD-1.

Plate PD-3: NewBridge Planning Areas

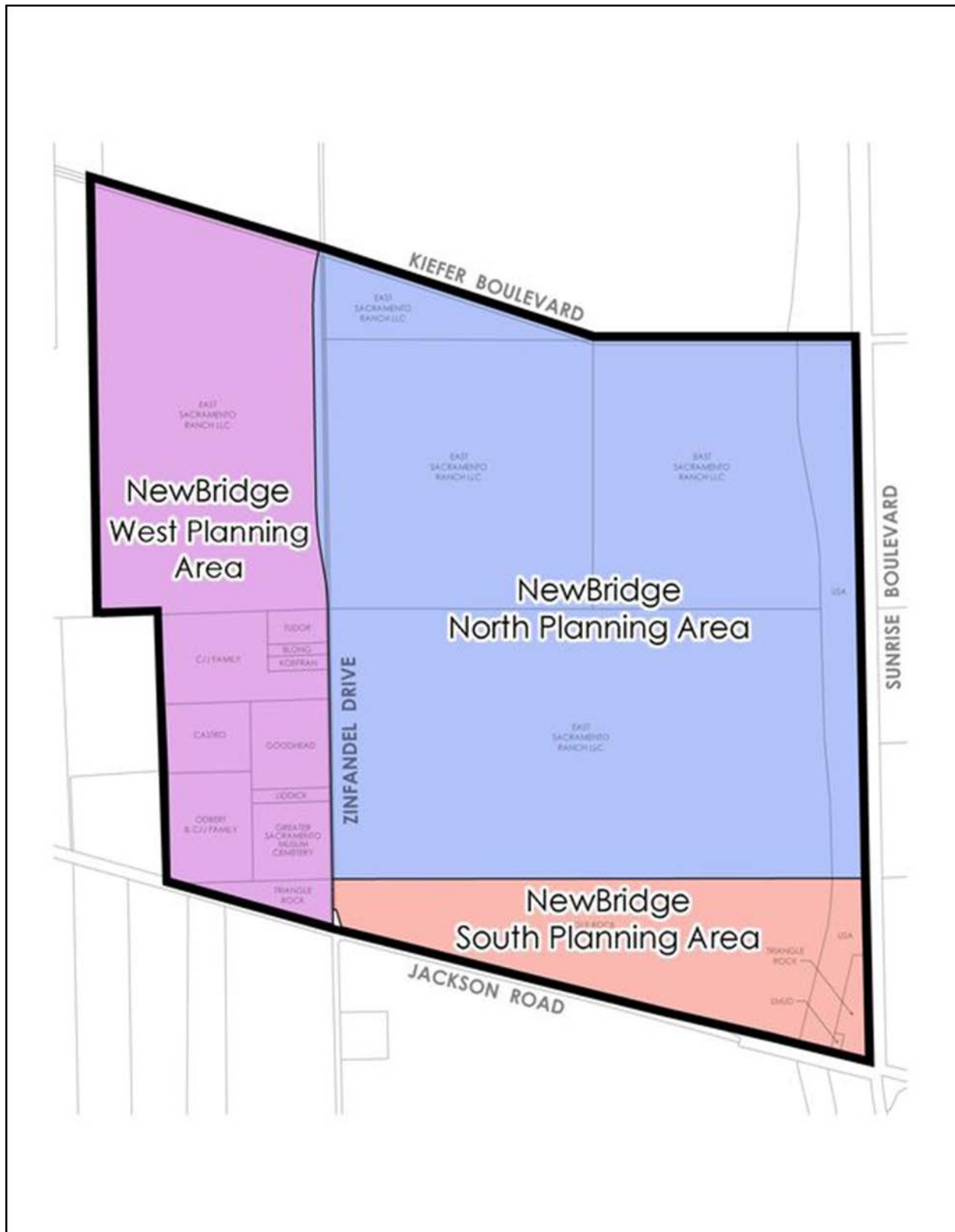


Plate PD-4: NewBridge Specific Plan Land Use Diagram



Plate PD-5: NewBridge Specific Plan Illustrative Plan



REQUESTED ENTITLEMENTS

1. A **General Plan Amendment** to move the Urban Policy Area (UPA) boundary south and west to include approximately 1,095.3 acres encompassing the NewBridge Specific Plan area which includes (Plate PD-6):
 - NewBridge North Planning Area (658 acres)
 - NewBridge South Planning Area (132.3 acres)
 - NewBridge West Planning Area (305 acres)
2. A **General Plan Amendment** to amend the Land Use Diagram to:
 - a. Change the land use designations from Extensive Industrial (513.3 acres), General Agriculture (20 acre) (411.6 acres), Recreation (65 acres) to Low Density Residential (470.0 acres), Medium Density Residential (42.1 acres), Commercial & Offices (47.9 acres), Mixed Use (13.5 acres), Natural Preserve (294.2 acres), Cemetery, Public & Quasi-Public (5.0 acres), and Recreation (116.0 acres). *Note: A portion of the NewBridge West Planning Area on the northwest corner of Jackson Road and Eagles Nest Road (105.6 acres) will retain all existing General Plan Land Use Designations. Reference Table PD-1 and Plate PD-7.*
 - b. Remove the Aggregate Resource Areas combining land use designation on the area designated General Agriculture (20 acre) – Aggregate Resource Areas.

Table PD-1: General Plan Designations for NewBridge Specific Plan

Existing General Plan Designations	Acres±	Requested General Plan Designations	Acres±
Extensive Industrial General Agriculture Recreation	513.3 517 65	Low Density residential	471.0
		Medium Density Residential	42.1
		Commercial and Office	47.9
		Mixed Use	13.5
		Natural Preserve	294.2
		Recreation	116.0
		Public/Quasi Public	5.0
		General Agriculture 20	105.6
Total Acres	1,095.3		1,095.3

3. A **General Plan Amendment** to change the Bicycle Master Plan to add and amend on- and off-street bikeways as shown in the Bicycle Master Plan Amendment Diagram (Plate PD-8).
4. **Amend the General Plan Transportation Diagram** to change (Plate PD-9):
 - a. Kiefer Boulevard between Eagles Nest Road to Sunrise Boulevard from developing post-2030 (4-lane arterial) to developing pre-2030 (4-lane arterial), as shown in the Transportation General Plan Amendment Diagram.
 - b. Sunrise Boulevard between Kiefer Boulevard to Jackson Road from developing post-2030 (thoroughfare) to developing pre-2030 (thoroughfare).
 - c. Jackson Road between Eagles Nest Road and Sunrise Boulevard from developing post-2030 (thoroughfare) to developing pre-2030 (thoroughfare).
5. A **General Plan Amendment** to amend the General Plan, including the Land Use Diagram, to include a Mixed Use ~~Diagram~~ Designation.
6. A **Community Plan Amendment** to amend the Vineyard Community Plan to change the Community Plan designation of the parcels located within the NewBridge Specific Plan area (1,095.3 acres) from Permanent Agriculture (AG-160) (411.6 acres), Permanent Agriculture (AG-80) (105.4 acres), Permanent Agriculture (AG-20) (5.0 acres), Heavy Industrial (313.7 acres), Light Industrial (199.6 acres), and Recreation (60.0 acres) to NewBridge Specific Plan Area (1,095.3 acres). Reference Table PD-2 and Plate PD-10).

Table PD-2: Community Plan Designations for NewBridge Specific Plan

Existing Community Plan Designations	Acres±	Requested Community Plan Designations	Acres±
Permanent Agriculture-AG160	411.6	Specific Plan Area	1,095.3
Permanent Agriculture-AG80	105.4		
Permanent Agriculture-AG20	5.0		
Heavy Industrial	313.7		
Light Industrial	199.6		
Recreation	60.0		
Total Acres	1,095.3		1,095.3

7. Adoption of the NewBridge Specific Plan for the approximately 1,095.3± acre NewBridge Specific Plan area including a Specific Plan Land Use Diagram, Design Guidelines and Development Standards.
8. Acceptance of an Affordable Housing Strategy for the NewBridge Specific Plan consisting of on-site construction of affordable units and/or dedication of land.
9. Adoption of a Development Agreement(s) for the NewBridge Specific Plan by and between the County of Sacramento and the landowners.
10. Adoption of a Public Facilities Financing Plan for the NewBridge Specific Plan area.
11. **Adoption of an Urban Services Plan for the NewBridge Specific Plan Area.**

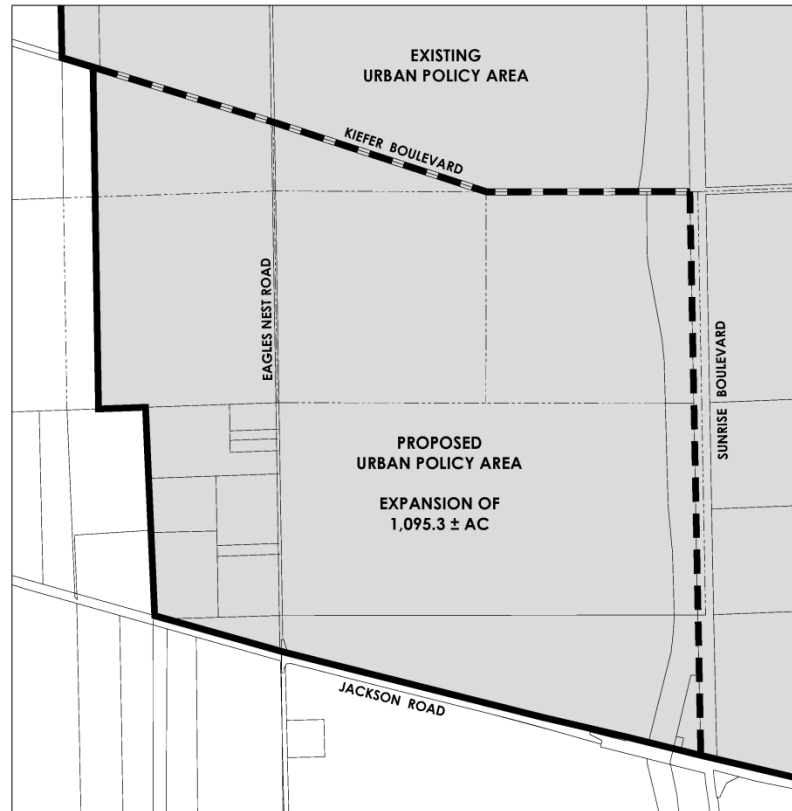
The project will also require the following:

1. Annexation into or creation of a County Service Area (CSA). A subsequent action may be required by the County Board of Supervisors to establish a Benefit Zone, to implement funding and service provision.
2. Annexation into Sacramento Area Sewer District (SASD) and Sacramento Regional County Sanitation District (SRCSD). Requires SASD and SRCSD Board of Directors approval.
3. Adoption of a Water Supply Master Plan Amendment: Amends the existing Zone 40 Water Supply Master Plan to include provision of water service to the NewBridge Specific Plan Area. Requires Sacramento County Water Agency Board of Directors approval.
4. Approval of a Water Supply Assessment for the NewBridge Specific Plan. Required by the California Water Code to link land use and water supply planning activities. Requires Sacramento County Water Agency Board of Directors approval.

Plate PD-6: Proposed Urban Policy Area (UPA) Expansion



Existing Urban Policy Area



Proposed Urban Policy Area



NewBridge - GENERAL PLAN AMENDMENT
URBAN POLICY AREA EXPANSION

0 600 1,200 1,800 0.5 mile 1 mile



County of Sacramento October 2017

Plate PD-7: Proposed General Plan Land Use Diagram

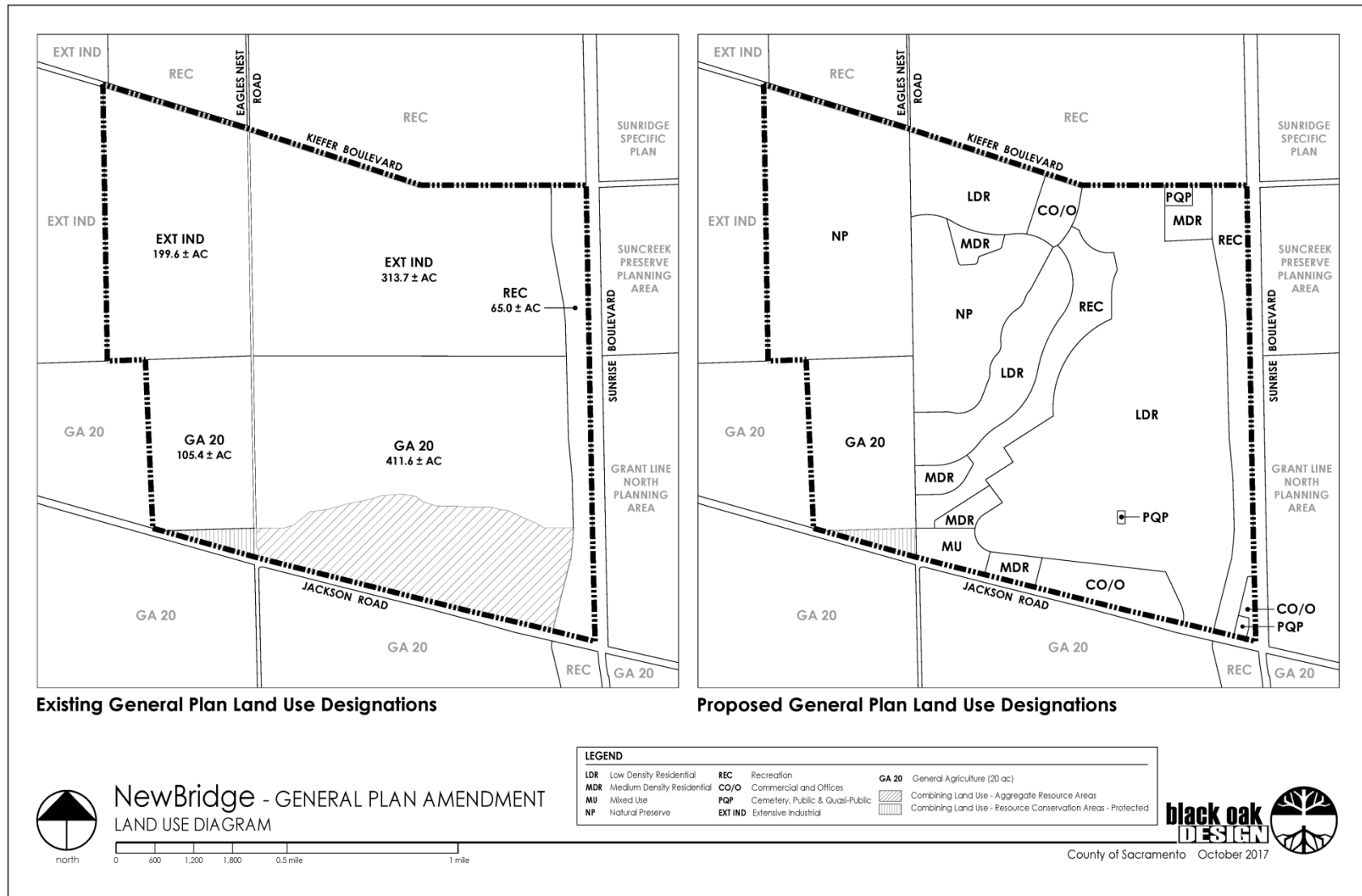
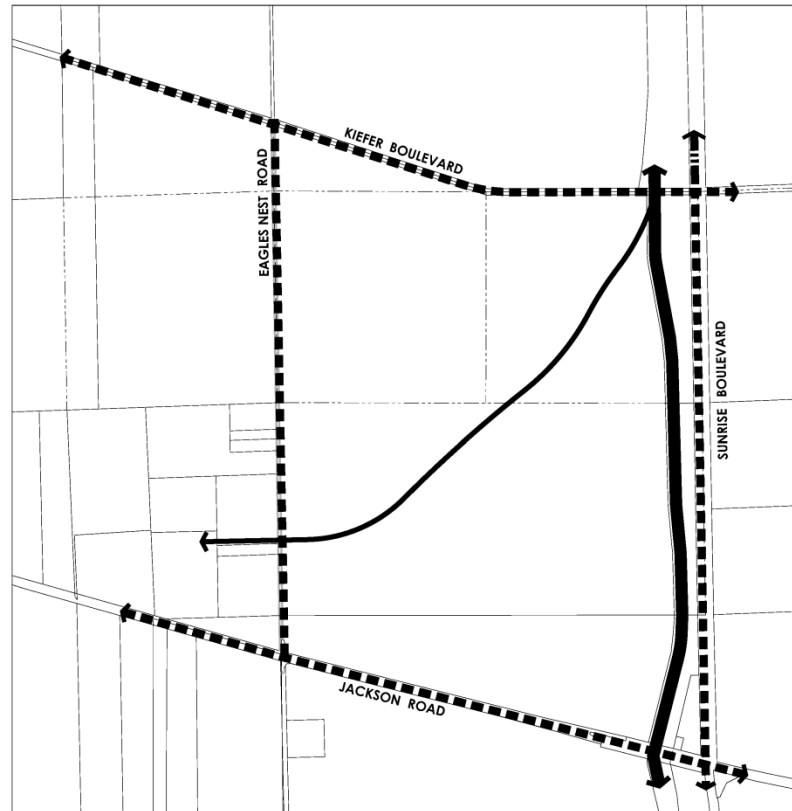
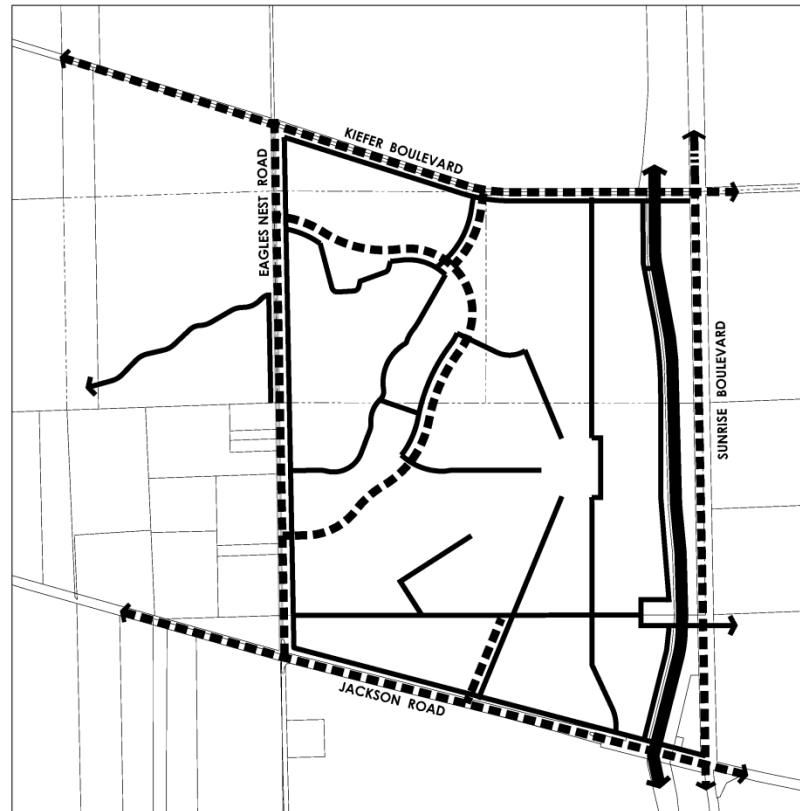


Plate PD-8: Proposed Bicycle Master Plan Amendment



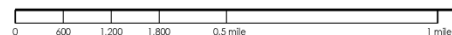
Existing Bicycle Master Plan



Proposed Bicycle Master Plan



NewBridge - GENERAL PLAN AMENDMENT
BICYCLE MASTER PLAN



LEGEND	
	Existing Class 1
	Future Class 1
	Existing Class 2
	Future Class 2



County of Sacramento October 2017

Plate PD-9: Proposed General Plan Transportation Diagram Amendments

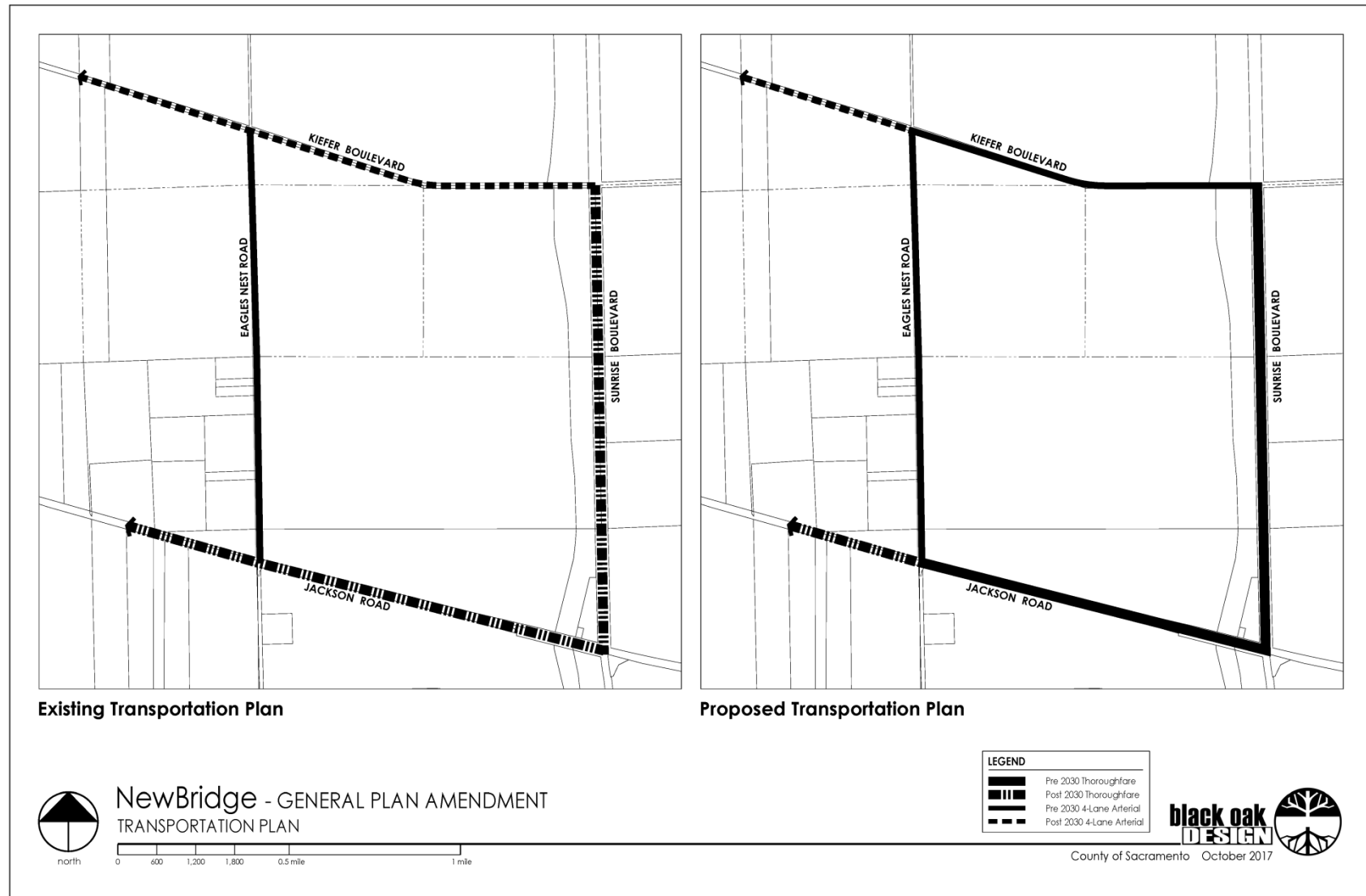
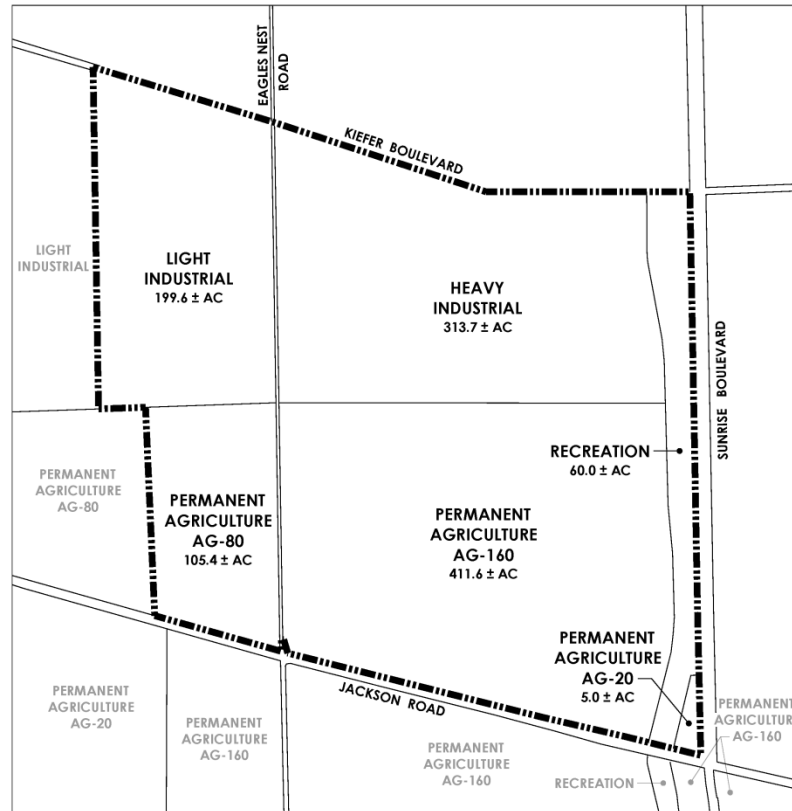
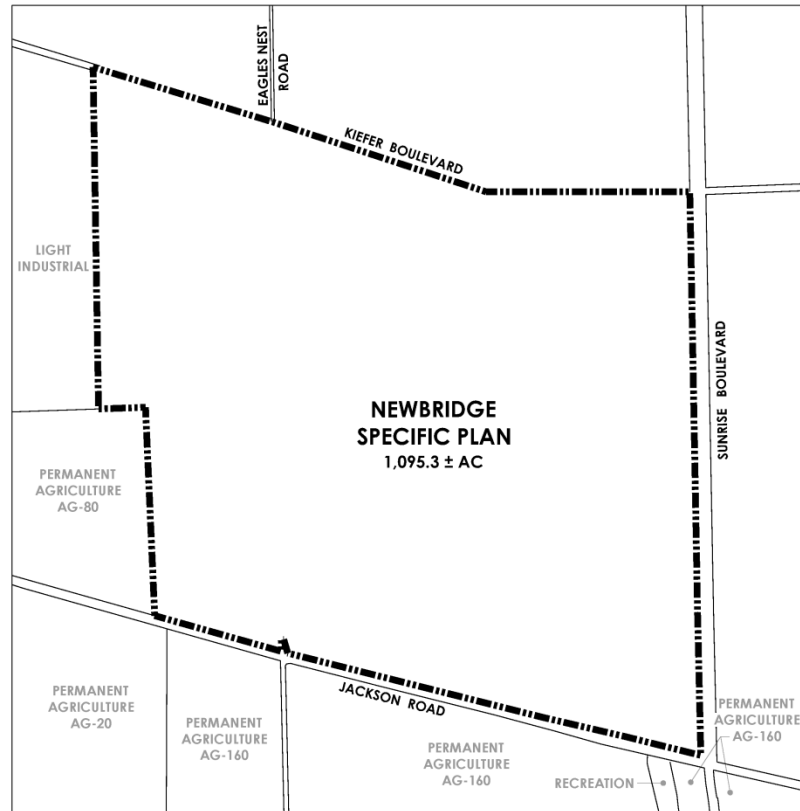


Plate PD-10: Proposed Community Plan Amendment



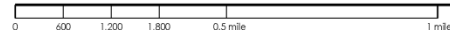
Existing Vineyard Community Plan Land Use Designations



Proposed Vineyard Community Plan Land Use Designation



NewBridge - COMMUNITY PLAN AMENDMENT
VINEYARD COMMUNITY PLAN



County of Sacramento October 2017

PROPOSED SPECIFIC PLAN

RESIDENTIAL LAND USE

The North and South Planning Areas of the NewBridge Specific Plan identify lower density residential uses toward the center of the project, which also provides a joint elementary school and park site. On the outer margins of the NSP near intersections with planned and existing project boundary roadways are both medium and high density residential uses. Table PD-3 identifies proposed residential acreage and densities for the Project. The plan calls for 36.5 percent of the housing stock to be low density residential, which is fewer than 7 units per acre; 28.6 percent of the housing stock to be medium density residential, which is 7 to 22 units per acres; and 34.8 percent of the housing stock to be high density residential, which is 23 or more units per acre.

Additionally, the residential component of this project requires that it comply with the County's Affordable Housing Ordinance. In general, the program requires that the Project provide housing opportunities for low, very-low and extremely-low income households. The ordinance provides a variety of ways to meet the obligation. Depending on the size and other characteristics of the development project, options include constructing affordable units, dedication of land for affordable housing developments, or paying a fee. The Project is meeting the obligation by dedicating land and by paying fees for construction of affordable units.

Table PD-3: NewBridge Specific Plan Residential Uses

		NewBridge North		NewBridge South		NewBridge West		Total NSP	
		DU ¹	AC ²	DU	AC	DU	AC	DU	AC
LDR	Low Density <7 du/ac	984	200.6	140	23.6	--	--	1,124	224.2
MDR	Medium Density 7-22.9 du/ac	705	85.1	175	21.4	--	--	880	106.5
HDR	High Density 23-40 du/ac	726	29.9	185	7.4	--	--	911	37.3
Total		2,415	315.6	500	52.4	--	--	2,915	368.0
DU = Dwelling Unit									
AC = Acreage									

OFFICE/COMMERCIAL/MIXED USE

The Project identifies commercial, office, and mixed use land designations which are located adjacent to Kiefer Boulevard and Jackson Road. Office/commercial/mixed use acreage and square footage for these uses are listed in Table PD-4.

Table PD-4: NewBridge Specific Plan Commercial/Office Use

		NewBridge North		NewBridge South			NewBridge West			Total NSP		
		AC	SF ¹	DU	AC	SF	DU	AC	SF	DU	AC	SF
C	Commercial	9.1	120K		11.2	70K	--	--	--		20.3	190K
MU	Mixed Use	--	--	160	11.4	130K	--	--	--	160	11.4	130K
O	Office	--	--		13.8	180K	--	--	--		13.8	180K
Total		9.1	120K	160	36.4	380K	--	--	--	160	45.5	500K
SF = Square Footage, expressed in thousands (K)												

PARKS/OPEN SPACE/HABITAT CONSERVATION

As noted, the north portion of the West Planning Area (west of Eagles Nest Road) is identified as an open space preserve consistent with the proposed South Sacramento Habitat Conservation Plan. A second large open space preserve is proposed east of Eagles Nest Road adjacent to the west preserve. In addition, Frye Creek, a north-south trending ephemeral drainage, will be preserved and enhanced within the Project area. The Project also recognizes the Folsom South Canal as an open space/recreation amenity with its existing pathway/bikeway on the canal's western side, connecting the American River Parkway to the north with Rancho Seco Park to the south.

The Project proposes several internal neighborhood and community parks strategically located so that all residents are within ½ mile of park amenities. Park/open space/habitat acreage associated with the Project is listed in Table PD-5 below.

Table PD-5: NewBridge Specific Plan Open Space/Park Use

		NewBridge North	NewBridge South	NewBridge West	Total NSP
		Acres	Acres	Acres	Acres
OS	Preserve	138.9	--	197.6	336.5
OS	Multi-use Area	29.8	9.5	--	39.3
OS	Folsom S. Canal	46.5	12.4	--	58.9
OS	Parkway	32.6	6.1	--	38.7
P	Park	32.7	8.6	--	41.3
Total		280.5	36.6	197.6	514.7

CIRCULATION

The Project includes a roadway system that incorporates residential spines leading towards the proposed school and two-lane arterial roadways that will service the entire project. The proposed road sections are designed to accommodate public transit, and include enhanced pedestrian and bicycle design including separated sidewalks. Access to the internal Project roadways is from Jackson Road, Eagles Nest Road, and Kiefer Boulevard. Direct access from Sunrise Boulevard is restricted due to the Folsom South Canal. In total, the Project identifies 47.9 acres of major roadways. Reference Plate PD-4 for proposed circulation diagrams.

PROPOSED PUBLIC SERVICES AND UTILITIES

SCHOOLS

The Project includes a proposed school site located within the North Planning Area. Approximately 9.4 acres have been designated as public/quasi-public land for an elementary school to meet the anticipated schooling needs within the Project area.

FIRE PREVENTION SERVICES

The Project includes a 2.5 acre site located in the North Planning Area near Kiefer Boulevard for the construction of a new fire station to meet the fire prevention needs of the surrounding communities. Site selection may need to change based on approval and construction of surrounding developments.

SEWER SERVICES

The Project would be provided sewer service by the Sacramento Area Sewer District (intermediary trunk lines) and the Sacramento Regional County Sanitation District (regional interceptor pipes). The nearest interceptor is located north of the Project. The preferred alternative is to connect to the interceptor to the north via the future Mather trunk line (extending down Zinfandel Drive). An initial sewer study was prepared by MacKay and Soms (November 2013) which concluded there is sufficient interim capacity within the existing offsite interceptor system to accommodate the proposed Project.

WATER SUPPLY

The project would be provided water by the Sacramento County Water Agency (SCWA), as the Project is within SCWA's Zone 40 geographic area. An initial water system study was prepared by MacKay and Soms (November 2011) which indicated water supply for the project would be available from current and future surface and groundwater supplies, used conjunctively. SCWA's conjunctive use program utilizing both surface and groundwater is a comprehensive approach to maintaining a regional balance of the groundwater basin underlying Zone 40.

SACRAMENTO LAFCO ENTITLEMENTS

The Project will require a request to the Sacramento Local Agency Formation Commission (LAFCo) to amend the service boundaries of the Sacramento Regional

County Sanitation District (SRCSD) and Sacramento Area Sewer District (SASD) to provide wastewater services to the Project. The Project will require discretionary action which would take place subsequent to County Board of Supervisors Project approval and will require LAFCo review, proceeding, and action.

Concurrent with, or subsequent to the Sacramento County entitlement process, an annexation application to LAFCo must be submitted. This process would include the definition of the ultimate geographical boundaries of SRCSD and SASD, disclose the present and planned land uses in the area, describe the present and probable need of public services and facilities in the area, describe the present capacity of those services and facilities and disclose the presence of any relevant social or economic communities of interest in the area. LAFCo has sole authority and discretion to act on the aforementioned request, and as a responsible agency, will contribute to and rely on this EIR.

PROJECT FEATURES

The proposed Project is a master planned community designed to meet the growing needs of the Sacramento Region. Notable Project features are:

- A robust circulation system designed to encourage pedestrian and bicycle activity.
- Public transit consisting of local bus service with 15 minute peak hour headways at buildout with connection to Sacramento Regional Transit District's existing light rail stations.
- Preservation of vernal pool resources and enhancement of Frye Creek drainage.
- Implementation of Low Impact Development (LID) to reduce water usage by reducing impervious surfaces, reducing turf, and implementing measures such as disconnected roof drains, disconnected pavements, smart/centrally controlled irrigation controllers, etc.
- Providing housing supply meeting Regional Housing Need Allocation and on-site affordable housing opportunities.

PROJECT OBJECTIVES

Outlined below are the primary objectives for the proposed Project.

1. Finance Relocation and Construction of Rendering Plant: Redevelop site to provide funding to finance the relocation and construction of new state-of-the-art rendering plant facility.
2. Land Use Compatibility: Redevelop the site with uses that are compatible with adjacent residential land use north and east of the site.

3. Complete Comprehensive Planning for the Project Area: Formulate a specific plan and related land use planning documents and regulatory approvals for the Project area as a means of expanding the Urban Policy Area (UPA) in an orderly manner and accommodating the County's share of future regional population growth.
4. Mix of Land Uses: Provide a comprehensively planned, residential-based community with a mix of land uses within the Project area to create a balanced community with residential units, mixed-use, commercial and office uses, park and open space and supporting public and quasi-public uses.
5. Agricultural Uses: Develop a specific plan which respects existing agricultural land uses and operations west of Eagles Nest Road.
6. General Plan Growth Management Policies: Create a land use plan that satisfies County policies, regulations and expectations as defined in the General Plan for growth management including Policies LU-119 and LU-120. Create a land use plan that includes land uses (residential mix, office, mixed use) consistent with General Plan Policy LU-120.
7. Blueprint Consistency: Provide for development which meets the nine identified SACOG Blueprint implementation strategies. Achieve project design characteristics of the Blueprint including connectivity among neighborhoods, commercial uses, and schools and parks.
8. Housing Opportunities: Plan for approximately 3,000 residential units to provide housing choices in varying densities to respond to a range of market segments, including opportunities for rental units and affordable housing consistent with the General Plan and Housing Element.
9. Regional Housing Needs Allocation: Aid the County in meeting its obligation to accommodate a percentage of future population growth in the region (as embodied in the Regional Housing Needs Allocation (RHNA) identified by the Sacramento Council of Governments [SACOG] and the California Department of Housing and Community Development (HCD)) by increasing the residential holding capacity in an area identified as appropriate for such development in the SACOG Blueprint Project Preferred Alternative (December 2005), and the County's Jackson Corridor planning.
10. Efficient Circulation System: Provide a safe and efficient circulation system that interconnects land uses and promotes pedestrian and bicycle circulation and alternate transportation options (i.e. transit facilities). Create a circulation network which complements north/south and east/west circulation routes, encourages alternative modes of transportation and interconnects with existing roadways.
11. Resource Avoidance: Design a land use plan where the development footprint avoids impacts to wetland resources to the extent feasible. In

- consultation with resource agencies, develop a plan that avoids and preserves the highest quality wetland resources on-site.
12. Contribute to Regional Preserve Planning: Create open space preserves that provide regional benefit for habitat, resources and open space amenities.
 13. Habitat Conservation and Creation: Balance development with resource protection, including preservation and avoidance of the Frye Creek corridor, sensitive habitat and wetland resources in an inter-connected, permanent open space. Create multi-functional habitat within the open space corridors which provides on-site habitat and contributes to water quality. Develop the NSP and associated on- and off-site mitigation to complement the ~~draft~~ **adopted** South Sacramento Habitat Conservation Plan (SSHCP).
 14. Frye Creek Enhancement: Design improvements to the Frye Creek corridor to minimize potential for flood damage by providing for the safe movement of floodwaters. Protect and enhance the natural habitat, open space and recreational values found along the creek environments.
 15. Fiscal Contribution: Include a mix of land uses and facilities which are fiscally feasible and implement funding mechanisms to maintain a neutral/positive fiscal impact to the County General Fund.
 16. Long Term Growth: Plan for long-term growth to be positioned to react to market demand. The NSP is intended to guide development over a 20-year horizon.

INTENDED USE OF THE EIR

The Sacramento County Planning Commission and the Board of Supervisors will use the information contained in the EIR to evaluate the proposed project and render a decision to approve or deny the requested entitlements. Responsible agencies may also use the EIR for the following planning/permitting purposes. Based on the potential effects known at this time, responsible agencies may include (but may not be limited to) the United States Army Corps of Engineers, the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, the California Regional Water Quality Control Board, Sacramento LAFCo, Pacific Gas and Electric Company, Sacramento Municipal Utilities District, Sacramento County Water Agency, Cordova Recreation and Park District, and the Elk Grove Unified School District.

2 ALTERNATIVES

INTRODUCTION

This chapter describes alternative versions of the proposed Project which could lessen impacts or that provide meaningful information to foster informed decisions. Impact discussions are presented in a qualitative rather than quantitative manner and more brief than those found in the Project chapters, consistent with CEQA Guidelines Section 15126.6(d). This chapter does not repeat background discussions or other subject matter which has already been described in the topical chapters of this EIR, but focuses on those Alternative impacts which are substantively different than the impacts described for the Project. Reviewers are encouraged to read the topical chapters describing Project impacts prior to reading the Alternatives chapter.

RANGE OF ALTERNATIVES

According to Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.

The purpose of this section is to identify alternative project designs that would mitigate, lessen, or avoid the significant effects of the Project. To foster meaningful public discussion and informed decision-making, a range of reasonable alternatives to the Project is provided. This range includes the “No Project” alternative, the purpose of which is to allow the hearing body to compare the impacts of approving the Project to the impacts of not approving the Project. The “No Project” alternative describes what would happen if the existing land use designations remained in effect.

The Project would result in significant impacts related to aesthetics, air quality, biological resources, climate change, hydrology, and transportation. Many of these impacts are significant and unavoidable, because they are the inevitable result of developing such a large master planned community. Changing the location or the layout of the Project could reduce impacts to some degree, but it is unlikely that they could be reduced to levels which are not significant without radically changing the objectives and scope of the Project. The exception is Biological Resources, in which impacts are due to the location and layout of the Project. For this reason, though Alternatives are designed to reduce impacts to many topical areas, changes to the Project layout and location focus on avoidance of biological resources.

In addition to the No Project Alternative, this EIR includes detailed analysis of four Alternatives: “Increased Density, Smaller Footprint,” “Maximized Wetland Avoidance”, “Greenhouse Gas Emission and Vehicle Miles Travel Reduction”, and “Buildout of Existing Zoning”.

DESCRIPTION OF ALTERNATIVES

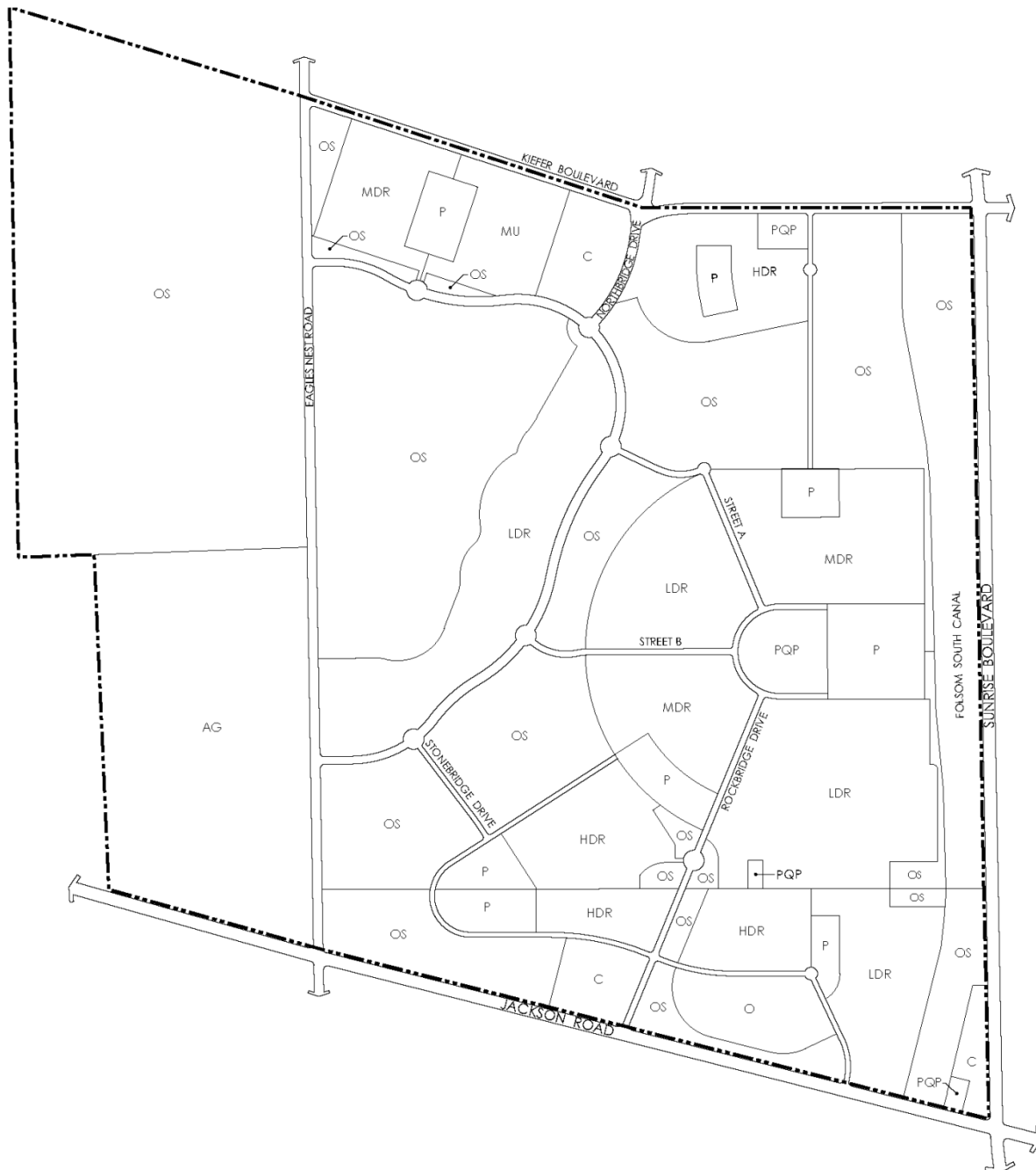
ALTERNATIVE 1: INCREASED DENSITY, SMALLER FOOTPRINT

This alternative would increase the density and decrease the project footprint. The average density would increase to 11.5 du/acre, while maintaining the total residential units at 3,075. In response to the decreased size of the developed footprint, the open space acreage would increase. Table AL-1 below summarizes specific land use acreages for Alternative 1. Reference Plate AL-1 for land use diagram.

Table AL-1: Alternative 1 Land Use Summary

Land Use Designation		Dwelling Units	Acreage	Density
Residential	LDR	660	144.1	<7
	MDR	705	68.2	7-12.9
	HDR	1,550	59.6	13-30
Commercial			21.0	
Office			13.8	
Mixed Use		160	15.0	>30
Open Space			564.4	
Parks			39.7	
Agriculture			105.4	
Public/Quasi-Public			13.1	
Major Roadways			51.0	
Total		3,075	1,095.3	11.8

Plate AL-1: Alternative 1 Land Use Diagram



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ALTERNATIVE 1 - INCREASED DENSITY, SMALLER FOOTPRINT

June 2014

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ALTERNATIVE 2: MAXIMIZED WETLAND AVOIDANCE

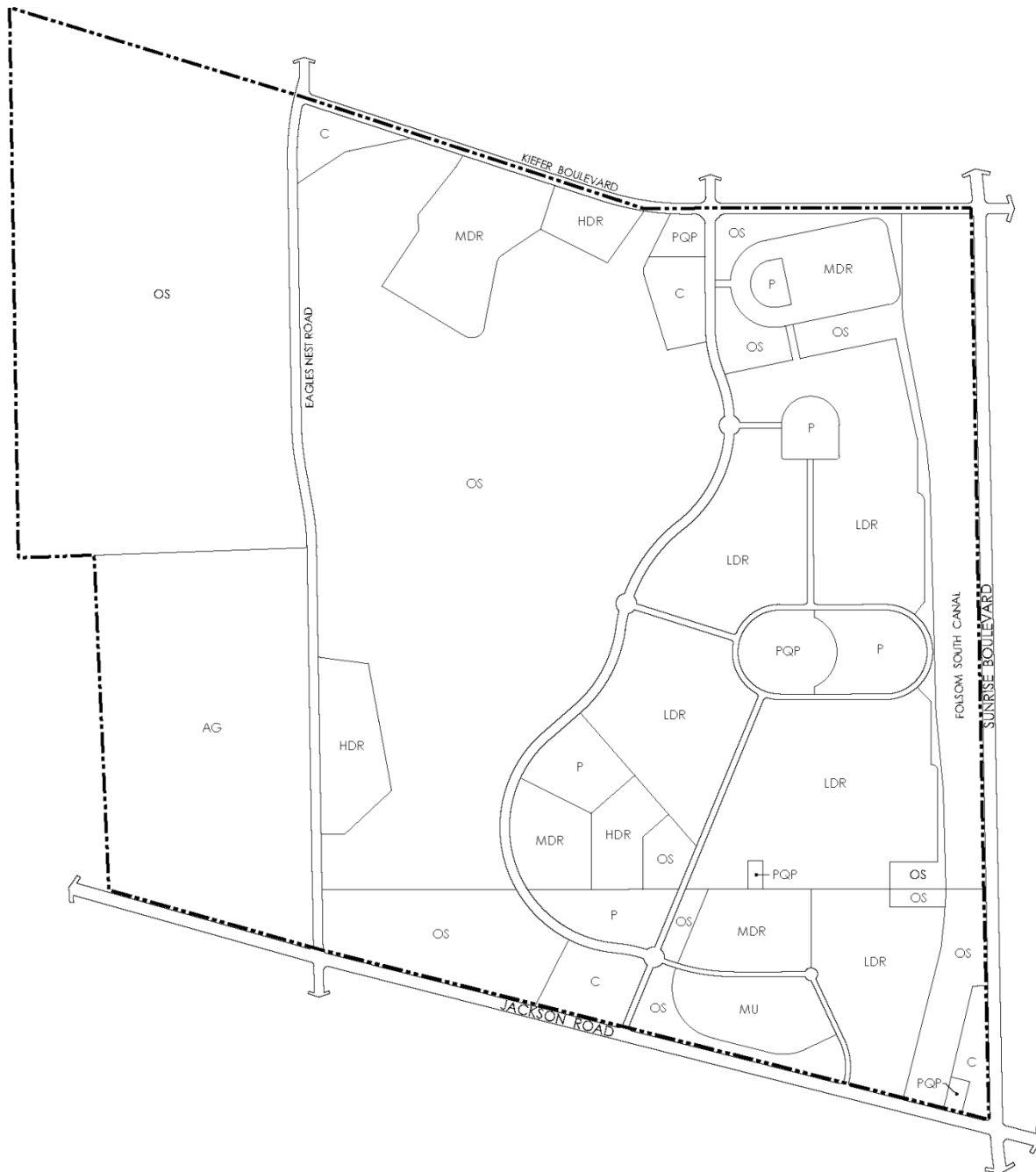
Alternative 2 would place approximately 587 acres into open space by increasing the size of the open space area east of Eagles Nest Road, while simultaneously reducing the developable area to 508 acres. This alternative is consistent with the Project's Clean Water Act Section 404 permit maximum avoidance alternative. The proposed open space boundaries and Alternative's revised access points are shown in Plate AL-2. This alternative maximizes the connectivity of existing vernal pools and seasonal drainages. By increasing the open space area, the Project's internal road system is revised with this alternative. There are no major intersections on Eagles Nest Road.

By reducing the developable area of the project site, the total number of dwelling units decreased and the commercial/office and mixed use land uses were reduced. The average density is 8.8 du/acre. Alternative 2's specific land use acreages are shown in Table AL-2 below.

Table AL-2: Alternative 2 Land Use Summary

Land Use Designation		Dwelling Units	Acreage	Density
Residential	LDR	925	177.2	<7
	MDR	565	62.4	7-12.9
	HDR	655	27.6	13-30
Commercial			26.8	
Office			NA	
Mixed Use		160	13.8	>30
Open Space			586.9	
Parks			34.0	
Agriculture			105.4	
Public/Quasi-Public			12.2	
Major Roadways			51.0	
Total		2,305	1,095.3	8.8

Plate AL-2: Alternative 2 Land Use Diagram



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ALTERNATIVE 2 - MAXIMIZED WETLAND AVOIDANCE

June 2014

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ALTERNATIVE 3: DECREASED GREENHOUSE GAS (GHG) AND VEHICLE MILES TRAVELED (VMT)

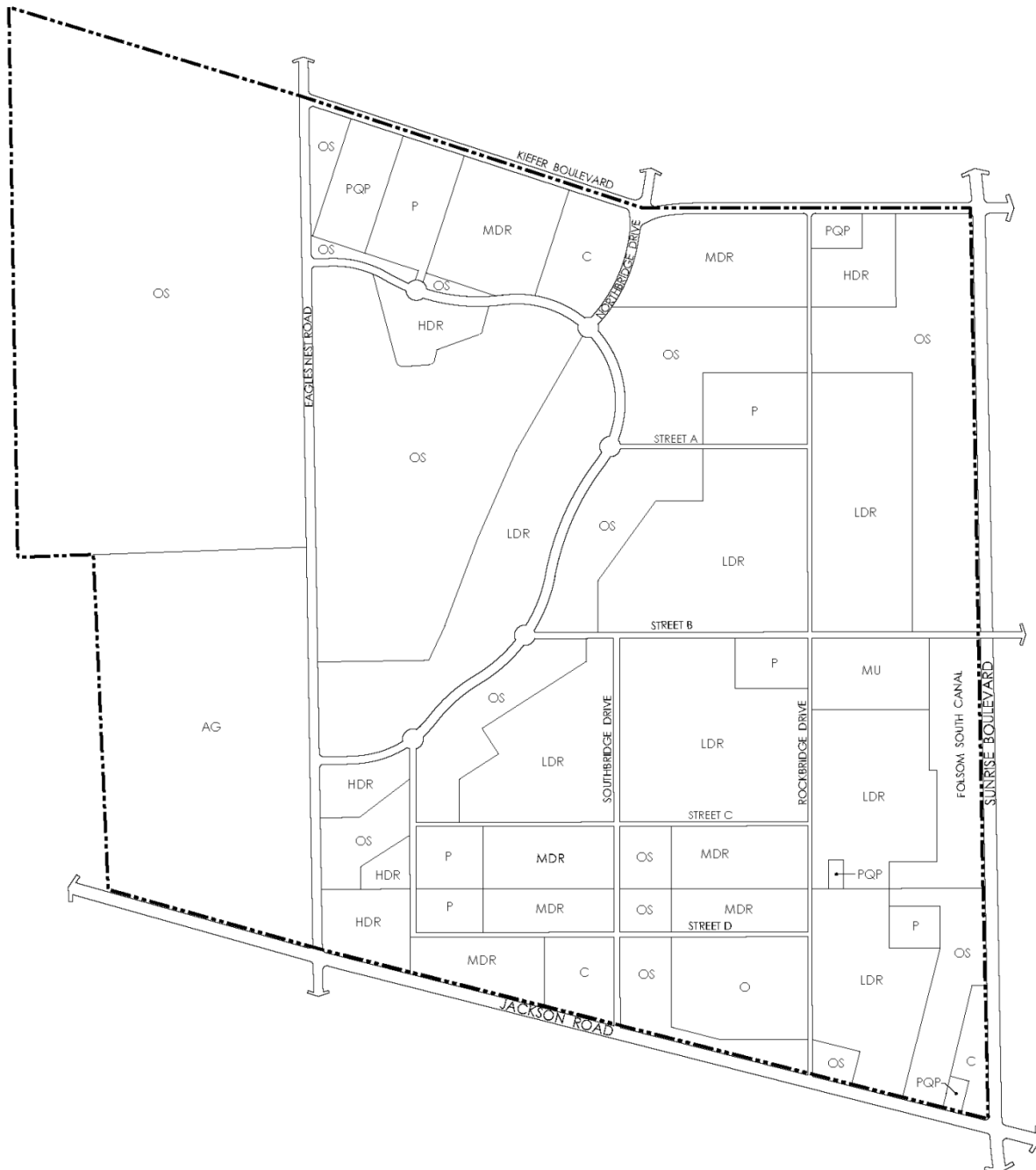
This alternative was designed with the intent to reduce greenhouse gas emissions and vehicle miles traveled associated with the project. The land use plan was changed to create a grid street pattern with a new connection to Sunrise Boulevard. The mixed use land uses are moved toward the center of the site and the school/park land use is moved north towards Kiefer Boulevard.

The reconfiguration of the internal roadway system shifted proposed land uses around changing total acreages and number of dwelling units. The average density for Alternative 3 is 8.1 du/acre. Table AL-3 below details this Alternative's land uses and reference Plate AL-3 for the land use diagram.

Table AL-3: Alternative 3 Land Use Summary

Land Use Designation		Dwelling Units	Acreage	Density
Residential	LDR	1,180	246.3	<7
	MDR	700	92.0	7-12.9
	HDR	810	34.9	13-30
Commercial			21.4	
Office			19.0	
Mixed Use		160	11.4	>30
Open Space			463.2	
Parks			39.0	
Agriculture			105.4	
Public/Quasi-Public			12.2	
Major Roadways			50.5	
Total		2,850	1,095.3	7.9

Plate AL-3: Alternative 3 Land Use Design



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ALTERNATIVE 3 - DECREASED GHG & VMT

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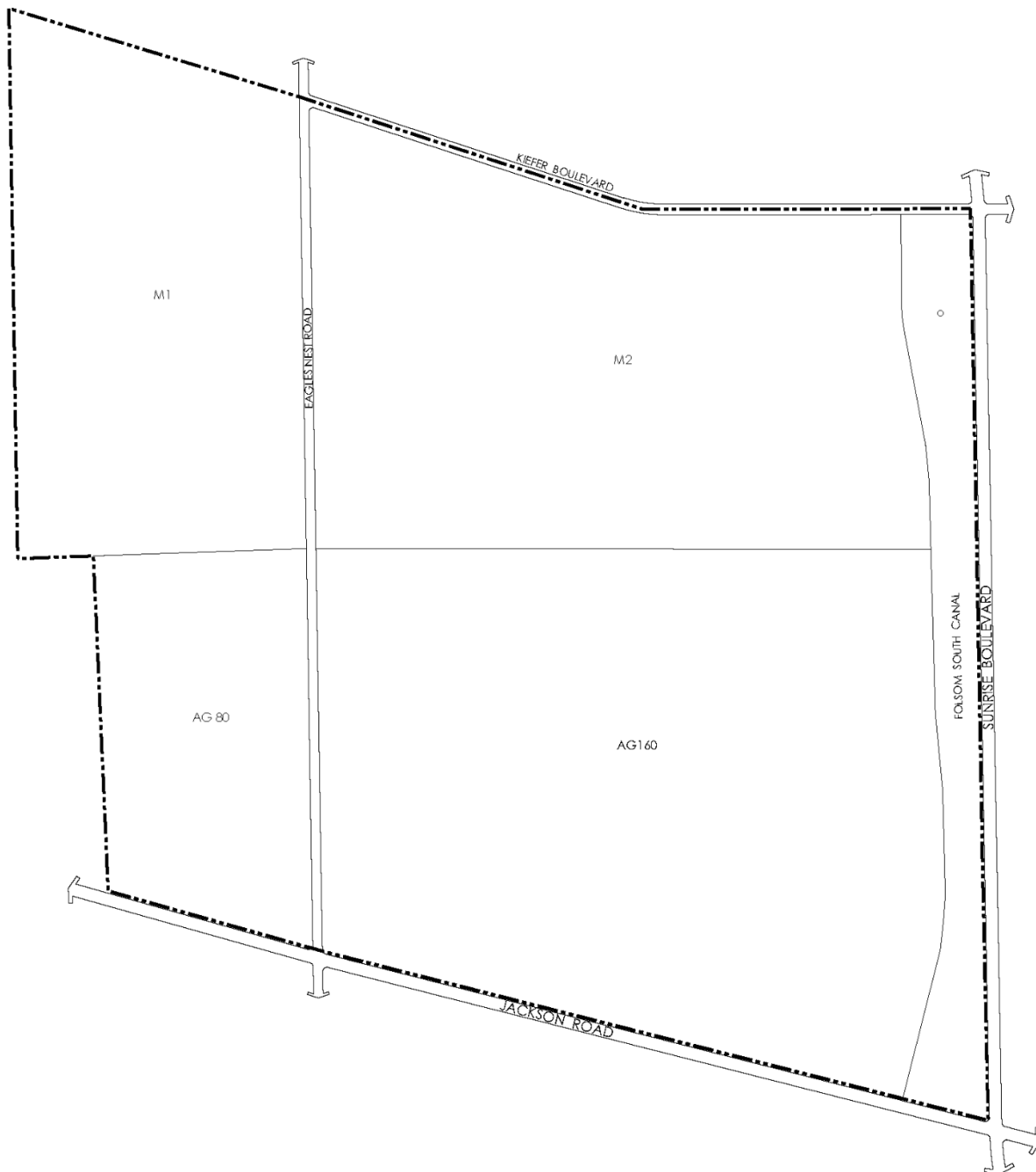
ALTERNATIVE 4: BUILDOUT OF EXISTING ZONING

This alternative assumes the relocation of the Sacramento Rendering Plant and full buildout of the existing zoning. Development would be consistent with current zoning regulations. The southern portion of the project area is zoned Agricultural 80 and 160. The land zoned AG-80 is largely developed into several parcels and currently there are 10 single-family residences. These dwelling units along with the two dwelling units that could be placed on 406 acres of land zoned AG-160 bring the total to 12 possible dwelling units for this alternative. The northern properties are zoned Light Industrial (M1) and Heavy Industrial (M2). The maximum square footage allowed on the M1 property would be 3,400,000 and 5,300,000 on the M2 property. It is unlikely that all of the industrially zoned acreage would be developed due to on-site wetlands, critical habitat, and location within the Core Recovery Area. Either through the individual permit process or the SSHCP (if adopted), preservation of wetlands/endangered species habitat will be required. Table AL-4 below details this Alternative's land uses and Plate AL-4 details the land use diagram.

Table AL-4: Alternative 4 Land Use Summary

Land Use Designation		Dwelling Units(DU)/Square Footage (sf)	Acreage	Density
Open Space			63.8	
Agriculture	AG 80	10 DU(existing)	105.4	
	AG 160	2 DU	406.3	
Industrial	M1 Light Industrial	2,584,850 sf	197.8	
	M2 Heavy Industrial	3,986,070 sf	302.5	
Major Roadways			19.5	
Total		12 DU/6,570,920 sf	1,095.3	0.02

Plate AL-4: Alternative 4 Land Use Design

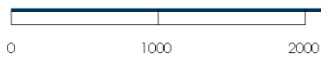


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ALTERNATIVE 4 - BUILDOUT OF EXISTING ZONING

June 2014



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ALTERNATIVE 5: NO PROJECT

This alternative assumes the continued operation of the Rendering Plant with no additional development of surrounding land.

IMPACTS AND ANALYSIS

A summary matrix is presented at the end of this document clearly identifying the range of Alternatives and their respective impacts to select environmental topics in relation to the proposed Project.

AESTHETICS

Aesthetic impacts are largely associated with the conversion of the open grassland to urban development. All alternatives, excluding the No Project Alternative, introduce new urban uses that are not currently present, or intensifies the existing use. Excluding the No Project Alternative, Alternative 4 proposes the least change to the viewshed. Permanent and pass-by viewers are accustomed to the view associated with the Rendering Plant. Removal of the Plant and intensification of the northern portion of the Plan area would be a modest change.

Excluding the No Project Alternative, all alternatives would introduce a new source of nighttime light in an area considered rural and relatively dark. Alternative 4 would produce the least source of nighttime light, largely associated with parking lots and building security lights.

AIR QUALITY

ALTERNATIVE 1

This alternative contains the same number of dwelling units on a smaller footprint. Air quality impacts associated with construction activities, NO_x, ROG, and particulate matter would be slightly reduced since the acres of grading are decreased. Likely the same type and number of heavy equipment would be used, but for a likely shorter duration. Therefore, fewer emissions would be released over the buildout of this alternative directly corresponding to the reduced number of hours heavy equipment is used. Air quality impacts associated with operational emissions would remain similar, since the total number of dwelling units are the same as the proposed Project.

ALTERNATIVE 2

This alternative has approximately 770 fewer dwelling units and reduces the physical footprint to approximately 400 acres. Air quality impacts associated with construction activities, NO_x, ROG, and particulate matter, would be greatly reduced since the acres of grading would decrease by approximately 300 acres. Likely the same type and number of heavy equipment would be used, but for a much shorter duration. Therefore, fewer emissions would be released over the buildout of this alternative. Air quality

impacts associated with operational emissions would also decrease largely due to the reduction in dwelling units. Fewer dwellings and commercial areas corresponds directly with fewer vehicle miles traveled and less emissions released for building heating/cooling/maintenance.

This alternative would reduce the air quality impacts compared to the proposed Project; however, it would still exceed thresholds of significance and impacts would be considered significant. The Alternative still proposes large-scale development in an area of the County that requires substantial infrastructure improvements and is removed from the urban core.

ALTERNATIVE 3

In this alternative, the layout of the project is changed to a grid-like transportation network, which would reduce the VMT and emissions associated with the project. Air quality impacts associated with construction would not significantly change from the proposed Project since the physical footprint of this alternative is similar. Similarly, operational air quality impacts would still exceed thresholds of significance. This alternative does not significantly decrease the number of dwelling units or commercial space.

ALTERNATIVE 4

This alternative would develop all existing designated industrial land within the Project boundary consistent with the Sacramento County Development Code. However, the total acreage allowed by zoning may not be developed due to protection of wetland habitat through the individual USACE permit or SSHCP process. Industrial uses may or may not include factory operations which emit operational emissions and are generally issued separate stationary source permits by the air district in conformance with existing rules and regulations. In addition, operational truck trips and worker commute trips would be factored in to the operational emissions analysis. Air quality impacts associated with construction would involve the grading of approximately 300 acres (factoring in the preservation of wetland habitat), approximately 40 percent less than the proposed Project. Likely the same type and number of heavy equipment would be used, but for a much shorter duration. Therefore, fewer emissions would be released during construction. Operational emissions would vary based on the industrial uses at the site. It is difficult to determine the likely operational emissions; however, there would be fewer VMT and building emissions, thus operational emissions would be slightly reduced as compared to the proposed Project.

ALTERNATIVE 5

The SRC would continue operations under this alternative. The SRC currently is permitted through the Sacramento Metropolitan Air Quality Management District for stationary sources. Communities downwind of SRC would continue to experience odors associated with the plant despite best management practices and odor scrubbers.

BIOLOGICAL RESOURCES

ALTERNATIVE 1

This alternative would add approximately 80 acres of open space, largely associated with the Frye Creek corridor. This would create a wide continuous movement corridor from Sunrise Boulevard to the corner of Eagles Nest Road and Jackson Road. In these additional open space areas, there is one seasonal wetland swale, one seasonal wetland and one vernal pool that would be preserved in the North Planning Area. Additional wetland features would be preserved in the South Planning Area as well. Without a complete watershed analysis, it is unknown if the additional open space areas would adequately preserve the intact wetland resources. However, based on current USFWS guidelines, seasonal wetland swales and seasonal wetlands within 250 feet of proposed development may indirectly impact threatened or endangered species. Under the South Sacramento Habitat Conservation Plan (SSHCP) methodology, indirect impacts are assessed if more than 10 percent of the feature's watershed is affected.

This alternative would increase the size of the Frye Creek preserve area. Large sections of the open space area would exceed the minimum lot width for AG-40 zoned parcels (500 feet per the Sacramento County Development Code). According to the County's Swainson's hawk foraging habitat methodology, parcels zoned AG-40 and larger are considered to retain 100 percent of the value for foraging habitat. Since the open space area is largely meeting the size requirements of an AG-40 parcel, the Frye Creek preserve area could retain foraging value for Swainson's hawk. Under this alternative, for all Planning Areas, the total acreage of impacted foraging habitat does not change from the proposed project; however, the acreage of land that is suitable for foraging habitat mitigation increases to 412 acres. If proposed preserve/open space land is placed in a conservation easement that restricts the use of the land to be compatible with Swainson's hawk foraging habits, the total acreage proposed for preservation exceeds the total acreage of land impacted in the North Planning Area. The impact analysis remains the same as the proposed Project for the South Planning Area.

Overall, this alternative reduces impacts to wetlands and Swainson's hawk foraging habitat. Special status species associated with northern vernal pool hardpan will benefit from the increase of open space and preservation of habitat. In addition, this alternative creates a large open space corridor extending from the northeast corner to the southwest corner of the Project surrounding Frye Creek. This allows for wildlife movement through the area. Impacts are reduced with the alternative, but would still be considered significant due to the location within the Mather Core Recovery Area.

ALTERNATIVE 2

This alternative opens up a large contiguous area east of Eagles Nest Road. In total, approximately 2.43 acres of wetlands will be permanently impacted; 2.04 less than the proposed project. Only those wetlands within 250 feet of the proposed roadways may be indirectly impacted. If under the South Sacramento Habitat Conservation Plan

(SSHCP) methodology, indirect impacts are assessed if more than 10 percent of the feature's watershed is affected. The reduction in permanently impacted wetlands directly corresponds to the reduction in the take of endangered or special status species.

This alternative will increase the area of land preserved in open space and if placed in a conservation easement that restricts the use of the land to be compatible with Swainson's hawk foraging habits, the acreage of land preserved would fully compensate for the acreage land developed per County methodology.

ALTERNATIVE 3

This alternative focuses on reductions to vehicle miles traveled. The impact footprint is largely the same as the proposed Project. Impacts to biological resources are very similar. There are no significant changes in the impact conclusions.

ALTERNATIVE 4

This alternative assumes the buildout of the land as currently allowed by General Plan policies and the Development Code. This means that the northern half of the NSP would be built with industrial type uses. Assuming an allowed use, the developer would only have to apply for a building permit. Impacts to wetlands and associated species are presumed to be 100 percent. However, the developer would still have to go through the regulatory agencies to permit the filling of wetlands, which would likely involve on-site preservation along with purchase of wetland credits. Or, if adopted, the SSHCP would apply. The SSHCP has identified hard line preserve areas that must be acquired regardless of whether the proposed Project is approved. This corresponds to the M1 property west of Eagles Nest Road and 88.7 acres east of Eagles Nest Road. So under the SSHCP, the area outside of the hard line preserves area can be developed and impacts to wetlands, species, and habitat types would be satisfied through the implementation of the SSHCP.

The southern portion of the NSP is agriculturally zoned, with the area west of Eagles Nest Road already developed. The land east of Eagles Nest Road could have a maximum of two dwelling units. Any building within the southern portion of the NSP would be subject to environmental permitting either through the regulatory agencies, or if adopted, the SSHCP. Impacts to wetlands for the southern portion is a small fraction of the proposed Project.

Overall, this alternative would include the preservation of northern hardpan vernal pool habitat either through conservation easement or by remaining agricultural. The reduction in permanently impacted wetlands directly corresponds to the reduction in the take of endangered or special status species. Consistent with County Swainson's hawk foraging habitat impact methodology, industrially zone land does not retain habitat value. However, inherent in the preservation of on-site wetlands, foraging habitat is preserved. This alternative, like Alternative 2, provides a significant reduction in impacts to biological resources.

ALTERNATIVE 5

This alternative would not increase physical impacts to the surrounding property.

CLIMATE CHANGE

ALTERNATIVE 1

This alternative does not change the overall number of dwelling units and the change in commercial and mixed used acreages are minimal. The conclusions of the proposed Project impacts to climate change would be similar.

ALTERNATIVE 2

This alternative reduces the total number of dwelling units by 770, or approximately 25 percent, and there is a reduction in the acreage of office uses (approximately 8 percent). These reductions would reflect lower energy consumption rates and fewer vehicle miles traveled. Introduction of new greenhouse gases would be reduced as compared to the proposed Project.

ALTERNATIVE 3

This alternative changes the roadway configuration to a grid like network and adds in a new connection to Sunrise Boulevard. While internal to the project vehicle miles traveled may be reduced, the development includes thousands of new homes and the estimated vehicle miles traveled do not differ significantly from the proposed Project. Impacts associated with climate change are similar to the Project.

ALTERNATIVE 4

This alternative would build out the northern portion of the NSP with industrial uses. Likely the total acreage and building square footage would be less than the maximum allowed due to SSHCP hardline preserves or individual USACE permit requirements. Industrial uses may include stationary sources, loading docks, and higher volumes of truck traffic. Stationary sources are permitted through the local Air Quality Management District in accordance with State and federal regulations. Intensification of industrial uses will increase GHG emissions over the existing condition; however, the total area to be developed is approximately 40 percent less and the VMT is less than the proposed Project. Impacts associated with climate change are slightly reduced.

ALTERNATIVE 5

This alternative would continue the operation of the Rendering Plant. Emissions associated with the plant would continue.

HYDROLOGY

ALTERNATIVE 1

This alternative does not significantly reduce the acreage of land converted from grassland to urban uses. The increase in impervious surfaces remains similar to the

Project and therefore, the amount of run-off would remain similar. As with the proposed Project, this alternative design would still have to implement hydromodification practices so that the new peak flow (flow rate and volume) does not exceed the existing condition. However, this alternative will still contribute to off-site flooding impacts and impacts remain significant and unavoidable.

ALTERNATIVE 2

This alternative reduces the impervious surfaces introduced to the Morrison Creek Stream Group. As with the proposed Project, this alternative design would still have to implement hydromodification practices so that the new peak flow (flow rate and volume) does not exceed the existing condition. This alternative reduces the number of dwelling units by 25 percent and reduces commercial uses by 18 percent. Roof tops and parking lots directly correspond to the amount of run-off. By reducing the area of impermeable surfaces by 43 percent, it can be assumed there is a direct correlation to the reduction in the total volume of water exiting the site. In the analysis for the proposed Project, off-site flooding impacts were identified in the Beach Stone Lakes area – approximately one inch increase to the water surface elevation. It is reasonable to assume this alternative may increase the surface water elevation by about one-half inch. This is a negligible increase, to which most of the flow would probably be lost as it moves down the system. This alternative would not have a significant impact associated with contributing to off-site flooding.

ALTERNATIVE 3

This alternative does not reduce the acreage of land converted from grassland to urban uses. The increase in impervious surfaces remains similar to the Project and therefore, the amount of run-off would remain similar. As with the proposed Project, this alternative design would still have to implement hydromodification practices so that the new peak flow (flow rate and volume) does not exceed the existing condition. However, this alternative will still contribute to off-site flooding impacts and impacts remain significant and unavoidable.

ALTERNATIVE 4

Due to the likelihood that the total acreage and building square footage would be less than the maximum allowed due to SSHCP hardline preserves or individual USACE permit requirements, this alternative reduces the impervious surfaces introduced to the Morrison Creek Stream Group by 220 acres. The increase of impervious surfaces compared to proposed Project is approximately 40 percent less and therefore, the amount of run-off would be reduced. As with the proposed Project, this alternative design would still have to implement hydromodification practices so that the new peak flow (flow rate and volume) does not exceed the existing condition. The total volume of water exiting the site could be half as much as the proposed Project. In the analysis for the proposed Project, off-site flooding impacts were identified in the Beach Stone Lakes area – approximately one inch increase to the water surface elevation. It is reasonable to assume this alternative may increase the surface water elevation by about one-half inch. This is a negligible increase, to which most of the flow would probably be lost as it

moves down the system. This alternative would not have a significant impact associated with contributing to off-site flooding. Hydrology impacts are reduced.

ALTERNATIVE 5

There would be no physical changes to the project site. Discharge volume and flow rates would remain consistent with the existing development.

NOISE

ALTERNATIVE 1

This alternative does not change the overall number of dwelling units and the change in commercial and mixed used acreages are minimal. The conclusions would be similar to those for the Project. There would be a substantial increase in the existing ambient noise level resulting in a significant and unavoidable impact.

ALTERNATIVE 2

By reducing the developable area of the project site, the total number of dwelling units would decrease, and the commercial/office and mixed use land uses would be reduced. As a result, vehicle trip generation for this alternative is estimated to be less than the proposed Project and the increase in existing ambient noise levels would be less than anticipated for the Project. Nevertheless, traffic generated by the alternative could increase traffic noise on off-site or non-participatory properties located adjacent to roadways where it is not feasible to impose measures to reduce these effects. Impacts would be slightly less than with implementation of the Project.

ALTERNATIVE 3

The configuration of land uses and total dwelling units under Alternative 3 would differ from the Project. Nonetheless, the alternative would generate similar traffic volumes and, like with the Project, there are sections of Eagles Nest Road, Kiefer Boulevard, and Jackson Road that could be subject to substantial noise increases. The impact would be similar to the Project.

ALTERNATIVE 4

Alternative 4 would generate less traffic than the Project, which would reduce the potential for a substantial increase in the existing ambient noise level adjacent to roadways near the Plan Area. Based on the traffic and circulation modeling, effects would decrease along Kiefer Boulevard and Jackson Road, and increase along Eagles Nest Road. Overall, the impact would be slightly less.

ALTERNATIVE 5

The No Project Alternative would not generate additional vehicle trips on adjacent roadways with the potential to substantially increase ambient noise. This impact would be reduced in comparison to the Project.

PUBLIC UTILITIES

ALTERNATIVE 1

This alternative does not change the overall number of dwelling units and the change in commercial and mixed used acreages are minimal. The conclusions would be similar to those for the Project.

ALTERNATIVE 2

By reducing the developable area of the project site, the total number of dwelling units would decrease, and the commercial/office and mixed-use land uses would be reduced. This could result in minor reductions to cumulative electrical demand. However, expansion of SMUD's facilities would still be required. The impact would be similar to the Project.

ALTERNATIVE 3

The reconfiguration of land uses around a gridded street layout could result in minor modifications to cumulative electrical demand. However, expansion of SMUD's facilities would still be required. The impact would be similar to the Project.

ALTERNATIVE 4

It is anticipated that full buildout of the Plan Area pursuant to current zoning designation would require installation of overhead electrical sub-transmission lines along Kiefer Boulevard and Eagles Nest Road, as identified for the Project, to serve the industrial development. Because SMUD would identify and implement the new and upgraded facilities, and because Sacramento County cannot impose mitigation requirements on SMUD, facility upgrades could potentially cause significant construction-related environmental effects. This impact would be similar to the Project.

ALTERNATIVE 5

This alternative would not result in new development. As a result, the No Project Alternative would not generate additional demand for dry utilities that could cause significant construction-related environmental effects. This impact would be reduced in comparison to the Project.

TRAFFIC AND CIRCULATION

The Project was analyzed using the qualitative analysis which involves the modeling of travel demand model and calculating a level of service analysis. A qualitative analysis uses a macro approach to evaluating traffic operations. The traffic and circulation impacts analysis for the alternatives was performed using a hybrid approach. The SACSIM travel demand model was used for the existing plus project alternative and provides quantitative data for person and vehicle trips generation, mode split, average daily traffic and vehicle miles traveled, but no level of service calculations.

ALTERNATIVE 1

Vehicle trip generation for this alternative is estimated to be similar to the proposed Project. The daily volumes on the roadway network are similar to the Project; therefore, it is expected that this alternative would result in similar roadway segment, intersection, and freeway impacts. While the overall vehicle trip generation is similar to the Project, this alternative changes the land use orientation, thereby shifting travel patterns. There are no volume shifts greater than 400 vehicles per day on external roadways. Internal roadways will see the greatest volume shift. Approximately 2,000-3,000 vehicles per day will shift from exiting onto Jackson Road to exiting onto Kiefer Boulevard. This is due to the relocation of more intensive land uses (high-density residential and mixed use) to the north end of the Project. The Average Daily Traffic (ADT) on Kiefer Boulevard would still be below 9,000, so the shift is not expected to result in any additional impacts.

ALTERNATIVE 2

Vehicle trip generation for this alternative is estimated to be less than the proposed Project. The daily volumes on the roadway network are less than the Project; therefore, it is expected that this alternative would result in less roadway segment and intersection impacts. Freeway Impacts are expected to be similar to the Project. This alternative has removed all access points to Eagles Nest Road; as such, a shift in travel patterns is noted. Traffic volumes would decrease to the north on Sunrise Boulevard by approximately 1,600 ADT, to the west on Jackson Road by approximately 1,400 ADT, on Elder Creek Road by 600 ADT and on Florin Road by 800 ADT. The only external roadway with an increase in volume is Jackson Road to the east, by approximately 200 ADT.

ALTERNATIVE 3

Vehicle trip generation for Alternative 3 is estimated to be similar to the Project. The daily volumes on the roadway network are similar to the Project; therefore, it is expected that Alternative 3 would result in similar roadway segment, intersection, and freeway impacts. While the overall vehicle trip generation is similar to the Project, this alternative changes the internal street layout; thereby shifting travel patterns. There are no volume shifts greater than 600 vehicles per day. Internal roadways will see the greatest volume shift. Approximately 1,000-2,000 vehicles per day will shift from exiting onto Jackson Road or Kiefer Boulevard to exiting onto Sunrise Boulevard. This is due to the proposed access point to Sunrise Boulevard, via a canal crossing. Sunrise Boulevard currently operates at level of service "E" and is expected to operate at level of service "F" with the Project. It is likely that this alternative would exacerbate this impact by allowing more traffic to use this roadway segment. This impact can easily be mitigated by widening Sunrise Boulevard from two to four lanes between Kiefer Boulevard and Jackson Road. This mitigation is already recommended for the Project, and would be applicable for this alternative as well.

ALTERNATIVE 4

Vehicle trip generation for this alternative is estimated to be less than the Project. This alternative will result in increased roadway segment and intersection impacts along Eagles Nest Road and Grant Line Road, and less roadway segment and intersection impacts elsewhere, compared to the Project. Overall, volumes decrease by approximately 3,000 ADT on Sunrise Boulevard north of the project, by approximately 1,000 ADT on Grant Line Road north of Jackson Highway, between 2,000 and 3,000 ADT on Jackson Highway west of the project, and by approximately 800 ADT on Elder Creek Road and Florin Road. Volumes increase by approximately 800 ADT on Eagles Nest Road and Grant Line Road south of the project. This is the logical result of the introduction of a large number of industrial jobs (over 7,000 employees) and concurrent elimination of all of the base project's residential development. These jobs must all be filled, and a large number of them are taken by residents in Elk Grove; this is seen in the increase in traffic to the south of the project, along Eagles Nest Road and Grant Line Road. At the same time, the proposed Project residents previously made employment and shopping trips to Rancho Cordova and Sacramento, but these households no longer exist in this scenario; this is reflected in the sharply decreased traffic heading north and west from the project.

ALTERNATIVE 5

This alternative would not introduce any new vehicle trips. There are no new traffic impacts associated with this alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The above analysis includes the No Project Alternative and a range of alternatives in order to develop a reasoned choice. The No Project alternative cannot be considered the environmentally superior alternative, because it does not satisfy the applicant's primary project objective – Relocation of the Rendering Plant and development of the site. Considering all alternatives, the environmentally superior alternative is Alternative 4: Buildout of Existing Zoning. This alternative would result in fewer potentially significant impacts in all topical areas: air quality, biological resources, climate change, hydrology, and transportation, compared to the proposed project.

Table AL-5: Alternative Summary Matrix

Environmental Impact		Alternative 1 Increased Density, Smaller Footprint	Alternative 2 Maximized Wetland Avoidance	Alternative 3 Decreased GHG and VMT	Alternative 4 Buildout of Existing Zoning	Alternative 5 No Project
Aesthetics – Viewshed and Nighttime Lighting		Similar	Similar	Similar	Reduced +	Reduced ++
Air Quality	Construction	Reduced +	Reduced ++	Similar	Reduced ++	Reduced +++
	Operational	Similar	Reduced +	Similar	Reduced +	Reduced ++
Biological Resources		Reduced +	Reduced ++	Similar	Reduced ++	Reduced +++
Climate Change		Similar	Reduced +	Similar	Reduced +	Reduced ++
Hydrology		Similar	Reduced ++	Similar	Reduced ++	Reduced ++
<u>Noise</u>		<u>Similar</u>	<u>Reduced +</u>	<u>Similar</u>	<u>Reduced +</u>	<u>Reduced ++</u>
<u>Public Utilities</u>		<u>Similar</u>	<u>Similar</u>	<u>Similar</u>	<u>Similar</u>	<u>Reduced ++</u>
Traffic and Circulation		Similar	Reduced +	Similar	Reduced ++	Reduced ++
<p>Impact level in comparison to the proposed Project:</p> <p>Similar = environmental impacts are similar to those identified for the proposed project</p> <p>Reduced + = environmental impacts are slightly reduced as compared to the proposed project</p> <p>Reduced ++ = environmental impacts are moderately reduced as compared to the proposed project</p> <p>Reduced +++ = no environmental impact</p>						

3 AESTHETICS

INTRODUCTION

The quality of the visual experience associated with a project is not only dependent on the character of the project site, but also the individual perspective and values of the viewer. Typically, residents and recreational viewer groups are especially concerned about the appearance of their visual environment because their viewing experience is more than merely transitory. Perceived adverse visual impacts associated with a project can be the source of concerned opposition, even to projects that may otherwise be well-received.

It should be emphasized that when a viewer group perceives a negative change in the viewshed, this is not necessarily because the new development is unattractive. If a viewer had never seen pre-project conditions, their perception of the visual quality of a given project might be quite high. Thus, the impact typically occurs not because of the quality of the project in question, but rather because of the substantial change in the nature of the view. Many viewers value undisturbed open space views much more highly than views of urbanized or developed property, however well-designed and visually balanced the development may be.

Aesthetic impacts are subjective, and therefore are often treated as an impact topic where thorough objective analysis is not possible. Although visual impacts are subjective and may be viewed differently by various individuals, it is also true that residents of the United States agree on the high visual quality of many landscapes. These areas are often designated as national parks and scenic spots. These agreed-upon factors and concepts of natural beauty can be used to assess the visual impacts of a project.

It is important to note that the NewBridge Specific Plan incorporates specific design guidelines and where silent refers to the Countywide Design Guidelines and Case Studies (Adopted July 2015) to develop a sense of place for the Plan. These guidelines largely deal with styles and building design internal to the Project. They also speak to broader community design elements regarding lighting and landscaping. This chapter addresses aesthetics and visual quality issues related to the development of the proposed Project in this location. Existing aesthetic and visual resources of the Project area are documented. Standards to judge visual sensitivity are presented and relevant scenic resource issues are addressed.

EXISTING SETTING

VISUAL CHARACTER OF REGION

Sacramento County lies near the center of California's Central Valley, at the southern end of the Sacramento Valley. Open space views within the valley region are generally characterized by broad sweeping panoramas of flat agricultural lands and open space dotted with trees, divided by numerous rivers and creeks. To the east, the Sierra Nevada and their foothills are visible in the background, and the Coast Range provides a backdrop on the western horizon.

VISUAL CHARACTER OF PROJECT AREA

From the perspective of travelers on Jackson Road, the Project site appears to have the flat topography typical of Sacramento County. In general the view is of grasslands with overhead transmission towers traversing northerly through the Project area. In the distance the Sacramento Rendering Plant is visible. The plant is surrounded by redwoods and other tall conifers that screen the facility predominantly for travelers along Kiefer Boulevard and Sunrise Boulevard. Property to the north, west and east is typical of Sacramento County – flat open fields, and some residential and commercial development intermixed. Mather Airport is located northwest of the project site; however, the runways or associated buildings are not visible. To the south of the Project site is land owned and mined by Triangle Rock Aggregates and open expansive grasslands.

SCENIC VIEWS AND RESOURCES

Visual resources are classified in two categories: scenic views and scenic resources. Scenic resources are described in the CEQA Environmental Checklist as specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually middle ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. The Sierra Nevada mountain range, which is visible from various viewing locations (though haze can block views), is an important scenic view in the area.

LIGHT AND GLARE SOURCES

The unincorporated urban areas of the County include existing sources of daytime glare and nighttime lighting and illumination. Sources of daytime glare include direct beam sunlight and reflections from windows, architectural coatings, glass and other shiny reflective surfaces. Such glare usually only impacts the immediate environment, except in cases where buildings are high-rise and can be seen from greater distances. Nighttime light illumination and associated glare can be divided into stationary and mobile sources. Stationary sources of nighttime light include structure illumination,

decorative landscape lighting, and lighted parking lots. Mobile sources are the vehicles traveling on roadways. The unincorporated rural and agricultural areas of the County, which includes the site, are sparsely developed and used for agriculture. These rural land uses typically do not generate substantial amounts of glare, lighting, or illumination, and the ambient nighttime lighting and illumination levels are very low.

REGULATORY SETTING

TITLE 24 OUTDOOR LIGHTING

The 2016 Building Efficiency Standards of Title 24 include regulations for outdoor lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone, which are zones LZ1 through LZ4. The ambient illumination for LZ1 is “dark”, for LZ2 is “low”, for LZ3 is “medium”, and for LZ4 is “high” (see Table 10-114-A of the Building Efficiency Standards). Lighting regulations for areas of lower ambient lighting are more strict – providing lower wattage allowances – in order to protect those areas from new sources of light pollution and light trespass. The Project is within zone LZ2.

SACRAMENTO COUNTY GENERAL PLAN

The General Plan policies applicable to the Project are:

LU-18. Encourage development that complements the aesthetic style and character of existing development nearby to help build a cohesive identity for the area.

LU-31. Strive to achieve a natural nighttime environment and an uncompromised public view of the night sky by reducing light pollution.

In addition to the policies from the Land Use Element above, the Conservation Element states its primary goal as: “Natural resources managed and protected for the use and *enjoyment* of present and future generations while maintaining the long-term ecological health and balance of the environment.” [emphasis added] The concept of enjoyment includes appreciation of scenic resources and visual beauty.

SACRAMENTO COUNTY ZONING CODE

Chapter 5 (Development Standards) of the Zoning Code contains standards requiring that illumination of buildings, landscaping, signs, and parking and loading areas be shielded and directed so that no light trespasses onto adjacent properties. The Development Standards also require that lighting shall be directed away from residential areas and public streets so that glare is not produced that could impact the general safety of vehicular traffic and the privacy and well-being of residents. Additional details regarding lighting can be found within the Sacramento County Improvement Standards.

SIGNIFICANCE CRITERIA

The degree of impact of a project, either negative or beneficial, to the visual character of the area is largely subjective. Few objective or quantitative standards are available to analyze visual quality, and individual viewers respond differently to changes in the physical environment. Based on the CEQA Guidelines Appendix G, a project would have a significant impact on aesthetics if it would:

1. Have a substantial adverse effect on a scenic vista;
2. Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
3. Substantially degrade the existing visual character or quality of the site and its surroundings; and/or
4. Create a new substantial source of light and glare, which would adversely affect day or nighttime views in the area.

METHODOLOGY

The United States Department of Transportation, Federal Highway Administration (FHWA) developed a manual to aid in the preparation of visual assessments for highway projects. Although the proposed Project is not for a highway or other roadway, the key concepts established by FHWA apply to all visual settings and were used to help evaluate the visual character and quality of the region and the Project site. Many of these same key concepts are used to evaluate aesthetics in many contexts, including artistic compositions, architecture, and residential landscaping design. For the purposes of landscapes, the concepts of vividness, intactness, and unity define visual quality. Definitions of key terms and the Project impacts to visual quality and character are described below.

Vividness is a measure of the visual impression that remains in the memory of the viewer (e.g. Niagara Falls). Vivid visual experiences are striking and distinctive.

Intactness is the visual integrity of the natural and built landscape. Intact landscapes are unobstructed visual experiences.

Unity is the coherent inter-compatibility of connected landscape elements. A high degree of unity creates a harmonious visual pattern.

Visual character is derived from visual pattern elements and their dominance, scale (apparent size relationship), diversity, and/or continuity (uninterrupted flow of patterns). Visual pattern elements include form (visual mass or shape), line (silhouette), color, and texture (apparent coarseness). Although visual character and quality can be described objectively, there is no established official process that will identify all areas of high

visual quality. Therefore in part visual quality is often defined by viewer sensitivity. Viewer sensitivity is defined using the following criteria:

- Visibility of resources in the landscape
- Proximity of viewers to the visual resource
- Elevation of viewers relative to the visual resource
- Frequency and duration of views
- Number of viewers
- Types and expectations of individuals and viewer groups

Plate AE-1 and Plate AE-2, below, are examples of high and low visual quality in Sacramento County. In the first image there are no encroachments (highly intact), the site is unified, and the clouds and landscape combine to provide diversity in the view. In the second image, the view is diverse, but the entire view is taken up by encroachments and the site contains multiple elements that are not cohesive.

Plate AE-1: Example of High Visual Quality



Deer Creek Hills Preserve, photo from the Sacramento Valley Open Space Conservancy

Plate AE-2: Example of Low Visual Quality



VIEWER GROUPS

The visual experience is a combination of visual resources and viewer response. Different viewer groups respond differently to visual environments. The opinions or preferences of different groups depend on viewer activity and awareness, local values and the cultural significance of the visual resources. Viewer activity affects the viewers' ability to perceive the landscape. Depending on the activity, a viewer may be attracted or distracted from the landscape. For example, a person reclining in a backyard or sitting on a bench will be encouraged to view the landscape, whereas a person driving along a road on an errand will be distracted from the landscape and concentrate more on the road itself.

Viewer awareness also affects the viewer's receptivity to the landscape. Viewer awareness is affected by position, preconceptions, and recent visual experience. If viewer sensitivity is very high, any visible change in the area may be discouraged. The following groups are likely to have views of the Project: people passing by on Sunrise Boulevard and/or living in Rancho Cordova east of Sunrise Boulevard, people passing by on Jackson Road, Eagles Nest Road, and existing residents to west of Eagles Nest Road, within the Project area.

The visual character and availability of site views is generally the same from all viewing locations. There are primarily two viewer groups within the project area: existing residents west of the Project site looking east, and persons traveling on Sunrise Boulevard and Jackson Road (major roadways) (Plate AE-3).

IMPACT QUANTIFICATION METHODOLOGY

The FHWA guidance manual contains a numeric formula to quantify the change in visual quality. Each of the three primary characteristics (vividness, intactness, and unity) is given a numeric rating between 1 and 7 (from very low to very high). The following formula is then applied: $(\text{Vividness} + \text{Intactness} + \text{Unity})/3$. The numeric difference between the existing visual quality and the proposed visual quality is a representation of the impact to the Project site. Table VA-1 provides a basic explanation of some (not all) factors to take into account when applying the scale.

The perceived impact to the quality of a view is not a strict linear function. If a project resulted in a decrease of 2 points of visual quality, the degree to which viewers would be affected by that decrease would depend on the initial quality of the site. When a site is considered of high visual quality, even small decreases in the quality are much more noticeable and remarked on. However, when a site is only of moderate or low visual quality, observers do not tend to be as affected by the change. The significance of a decrease in visual quality will also depend on how often and for how long the site will be viewed.

Table AE-1: Evaluation Scale

Scale	Vividness	Human-made development	Encroachments or Eyesores	Unity/Intactness
7	Very High	None	None	Very High
6	High	Little	Few	High
5	Moderately High	Some	Some	Moderately High
4	Average	Average	Average	Average
3	Moderately Low	Moderately High	Several	Moderately Low
2	Low	High	Many	Low
1	Very Low	Very High	Very Many	Very Low

Plate AE-3: Viewpoint Map



IMPACTS AND ANALYSIS

IMPACT: DEGRADATION OF EXISTING VIEWS AND VISUAL QUALITY

EAGLES NEST ROAD VIEWER GROUP (VIEWPOINT 1)

In the existing condition, the views from Eagles Nest Road include the relatively flat grassland of the site against the backdrop of scattered trees and the distant Sierra Nevada mountains (refer to Plate AE-4). The Sacramento Rendering Plant and associated redwood trees are visible in the distance along with electrical transmission towers. These man-made features do not dominate the viewshed because they are a small portion of the entire viewshed.

The primary visual break in this view is the rendering plant and surrounding landscaping at the northern end of the Project site. This collection of trees is particularly dominant in the landscape during the late summer, because while the majority of the viewshed is taken up by smooth-textured, low-profile, and wheat-colored grasslands, the trees are tall, dark green, and rough-textured. During the winter the contrast is not as high, and thus the trees are not as dominant. The grasses and trees are both green as the winter rains begin, and then in the spring there are areas of various colors (including white, yellow, and purple) where flowers are blooming. In late spring and early summer, the site becomes two-toned, as upland grasses begin to dry to shades of brown but the wetland areas remain green.

The rendering plant actually detracts from the visual quality of the view, because it is a solitary unique building in the surrounding landscape and is not unified with the rest of the view. The rendering plant draws the eye of the viewer somewhat away from the whole. Nonetheless, the overall impression is still one of openness and continuity; the views are highly intact – meaning that there are few unattractive or negative encroachments in the view. The only encroachments are the line of telephone poles, some fencing, and the road itself. The grasslands appear to continue unbroken all the way up to the foot of the Sierra Nevada visible in the distance. Though unified and intact, the uniformity of the view means that it is not particularly vivid. One cannot distinguish the Project site from the surrounding grasslands – there is nothing particularly memorable or striking. Existing condition vividness is rated 2 (low), while unity and intactness is rated 6 (high), for an average rating of 5 (moderately high).

Plate AE-4: View from Eagles Nest Road Looking East



Image Courtesy of Google Maps

The Project will remove the illusion of continuity – that is, the illusion that the grasslands continue unbroken up to the foothills – both due to the introduction of the structures themselves, and because of the substantial changes in the color and texture of the viewshed. Although the Project will include open space preserves adjacent to Eagles Nest Road, the Project will introduce hard, angled shapes into an area that previously appeared smooth, and will introduce a wider array of color into an area that was previously quite uniform. Though this will increase the diversity of the view, the loss of continuity and the sense of open space has the potential to significantly and negatively impact the quality of the views. Project condition vividness is rated 5, intactness is rated 1 (very low), and unity is rated 2 (low), for an average rating of 3 (moderately low). Reducing visual quality from moderately high to moderately low is a *significant* impact.

This viewer group will be most sensitive to any changes the Project will make to the viewshed. There are three reasons for this sensitivity: in the existing condition the entire site is visible, the viewers are relatively close to the site, and the viewpoints are from residences. Residents usually consider the surrounding views to be part of their property, and are thus more protective of existing scenic views. Residents also observe views for much longer periods of time, and during times of relaxation and enjoyment when scenic resources are typically more appreciated.

JACKSON ROAD VIEWER GROUP (VIEWPOINT 2)

The views from Jackson Road are very similar to those from Eagles Nest Road, except that viewers passing along the road will see the Project from multiple perspectives as they approach and then pass the site. The example image is from the perspective of a westbound driver looking at the site (Plate AE-5). The trees surrounding the rendering plant are less noticeable and the rendering plant itself is highly visible (large white structure, right of the utility pole). Overall, there is little to distract from the flat line and smooth texture of the grasslands that stretch away from the road. Depending on the direction of travel (westbound or eastbound) the visual “end” of the site is large trees in the distance or the Sierra Nevada mountain range in the distance – provided that regional haze does not obscure it. South of Jackson Road, and within peripheral vision, is an active mining operation. This may detract from viewer’s intactness of the area. With this in mind, the unity and intactness of the existing views is moderately high (5), and the vividness is moderately low (3) for an average rating of 4 (average).

The Project will remove the illusion of continuity, both due to the introduction of the structures themselves, and because of the substantial changes in the color and texture of the viewshed. The Project will introduce hard, angled shapes into an area that previously appeared smooth, and will introduce a wider array of color into an area that was previously quite uniform. This project would increase the diversity of the view, but the loss of continuity has the potential to significantly and negatively impact the quality of views. The project condition vividness is rated 5, intactness is rated 1 (very low), and unity is rated 2 (low), for an average rating of 3 (moderately low). Reducing visual quality from average to moderately low is a *less-than-significant* impact. The viewers along Jackson Road are passing through the area and likely will not be as affected by the change in visual character of the project site.

Plate AE-5: View from Jackson Road Looking West



Image Courtesy of Google Maps

SUNRISE BOULEVARD VIEWER GROUPS (VIEWPOINT 3)

The Project site is visible from Sunrise Boulevard and the view is similar to those previously described. Plate AE-6 shows from the viewpoint of a northbound driver from the intersection of Sunrise Boulevard/Jackson Road and from the viewpoint of a southbound driver from the intersection of Sunrise Boulevard/Kiefer Boulevard. A noticeable feature is the overhead transmission towers that traverse east/west through the northern portion of the project site. The rendering plant and trees are more visible and prominent closest to Kiefer Boulevard.

The differences noted above increase the diversity of site views by introducing additional colors, close proximity to the transmission towers, and introducing multiple textures (smooth grass, rough trees, and buildings). As viewers travel north on Sunrise Boulevard, the unity and intactness of the view is reduced as elements of the built environment become more pronounced. The vividness of the view is also increased as one approaches the rendering plant; the eye is drawn to the business; however the overall impression is not highly distinctive or memorable. Again, viewers are likely traveling from higher urbanized areas to more rural areas or vice versa. The Project site is located in a transition zone and the expectation of the viewshed depends on the direction of travel.

From most perspectives there are few negative encroachments in the view. From multiple points along the road vividness is rated 2 (low), intactness is rated 5 (moderately high), and unity is rated 5, for an average of 4 (average).

The Project will remove the illusion of continuity, both due to the introduction of the structures themselves, and because of the substantial changes in the color and texture of the viewshed. The Project will introduce hard, angled shapes into an area that previously appeared smooth, and will introduce a wider array of color into an area that was previously quite uniform. This Project would increase the diversity of the view, but the loss of continuity has the potential to significantly and negatively impact the quality of views. The project condition vividness is rated 5, intactness is rated 1 (very low), and unity is rated 2 (low), for an average rating of 3 (moderately low). Reducing visual quality from average to moderately low is a *less-than-significant* impact. The viewers along Jackson Road are passing through the area and likely will not be as affected by the change in visual character of the project site.

Plate AE-6: View from Sunrise Boulevard

Northbound near Jackson Road

Southbound near Kiefer Boulevard, with rendering plant in foreground

Image Courtesy of Google Maps

SUMMARY OF VIEWSHED IMPACTS

Views from Jackson Road and Sunrise Boulevard will not be significantly impacted. The Project will remove the existing expansive view of grasslands that the Project site provides; however, the viewer group is transitory and is traveling through a developing portion of the County and City of Rancho Cordova. Further, their focus is on the road and not necessarily on the surrounding environment.

Project impacts to the residential views from Eagles Nest Road will be *significant*. The Project will remove the illusion of continuity – that is, the illusion that the grasslands continue unbroken up to the foothills – both due to the introduction of the structures themselves, and because of the substantial changes in the color and texture of the viewshed. The Project will introduce hard, angled shapes into an area that previously appeared smooth, and will introduce a wider array of color into an area that was previously quite uniform. Though this will increase the diversity of the view, the loss of continuity and the partial obstruction of views of the Sierra Nevada significantly and negatively impacts the quality of the views. These impacts are due to the placement of a large urban development in an area currently dominated by grasslands and open space; the impact is not due to any particular feature or features that could be changed. The Project will substantially degrade the existing visual character and quality of the site; impacts are *significant and unavoidable*.

MITIGATION MEASURES:

No mitigation is available.

IMPACT: NEW SOURCES OF LIGHT

The Project will involve a substantial amount of new residential and commercial development that will include lighting sources such as street lights and security lights. Nighttime lighting has been associated with negative human health impacts and ecological impacts. Birds may collide with lighted transmission towers at night¹ and animals that rely on the darkness to hide them will be visible to predators and prey. In humans, the primary effect is sleep disruption. Nighttime lighting is necessary for safety, for work productivity, and for recreation, but Title 24 and County Ordinances were instituted in recognition that excess lighting should be avoided.

The Project site is within a rural area that has minimal lighting, and is designated as an LZ2 zone (low levels of ambient nighttime light). Because the Project is in an LZ2 zone, the lighting restrictions will be more robust than if the Project were in a more urban environment. For instance, Table 140.7-B of the 2016 Building Efficiency standards

¹ Poot, H., B. J. Ens, H. de Vries, M. A. H. Donners, M. R. Wernand, and J. M. Marquenie. [Green light for nocturnally migrating birds](#). *Ecology and Society* 13(2): 47, 2008.

(Title 24) indicates that building entrances in an LZ2 zone are limited to 25 watts, while in an LZ4 (urbanized) zone the allowance is 45 watts.

Most of the Project will result in standard urban lighting systems with average light output, such as porch lights, parking lot lights, street lighting, and similar.

Though there are existing restrictions that will help to minimize the impacts of new lighting sources on existing nighttime conditions, the Project will still result in a substantial new source of light. Existing residents to the east (across Sunrise Boulevard to the northeast) are accustomed to nighttime light sources. Existing residents to the west of Eagles Nest Road, within the Project area, would likely be more disturbed by the new sources of light which may result in substantial nighttime sleep disruption. There will be some disruption for wildlife which use the habitats surrounding the site because sky glow will increase ambient lighting conditions in the area, and direct light spill will impact areas directly adjacent to the Project. Many wildlife species in the area can adapt to these conditions, as they have to other urbanizing areas. There are no special status species in the area known to be particularly susceptible to disruption resulting from nighttime lighting.

Though the Project lighting will not result in significant wildlife impacts, the significance question asked is whether the Project introduces a substantial new source of light that adversely impacts views; it does. There are existing regulations which will minimize lighting impacts, but the Project will nonetheless result in a *significant* impact related to new lighting sources. This impact is not due to any individual feature or features, but due to the result of introducing a large urban development within a rural landscape. Though the impact cannot be made less than significant, there are means available to further reduce the level of light pollution produced by the Project.

The International Dark-Sky Association (IDA) is a world-recognized authority on nighttime lighting and light pollution. IDA operates a program which reviews and rates outdoor lighting fixtures, giving IDA-approved status to fixtures that minimize glare and light trespass. The IDA maintains a list of fixtures that have been approved. The NewBridge Specific Plan includes a requirement to use IDA-approved fixtures. Even with the requirement for IDA-approved fixtures, the Project will generate a substantial new source of light; impacts are *significant and unavoidable*.

MITIGATION MEASURES:

None recommended.

IMPACT: NEW SOURCES OF GLARE

Like impacts associated with new sources of light, the urbanization of up to 595 acres of the total 1,095.3 acres of sparsely developed land would also introduce new sources of glare from materials like glass, certain paint colors, etc. In addition, recently approved regulations in the State of California require that most new residential development be equipped with rooftop solar panels beginning in 2020, adding to concerns about the potential for new sources of daytime glare.

As a result, development of the Proposed Project would result in thousands of new residential units that would be required to be outfitted with rooftop photovoltaic (PV) solar panels per new California Energy Commission regulations adopted in May 2018. In certain cases, there are concerns that PV solar panels have been known to result in increases in levels of glare, particularly in areas near airports where excessive glare can result in visual impacts on pilots.

However, according to the US Department of Energy (DOE, 2014), it is a common misconception that PV panels inherently cause excessive glare that results in nuisances to neighbors and additional safety risks to pilots. The DOE points out that while PV panels can create some glare, their function is to absorb light, rather than reflect it. (DOE, 2014). The DOE provides a fact sheet to provide additional information on potential issues associated with glare from PV panels and to dispel common misconceptions about PV panels.

The fact sheet, prepared by Meister Consultants Group (2014), points out PV panels are usually built with dark-colored materials, which absorb light and are covered with anti-reflective coating that reflect less than 2 percent of incoming light. This is similar to the absorption rates of water, and less than soil and wood shingles. The fact sheet also points out that there is often confusion between the use of solar PV systems and concentrated solar power (CSP) systems, which use mirrors to reflect light to heat water, which can be significant sources of glare, but are used for other purposes and not for residential electricity-generation, as would be required by the regulations. (Meister Consultants Group 2014).

In addition, solar PV systems have been successfully installed at and near airports around the country successfully, and issues with glare affecting flight patterns typically only become an issue when PV systems cast glare into air traffic control towers (Meister Consultants Group 2014).

The County Zoning Code (Section 3.6.6.C) require that all solar collectors (i.e. PV panels) are oriented on rooftops or other hardscape areas so as to avoid unreasonable glare from solar panels onto adjacent properties. This, combined with the absorbing design of solar panels, as well as the distance from Mather Airport and topography of the site, would ensure that solar PV panels on buildings developed within the Plan Area would not result in conditions that would create major new sources of glare. Therefore, impacts associated with glare are expected to be *less than significant*.

MITIGATION MEASURES

None required.

4 AGRICULTURAL RESOURCES

INTRODUCTION

This chapter describes the existing agricultural resources within the Project area and analyzes possible impacts to agricultural uses and agricultural lands from implementation of the Project. The chapter focuses on the impact of converting the designated farmland on the site to non-agricultural uses, and on impacts related to the Williamson Act contract on the site.

ENVIRONMENTAL SETTING

The Project site is located in the southeastern portion of Sacramento County, within the Cordova community, on approximately 1,095 acres. The Project is south of Mather Airport, and just west of the City of Ranch Cordova, northwest of the Jackson Road and Sunrise Boulevard intersection, as shown in Plate AR-1. The Project is outside the Urban Policy Area (UPA), but is within the Urban Services Boundary (USB).

The Project site is designated by the Sacramento County General Plan as Extensive Industrial (502.2 acres), General Agriculture (20 acre) (528.7 acres), and Recreation (64.4 acres) as shown in Plate AR-1. The site includes a number of disparate land uses. These include a relatively undisturbed vernal pool landscape in the northwestern portion of the Project site. The Sacramento Rendering Plant facilities occupy the northeast portion of the site and include a series of water filtration/percolation ponds to the east and south of the rendering plant. Grazing is the current land use throughout most of the remaining eastern and southern portions of the Project site. Finally, within the southwest corner of the Project site, west of Eagles Nest Road and north of Jackson Road, is the Sacramento Muslim Cemetery, a pet cemetery, and seven small lot agricultural-residential parcels. An area of approximately 8.6 acres at the northeastern boundary of the Project site is ~~designated~~ **mapped** as Farmland of Statewide Importance on the Sacramento County Important Farmland Map (2016) published by the California Department of Conservation. An area of approximately 75.2 acres at the northeast corner of the project site is ~~designated~~ **mapped** as Farmland of Local Importance (Plate AR-2). There are no intensive agricultural uses on the site.

To the immediate south (off-site) across Jackson Road is an aggregate mine operated by Triangle Rock. The Project site is approximately 3.6 miles southeast of the airport runways at Mather Airport. Properties to the east, south and southwest are zoned for agricultural use (AG-80 and AG-160). Properties to the northwest are zoned for industrial uses (M-1). Property to the north across Kiefer Boulevard is part of the Mather Field Special Planning Area (SPA).

Approximately 121 acres in the southeastern quadrant of the site are under a Williamson Act contract (72-AP-026). The contract is in non-renewal and is expected to expire in 2021 (Plate AR-3).

Plate AR-1: Existing Zoning

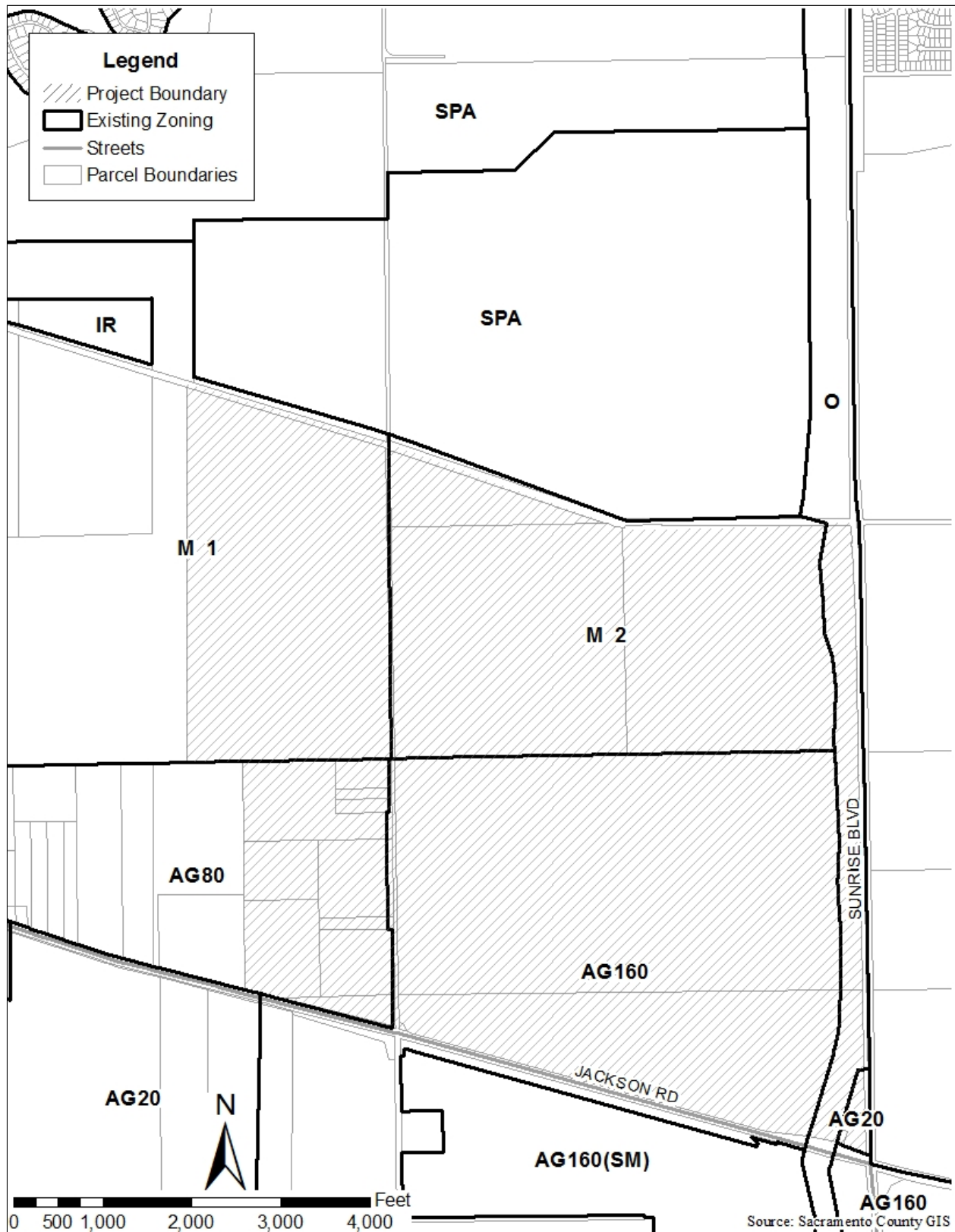


Plate AR-2: Farmland Classifications

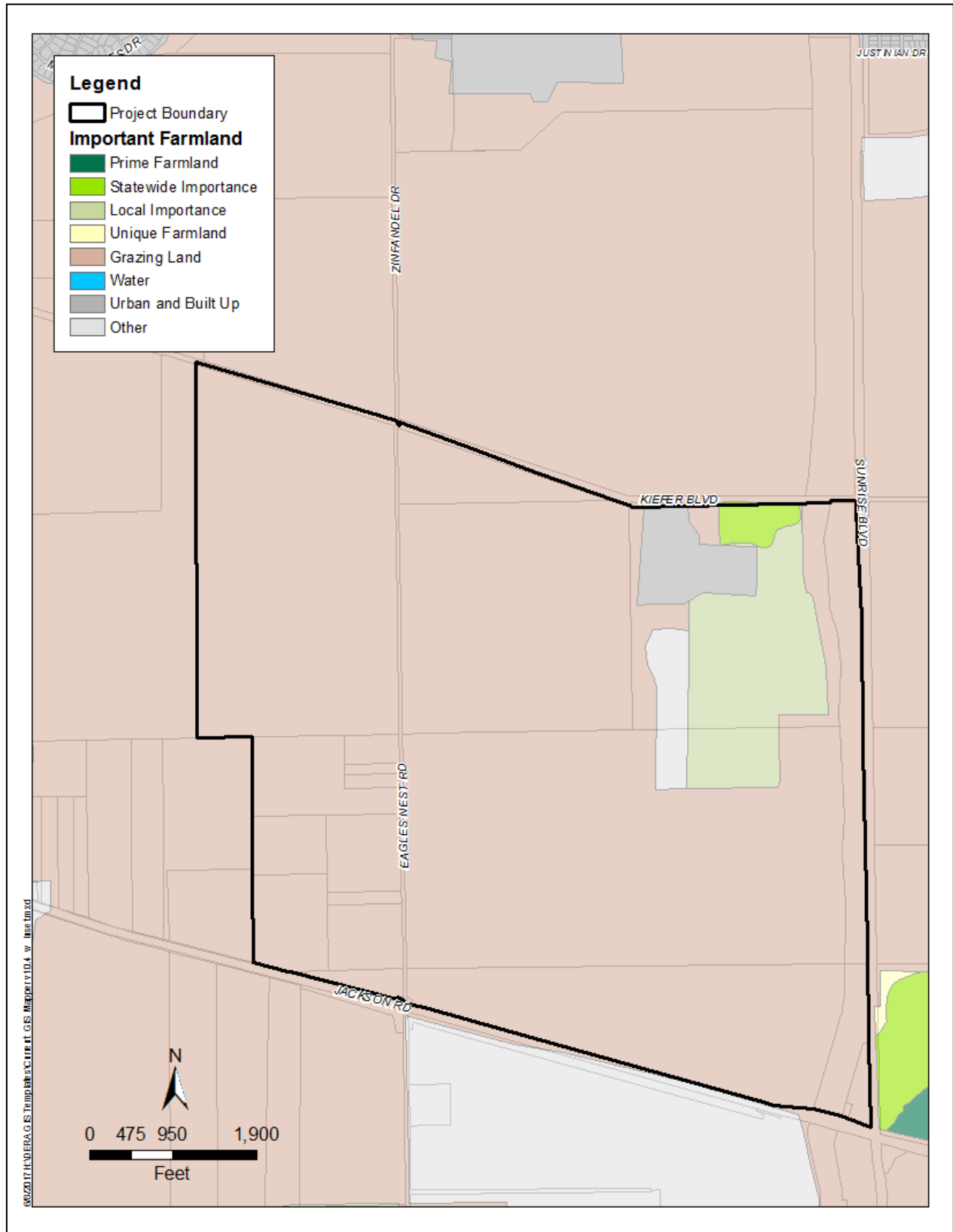
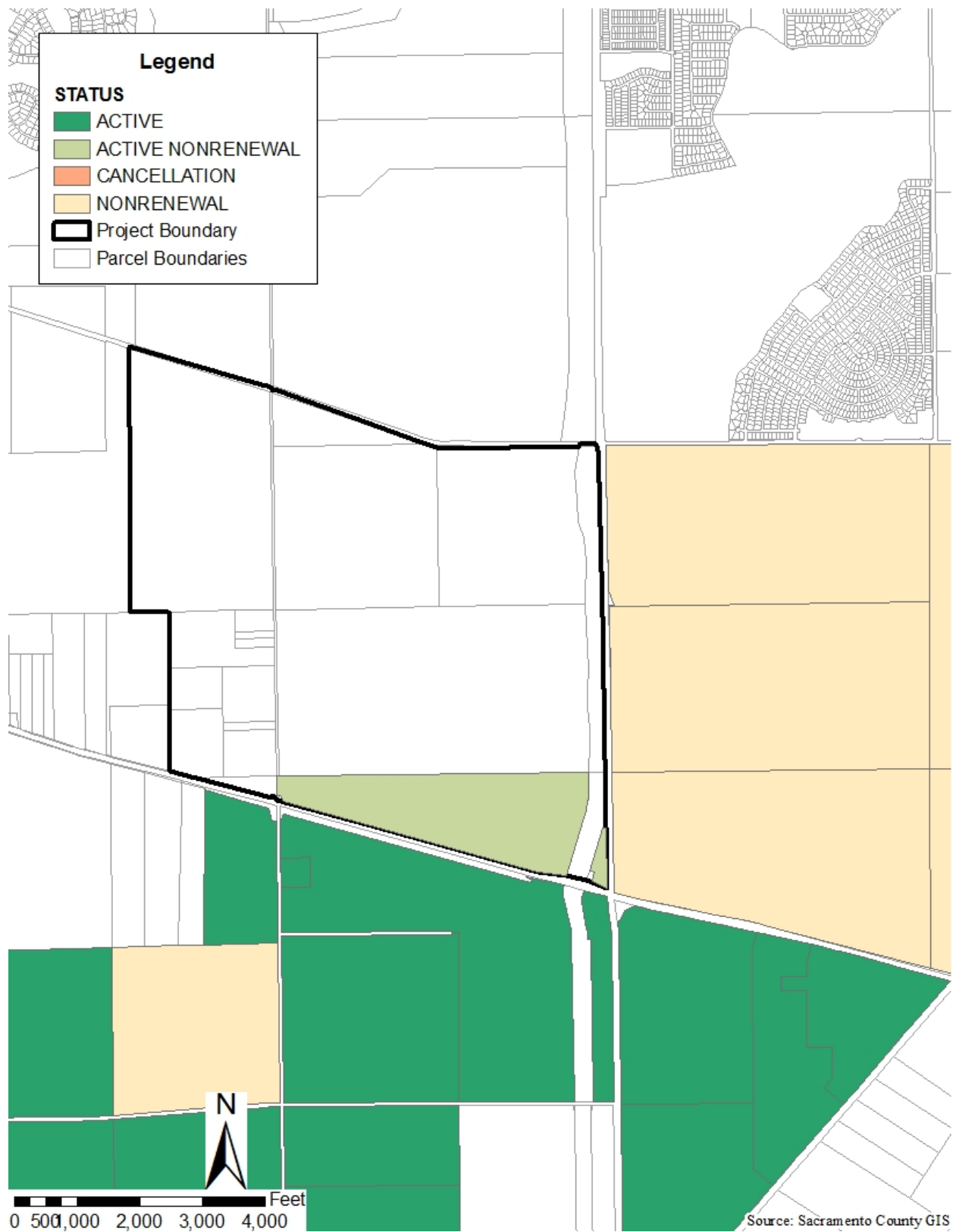


Plate AR-3: Williamson Act Land



REGULATORY SETTING

FARMLAND MAPPING AND MONITORING PROGRAM

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) was established in 1984 to document the location, quality, and quantity of agricultural lands and conversion of those lands over time. The program provides impartial analysis of agricultural land use changes throughout California.

The FMMP is tasked with mapping and monitoring important farmlands for most of the State's agricultural areas. The maps are prepared on the basis of soil survey information and land inventory and monitoring criteria developed by the US Department of Agriculture (USDA), Natural Resources Conservation Service. The minimum mapping unit used for all agricultural land categories except grazing land is 10 acres. The minimum unit for grazing land is 40 acres. Though the FMMP typically updates its farmland maps every two years based on information from local agencies and recent aerial photography, the most recent Sacramento County Important Farmland Map is dated 2016. For inventory purposes, the following categories were developed to describe the qualities of land in terms of its suitability for agricultural production.

- *Prime Farmland* is defined by the state as "land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops." Prime Farmland has the soil, quality, growing season, and moisture supply needed to produce sustained high yields. To be designated as Prime Farmland, the land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.
- *Farmland of Statewide Importance* is defined by the state as "land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops." This land has less ability to store moisture than Prime Farmland. In order for land to be designated as Farmland of Statewide Importance, it must have been used for production of irrigated crops at some time during the four years prior to the mapping date.
- *Unique Farmland* consists of lower-quality soils but is nonetheless used for production of the state's leading agricultural crops. Unique Farmland is usually irrigated, but may include non-irrigated orchards or vineyards in some climatic zones in California. To qualify for this designation, land must have been used for crops at some time during the four years prior to the mapping date.
- *Farmland of Local Importance* is determined by each county's board of supervisors and a local advisory committee. For Sacramento County, this classification refers to 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* is land which is suitable for grazing of livestock. The minimum mapping unit for this category is 40 acres.

WILLIAMSON ACT

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses. When the County enters into a contract with the landowners under the Williamson Act, the landowner agrees to limit the use of the land to agriculture and compatible uses for a period of at least ten years and the County agrees to tax the land at a rate based on the agricultural production of the land, rather than its real estate market value. The County has designated areas as agricultural preserves within which the County will enter into contracts for the preservation of the land in agriculture.

SACRAMENTO COUNTY GENERAL PLAN

The following policies of the General Plan are applicable to the Project:

AG-4. 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 County's right-to-farm ordinance.

AG-5. Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):

- prime, statewide importance, unique, local importance, and grazing farmlands located outside the USB;
- prime, statewide importance, unique, and local importance farmlands located inside the USB.

The Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands. However, if that land is also required to provide mitigation pursuant to a Sacramento County endorsed or approved Habitat Conservation Plan (HCP), then the Board of Supervisors may consider the mitigation land provided in accordance with the HCP as meeting the requirements of this section including land outside of Sacramento County.

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

CO-51. Direct development away from prime or statewide importance farmlands or otherwise provide for mitigation as required by AG-5 slowing the loss of additional farmland conversion to other uses.

AG-10. The County shall balance the protection of prime, statewide importance, unique and local importance farmlands and farmlands with intensive agricultural investments with the preservation of natural habitat so that the protection of farmland can also serve to protect habitat.

SACRAMENTO COUNTY ZONING CODE

The Agricultural Land Use Zone is designed to promote and protect the public health, safety, and general welfare within Sacramento County. As stated in the General Plan:

Farmland is the fundamental agricultural resource. Urban development, wildlife preserves, and outdoor recreation facilities are encroaching upon farmlands. With rare exceptions, conversions of farmland to nonfarm uses are irreversible. Farmland conversions affect agricultural productivity directly by reducing the farmland base, and indirectly by increasing production costs or reducing yields on neighboring farmlands. Farmland losses reduce the ability of the county to supply food to local and export markets. The cumulative effects of individual farmland conversions include urban growth inducement, unstable rural real estate markets, world competition for existing markets, low commodity prices, and reduced viability of the local agricultural economy.

The converse relationship is also true: lack of viable agricultural productivity tends to lead to conversions of land to other, often conflicting uses. The real or perceived lack of viability may be caused by many factors including: growth pressures, unstable or reduced real estate values, cost of water or energy, government regulation, low commodity prices, and world competition for existing markets.

In general the agricultural land use zone is designed to:

- Eliminate encroachment of incompatible land uses on agricultural lands;
- Preserve the supply of agricultural land in order to conserve the County's economic resources;
- Discourage premature and unnecessary conversion of agricultural land to urban uses;
- Preserve agricultural lands as open space and for production of agricultural products so as to preserve an important physical, social, esthetic and economic asset of the residents of the County ; and
- Encourage retention of large agricultural lots to assure viable agricultural units.

SIGNIFICANCE CRITERIA

The CEQA Guidelines define “significant” as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Based on the CEQA Guidelines, an impact to agricultural resources is significant if the Project results in any of the following:

1. Substantial conflict with existing zoning for agricultural use, or a Williamson Act contract.
2. Conversion of a substantial amount of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.
3. Substantial conflict with existing, adjacent agricultural uses.

In addition to the CEQA Guidelines criteria for significance of farmland loss, **the County looks to** General Plan Policy AG-5 **to** defines **what is considered** a substantial farmland loss, **using** as 50 acres **as the threshold**. **Generally, the County presumes that 50 acres may not be enough to support “economically viable farming operations” because “substantially larger acreage is necessary to sustain a farming operation” (see General Plan, Agricultural Element, p. 13; see also 2018 Sacramento County Crop and Livestock Report, available online at <https://agcomm.saccounty.net/Documents/CropandLivestockReports/2018Report.PDF>, reporting the breadth of the County’s farming economic activity—more than 221,450 harvested acres in Sacramento County in 2018 resulting in more than \$520 million gross value).** The CEQA Guidelines indicates that that **only requires assessing** Prime, Statewide Importance, and Unique Farmland loss (**see Public Resources Code Section 21060.1(a) and CEQA Guidelines, Appendix G, Sample Questions, § II(a)**) may be a significant impact, but the **County** General Plan further includes Farmland of Local Importance and Grazing Land **based on General Plan policy language** – though in the case of Grazing Land, the threshold specifically applies only to such lands which occur outside of the Urban Services Boundary (USB).

METHODOLOGY

An evaluation of potential impacts associated with agricultural resources was based on a review of planning documents, including policies of the Sacramento County General Plan, and field reviews. The Project was analyzed in terms of its consistency with Sacramento County General Plan policies and other state regulations as presented above.

IMPACTS AND ANALYSIS

IMPACT: CONFLICT WITH EXISTING AGRICULTURAL USE

The Sacramento County General Plan land use designations for the Project site is General Agriculture (approximately 517 acres), Extensive Industrial (approximately 513.3 acres), and Recreation (approximately 65 acres). The Project requests a General Plan Amendment to change the Land Use Designations from General Agriculture, Extensive Industrial and Recreation to Low Density Residential, Medium Density Residential, Commercial and Office, Mixed Use, Recreation, Natural Preserve, and Public/Quasi Public for approximately 989.7 acres. The remainder of the Project site (approximately 105.6 acres) will retain its General Plan designations of General Agriculture (the lower West Planning Area).

There are no intensive agricultural uses taking place on any of the lands adjacent to the Project site that would be incompatible with the proposed Project. Agricultural uses and residential uses typically come into conflict due to dust generation from tilling, the application of pesticides and fertilizers, and noise from equipment. Much of the Project site is currently being used for cattle grazing. Cattle grazing is not considered an intensive agricultural investment because the cattle are not densely concentrated and they require minimal infrastructure. Cattle grazing usually involves a lesser degree of conflict, because the intensity of the activity is reduced when compared to row crops, but may nonetheless result in complaints related to noise, dust, or odors generated by cattle at times when the herd moves closer to residences.

While cattle grazing will be phased out when the Rendering Plant is shut down, the parcel of land under Williamson Act Contract non-renewal (APN 067-0120-067 and 059) is not owned by the Project applicant and could continue to be used for agricultural practices until the land is developed.

Similarly, those parcels within the Project boundary west of Eagles Nest Road and north of Jackson Road are not identified for land use changes and would be allowed to continue agricultural practices consistent with their existing AG-80 zoning. Based on existing aerial photo interpretation, there are currently no intensive agricultural practices on these parcels. However, the Sacramento County Zoning Code allows intensive agricultural uses on AG-80 zoned properties that may conflict with the proposed development over time.

There is also the potential for grazing to continue in the identified open space preserves within the Project boundary. Grazing is commonly used to control invasive species and reduce fire fuel in open space preserves. Urban land uses are proposed adjacent to the preserves; however, it is unlikely that there will be conflict between the land uses.

Though the Project will not result in significant conflicts between an agricultural and non-agricultural use, buyers of properties adjacent to the parcel under Williamson Contract non-renewal (APN 067-0120-067) and the parcels west of Eagles Nest Road should receive notice through the title report that they could be subject to inconvenience

or discomfort resulting from accepted farming activities as per provisions of the County Right-To-Farm Ordinance (Sacramento County Code Chapter 14.05); this notification would be consistent with General Plan Policy AG-4.

The Project will not result in substantial conflicts with existing agricultural use of adjacent lands, though mitigation requiring deed notices is recommended. For the foregoing reasons, impacts are *less than significant*.

MITIGATION MEASURES:

AG-1. The applicant shall disclose to all buyers of properties located within 500 feet of the north, west, and south NewBridge Specific Plan boundaries that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the County Right-To-Farm Ordinance. Large Lot Subdivision Maps and Small Lot Subdivision Maps shall contain a note stating that residents may be subject to inconvenience or discomfort resulting from accepted farming activities per provisions of the County Right-To-Farm Ordinance.

IMPACT: CONFLICT WITH WILLIAMSON ACT CONTRACT

There is one existing Williamson Act Contract (72-AP-026) within the Project limits (see Plate AR-3 above). The contract encompasses approximately 121 acres on APN 067-0120-067 and 059. The landowner initiated the non-renewal process for this contract on January 3, 2012. Under the nonrenewal process the contract will expire in the year 2021, and the land will no longer be subject to Williamson Act contract restrictions.

The Project proposal includes changing the General Plan land use designation of the contracted land from General Agriculture to non-agricultural uses (Low Density Residential, Medium Density Residential, Commercial and Offices, Recreation, Public Quasi Public, and Mixed Use).

This area is not proposed for either rezoning or subdividing. Therefore, the Project will not result in significant conflicts with the Williamson Act. Following the outlined procedures for nonrenewal is consistent with the Williamson Act provisions; impacts are *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: CONVERSION OF PROTECTED FARMLAND TO NON-AGRICULTURAL USES

One of the objectives presented in the Agricultural Element of the General Plan is: "Protect prime, statewide importance, unique, and local importance farmlands and lands with intensive agricultural investments (such as orchards, vineyards, dairies, and other concentrated livestock or poultry operations) from urban encroachment."

According to the Sacramento County Important Farmland Map (2016) published by the ~~California Department of Conservation~~ **DOC**, the Project site contains a small area (approximately 8.6 acres) of Farmland of Statewide Importance in the northeast corner of the site, east of the existing parking lot of the Sacramento Rendering Company plant (see Plate AR-3 above). In addition, there is an area of approximately 75.2 acres in the northeast quadrant of the Project site, east of the Rendering Plant buildings and settling ponds that is ~~designated~~ **mapped** as Farmland of Local Importance. The remaining portions of the Project site are designated as Grazing, Urban and Built up, or other lands.

According to the Department of Conservation “Soil Survey of Sacramento County, California” (Plate AR-4 and Table AR-1), there are nine different soil types within the Project boundaries. While the Important Farmland Map reflects the actual use of the land based on interpretation of aerial photography and other methods, the soil survey reflects the capability of the underlying soils. Two of the soils on the site are listed as prime soils, if irrigated; these are soil map units 191 and 192. In addition, three of the soils on the site are listed as Farmland of Statewide Importance; these are soil map units 157, 195 and 215. The remaining soil areas are considered non-prime.

The land use capability class of soil 191 is IIIs, and the class of soil 192 is IIle. The land use capability classes are listed Roman numerals I thru VIII, with the first four representing land suitable for crops and the last four representing land suitable for pasture or rangeland uses. The limitations on use increase as the Roman numeral increases. The letter “e” indicates that the soils are subject to erosion, the letter “s” indicates that soils are shallow and/or rocky.

Of the soils rated for Prime or Statewide farmland land classifications, only soil unit 195 within the Project area is designated on the Important Farmland Map – Statewide Importance.

Plate AR-4: Soil Map

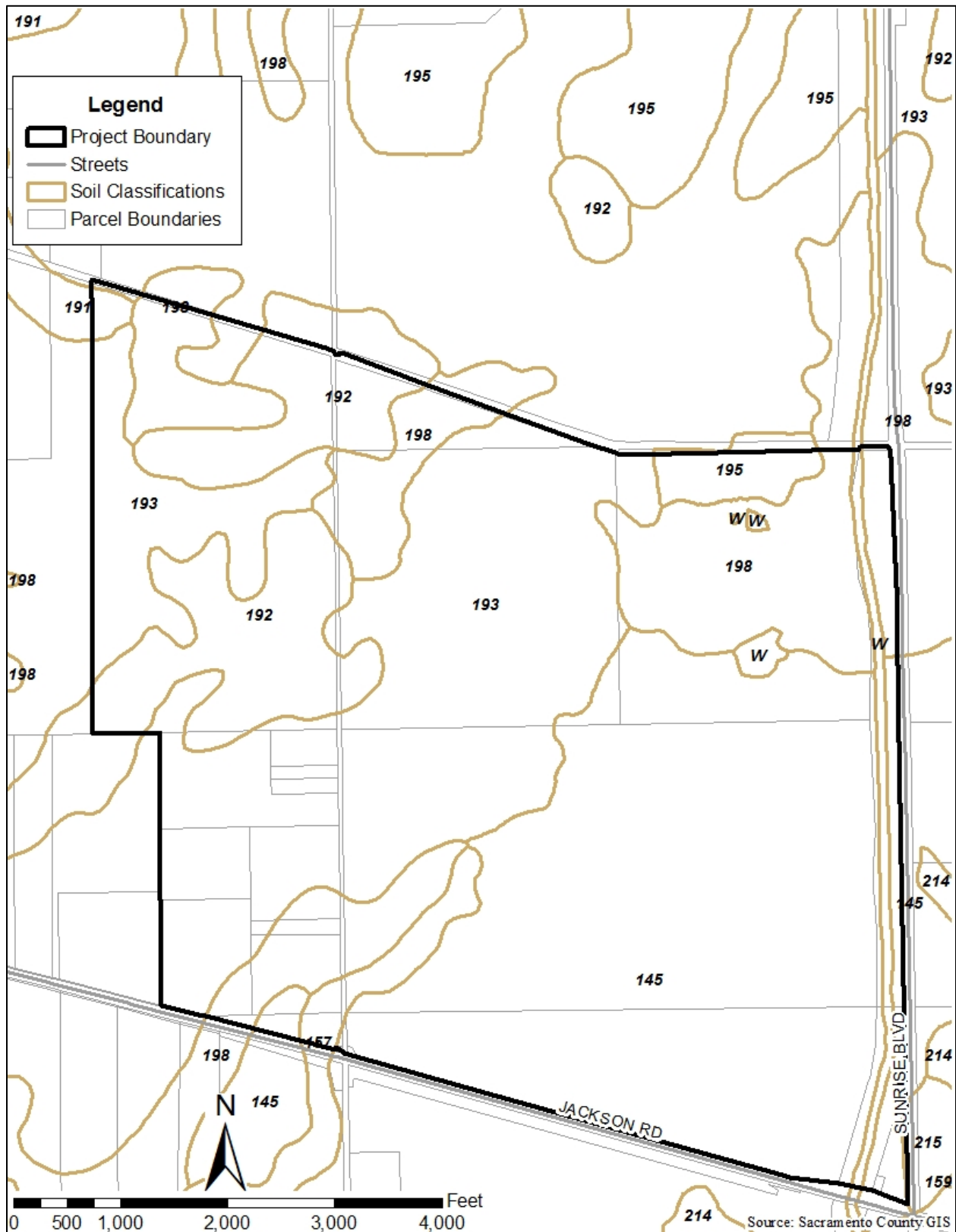


Table AR-1: Soil Types

Map Unit Symbol	Map Unit Name	Farmland Classification	Land capability Classification
145	Fiddymment fine sandy loam, 1 to 8 percent slopes	Not Prime	IVe
157	Hedge loam, 0 to 2 percent slopes	Farmland of Statewide Importance	IIIs
191	Red Bluff loam, 0 to 2 percent slopes	Prime if irrigated	IIIs
192	Red Bluff loam, 2 to 5 percent slopes	Prime if irrigated	IIle
193	Red Bluff-Redding complex, 0 to 2 percent slopes	Not Prime	IIle
195	Red Bluff-Xerarents complex, 0 to 2 percent slopes	Farmland of Statewide Importance	IIIs
198	Redding gravelly loam, 0 to 8 percent slopes	Not Prime	IVe
215	San Joaquin silt loam, 3 to 8 percent slopes	Farmland of Statewide Importance	IIle
247	Water	-	-

As identified on the Important Farmland Map (Plate AR-2), the 75.2 acre area identified **mapped** as Farmland of Local Importance is located on land zoned **by the County** for industrial uses and agricultural uses. According to the California Department of Conservation **DOC** Farmland Mapping and Monitoring Program, Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's Board of Supervisors and local advisory committee. For Sacramento County the definition **in the General Plan presents criteria for classifying land within the County as Farmland of Local Importance. The threshold criterion requires that Farmland of Local Importance be land that "is either currently producing crops or has the capability of production."** If this threshold criterion is met, then secondary criteria further constrains the classification to: reads, "Lands which do not qualify as Prime, Statewide, or Unique designation but are currently irrigated crops or pasture or non-irrigated 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" **(see General Plan, Agricultural Element, p. 6).** These criteria are discussed below, but first is **some background on DOC farmland mapping and site-specific characteristics.** According to the Department of Conservation's website, farmland mapping is completed by comparing existing maps with new aerial photographs to discern land use changes. The local county planning department is given the opportunity to review and provide

information on land that is committed to nonagricultural uses or other pertinent information **to help guide the DOC, pursuant to Government Code Section 65570.**

The majority of this land is zoned for extensive industrial land uses, **despite its DOC classification as farmland.** Based on the aerial photograph, the area of land that is designated **mapped by the DOC** as Farmland of Local Importance was mapped based on the green vegetation, not necessarily on the surrounding land use and soil characteristics. The area that has green vegetation and shallow ponds is associated with the Rendering Plant operations. Effluent from the Rendering Plant is released into the settling ponds. The Rendering Plant Operator has a permit from the Regional Water Quality Board to release effluent into nearby Frye Creek. Not all of the effluent can be released into the creek **because of lack of capacity** and therefore, a portion is **conveniently** discharged as irrigation onto the adjacent land. **Incidentally, this effluent release has artificially irrigated the land. Vegetative growth resulting from this effluent release must be managed to reduce the risk of fire, which is accomplished by openly grazing cattle instead of through removal/cutting by mechanical means. When the rendering plant is decommissioned and relocated, which will occur independent of the proposed Project, this effluent will no longer be released and the land will cease to be irrigated. As a result, the land lacks a permanent water source required for economically viable agricultural operations.**

As to the criteria for determining Farmland of Local Importance, for the 75.2-acre area in discussion here, the threshold criterion is not met. No crops are grown in this area **because they cannot be. The acreage has no permanent water source and, because of soil type and topography, the land is not capable of producing commercially viable crops (see DEIR pp. 1-3 and 9-5). As previously stated,** cattle are only used to keep the height of the vegetation in control. **This lack of crop production or even the capability for production, alone, means that the land does not qualify as Farmland of Local Importance.** Further, **none of the secondary criteria are met.** ‡The Natural Resources Conservation Service (NRCS) Soil Resource Report for Sacramento County does not classify the soils **within the 75.2-acre area** as prime **or of statewide importance.** This is backed up in the California Department of Conservation Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance in which soil map units 145, 198, and 247 are not listed¹. **And, as discussed above, the land is not “irrigated” for agricultural use. The temporarily discharged effluent creates a problematic vegetation growth that is managed through livestock grazing. The land is not purposed for pasturing or grazing; those uses are byproducts of its purpose as an effluent receptor.**

Based on these facts, **this 75.2-acre area does not meet the criteria listed in the General Plan for Farmland of Local Importance.** Sacramento County Office of Planning and Environmental Review submitted a reclassification request to the

¹ Source: Department of Conservation website:
http://www.conservation.ca.gov/dlrp/fmmp/pubs/soils/Documents/Sacramento_ssurgo.pdf

California Department of Conservation (DOC) in July 2014. The DOC responded in September 2014, and noted that the soils do not qualify for Prime Farmland or Farmland of Statewide Importance under U.S. Department of Agriculture criteria. However, the **DOC articulated that the** land is irrigated pasture which fits under the Farmland of Local Importance definition. In order to be removed from the **unmapped as** Farmland of Local Importance category **by the DOC**, the land has to be out of production or in dry farmland status for three mapping cycles (six years). **At that time, the County opted to defer to the DOC's classification of this 75.2-acre area when assessing impacts in the DEIR in order to comply with General Plan Policy AG-5.** Therefore, the area of land classified as Farmland of Local Importance (75.2 acres) will be considered in the impact assessment. **However, additional consideration of the environmental context and local understanding, described above, demonstrates that this 75.2-acre area meets none of the County's criteria for classification as Farmland of Local Importance. It is important to note that the DOC may reclassify this 75.2-acre area during its biennial update to the Important Farmland Map, which is likely to occur at least once prior to physical development of the project. If the FMMP classification of the area changes to a lesser classification prior to conversion of the land, no mitigation would be required.**

After publication of the Draft EIR in July 2018, new CEQA case law (*King and Gardiner Farms, LLC v. County of Kern et al.* (2020) 45 Cal.App.5th 814) established that the impacts of conversion of agricultural land could not be reduced through the proposed mitigation measures to a less-than-significant level because, among other things, the mitigation measures allowed for conservation easements. According to the court, agricultural conservation easements do not constitute adequate mitigation for the loss of agricultural land because they do not create new agricultural land to replace the agricultural land being converted to other uses. Rather, conservation easements simply prevent the future conversion of the agricultural land. In other words, conservation easements do not actually offset a project's impacts on agriculture.

This EIR's analysis of impacts related to conversion of agricultural land to non-agricultural uses goes beyond CEQA statutory requirements which only requires assessing Prime, Statewide Importance, and Unique Farmland loss (see Public Resources Code Section 21060.1(a) and CEQA Guidelines, Appendix G, Sample Questions, § II(a)). The County's General Plan Policy AG-5 includes a note indicating that the current Important Farmland map from the Department of Conservation should be used to calculate mitigation. Based on this General Plan policy requirement, the Project will convert approximately 8.6 acres of Farmland of Statewide Importance and 75.2 acres of land mapped by the DOC as Farmland of Local Importance to non-agricultural uses as shown on the proposed land use plan. As previously stated, General Plan Policy AG-5 defines a substantial farmland loss as 50 acres. Based on Policy AG-5, the Project will result in significant impacts to Farmland of Statewide Importance and land mapped by the DOC as Farmland of Local Importance of approximately 83.8 acres. Policy AG-5 also identifies that the Board of Supervisors retains the ability to override impacts to Unique, Local and Grazing farmlands; and that if the land is required to provide mitigation pursuant to a

Sacramento County endorsed or approved Habitat Conservation Plan (HCP), the Board of Supervisors may consider the mitigation land as meeting the requirements of this policy.

This Project is moving forward ahead of the adoption of **will participate in the recently adopted** the South Sacramento HCP; however, there is relative confidence that the HCP will be adopted by the Board of Supervisors and regulatory agencies. With that being said, the Project ~~u~~**Under the governance of the HCP, the Project** would be required to mitigate for the loss of grassland and vernal pool habitat for 635 acres proposed to be developed (excludes open space preserves, Folsom South Canal, and the lower West Planning Area). **General Plan Policy AG-5 allows HCP mitigation to also meet the requirements of the County's farmland mitigation. This 635 acres of mitigation** would more than cover for the loss of Farmland of Statewide Importance and the **75.2 acres mapped as** Farmland of Local Importance **by the DOC to ensure compliance with Policy AG-5. This mitigation would also result in conservation of a substantially greater acreage that exceeds a 2:1 mitigation ratio, and the majority of the on-site land proposed to be preserved is currently zoned for industrial uses and has soil types and land capability classifications better suited for agricultural activity than the 75.2 acres mapped by the DOC as Farmland of Local Importance (refer to Plate AR-4 and Table AR-1).**

Conversely, if the HCP is not adopted, the Board of Supervisors retains the authority to override impacts, particularly the loss of 75.2 acres of Farmland of Local Importance. As noted above, this area of land is associated with the Rendering Plant operations (excess effluent) and would not have vegetative characteristics if all effluent could be discharged into Frye Creek. This discharge area is not planted with crops and is not land of importance to the local economy. The land owner chooses to manage the vegetation using livestock instead of mechanical means. Ultimately, it is up to the Board of Supervisors to override the impact; therefore, mitigation is recommended to comply with Policy AG-5. **Mitigation Measure AG-2 is included to ensure that the applicant will comply with its HCP obligations in a way that allows mitigation credit under the terms of General Plan Policy AG-5.** With

However, following the King & Gardiner Farms decision, the recommended mitigation, would not reduce impacts related to the conversion of farmland are **to** less than significant, **and there is no feasible additional mitigation that would reduce the impact to a less than significant level. The impact would remain significant and unavoidable.**

The change in impact characterization to significant-and-unavoidable in the FEIR from less-than-significant-with-mitigation in the DEIR stems from the recent court case King and Gardiner Farms, LLC v. County of Kern et al. (2020) 45 Cal.App.5th 814, which held that agricultural conservation easements "do not actually offset the conversion of farmland" and therefore cannot mitigate a farmland conversion impact to less than significant. This caselaw was not foreseeable at the time the DEIR was prepared and, in fact, prior case law indicated that conservation easements were legitimate forms of mitigation (see, e.g., Save Panoche Valley v.

San Benito County (2013) 217 Cal.App.4th 503, 528; Masonite Corp. v. County of Mendocino (2013) 218 Cal.App.4th 230, 238-241).

Consequently, MM AG-2 may no longer be considered effective mitigation, and the County has taken the conservative approach of adjusting the impact conclusion accordingly. The impact itself, however, has not changed. It was fully disclosed in the DEIR and resultantly is not a new impact or a substantial increase in the severity of an existing impact (CEQA Guidelines, § 15088.5, subdivision (a)). The public was given a “meaningful opportunity to comment” on the impact, as-is, during the DEIR public review process and, therefore, this change is not considered “significant new information” that would require recirculation (*ibid*). This impact recharacterization merely provides clarification to an already adequate EIR in response to new caselaw (*id.*, subdivision (b)). Also, as noted above, the 75.2 acres mapped by the DOC as Farmland of Local Importance is inaccurately classified according to County criteria—a mistake the County has tried to rectify with the DOC. Once the land is inevitably reclassified, the impact to farmland would be reduced to the 8.6 acres of Farmland of Statewide Importance, which would then reduce the impact to less than significant without mitigation because the 50-acre threshold set by General Plan Policy AG-5 would no longer be met.

MITIGATION MEASURE:

AG-2: Prior to the issuance of a grading permit, the project proponent shall offset the loss of 83.8 acres of Important Farmland (8.6 acres of Farmland of Statewide Importance and 75.2 acres of Farmland of Local Importance) through 1:1 preservation of farmland within a permanent conservation easement. Pursuant to General Plan Policy AG-5, land set aside by the applicant as mitigation for the **participate in the South Sacramento Habitat Conservation Plan by setting aside 635 acres of land, which** will satisfy this **any** mitigation requirement **from General Plan Policy AG-5 and compensate for the loss of 8.6 acres of Farmland of Statewide Importance as well as the loss of the 75.2 acres of undeveloped land currently mapped by DOC as Farmland of Local Importance and being used for effluent disposal and passive grazing.**

5 AIR QUALITY

INTRODUCTION

The Sacramento Metropolitan Area is a federal ozone non-attainment area, and one of the top ten worst air quality areas nationally¹. In Sacramento County, pollutants of greatest concern are ozone precursors (hydrocarbons and nitrogen oxides), carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}), and other visibility-reducing material. This chapter discusses physical environmental impacts associated with air quality at a project level analysis for the entire Project area.

AIR QUALITY SETTING

LOCATION, CLIMATE, AND ATMOSPHERIC CONDITIONS

The Project site consists of approximately 1,095.3 acres and is located at the southern end of the Sacramento Valley Air Basin. The Sacramento Valley Air Basin is bound by the North Coast Ranges to the west and the Sierra Nevada Mountains to the east. Hot, dry summers and mild, rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, the temperature may range from a low of 20 degrees Fahrenheit to a high of 110 degrees, with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches, with very rare snowfall. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north. Winds within the Project area are predominantly from the southwest.

The geography and weather patterns of the Sacramento Valley are conducive to high air pollution levels. The mountain ranges surrounding the valley are natural air current barriers, which restrict most of the circulating winds of lower elevations from mixing and dispersing air pollutants of the valley. Sacramento is also subject to thermal air inversions, especially during the summer and fall months, wherein a layer of cool air is overlain by warmer air. Also, solar radiation from the abundant sunshine in Sacramento acts as a catalyst to drive chemical reactions between atmospheric pollutants such as reactive hydrocarbons and nitrogen oxides; the result is photochemical smog. Thus, the combination of surrounding mountains, abundant sunshine, thermal air inversions and wind patterns make the Sacramento area susceptible to high levels of air pollution.

¹ American Lung Association, State of the Air 2017, ranked #8 for ozone.

EXISTING AIR QUALITY

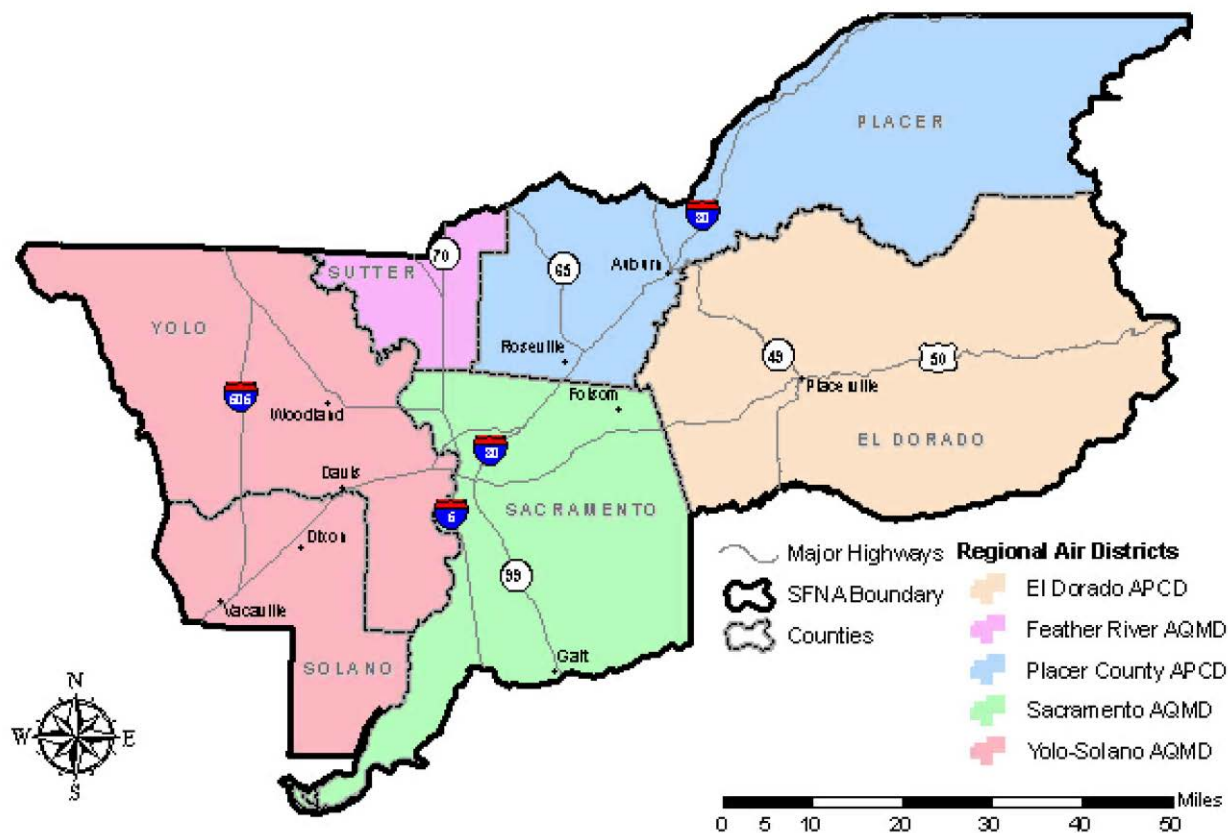
The Sacramento Federal Nonattainment Area for ozone (SFNA) is comprised of five air districts in the southern portion of the Sacramento air basin. The SFNA air districts include all of Sacramento and Yolo Counties, and portions of El Dorado, Placer, Sutter and Solano Counties (see Plate AQ-1). With the exception of ozone and particulate matter standards, this area is in attainment for all state and national ambient air quality standards (AAQS). However, the SFNA is designated a “severe” nonattainment area for the federal eight hour AAQS for ozone, and is a “serious” nonattainment area for the state one hour ozone standard. As a part of the SFNA, Sacramento County is out of compliance with the state one hour and the federal eight hour AAQS for ozone.

With respect to particulate matter, Sacramento County is designated nonattainment for the state PM₁₀ 24 hour standard and annual mean, the state PM_{2.5} annual standard and the federal PM_{2.5} 24 hour standard.

Ambient air quality standards define clean air. Specifically, federal and state AAQS establish the concentration above which a pollutant is known to cause adverse health effects to sensitive groups within the population, such as children and the elderly. Because AAQS have been established for specific pollutants using health-based criteria, the pollutants for which standards have been set are known as “criteria” pollutants. For some of the criteria pollutants, the state standards are more stringent than the federal standards. The differences in the standards are due to variations in health studies and interpretations involved in the standard-setting process.

The amount of pollutants released and the atmosphere’s ability to transport and dilute the pollutants affect a given pollutant’s concentration in the atmosphere. Factors affecting transport and dilution include terrain, wind, atmospheric stability, and, for photochemical pollutants, sunlight. Sacramento’s poor air quality can largely be attributed to emissions, geography, and meteorology.

**Plate AQ-1:
Sacramento Federal Nonattainment Area (SNFA) for Ozone**



Source: Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions), September 26, 2013.

REGULATORY SETTING

POLLUTANTS AND AIR QUALITY STANDARDS

The criteria pollutants of greatest concern are due to construction activities and vehicle emissions. The pollutants from these activities are carbon monoxide (CO), ozone (O₃), and respirable particulate matter (PM₁₀ and PM_{2.5}). A summary of state and federal ambient air quality standards for criteria pollutants is shown in Table AQ-1, below.

Table AQ-2 shows the pollutants of concern within Sacramento County and their attainment status with state and federal standards.

CARBON MONOXIDE (CO)

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 parts per million (ppm) by volume, while the federal 1-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

RESPIRABLE PARTICULATE MATTER (PM₁₀ & PM_{2.5})

Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs, but the smaller particles have been shown to have the most serious health risks. Consequently, there are federal and state air quality standards for particulate matter 10 microns or less in diameter (PM₁₀) and for particulate matter 2.5 microns or less in diameter (PM_{2.5}).

The state PM₁₀ standards are 50 micrograms per cubic meter (µg/m³) as a 24-hour average and 20 µg/m³ as an annual arithmetic mean. The federal PM₁₀ standard is 150 µg/m³ as a 24-hour average. The PM_{2.5} standard has been set by the state at a concentration of 12 µg/m³ as an annual arithmetic mean, and the federal standards are 15 µg/m³ as an annual arithmetic mean and 35 µg/m³ in a 24-hour period.

Particulate matter conditions in Sacramento County reflect a mix of rural and urban sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

OZONE (O₃)

Ozone is not usually emitted directly into the air, but is created at ground level by a chemical reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. The U.S. Environmental Protection Agency (EPA) formerly called VOCs reactive organic gases, or ROG – the latter term is still in use in most modeling programs and by the Sacramento Metropolitan Air Quality Management District. For this reason, both the term VOC and ROG may be used; the reader should be aware that these are the same constituents. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

State and federal standards for ozone have been set for an 8-hour averaging time, and the state also has set a standard for a 1-hour averaging time. There is a federal 1-hour standard in existence, but the standard only applies to Early Action Compact Areas, and Sacramento County is not in such an area. The state 8-hour standard is 0.070 ppm (137 µg/m³) and the 1-hour standard is 0.09 ppm (180 µg/m³). The federal 8-hour standard is 0.075 ppm (147 180 µg/m³). Currently, Sacramento County is classified as a “non-attainment” area for the state ozone standards, and as “severe non-attainment” for the federal 8-hour standard. (“Non-attainment” refers to the goal of attainment of both the state and federal ambient air quality standards.)

Table AQ-1: State and Federal Ambient Air Quality Standards

Pollutant	Symbol	Average Time	Standard, as <u>parts per million</u>		Standard, as <u>micrograms per cubic meter</u>		<u>Violation Criteria</u>	
			California	National	California	National	California	National
Ozone	O ₃	1 hour	0.09	--	180	--	If exceeded	If exceeded more than 3 days in 3 years
		8 hours	0.070	0.07	137	137	If exceeded	If exceeded more than 3 days in 3 years
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded more than 1 day per year
Nitrogen dioxide	NO ₂	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded
		1 hour	0.18	0.100	339	188	If exceeded	
Sulfur dioxide	SO ₂	24 hours	0.04	0.14	105	--	If exceeded	If exceeded more than 1 day per year
		3 hour	--	0.5	--	1,300	N/A	If exceeded more than 1 day per year
		1 hour	0.25	0.075	655	196	If exceeded	N/A
Hydrogen sulfide	H ₂ S	1 hour	0.03	--	42	--	If ≥	N/A
Vinyl chloride	C ₂ H ₃ Cl	24 hours	0.01	--	26	--	If ≥	N/A
Respirable particulate matter	PM ₁₀	Annual arithmetic mean	--	--	20	--	If exceeded	N/A
		24 hours	--	--	50	150	If exceeded	If exceeded more than 1 day per year
Fine particulate matter	PM _{2.5}	Annual arithmetic mean	--	--	12	12	If exceeded	If exceeded over 3-year average
		24 hours	--	--	--	35	If exceeded	If exceeded over 3-year average
Sulfate particles	SO ₄	24 hours	--	--	25	--	If ≥	N/A
Lead particles	Pb	Calendar Quarter	--	--	--	1.5	N/A	If exceeded more than 1 day per year
		Rolling 3-month average	--	--	--	0.15	If ≥	N/A
		30-day average	--	--	1.5	--	If ≥	N/A

Source: California Air Resources Board. “Ambient Air Quality Chart”. May 4, 2016. Accessed: September 28, 2017. <http://www.arb.ca.gov/research/aags/aags2.pdf>

NOTES: **1)** All standards are based on measurements at 25 C and 1 atmosphere pressure. **2)** National standards shown are the primary (health effects) standards. **3)** N/A = not applicable

Table AQ-2: Sacramento County Attainment Status

Pollutant	Attainment with State Standards	Attainment with Federal Standards
Ozone	Non-Attainment Classification = Serious (1 hour Standard ¹)	Attainment (1 hour Standard) Non-Attainment, Classification = Severe -15* (8 hour ² Standards)
Particulate Matter 10 Micron	Non-Attainment and Annual (24 hour Standard and Annual Mean)	Attainment (24 hour Standard)
Particulate Matter 2.5 Micron	Attainment (Annual Standard)	Non-Attainment (24 hour Standard) and Attainment (Annual)
Carbon Monoxide	Attainment (1 hour and 8 hour Standards)	Attainment (1 hour and 8 hour Standards)
Nitrogen Dioxide	Attainment (1 hour Standard and Annual)	Unclassified/Attainment (1 hour and Annual)
Sulfur Dioxide ³	Attainment (1 hour and 24 hour Standards)	Attainment (1 hour and 24 hour Standards)
Lead	Attainment (30 Day Standard)	Attainment (3-month rolling average)
Visibility Reducing Particles	Unclassified (8 hour Standard)	No Federal Standard
Sulfates	Attainment (24 hour Standard)	No Federal Standard
Hydrogen Sulfide	Unclassified (1 hour Standard)	No Federal Standard
<p>1. Per Health and Safety Code (HSC) § 40921.59(c), the classification is based on 1989-1001 data, and therefore does not change.</p> <p>2. For both that 1997 and the 2008 Standard.</p> <p>3. Cannot be classified</p> <p>*Federal designations based on information from http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol17/pdf/CFR-2010-title40-vol17-sec81-305.pdf</p> <p>*California Area Designations based on information from http://www.arb.ca.gov/degisg/changes.htm#reports</p> <p>Source: SMAQMD. "Air Quality Pollutants and Standards". <i>Air Quality Data</i>. December 23, 2013. Web. Accessed: September 22, 2017. http://www.airquality.org/air-quality-health/air-quality-pollutants-and-standards</p>		

FEDERAL, STATE AND LOCAL AGENCIES

Air quality in Sacramento County is regulated by several agencies, which include the EPA, California Air Resources Board (CARB), and Sacramento Metropolitan Air Quality Management District (SMAQMD). Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation.

Although EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, air quality is evaluated based upon standards developed by federal and state agencies. Mobile sources of air pollutants are largely controlled by federal and state agencies, while local air pollution control districts or air quality management districts regulate stationary sources.

Air pollution problems in Sacramento County are primarily the result of locally generated emissions. However, Sacramento County has been identified as a source of ozone precursor emissions that occasionally contribute to air quality problems in the San Joaquin Valley Air Basin and the Northern Sacramento Valley Air Basin. Consequently, the air quality planning for Sacramento County must not only correct local air pollution problems but must also reduce the impacts from the area on downwind air basins.

SACRAMENTO METROPOLITAN AIR QUALITY RULES AND REGULATIONS

SMAQMD regulates air quality in Sacramento County through its permit authority over stationary sources of emissions, through its vehicle and fuels management program, and through planning and review activities. All projects are subject to SMAQMD Rules and Regulations in effect at the time of construction. Several SMAQMD Rules pertinent to the project include:

RULE 201: GENERAL PERMIT REQUIREMENTS. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from SMAQMD prior to equipment operation. The applicant, developer or operator of a project that includes an emergency generator, boiler, or heater should contact the District early to determine if a permit is required, and to begin the permit application process. Portable construction equipment (e.g. generator, compressors, pile drives, lighting equipment, etc.) with an internal combustion engine over 50 horsepower are required to have a SMAQMD permit or a CARB portable equipment registration.

RULE 403: FUGITIVE DUST. The developer or contractor is required to control dust emissions from earth moving activities or any other construction activity to prevent airborne dust from leaving the project site.

RULE 442: ARCHITECTURAL COATINGS. The developer or contractor is required to use coatings that comply with the volatile organic compound content limits specified in the rule.

The SMAQMD was created by state law to enforce local, state, and federal air pollution regulations within the Sacramento Valley Air Basin. The SMAQMD's overall mission is to achieve clean air goals by leading the Sacramento region in protecting public health and the environment through effective programs, community involvement, and public education. The SMAQMD interacts with local, state, and federal government agencies, the business community, environmental groups, and private citizens to achieve these goals. The SMAQMD regulates air pollutant emissions from stationary sources through permit limitations and inspection programs and oversees compliance with state and federal mandates by adopting rules and regulations as necessary.

Because the Sacramento Valley Air Basin is in nonattainment for ozone, PM₁₀, and PM_{2.5}, the SMAQMD requires the implementation of the following Basic Construction Emission Control Practices (BCECPs), regardless of the project's significance determination under CEQA.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads;
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered;
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited;
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph);
- All roadways, driveways, sidewalks, and 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 by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and
- 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.

SACRAMENTO COUNTY

Local governments, such as Sacramento County, have the authority and responsibility to reduce air pollution through the land use decision-making authority allowed by their police power. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in federal, state and local air quality attainment plans. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its general plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring such improvements as bus turnouts, energy-efficient street lights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.

The Sacramento County General Plan includes the following policies that pertain to air quality:

- AQ-1. New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.
- AQ-2. Support Regional Transit's efforts to secure adequate funding so that transit is a viable transportation alternative. Development shall pay its fair share of the cost of transit facilities required to serve the project.
- AQ-3. Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective", and the AQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.
- AQ-4. Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.
- AQ-5. Reduce emissions associated with vehicle miles travelled and evaporation by reducing the surface area dedicated to parking facilities; reduce vehicle emissions associated with "hunting" for on-street parking by implementing innovative parking solutions including shared parking, elimination of minimum parking requirements, creation of maximum parking requirements, and utilize performance pricing for publicly owned parking spaces both on- and off-street, as well as creating parking benefit districts.
- AQ-8. Promote mixed-use development and provide for increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.
- AQ-10. Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.
- AQ-16. Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

- AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.
- AQ-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.
- AQ-20. Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.
- AQ-21. Support SMAQMD's particulate matter control measures for residential wood burning and fugitive dust.
- EN-5. Reduce travel distances and reliance on the automobile and facilitate increased use of public transit through appropriate land use plans and regulations.
- CI-40. Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in 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-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.
- CI-67. When feasible, incorporate lighter colored (higher albedo) materials and surfaces, such as lighter-colored pavements, and encourage the creation of tree canopy to reduce the built environment's absorption of heat to reduce the urban "heat island" effect.
- LU-27. Provide safe, interesting and convenient environments for pedestrians and bicyclists, including inviting and adequately-lit streetscapes, networks of trails, paths and parks and open spaces located near residences, to encourage regular exercise and reduce vehicular emissions.
- LU-37. Provide and support development of pedestrian and bicycle connections between transit stations and nearby residential, commercial, employment or civic uses by eliminating physical barriers and providing linking facilities, such as pedestrian overcrossings, trails, wide sidewalks and safe street crossings.
- LU-40. Employ appropriate traffic calming measures in areas where pedestrian travel is desirable but made unsafe by a high volume or excessive speed of automobile traffic. Preference shall be given to measures that slow traffic and improve pedestrian safety while creating the least amount of conflict with emergency responders.

LU-42. Master planning efforts for new growth areas shall provide for separated sidewalks along all arterials and thoroughfares to make walking a safer and more attractive transportation option.

METHODOLOGY

The SMAQMD “Guide to Air Quality Assessment in Sacramento County” (December 2009, as amended, hereinafter called the SMAQMD Guide) contains screening thresholds for significant impacts. These screening thresholds are used in this analysis to determine whether impacts to air quality are potentially significant. Air quality modeling was conducted for all aspects of the Project that meet or exceed the screening thresholds. The model used was the California Emissions Estimator Model (CalEEMod) version 2013.2.2 **2016.3.2** – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professional to quantify air quality emissions including GHG emissions, from land use projects – to established the unmitigated baseline and proposed project mitigated total mass of ozone precursors.

SIERRA CLUB V. COUNTY OF FRESNO

In December 2018, the California Supreme Court issued its decision in Sierra Club v. County of Fresno (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch project. The Friant Ranch project is located in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in non-attainment for multiple NAAQS and CAAQS, including ozone and PM. The Court ruled that the air quality analysis failed to adequately disclose the nature and magnitude of long-term air quality impacts from emissions of criteria pollutants and precursors “in sufficient detail to enable those who did not participate in its preparation to understand and consider meaningfully the issues the proposed project raises.” The Court noted that the air quality analysis did not provide a discussion of the foreseeable adverse effects of project-generated emissions on Fresno County’s likelihood of exceeding the NAAQS and CAAQS for criteria air pollutants nor did it explain a connection between the project’s emissions and deleterious health impacts. Moreover, as noted by the Court, the EIR did not explain why it was not “scientifically possible” to determine such a connection. The Court concluded that “because the EIR as written makes it impossible for the public to translate the bare numbers provided into adverse health impacts or to understand why such translation is not possible at this time,” the EIR’s discussion of air quality impacts was inadequate. In response to the Friant Ranch Decision, SMAQMD with its consultant Ramboll prepared a Draft Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District (January 31, 2020). The guidance provides screening health information for projects at or below regional

CEQA thresholds of significance emissions levels and selected strategic areas above thresholds of significance emissions levels. Modeling guidance for large projects located outside strategic areas is also included. At the time of writing this Final EIR, SMAQMD has not adopted a permanent guidance document. The analysis performed by Raney Planning and Management (June 26, 2020) follows SMAQMD's Draft Guidance and is provided below.

CONSTRUCTION IMPACT METHODOLOGY

Construction air quality modeling requires detailed information about the exact amount of acreage of construction involved, the amount of pavement, the number and type of construction equipment, and other information that cannot be known at the plan-level stage. Therefore, construction air quality modeling estimates impacts based on the phasing plan provided in the NewBridge Specific Plan and are discussed generically by type of project (e.g. a parking lot), rather than specific project location (e.g. a particular trail in a specific location). General mitigation is included that will be applicable to all future construction projects. Future project level analysis can utilize the following screening methods to determine the appropriate level of analysis required.

DETERMINATION OF CONSTRUCTION OZONE PRECURSOR (NO_x) IMPACTS

Emissions of NO_x from construction activities are generated from the operation of heavy equipment. According to the SMAQMD Guide, projects that are 35 acres or less in size will generally not exceed the SMAQMD's construction NO_x thresholds of significance, 85 lbs/day, provided that the project does not:

- Include buildings more than 4 stories tall;
- Include demolition activities;
- Include major trenching activities;
- Have a construction schedule that is unusually compact, fast-paced, or involves more than 2 phases (i.e., grading, paving, building construction, and architectural coatings) occurring simultaneously;
- Involve cut-and-fill operations (moving earth with haul trucks and/or flattening or terracing hills);
- Require import or export of soil materials that will require a considerable amount of haul truck activity; ~~or,~~

The proposed Project does not meet the above screening criterion; therefore, proposed Project-generated construction emissions of NO_x were calculated through CalEEMod version 2013.2 and following the methodologies included in the SMAQMD's Guide to Air Quality Assessment in Sacramento County. For projects that exceed NO_x thresholds with the inclusion of the BCECP, the SMAQMD recommends the implementation of Enhanced Exhaust Control Practices (EECP); these are considered to be the feasible available on-site measures. The EECPs are as follows:

- The project shall provide a plan for approval by the SMAQMD demonstrating that the heavy-duty (50 horsepower 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 20% NO_x reduction and a 45% particulate reduction compared to the most recent ARB fleet average. 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;
- The project shall ensure that emissions from all off-road, diesel-powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and the lead agency and District 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 shall include the quantity and type of vehicles surveyed, as well as the dates of each survey;
- If, at the time of construction, the SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this regulation. Consultation with the District prior to construction will be necessary to make this determination;

If implementation of feasible on-site measures still does not lower emissions below thresholds, payment of an air quality mitigation fee is recommended. The mitigation fee is based on the amount of emissions that remain over the threshold after implementation of the standard construction mitigation measures, and the cost of reducing an equivalent amount of off-site emissions.

SMAQMD receives money from a variety of sources, including project mitigation fees, to help fund its emission reduction strategies. These funds are in turn used to fund a range of NO_x, VOC, and PM emission reduction programs, including replacement of older construction equipment with newer models, replacement of older on-road heavy-duty trucks with newer trucks, replacement of wood-burning fireplaces with EPA-rated natural gas and wood-burning fireplace inserts, and enforcement of wood-burning prohibitions. The mitigation fee is currently \$30,000/ton, which is based on cost-effectiveness standards established by the California Air Resources Board for the Carl Moyer Incentive Program, a state-funded program for reducing emissions from off-road equipment **and is subject to change**. The SMAQMD mitigation fee for a specific project is calculated using the following formula: number of pounds per day of construction NO_x remaining over the 85 lbs/day significance threshold (after accounting for the 20% emission reduction due to standard construction mitigation), converted to tons, multiplied by the number of days of construction, multiplied by the standard fee **currently** of \$30,000/ton NO_x.

DETERMINATION OF CONSTRUCTION PM_{10} AND $PM_{2.5}$ IMPACTS

According to the SMAQMD Guide, projects that are 35 acres or less in size will generally not exceed the SMAQMD's construction PM_{10} or $PM_{2.5}$ thresholds of significance provided that the project does not:

- Include buildings more than 4 stories tall;
- Include demolition activities;
- Include significant trenching activities;
- Have a construction schedule that is unusually compact, fast-paced, or involves more than 2 phases (i.e., grading, paving, building construction, and architectural coatings) occurring simultaneously;
- Involve cut-and-fill operations (moving earth with haul trucks and/or flattening or terracing hills); or,
- Require import or export of soil materials that will require a considerable amount of haul truck activity.

Any project which exceeds the 35-acre project size is assumed to exceed the significance threshold of 80 lbs/day for PM_{10} and 82 lbs/day for $PM_{2.5}$, unless project-specific modeling which demonstrates otherwise is performed using the California Emission Estimator Model (CalEEMod). The Project was evaluated using the above screening criteria. For those projects which will result in significant dust emissions, SMAQMD further recommends the following Enhanced Fugitive PM Dust Control Practices (EFPMDCP):

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site;
- Suspend excavation, grading, and/or demolition activities when wind speeds exceed 20 mph;
- Install wind breaks (e.g., plant trees, solid fencing) on windward sides of construction areas;
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established;
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site;
- Treat site access to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads; and
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take

corrective action within 48 hours. The phone number of the SMAQMD shall also be visible to ensure compliance.

Note that dust abatement practices are required pursuant to SMAQMD Rule 403 and California Code of Regulations, Title 13, sections 2449(d)(3) and 2485; the basic and enhanced measures simply lay out the basic practices needed to comply. Since these are already required by existing rules and regulations, it is not necessary to include them as mitigation.

OPERATIONAL IMPACT METHODOLOGY

OPERATIONAL OZONE PRECURSOR (NO_x AND ROG) EMISSIONS

Most ozone precursor emissions result from mobile and area sources. Mobile sources include motor vehicle traffic, while area sources include pollutants generated from furnaces, water heaters/boilers, facility maintenance equipment, and consumer products.

SMAQMD developed the Operational Screening Levels table which lists the size of development by land use type at which the operational emissions thresholds would not be exceeded. The screening levels may not be used to screen projects which include one or more of the following characteristics:

- The project will include wood stoves or wood-burning appliances;
- Project trip generation rate is expected to be greater than the default trip rate in CalEEMod. The default trip rates in CalEEMod, which can be viewed in the Operational-Mobile Vehicle Trips tab, are based on standard rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual;
- The vehicle fleet mix for the project is expected to be substantially different from the average vehicle fleet mix for Sacramento County. For example, the fleet mix associated with an industrial land use project will likely consist of a high portion of heavy-duty trucks;
- The project will include mixed-use development; or
- The project will include any industrial land use types (possibly including stationary sources of emissions).

Project-generated NO_x and ROG emissions were calculated through CalEEMod, with the model estimates adjusted to reflect the trip rates defined by the Project-specific traffic study. Emissions reductions were calculated through the production of an Air Quality Management **Mitigation** Plan² (AQMP), which is designed to achieve a minimum 35% emissions reduction at full build-out of the Project (per guidance from

² Raney Planning and Management, Inc., NewBridge Specific Plan Project Operational Air Quality Mitigation Plan, June ~~2015~~ **2020**.

SMAQMD, indicating that this represents the feasible mitigation that should be applied). **Based on comments received during the public review period for the EIR, as well as due to County-mandated measures for the proposed project as part of the Development Agreement, Raney has prepared an updated AQMP included herein. The updated analysis relies on version 4 of SMAQMD's Recommended Guidance for Land use Emission Reductions, which is the current version of SMAQMD's Guidance.**³ The **updated** AQMP is included as Appendix AQ-2.

OPERATIONAL CO EMISSIONS

Emissions and ambient concentrations of CO have decreased dramatically with the increase in vehicle efficiencies and emission-control feature effectiveness. Although the Sacramento Valley Air Basin is designated as in attainment by both CARB and the EPA, elevated localized concentrations of CO still warrant consideration with respect to environmental analysis. Occurrences of localized “hot spots” are typically associated with heavy traffic congestion occurring at signalized intersections of high-volume roadways. The SMAQMD recommends two methods for analyzing CO concentrations: a screening level analysis and dispersion modeling. The Project was evaluated using the below screening criteria and the traffic and Level of Service (LOS) information from the Project traffic study.

SCREENING CRITERIA FOR CARBON MONOXIDE HOTSPOTS

The SMAQMD screening criteria are divided into two tiers, developed to help lead agencies analyze potential CO impacts when site-specific CO dispersion modeling may not be warranted. This two-tiered approach provides a conservative indication of the potential for project-generated vehicle trips to result in the exceedance of significance thresholds. According to the First Tier of the SMAQMD Screening Criteria, a project would be less than significant for local CO emissions if:

- Traffic generated by the Project would not result in deterioration of intersection LOS to LOS E or F; or
- The project would not contribute additional traffic to an intersection that already operates at LOS E or F.

If the first screening level tier is not met, the Project would be considered less than significant if it meets all of the following:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;

³ Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions Version 4 (for Operational Emissions)*. November 30, 2017.

- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or 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 intersection is not anticipated to be substantially different from the County average.

TOXIC AIR CONTAMINANTS

The ARB indicates that one of the highest public health priorities is the reduction of diesel particulate matter generated by vehicles on California's highways, as it is one of the primary toxic air contaminants (TAC). Other potential TAC generators within the County of Sacramento are associated with specific types of facilities, such as dry cleaners, gas stations, and chrome plating facilities, and are the focus of ARB's control efforts. ARB has made specific recommendations with respect to considering existing sensitive uses when siting new TAC-emitting facilities or with respect to TAC-emitting sources when siting sensitive receptors. ARB⁴ recommends that following buffer distances be observed when locating TAC emitters or sensitive land uses:

- Freeways or major roadways – 500 feet;
- Dry cleaners using perchloroethylene – 500 feet. California regulations prohibit the installation of new perchloroethylene dry cleaning equipment, and thus this is only relevant for existing dry cleaners using old equipment;
- Auto body repair services – 500 feet;
- Gasoline dispensing stations with an annual throughput of less than 3.6 million gallons – 50 feet;
- Gasoline dispensing stations with an annual throughput at or above 3.6 million gallons – 300 feet;
- Other TAC sources including furniture manufacturing and repair services that use methylene chloride or other solvents identified as a TAC – 300 feet;
- Distribution centers with more than 100 trucks per day; more than 40 trucks with operating transport refrigeration units per day; or where transport refrigeration unit operations exceed 300 hours per week – 1,000 feet;
- Rail yards for major service and maintenance operations – 1,000 feet;
- Chrome platers – 1,000 feet;
- Port developments should not site the heavily impacted areas immediately upwind of sensitive land uses; and
- Petroleum refineries should not site the heavily impacted areas immediately upwind of sensitive land uses.

⁴ ARB *Air Quality and Land Use Handbook – A Community Health Perspective* April 2005.

Several of the uses in the list above are industrial in nature and would not be permissible in the Project area based on the Project land uses allowed in the Specific Plan. These include chrome platers, rail yards, major distribution centers, and refineries. California regulations prohibit the installation of new perchloroethylene dry cleaning equipment; since there are no existing dry cleaners in the Project area, that item is not relevant. The SMAQMD recommends that site-specific health risk assessments be performed to accurately document potential cancer risk when siting sensitive land uses within the above buffer zones. In addition, California Health and Safety Code Section 42301.6 specifies that the Air Pollution Control Officer (an SMAQMD position) must prepare a public notice for any permit to construct or modify a TAC source when that source is located within 1,000 feet of the outer boundary of a school site. The “source” is defined as the location of the emissions stack or venting unit—it is not the boundary of the site on which the source is located.

For the assessment of significant impacts from exposure to TACs from mobile sources, the SMAQMD has issued the Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways. The Protocol does not establish a threshold of significance for mobile sources, but indicates an evaluation criterion of that level of increased individual risk corresponding to a 70 percent reduction from the highest risk calculated at 50 feet (currently of 276 cases of cancer per million, Sacramento Metropolitan Air Quality Management District 2011). At this level, a Health Risk Assessment is recommended, the results of which should be disclosed in an environmental document.

ODOR IMPACTS

Odiferous compounds can be generated from a variety of sources, including both construction and operational activities and from specific land uses. Land uses that typically generate significant odor impacts include, but are not limited to: wastewater treatment plants, sanitary landfills, composting/green waste facilities; recycling facilities; petroleum refineries, chemical manufacturing plants, painting/coating operations, and food packaging plants.

Thresholds for odor impacts have not been established by the SMAQMD; however, the air district recommends that several factors be taken into account when determining the significance of a potential odor impact. Those parameters include:

- **Nature of the Odor Source:** Odors generated by source types such as wastewater treatment plants, landfills, or rendering plants are typically considered objectionable and offensive to most individuals. Evaluations of the nature of odor sources should include the intensity of the source’s operation as well as the time of day and duration of odor emissions.
- **Buffer Zone:** The SMAQMD considers the inclusion of a sufficient buffer zone to be one of the most effective methods to ensure land use compatibility with respect to odors. Distance alone can allow odor emissions to disperse to lower, undetectable levels before reaching receptors. The SMAQMD uses a screening

distance of one mile for landfills, two miles for composting, and four miles for rendering plants. All odor impact discussions should provide the buffer distance and a description of the land features and topography in the buffer zone that separates receptors and the odor source. A buffer zone that includes dense vegetative cover from trees and shrubs could further reduce the level of the impact by acting as a filter and enabling more vertical or mechanical mixing to occur.

- **Meteorology:** Meteorological conditions affect the dispersion of odor emissions, thereby affecting the significance of the impact. The analysis should determine predominant wind direction and the frequency of temperature inversions in the project area and evaluate whether receptors would be upwind or downwind of the odor source.
- **Odor Complaint History:** Projects that would locate receptors near a potential odor source should consider the odor complaint history for the past three years of the source's operations. In reviewing the complaint history, lead agencies should consider the distance of the receptors making the complaint and the upwind/downwind orientation with respect to the source. The SMAQMD considers odor sources to have a substantial number of odor complaints if they have had one confirmed complaint per year averaged over a three-year period or three unconfirmed complaints per year averaged over a three-year period. In general, when a source has a substantial number of odor complaints, that source would be considered to have a potentially significant odor impact.

IMPACTS AND ANALYSIS

In the following section, impacts of the proposed Project related to air quality are discussed. The Project would allow for development of 3,075 dwelling units, 190,000 square feet (sf) of commercial-retail development, 130,000 sf of mixed use, 180,000 sf office space, 9.4 acres used for an elementary school, and 2.5 acres used for a fire station. Air quality impacts are estimated with respect to regional air quality standards and localized sensitive receptors such as schools and residential land uses. The health of people on these properties (including residents of the Project) may be adversely impacted if air emissions exceed a level deemed significant by federal or State agencies. The net increase in site emissions generated by the Project was qualitatively and quantitatively evaluated and compared to thresholds of significance established by the SMAQMD.

Odor impacts from the proposed Project are not substantively discussed below because the Project does not include land uses that would typically generate significant odor (see Operational Impact Methodology: Odor Impacts section above for a list of odor-generating land uses). The only odor causing land use in the vicinity is the existing rendering plant, which is not a Project component (see pages 1-21 and 10-15). The rendering plant will remain in its current location until

it is decommissioned and relocated as a separate action, which is planned to occur prior to Project development (see Mitigation Measure HM-1). However, if overlap were to occur with plant operation and Project residential development and building occupation, exposure of future project area residents to any odor emanating from the rendering plant would not be considered an environmental impact recognized by CEQA. CEQA does not require analysis of the potential effects of an existing condition on project users or residents except to the extent that a proposed project risks exacerbating that condition, thereby causing project-related impacts, which would not occur with the proposed Project (see *California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 377–378; see also *South Orange County Wastewater Authority v. City of Dana Point* (2011) 196 Cal.App.4th 1604, 1613–1617; and CEQA Guidelines, Appendix G, Sample Questions, section III [air quality]). Moreover, the rendering plant is currently equipped with “state-of-the-art odor-control devices” to minimize any noxious odors (page 1-3 of the DEIR). The SMAQMD buffering recommendations, included above in the discussion of odor methodology, are intended as guidelines for the siting of odor-generating facilities and, therefore, are not applicable here (see SMAQMD’s *Guide to Air Quality Assessment in Sacramento County*, available online at <http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools>).

SIGNIFICANCE CRITERIA

A project may be deemed to have a significant effect on the environment if it will violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. SMAQMD has adopted significance thresholds for CEQA projects within the District. The adopted significance thresholds for criteria pollutants of the greatest concern in the Sacramento area are shown below in Table AQ-3.

Table AQ-3: SMAQMD Significance Thresholds

	ROG ¹ (lbs/day)	NO _x (lbs/day)	CO (µg/m ³)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Construction (short-term)	None	85	CAAQS ²	80 ³	82 ³
Operational (long-term)	65	65	CAAQS	80 ³	82 ³
1. Reactive Organic Gas 2. California Ambient Air Quality Standards (see Table AQ-4). 3. Only applies to projects for which all feasible best available control technology (BACT) and best management practices (BMPs) have been applied. Projects that fail to apply all feasible BACT/BMPs must meet a significance threshold of 0 lbs/day.					

The SMAQMD has not established thresholds for construction-related TAC emissions; however, thresholds have been adopted for stationary sources regarding cancer and non-cancer related risk. Cancer risk threshold is an incremental increase in cancer risk greater than 10 in one million at any off-site receptor. Non-cancer risk (hazard index) threshold is when ground-level concentration of project-generated TACs would result in a Hazard Index greater than one for any off-site receptor. For the purposes of this document, this amount is used as a screening threshold to establish potentially significant increases in cancer risk.

Short-term impacts are associated with project construction, and long-term impacts are associated with mobile and area emissions during operation of a completed project. The analyses below focus on ozone precursors and particulate matter (ROG, NO_x, PM₁₀ and PM_{2.5}), which is consistent with the SMAQMD Guidelines. Analyses are not included for sulfur dioxide, lead, and other constituents because there are no mass emission thresholds; these are concentration-based limits in the AAQS which require substantial, point-source emissions before exceedence will occur. The Project does not include any elements that will generate substantial point-source emissions. More specifically:

- a. Page 3-1 of the SMAQMD Guide states that for construction activities, carbon monoxide, sulfur dioxide, and lead are of less concern because construction activities are not likely to generate substantial quantities of these CAPs.
- b. Page 4-1 of the SMAQMD Guide states that for most land use projects pollutants such as sulfur dioxide and lead are of less concern because operational activities are not likely to generate substantial quantities of these CAPs and the Sacramento Valley Air basin has been in attainment for these CAPs for multiple years.
- c. Page 4-14 of the SMAQMD Guide states that except for carbon monoxide, land use development projects do not typically have the potential to result in localized concentrations of CAPs that exceed or contribute to an exceedance of the respective AAQS.

Table AQ-4: California AAQS Thresholds

Pollutant	Concentration Thresholds
PM ₁₀	50 µg/m ³ 24-hour standard; 20 µg/m ³ Annual Arithmetic Mean
PM _{2.5}	12 µg/m ³ Annual Arithmetic Mean
CO	20 ppm 1- hour standard; 9 ppm 8- hour standard
NO ₂	0.18 ppm 1- hour standard; 0.03 ppm Annual Arithmetic Mean
SO ₂	0.25 ppm 1- hour standard; 0.04 ppm 24- hour standard
Lead	1.5 µg/m ³ 30-day average
Visibility-Reducing Particles	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles when relative humidity is less than 70 percent
Sulfates	25 µg/m ³ 24-hour standard

H ₂ S	42 µg/m ³ or 0.03 ppm 1-hour standard
Vinyl Chloride	26 µg/m ³ or 0.01 ppm 24-hour standard

IMPACT: CONSTRUCTION ACTIVITIES WOULD INCREASE NO_x EMISSIONS

Construction activities require the use of various combinations and types of construction equipment. Much of this equipment is likely to be diesel-fueled and would emit NO_x as part of the fuel combustion process. Because of the low regulatory threshold (85 pounds per day within the SMAQMD), total daily emissions of NO_x from standard development projects within the NewBridge Plan Area could exceed the threshold on most days.

During construction of the Project, emissions of NO_x would occur from the operation of equipment necessary to complete the development. Full buildout of the Project will occur over a span of decades and will be driven by prevailing market conditions in any given year. Based on historical trends within Sacramento County, it can be expected that there will be periods of intense construction in which multiple large areas are subject to concurrent construction, and periods of minimal activity in which the demand for construction abates. This makes it infeasible and speculative to provide an accurate forecast of year-to-year emissions. In order to estimate emissions associated with construction, land uses and corresponding acreages associated with Phase A (approximately 1/3 of the total Project area) were entered into CalEEMod.

For the example modeling scenario, Phase A was estimated to span a 10-year period and assumes a worst-case scenario of grading and construction phases overlapping. Other model defaults were changed to accurately reflect the acreage of the land use types and increased the number of equipment that may be used. The results of the modeling indicated that the first phase of the Project would exceed the pounds per day for NO_x emission thresholds for several years. However, impacts could ultimately be greater or less than those reported below depending on how actual buildout occurs.

Due to the passage of time since preparation of the analysis presented within the Draft EIR, it is anticipated that the project may not be fully operational until the year 2032, which is why the year 2032 was used for recent emissions modeling. In response to comments received on the Draft EIR, additional construction emissions modeling for criteria pollutants was performed, and is included as Appendix AQ-3. This additional modeling assumes demolition of the existing rendering plant overlaps with the Project's construction activity to achieve the most conservative emissions estimates. The additional modeling assumes that the entire project would be constructed by 2032, in contrast to the previous modeling assumption that the first phase would be constructed over a period of ten years.

Historical building permit data in unincorporated Sacramento County shows that an annual average of 625 residential building permits have been issued since

2013 (Sacramento County General Plan 2019 Annual Report, presented to the Board of Supervisors on April 7, 2020). Within this time frame, the lowest number of residential building permits issued was 325 (2014) and the highest was 1,147 (2018). In order for the Project to be fully constructed by 2032, over 250 residential building permits would need to be issued each year for the Project, which represents a substantial percentage (e.g., 22-77%) of the average issued building permits over the last seven years. This demonstrates a very conservative approach to the emissions modeling. It should be noted that actual buildout is subject to market conditions and is not likely to be complete by 2032, so actual construction-related emissions may be less.

As shown in **updated** Table AQ-5 below, the Project does have the potential to result in significant impacts throughout most of the life of the Project, even after implementation of the BCECPs and ECEPs. CalEEMod output is included in Appendix AQ-1. Mitigation is included to ensure that all subsequent projects which occur within the Project area conform to the SMAQMD mitigation and abatement requirements which are in effect at the time. Currently, these requirements include reduction of NO_x pollutants by 20%, and the payment of a fee for projects with NO_x emissions that remain significant even after the 20% reduction. SMAQMD uses the mitigation fees to help fund regional air quality programs, such as the replacement of older construction equipment with newer models and the retrofitting of older equipment with pollution-reducing components. Since NO_x is a precursor to regional ozone formation, mitigation fees are used on projects anywhere within the ozone non-attainment area that meet the cost-effectiveness criteria used to determine the fee. Compliance with SMAQMD regulation and recommended mitigation will ensure that impacts are *less than significant*.

IMPACT: CONSTRUCTION ACTIVITIES WOULD INCREASE PARTICULATE MATTER EMISSIONS

The Project would disturb up to approximately 707 acres during a three-phase development schedule estimated to span ~~thirty~~ **many** years. As discussed in the Construction Impact Methodology section, a project will result in less than significant impacts with the implementation of the Basic Construction Emission Control Practices if no more than 35 acres of active site disturbance occurs at any given time. Because the specific construction schedule is unknown and the development of individual projects may overlap, it is likely that construction activities will not be limited to 35 acres. In fact standard SMAQMD guidance indicates that it should be assumed that 25% of a total site will be actively graded at any one time, which means that any site of greater than 140 acres will involve more than 35 acres of active grading. It is reasonable to expect that there will be many projects within the Project area which will involve grading that exceeds the SMAQMD screening threshold and should be presumed to have significant impacts.

Dust abatement practices are required pursuant to SMAQMD Rule 403 and California Code of Regulations, Title 13, sections 2449(d)(3) and 2485; the SMAQMD Guide

simply lays out the basic practices needed to comply. Since these are already required by existing rules and regulations, it is not necessary to include them as mitigation; **however, they are included in Mitigation Measure AQ-1 below for clarity and to ensure a consistent approach for the Jackson Highway Corridor master plans based on the latest guidance from SMAQMD.** These practices also constitute all feasible measures available to reduce the impact. Limiting future projects to no more than 35 acres of active grading has been considered but is infeasible for a variety of reasons. Firstly, subsequent development under the NSP will be constructed by separate developers, each with their own schedules, so such a measure would require coordinating among all these developers to set schedules which would not result in cumulative exceedance of the 35-acre limitation. The likely result of this would be to prevent certain development projects from progressing until a later construction season. In addition, it would require constant on-site monitoring by County staff to ensure that the measure was being carried out. The measure is impracticable and is furthermore not recommended by SMAQMD. Despite the application of feasible measures though existing rules and regulations, the Project will result in a *significant and unavoidable* impact related to PM₁₀ and PM_{2.5} emissions generated by construction.

Table AQ-5: CalEEMod Results – Construction Phase Emissions

Construction Year	Constituent in pounds per day			
	ROG	NO _x	PM ₁₀	PM _{2.5}
2016	33.78	377.45	46.5	32.05
2017	31.92	353.38	45.24	30.9
2018	49.57	421.87	70.62	39.06
2019	93.52	423.69	74.71	40.28
2020	85.51	346.34	62.46	32.21
<u>Demolition</u>	<u>3.4</u>	<u>33.3</u>	<u>1.8</u>	<u>1.6</u>
2021	63.25 <u>155.7</u>	113.25 <u>126.5</u>	32.01 <u>45.3</u>	11.68 <u>13.2</u>
2022	61.96 <u>154.2</u>	101.32 <u>118.0</u>	31.44 <u>45.1</u>	11.14 <u>13.1</u>
2023	60.81 <u>155.2</u>	92.89 <u>127.8</u>	31.02 <u>64.4</u>	10.74 <u>24.0</u>
2024	60.05 <u>129.0</u>	88.56 <u>96.7</u>	30.71 <u>44.8</u>	10.45 <u>12.7</u>

2025	59.3 <u>128.0</u>	83.82 <u>93.4</u>	30.40 <u>44.7</u>	40.15 <u>12.6</u>
2026	59.04 <u>127.3</u>	83.28 <u>91.3</u>	30.40 <u>44.6</u>	40.16 <u>12.6</u>
<u>2027</u>	<u>129.1</u>	<u>114.7</u>	<u>64.0</u>	<u>23.6</u>
<u>2028</u>	<u>88.7</u>	<u>87.8</u>	<u>44.6</u>	<u>12.6</u>
<u>2029</u>	<u>87.9</u>	<u>86.2</u>	<u>44.6</u>	<u>12.5</u>
<u>2030</u>	<u>87.0</u>	<u>80.0</u>	<u>44.2</u>	<u>12.1</u>
<u>2031</u>	<u>86.2</u>	<u>78.7</u>	<u>44.1</u>	<u>12.1</u>
<u>Maximum</u>	<u>155.7</u>	<u>127.8</u>	<u>64.4</u>	<u>24.0</u>

MITIGATION MEASURES:

AQ-1. Construction exhaust and fugitive dust emissions controls. All individual public and private subsequent projects within the project area shall implement SMAQMD's Basic Construction Emission Control Practices and SMAQMD's Enhanced Exhaust Control Practices during any construction or ground disturbance activities to reduce construction-related fugitive dust emissions, diesel PM, and NO_x emissions. These measures are included below.

BASIC CONSTRUCTION EMISSIONS CONTROL PRACTICES (BEST MANAGEMENT PRACTICES)

The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds.

Control of fugitive dust is required by District Rule 403 and enforced by District staff.

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

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and off-road diesel-powered equipment. The California Air Resources Board enforces the idling limitations.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Lead agencies may add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).

ENHANCED ON-SITE EXHAUST CONTROL PRACTICES

~~All future construction projects which exceed the SMAQMD construction ozone precursor screening thresholds in effect at the time of project submittal shall include an ozone precursor analysis. If the analysis results indicate that the project will generate ozone precursors that exceed the current Sacramento Metropolitan Air Quality Management District thresholds, this mitigation shall apply. This mitigation may be modified if guidance from the Sacramento Metropolitan Air Quality Management District changes in the future.~~

- ~~The project shall provide a plan for approval by the District 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 20% NO_x reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. 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. The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
- ~~B. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the lead agency and District shall be notified within 48 hours of identification of non-compliant equipment will be documented and a summary provided to the lead agency and SMAQMD monthly. 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. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other District or state rules or regulations.~~
- ~~G. If at the time of construction, the District has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the District prior to construction will be necessary to make this determination.~~
1. **The project applicant, or its designee, shall provide a plan for approval by the Sac Metro Air District that demonstrates the heavy-duty off-road vehicles (50 horsepower or more) to be used 8 hours or more during the construction project will achieve a project wide fleet-average 10% NOX reduction compared to the most recent California Air Resources Board (CARB) fleet average. The plan shall have two components: an initial report submitted before construction and a final report submitted at the completion.**
- **Submit the initial report at least four (4) business days prior to construction activity using the Sac Metro Air District's Construction Mitigation Tool (<http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation>).**
 - **Provide project information and construction company information.**
 - **Include the equipment type, horsepower rating, engine model year, projected hours of use, and the CARB equipment identification number for each piece of equipment in the plan. Incorporate all owned, leased and subcontracted equipment to be used.**

- Submit the final report at the end of the job, phase, or calendar year, as pre-arranged with Sac Metro Air District staff and documented in the approval letter, to demonstrate continued project compliance.
- 2. The Sac Metro Air District may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other air district, state or federal rules or regulations.
- 3. This mitigation will sunset on January 1, 2028, when full implementation of the CARB In-Use Off-Road Regulation is expected.

AQ-2. To mitigate the additional emissions that cannot be offset through implementation of Mitigation Measure AQ-1, above, the following shall apply: Prior to the approval of improvement plans or the issuance of grading permits, the proponent will submit proof that the off-site air quality mitigation fee (at the prevailing rate including associated administrative fee) has been paid to SMAQMD, and that the construction air quality mitigation plan has been approved by SMAQMD and Sacramento County.

The fee calculation shall be based on the sum of emissions associated with all individual construction activities or phases occurring within the project area boundary at any one time during the buildout period. Payment schedules shall be negotiated between SMAQMD and the developer and based on finalized construction parameters before the issuance of any grading permit or groundbreaking activities. If, for instance, the construction contractor of one builder is constructing one village while the construction contractor of another builder is constructing another village, the developer is responsible for determining the proportion of necessary combined offset fees that each builder must contribute. Once initial construction activities are finalized by the developer, quantification of construction-related emissions shall be verified. As each individual construction phase is finalized throughout the duration of the project buildout, the mitigation fee shall be calculated based on current information, available construction equipment, and proposed construction activities. As construction activities occur over the buildout period, the developer shall work with SMAQMD to continually update mitigation fees based on actual on-the-ground emissions. The final mitigation fees shall be based on contractor equipment inventories provided by the developer to SMAQMD and shall reconcile any fee discrepancies due to schedule adjustments and increased or decreased equipment inventories. Equipment inventories and NO_x emission estimates for subsequent construction phases shall be coordinated with SMAQMD, and the off-site mitigation fee measure shall be assessed to any construction phase that would result in an exceedance of SMAQMD's mass emission threshold for NO_x.

1. The environmental document identified that construction-generated emissions of nitrogen oxide (NO_x) will exceed the Sac Metro Air District's threshold of significance

The project applicant, or its designee, shall pay a mitigation fee and an administrative fee to the Sac Metro Air District to reduce the project impacts from construction NO_x emissions to a less than significant level.

2. The project applicant, or its designee, shall pay the mitigation and administrative fees in full prior to the lead agency issuing a grading permit that would allow activity that would exceed Sac Metro Air District's threshold.
3. An alternative payment plan may be negotiated by the project applicant, or its designee, based on the timing of construction phases that are expected to exceed the Sac Metro Air District's threshold of significance. Any alternative payment plan must be acceptable to the Sac Metro Air District and agreed upon in writing prior to issuance of a grading permit by the lead agency.
4. In coordination with the lead agency and the Sac Metro Air District, the project applicant, or its designee, may reanalyze construction NO_x emissions from the project prior to starting construction to account for any changes to CARB's In-Use Off-Road Diesel Equipment Regulation and/or statewide equipment emissions factors that form the baseline assumptions in the Sac Metro Air District's construction mitigation program, or any changes to the assumptions in the construction analysis in the EIR.
 - a. The analysis must be conducted using Sac Metro Air District approved emissions model(s) and the fee rates published at the time of reanalysis.
 - b. The analysis may include on-site measures to reduce construction emissions if deemed feasible by the lead agency and project applicant. All on-site measures assumed in the analysis must be included in the construction contracts and be enforceable by the lead agency.

IMPACT: OPERATIONAL EMISSIONS

Once a project is completed, additional pollutants are emitted through the use, or operation, of the site. As an example, a new residential development will emit pollutants from fireplaces, the use of lawnmowers, and primarily from the cars of the new homeowners. The proposed project will generate long-term emissions of ozone precursors (ROG and NO_x), particulate matter (PM₁₀ and PM_{2.5}) and carbon monoxide (CO).

Ultimately, a project typically must have large acreages or intense uses in order to result in significant operational air quality impacts – the screening table in the SMAQMD Guide includes a minimum of over 600 new homes or hundreds of thousands of square feet of commercial use (depending on the type of use). The project does not screen out

using the SMAQMD Guide; therefore, emissions from the Project at full buildout were calculated using the CalEEMod model. These data already reflect many of the Project features which reduce trip generation, such as the provision of a transit system.

As shown in Table AQ-6 and Table AQ-7, emissions will substantially exceed the threshold of 65 lbs/day. **These values have been updated based on the revised modeling for the updated AQMP and include all sources of emissions previously included in the 2015 AQMP for clarity.** General Plan policy AQ-4 requires that projects with substantial ozone precursor emissions develop a plan to reduce those emissions, and the SMAQMD typically recommends likewise. The typical reduction amount required is 15%; however, SMAQMD indicated that the Project was not included in the land use assumptions of the State Implementation Plan (SIP) for the regional reduction of ozone precursors emissions, and recommended a greater reduction of 35%. Note that these required reductions are reductions from a Business As Usual scenario which was developed by SMAQMD, not from the Project as-designed. The purpose of the Business As Usual scenario is to provide a level playing field, so that projects which already incorporate many emissions-reducing features are not penalized. Project as-designed model emission results are shown in Table AQ-7 and Table AQ-8.

Table AQ-6: Unmitigated Baseline Operational Emissions

Source	ROG (lbs/day)	NO _x (lbs/day)	NO _x ^e (lbs/day)
<u>Area</u>	<u>195.01</u>	1.97	
<u>Energy</u>	<u>1.48</u>	15.89	
Mobile	192.46 <u>54.41</u>	300.38 <u>264.27</u>	364.53
<u>Total</u>	<u>250.90</u>	<u>282.14</u>	
Source: CalEEMod, June 2014 <u>April 2020 and July 2020.</u>			

Table AQ-7: CalEEMod Results – Proposed Project On-Model Mitigated Operational Emissions

Source	ROG (lbs/day)	NO _x (lbs/day)	NO _x ^e (lbs/day)
<u>Unmitigated Baseline</u>	<u>250.90</u>	<u>282.14</u>	
<u>Proposed Project Mitigated</u>	<u>229.10</u>	173.10	
Mobile	171.85	190.68	247.96

<u>Total Emissions</u>	<u>21.80</u>	<u>109.40</u>	
<u>Reductions Achieved</u>			
Source: CalEEMod, September 2014 <u>April 2020 and July 2020.</u>			

Table AQ-8: Total Reduction from Baseline from On-Model Mitigation Measures

	NO _x ^e (lbs/day) or %
Unmitigated Baseline	364.53
Proposed Project Mitigated	247.96
Total Reduction from Baseline	116.57
Percent Reduction¹	31.98%
Reduction Required	35%
¹ See percent reduction calculation in text above.	

In conformance with General Plan policy and SMAQMD recommendations, an AQMP was prepared for the Project to define the processes by which emissions of NO_x and ROG would be reduced; the Business As Usual scenario is described in the AQMP. **The 2015 AQMP has been updated in response to comments received on the Draft EIR and to reflect County-mandated measures for the proposed project as part of the Development Agreement.** The full text of the **updated** AQMP is included as Appendix AQ-2 and is summarized herein. SMAQMD's "Guidance for Land Use Emission Reductions" v 3-2 **4.0** (April 2015 **November 2017**) provides a description of the most current feasible mitigation measures and their corresponding NO_x and ROG reduction potential; this was the source for most of the reduction measures used in the AQMP. Since the Project as-designed does not meet the 35 percent reduction requirements, the Project applicant proposes to implement a trip reduction program (CAPCOA measure TRT-1&2) through permanent membership and funding toward the 50 Corridor TMA (or other appropriate established TMA in effect at the time of building permit in the project area). The TMA provides assistance to members for the implementation of commute alternative programs at work sites. According to SMAQMD's **previous guidance**, research and experience suggests that joining a TMA increases sustainable mode sharing for commutes and results in an estimated five percent reduction in NO_x^e emissions. **However, the current SMAQMD guidance does not allow for reductions associated with TMA membership, so these points are no longer included in the AQMP calculations.** Through design features detailed in the AQMP, the Project would implement the following measures to actively reduce NO_x and

ROG emissions, which would result in a ~~36.98~~ **40** percent reduction from Business As Usual emissions:

Project As-Designed

- AE-1 – On-site Renewable Energy
- BE-4 – Energy Efficient Appliances
- SDT-1 – Improve Pedestrian Network
- T-a – Anti-Idling/Congestion Strategies
- **Provides 1,110 multi-family units (36.1 percent of housing stock) in densities greater than 23 units per acre (LUT-1);**
- **Overall density of 9.6 dwelling units per acre (LUT-1);**
- **Bicycle and pedestrian connections throughout site and with surrounding developments (LUT-8 and SDT-1);**
- **Transit facilities complementary to the bus rapid transit routes planned on Jackson Road and Sunrise Boulevard, including transit routes and stops (LUT-5, TST-1, TST-2, TST-3, and TST-5);**
- **All residential units are planned within one mile of three amenity categories (public elementary school, parks, and commercial center) (LUT-3);**
- **81 percent of the residential units would be within one mile of the office/office employment center (LUT-3);**
- **Increased diversity via mix of uses (LUT-1);**
- **96 percent of the residential units would be within one-half mile walk of a planned transit stop (LUT-5 and TST-2)**

Additional Measures

- TRT-1&2 – Implement Trip Reduction Program (TMA membership)
- **Meeting 75 percent of the Tier 2 requirements for the California Green Building Code (CalGreen)**
- **Include electric vehicle charging infrastructure in all proposed non-residential and residential developments**
- **Be constructed without inclusion of infrastructure necessary to support natural gas.**

Table AQ-9: Total Reduction from Baseline

Modeling Scenario	ROG (lbs/day) or %	NO _x ^e (lbs/day) or %
<u>Unmitigated Mobile Source Baseline</u>	54.41	264.27
Percent Reduction from Unmitigated Baseline per On-model Measures ¹	40%	41%
Reduction Due to TMA-Membership		5%

Total Percent Reduction	<u>40%</u>	36.98 41%
Reduction Required	35%	35%
	Note: Total Percent Reduction shown above includes all on- and off-model measures, not just mobile source measures. ¹ See Table AQ-8 above.	

The proposed Project will result in approximately ~~36~~**40**% less ozone precursor emissions than a Business As Usual project design. However, even with the reduction afforded by implementation of the AQMP the Project would still exceed the daily emissions thresholds of 65 lbs/day for long-term NO_x and ROG emissions. Therefore, the Project would result in a *significant and unavoidable* impact with respect to operational emissions of NO_x and ROG.

MITIGATION MEASURES:

AQ-3. Comply with the provisions of the updated Air Quality Management Plan dated ~~June 2015~~ **July 2020** and incorporate the requirements of this plan into the NewBridge Specific Plan conditions.

AQ-4. Implement Mitigation Measure CC-1. The project developer shall incorporate the following mitigation measures into the project to reduce operational emissions of criteria air pollutants and precursors.

TRANSPORTATION

- For each single-family residential unit, install a listed raceway, associated overcurrent protective device and the balance of a dedicated 208/240-volt branch circuit at 40 amperes (amp) minimum. The raceway shall not be less than the trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or unit subpanel and shall terminate into a listed cabinet, box, or other enclosure near the proposed location of an electric vehicle (EV) charger. Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. The service panel and/or subpanel shall provide capacity for a 40-amp minimum dedicated branch circuit. All electrical circuit components and Electric Vehicle Service Equipment (EVSE), including a receptacle or box with a blank cover, related to Section A4.106.8 of the California Green Building Standards Code shall be installed in accordance with the California Electrical Code.
- Multifamily residential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging

equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.

- Nonresidential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.
- Nonresidential land uses with 20 or more on-site parking spaces shall dedicate preferential parking spaces to vehicles with more than one occupant and ZEVs (including battery electric vehicles and hydrogen fuel cell vehicles). The number of dedicated spaces should be no less than two spaces or 5 percent of the total parking spaces on the individual project site, whichever is greater. These dedicated spaces shall be in preferential locations such as near the main entrances to the buildings served by the parking lot and/or under the shade of structures or trees. These spaces shall be clearly marked with signs and pavement markings. This measure shall not be implemented in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or disabled veterans.

BUILDING ENERGY

- All project buildings shall be designed to include Cool Roofs in accordance with the requirements set forth in Tier 2 of the California Green Building Energy Code, Sections A4.106.5 and A5.106.11.2.
- All project buildings shall comply with requirements for water efficiency and conservation as described in the California Green Building Standards Code, Divisions 4.3 and 5.3.
- Multiple electric receptacles shall be included on the exterior of all nonresidential buildings and accessible for purposes of charging or powering electric landscaping equipment and providing an alternative to using fossil-fuel-powered generators. The electrical receptacle shall have an electric potential of 100 volts. There should be a minimum of one electrical receptacle on each side of the building and one receptacle every 100 linear feet around the perimeter of the building.
- Ensure that all appliances and fixtures installed in buildings developed under the project are Energy Star®-certified if an Energy Star®-certified model of the appliance is available. Types of Energy Star®-certified appliances include boilers, ceiling fans, central and room air conditioners, clothes washers, compact fluorescent light bulbs, computer monitors, copiers, consumer electronics, dehumidifiers, dishwashers, external power

adapters, furnaces, geothermal heat pumps, programmable thermostats, refrigerators and freezers, residential light fixtures, room air cleaners, transformers, televisions, vending machines, ventilating fans, and windows (EPA 2018). If EPA's Energy Star® program is discontinued and not replaced with a comparable certification program before appliances and fixtures are selected, then similar measure which exceed the 2016 California Green Building Standards Code may be used.

- Require all space and water heating to be solar- or electric-powered.
- All cooking appliances shall be solar- or electric-powered. Natural gas usage for any household appliance shall be prohibited.
- Research incentives for future residents to purchase electric vehicles, such as monetary incentives or other compensatory programs, and either implement selected incentives or provide information and/or assistance to future residents on how to utilize other existing electric vehicle incentive programs.
- Install high-efficiency lighting (i.e., light emitting diodes) in all streetlights, security lighting, and all other exterior lighting applications.
- Create a local composting program for residents to achieve the statewide 75 percent waste diversion target.

IMPACT: CRITERIA POLLUTANT HEALTH RISKS

All criteria air pollutants can have human health effects at certain concentrations. Air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment designations under the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS). The NAAQS and CAAQS are informed by a wide range of scientific evidence, which demonstrates that there are known safe concentrations of criteria air pollutants. Because the NAAQS and CAAQS are based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of these standards, the thresholds established by air districts are also protective of human health. Sacramento County is currently in nonattainment of the NAAQS and CAAQS for ozone. Projects that emit criteria air pollutants in exceedance of SMAQMDs thresholds would contribute to the regional degradation of air quality that could result in adverse human health impacts.

Acute health effects of ozone exposure include increased respiratory and pulmonary resistance, cough, pain, shortness of breath, and lung inflammation. Chronic health effects include permeability of respiratory epithelia and the possibility of permanent lung impairment (EPA 2016). A Criteria Pollutant Health

Risk Analysis has been prepared (Appendix AQ-3) to quantify these potential effects based on SMAQMD's January 31, 2020 draft guidance.

In order to estimate the potential health risks that could result from the operational emissions of ROG, NO_x, and PM_{2.5}, Raney implemented the procedures within SMAQMD's Draft Instructions for health effects screening. To date, SMAQMD has published three options for analyzing projects: small projects may use the *Minor Project Health Screening Tool*, while larger projects may use the *Strategic Area Project Health Screening Tool*, and practitioners may also conduct project-specific modeling. Both the *Minor Project Health Screening Tool* and *Strategic Area Project Health Screening Tool* are based on the maximum thresholds of significance adopted within the five air district regions contemplated within SMAQMD's Draft Instructions. The air district thresholds considered in SMAQMD's Draft Instructions included thresholds from SMAQMD as well as the El Dorado County Air Quality Management District, the Feather River Air Quality Management District, the Placer County Air Pollution Control District, and the Yolo Solano Air Quality Management District. The highest allowable emission rates of NO_x, ROG, PM₁₀, and PM_{2.5} from the five air districts is 82 pounds per day (lbs/day) for all four pollutants. Thus, the *Minor Project Health Screening Tool* is intended for use by projects that would result in emissions at or below 82 lbs/day, while the *Strategic Area Project Health Screening Tool* is intended for use by projects that would result in emissions between two and eight times greater than 82 lbs/day. The Strategic Area Project Screening Model was prepared by SMAQMD for five locations throughout the Sacramento region for two scenarios: two times and eight times the threshold of significance level (2xTOS and 8xTOS). The corresponding emissions levels included in the model for 2xTOS were 164 lb/day for ROG and NO_x, and 656 lb/day under the 8xTOS for ROG and NO_x (SMAQMD 2020:C-3). As discussed above, the Project's mitigated daily emissions of ROG and NO_x would be 263 lb/day for ROG and 251 lb/day for NO_x. This is approximately three times the threshold of significance levels.

Based on the emissions presented in Table AQ-5, Table AQ-6, and Table AQ-7, the SMAQMD's Draft *Strategic Area Project Health Screening Tool* would be the applicable tool for mitigated and unmitigated emissions of ROG, NO_x, and unmitigated PM_{2.5} emissions. However, mitigated emissions of PM_{2.5} are estimated to be below the SMAQMD's operational thresholds, and, thus, the more applicable tool for estimating health risks from the mitigated project related to PM_{2.5} would be the *Minor Project Health Screening Tool*. Although the *Minor Project Health Screening Tool* would be more applicable for mitigated PM_{2.5} emissions, SMAQMD's draft guidance does not provide information regarding the use of both tools for different pollutants. Consequently, health risks were more conservatively evaluated using the Strategic Area Project Screening Model included in SMAQMD's *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (SMAQMD 2020). Given the location of the

Newbridge Project, the Rancho Cordova location within SMAQMD's *Strategic Area Project Health Screening Tool* has been used.

The unmitigated and mitigated health risks resulting from implementation of the Project have been quantified and are presented in Table AQ-10 and Table AQ-11 below. Implementation of the mitigation included in the AQMP would result in a reduction in potential health risks from the unmitigated health risks presented in Table AQ-10 to the mitigated levels presented in Table AQ-11. As noted in SMAQMD's guidance, "each model generates conservative estimates of health effects, for two reasons: The tools' outputs are based on the simulation of a full year of exposure at the maximum daily average of the increases in air pollution concentration... [and] [t]he health effects are calculated for emissions levels that are very high" (SMAQMD 2020:19).

The model derives the estimated health risk associated with operation of the project based on increases in concentrations of ozone and PM_{2.5} that were estimated using a photochemical grid model (PGM). The concentration estimates of the PGM are then applied to the U.S. Environmental Protection Agency's Benefits Mapping and Analysis Program (BenMAP) to estimate the resulting health effects from concentration increases. PGMs and BenMAP were developed to assess air pollution and human health impacts over large areas and populations that far exceed the area of an average land use development project. These models were never designed to determine whether emissions generated by an individual development project would affect community health or the date an air basin would attain an ambient air quality standard. Rather, they are used to help inform regional planning strategies based on cumulative changes in emissions within an air basin or larger geography.

It must be cautioned that within the typical project-level scope of CEQA analyses, PGMs are unable to provide precise, spatially defined pollutant data at a local scale. In addition, as noted by SMAQMD, "BenMAP estimates potential health effects from a change in air pollutant concentrations, but does not fully account for other factors affecting health such as access to medical care, genetics, income levels, behavior choices such as diet and exercise, and underlying health conditions" (SMAQMD 2020:20). Thus, the modeling conducted for the health risk analysis is based on imprecise mapping and only takes into account one of the main public health determinants (i.e., environmental influences).

To put the health risk estimates in perspective, the Project's potential increase in mortality incidence is less than 5 under both the mitigated and unmitigated emissions scenarios, while Sacramento County's Health Status Profile for 2019 reported an annual average of 11,551 deaths from all causes (2015-2017) in Sacramento County. Again, it is important note that the "model outputs are derived from the numbers of people who would be affected by [the] project due to their geographic proximity and based on average population through the Five-District-Region. The models do not take into account population subgroups with

greater vulnerabilities to air pollution, except for ages for certain endpoints” (SMAQMD 2020:20).

Therefore, it would be misleading to correlate the levels of criteria air pollutant and precursor emissions associated with Project implementation to specific health outcomes. While the effects noted above could manifest in individuals, actual effects depend on factors specific to each individual, including life stage (e.g., older adults are more sensitive), preexisting cardiovascular or respiratory diseases, and genetic polymorphisms. Even if this specific medical information was known about each individual, there are wide ranges of potential outcomes from exposure to ozone precursors and particulates, from no effect to the effects described above. Ultimately, the health effects associated with the Project, using the SMAQMD guidance “are conservatively estimated, and the actual effects may be zero” (SMAQMD 2020:A-15).

Neither SMAQMD nor the County of Sacramento have adopted thresholds of significance for the assessment of health risks related to the emission of criteria pollutants. Furthermore, an industry standard level of significance has not been adopted or proposed. Due to the lack of adopted thresholds of significance the health risks presented in Table AQ-10 and AQ-11 are presented for informational purposes and do not represent an attempt to arrive at any level-of-significance conclusions.

Table AQ-11: Mitigated Emissions and Health Effects

Table 3			
Draft SMAQMD Health Effects Tool: Mitigated Emissions			
Health Endpoint	Age Range ¹	Incidences (per year) ²	Percent of Background Health Incidence ³
		(Mean)	(%)
PM _{2.5}			
Emergency Room Visits, Asthma	0 - 99	1.9073	0.2406%
Mortality, All Cause	30 - 99	4.8350	0.2625%
Hospital Admissions, Asthma	0 - 64	0.1218	0.1376%
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.4074	0.0388%
Hospital Admissions, All Respiratory	65 - 99	0.7402	0.0819%
Acute Myocardial Infarction, Nonfatal	18 - 24	0.0002	0.0904%
Acute Myocardial Infarction, Nonfatal	25 - 44	0.0138	0.1228%
Acute Myocardial Infarction, Nonfatal	45 - 54	0.0354	0.1233%
Acute Myocardial Infarction, Nonfatal	55 - 64	0.0573	0.1187%
Acute Myocardial Infarction, Nonfatal	65 - 99	0.2573	0.1264%
Ozone			
Hospital Admissions, All Respiratory	65 - 99	0.2367	0.0262%
Mortality, Non-Accidental	0 - 99	0.1496	0.0122%
Emergency Room Visits, Asthma	0 - 17	0.9198	0.3829%
Emergency Room Visits, Asthma	18 - 99	1.5772	0.2855%
Notes:			
1 Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.			
2 Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects and background health incidences are across the Northern California model domain.			
3 The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, these background incidence rates cover the modeled domain. Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.			
Source: SMAQMD, Draft Strategic Area Project Health Effects Tool. 2020.			

IMPACT: IMPLEMENTATION OF THE PROJECT COULD CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF AIR QUALITY PLANS

In 1994, the SMAQMD established a Clean Air Plan, or State Implementation Plan (SIP), for attaining the federal 1-hour ozone standard in the Sacramento Air Basin (SMAQMD 1994). This plan includes assumptions and allowances for growth and development in the region and details the control measures and Best Management Practices that must be used for the region to make progress toward attainment. The 1994 Clean Air Plan has been updated numerous times since its promulgation. The most recent update to the Clean Air Plan is the *State of Progress Plan* and *2013 Reasonable Further Progress Plan*, both of which address attainment of the federal 8-hour ozone standard. The *2015 Triennial Report* and the *2016 Annual Progress Report* address the attainment of the state ozone standard. The current SIP and the current 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) published by the Sacramento Area Council of Governments do not use the same growth assumptions. The current SIP is based on the 2012 MTP/SCS; however, the land use pattern in the 2012 and current MTP/SCS show the project area as a “developing community” and “blueprint growth footprint not identified for development in the MTP/SCS planning period”.

The Project would develop a residential/mixed-use community. The Specific Plan is within the jurisdiction of the SMAQMD and, therefore, would be required to comply with the regulatory plans of the district with respect to air quality. According to the SMAQMD, development projects that exceed emissions of 85 lbs/day of NO_x during construction activities or 65 lbs/day of NO_x or ROG during operational activities would have the potential to obstruct the success of the regional ozone attainment plans and, therefore, would be considered significant and require mitigation.

The existing standards and mitigation have been established based on the underlying targets and assumptions of the SIP; however, the SIP is tied to a “motor vehicle emissions budget”, and growth in the Project area was not included as part of the growth assumptions when developing the budget. As a result, SMAQMD has indicated that even if the Project included standard mitigation and met the current operational significance thresholds, a significant impact would still occur. It is for this reason that an increased requirement for operational ozone precursor emissions reductions – from 15% to 35% – was recommended by SMAQMD.

Emissions of NO_x and ROG from construction and operational activities are discussed in detail in the previous impacts. NO_x emissions during construction are anticipated to exceed the 85 lbs/day threshold; therefore, the Project’s construction impact would be considered significant. Mitigation Measures AQ-1 and AQ-2 would reduce ozone precursors either directly through the use of low ROG emitting paints, or indirectly, through the reduction of fuel combustion which emits NO_x and ROGs. However, even with the incorporation of Project design features and Mitigation Measure AQ-3, the operation of the Project is anticipated to emit NO_x and ROG at levels above the 65 lbs/day threshold. Even if the Project fell below the thresholds, emissions would still be significant because the Project was not assumed in the current SIP. Therefore, the

Project has the potential to obstruct the success of regional ozone attainment and would result in a *significant and unavoidable* impact.

MITIGATION MEASURES:

Implement Mitigation Measures AQ-1 through AQ-3, which represents all feasible mitigation.

IMPACT: PROJECT OPERATION WOULD GENERATE CO EMISSIONS

Motor vehicle usage is the primary source of CO, a primary air pollutant that concentrates near congested intersections. The Project would result in a net increase in traffic within Sacramento County. According to the traffic study prepared for the Project, twenty-four intersections would either be subject to degradation of LOS to a level of service E or worse, or add vehicles to an intersection already operating at an LOS of E or worse (Table AQ-10). These identified intersections do not meet the First Tier SMAQMD screening criteria for CO and must be further examined.

Of the intersections studied for the Project, the highest volume intersection identified is Watt Avenue at Folsom Boulevard. The pm peak hour volume is 6,725 vehicles. Based on SMAQMD screening methodology as described in the Methodology section, none of the affected intersections would result in an hourly traffic volume of more than 31,600 vehicles. In addition, a review of area topography indicates that all affected intersections are located in open areas, not in locations where vertical or horizontal mixing would be limited. The background data from the traffic study further indicate that the implementation of the Project would not substantially change the mix of vehicle fleets typical to Sacramento County at these intersections. For these reasons, the Project would result in a *less than significant* impact with respect to local CO emissions.

Table AQ-12: Studied Intersections Exceeding First Tier SMAQMD Screening Criteria for CO

Intersection	Existing LOS	Existing Plus Project LOS	Existing LOS	Existing Plus Project LOS
	AM Peak Hour	AM Peak Hour	PM Peak Hour	PM Peak Hour
Power Inn Rd & Folsom Blvd	D	D	D	E
Florin Perkins Rd & Folsom Blvd	D	E	E	E
Watt Ave & Folsom Blvd	E	E	E	E
Watt Ave & Manlove Rd	B	B	D	E
Watt Ave & Kiefer Blvd	E	E	E	D
S. Watt Ave & Jackson Rd	E	E	E	E
S. Watt Ave & Elder Creek Rd	E	E	E	E
Elk Grove Florin Rd/S. Watt Ave & Florin Rd	D	E	D	D
Elk Grove Florin Rd & Gerber Rd	D	D	E	E
Mayhew Rd & Jackson Rd (NB Lt turn lane)	D	E	D	F
Bradshaw Rd & Kiefer Blvd	D	D	E	E
Bradshaw Rd & Jackson Rd	E	F	E	E
Bradshaw Rd & Florin Rd	D	E	D	D
Bradshaw Rd & Gerber Rd	E	E	D	E
Happy Ln & Old Placerville Rd (NB	F	F	F	F

Lt turn lane)				
Excelsior Rd & Florin Rd	C	E	B	B
Mather Field Rd & Rockingham Dr	E	E	D	D
Mather Blvd & Douglas Rd	E	E	C	C
Zinfandel Dr & US 50 EB Ramps	D	D	E	E
Zinfandel Dr & Douglas Rd	E	E	D	C
Sunrise Blvd & Jackson Rd	E	E	D	D
Grant Line Rd & Jackson Rd	E	E	E	E
Power Inn Rd & Elder Creek Rd	D	C	D	E
Grant Line Rd & Wilton Rd	E	E	E	E

MITIGATION MEASURES:

None required.

IMPACT: PROJECT OPERATION WOULD RESULT IN TAC EMISSIONS

Though project-level details are unavailable at the master planning stage, based on the land uses of the Project, it is reasonable to assume that some Toxic Air Contaminant (TAC)-generating uses (such as gasoline stations and dry cleaners) would be constructed within the Project in areas designated for non-residential uses. The most stringent applicable ARB buffer for uses that generate TACs is 500 feet; the nearest existing receptor location is a single-family home on Eagles Nest Road that is well over 900 feet from the nearest potential TAC-generating Project area. The nearest existing daycares, hospitals, and other more sensitive receptors are located more than a mile from the nearest non-residential Project land uses. Because of the distance between the Project site and the nearest sensitive receptors, the Project would not expose existing sensitive receptors to substantial risk related to stationary-source TAC.

Within the Project there is the potential for the future construction of new sensitive receptors in proximity to new stationary TAC sources. Because the exact location of the potential new stationary TAC sources relative to new proposed sensitive receptors will

be determined as part of later individual development proposals, it is not possible to conduct a proximity analysis at this time. Though General Plan policy AQ-3 states that buffers between sensitive land uses and sources of air pollution or odor should be provided, some of these future projects may only require building permits, and would not be subject to any review for TAC impacts unless conditions are imposed as part of the NewBridge Specific Plan. ~~Mitigation is included below to stipulate that a condition be added to the~~ **The NewBridge Specific Plan requires** that all uses conform to the siting recommendations outlined by ARB. **Any sensitive receptors proposed near high volume roadways would be sited using SMAQMD's Mobile Sources Air Toxic Protocol.**

Aside from the stationary sources described above, an additional potential TAC source in the Project area is Jackson Road and Sunrise Boulevard. According to SMAQMD's Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways, a high traffic volume roadway is defined as a freeway, urban roadway with greater than 100,000 vehicles per day, or rural roadway with 50,000 vehicles per day. The current project area is rural, but by the time the Project is completed the area will be urban. In the existing plus project scenario, Jackson Road carries less than 14,000 trips and Sunrise Boulevard carries less than 19,000 trips, and are thus not high traffic volume roadways. In the cumulative plus project scenario, both roadways carry less than 100,000 trips (39,710-Jackson Road and 33,310-Sunrise Boulevard in the worst case) and are still not high traffic volume roadways⁵. Likewise, in the existing plus project scenario, no off-site roadway would be considered a high traffic volume roadway. The highest volume off-site roadway is Watt Avenue from Highway 50 to Folsom Boulevard with 66,200 trips. Therefore, the Project uses and off-site sensitive receptors will not be subject to significant TAC sources due to high traffic volume roadways.

As analyzed, the Project will not expose existing sensitive receptors to substantial risk related to stationary-source TAC exposure, and will not expose proposed sensitive receptors to substantial risk related to mobile-source TAC exposure. The Project could result in exposure of proposed future uses to proposed future stationary source TAC. Measures are included in the NewBridge Specific Plan's Development Standards to ensure that the siting of new uses conforms to ARB recommendations. Project impacts related to TAC exposure are *less than significant*.

MITIGATION MEASURES:

None required.

⁵ Traffic volumes in the existing and cumulative scenarios are from the NewBridge Traffic Analysis prepared by DKS Associates Transportation Solutions.

6 BIOLOGICAL RESOURCES

INTRODUCTION

This chapter identifies and analyzes impacts to biological resources based on the proposed Project. The analysis focuses on impacts to the grassland and wetland habitats and the special status species which rely on these habitats. Species covered include a variety of special status birds, insects, plants, and amphibians, such as, Swainson's hawk, vernal pool fairy shrimp, legenera, and western spadefoot toad.

The impact analysis for this chapter differs for the North and upper West Planning Areas and the South and lower West Planning Areas. Specific habitat and species surveys were conducted only for the portion of the Project area that is owned by East Sacramento Ranch, LLC. Thus, biological impacts in the North and upper West Planning Areas are assessed at the Project level. The analysis for the South and lower West Planning areas are assessed at a program level and future biological surveys and analysis will have to take place **as part of subsequent entitlements such as rezones and tentative subdivision maps**. However, much of the analysis completed for the North Planning Area can be applied to all planning areas.

ENVIRONMENTAL SETTING

The NewBridge Specific Plan (NSP) is located in unincorporated southeastern Sacramento County, approximately 3.6 miles southeast of Mather Airport. The approximately 1,095-acre Project site is southwest of the intersection of Sunrise and Kiefer Boulevards and north of Jackson Road (Plate BR-1). The terrain is gently rolling with elevation ranging between 125 and 150 feet above sea level.

Habitats present on the Project site include: grassland, wetland and vernal pool areas, and intermittent drainages and swales. The wetland delineation for the portion of the Project site that is owned by the East Sacramento Ranch, LLC identifies a total of 22.23 acres of surface waters. The dominant vegetation type is non-native grassland comprised of ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), foxtail barley (*Hordeum murinum*), vetch (*Vicia villosa*), and ryegrass (*Lolium multiflorum*). During summer, areas dominated by tarweed (*Holocarpha virgata*), and spikeweed (*Centromadia fitchii*) are scattered throughout the site.

Interspersed through the grassland community are wetland complexes consisting of vernal pools, seasonal wetlands, swales, and ponds. Both the wetland and grassland communities provide habitat for several special status species. Examples of the species located on or near the Project site include: Swainson's hawk, legenera, vernal pool branchiopods, western pond turtle, and the western spadefoot toad.

A southern tributary of Morrison Creek skirts the very northwest corner of the Project site. In the central portion, Frye Creek, an ephemeral stream, flows under Jackson Road and traverses a concentration of vernal pools before it drains into Laguna Creek south of Florin Road. The Folsom South Canal and parallel bike trail are located adjacent to Sunrise Boulevard along the eastern Project boundary.

The prominent feature on the Project site is the Sacramento Rendering Plant (SRP). The SRP is owned by the Sacramento Rendering Company (SRC), a subsidiary of East Sacramento Ranch, LLC, the project proponent. The facility covers approximately 60 acres and includes: offices, buildings, parking areas, and landscaping. In addition, there are four industrial wastewater ponds which are located to the east and south of the existing buildings. These ponds are managed by SRP and function as evaporation ponds and catch basins in case of spills.

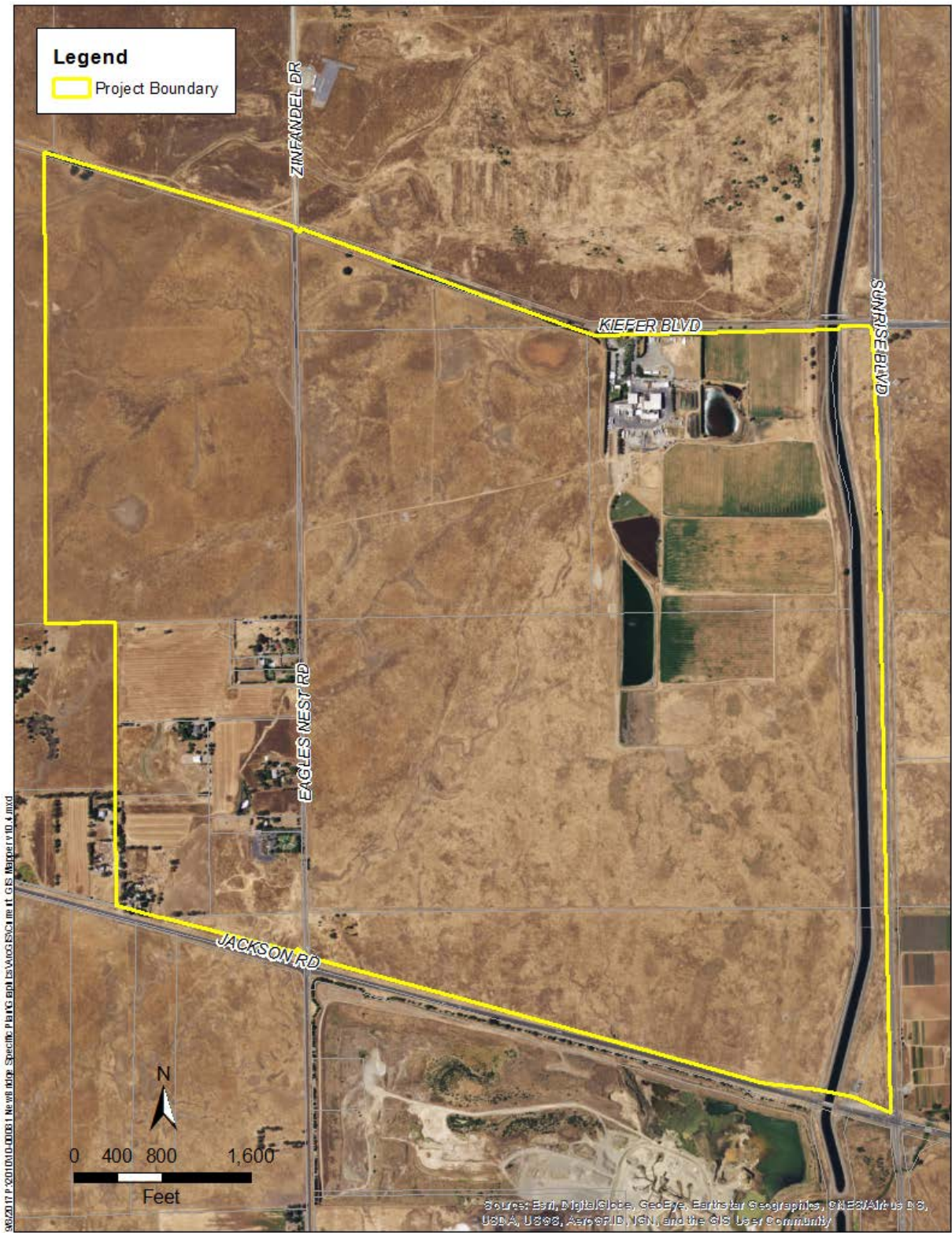
An area of approximately 105-acres in the southwestern portion of the Project site, west of Eagles Nest Road and north of Jackson Road, contains seven small lot agricultural-residential parcels of varying sizes. This area also includes the Sacramento Muslim Cemetery, a pet cemetery and a portion of the Triangle Rock Vernal Pool Preserve.

The remaining southeastern portion of the Project site is open grassland mostly used for cattle grazing. There is a small electrical facility owned by Sacramento Municipal Utilities District (SMUD) and a Park and Ride lot owned by the State at the corner of Jackson Road and Sunrise Boulevard. In addition, there are transmission lines crossing through the northern half of the Project site.

There are a few native trees within the Project area; however, the majority of trees are associated with the SRP and were planted to visually screen the facility. Screen trees and developed landscaping mostly consist of ornamental redwoods, eucalyptus and Modesto ash. There are trees within the agricultural-residential properties (lower West Planning Area); however, this area is not part of the proposed development area and the trees have not been surveyed.

Currently, lands to the west, north and east of the Project site are mostly undeveloped, open grassland generally used for grazing. To the south of the Project site is the Triangle Rock aggregate mine. Southwest of the intersection of Jackson Road and Eagles Nest Road is a wetland habitat mitigation site, Triangle Rock Vernal Pool Preserve, set aside to mitigate impacts from that mining operation. The site is managed by the Sacramento Valley Conservancy, which also holds the easement.

Plate BR-1: 2017 Aerial Photo



WETLANDS

The County of Sacramento contains a number of wetland habitats, most of which are naturally occurring, although some were artificially created as mitigation for prior impacts.

Wetlands are defined by three basic criteria: wetland soil, wetland vegetation, and wetland hydrology. All must be present for the feature to be defined as a wetland subject to federal regulation (Clean Water Act Section 404). To that end, regulators have defined the term as follows:

“Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration (hydrology) sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted (vegetation) for life in saturated soil conditions (soils)”.

The term “wetlands” includes a diverse assortment of habitats such as perennial and seasonal freshwater marshes, vernal pools, and wetted swales. These wetland features share a number of physical characteristics, including frequent or seasonal inundation by water, soil saturated long enough to exclude organisms intolerant of anaerobic conditions, and plants that are adapted to wetted conditions.

SEASONAL WETLANDS

Seasonal wetlands are scattered throughout the County and most are associated with local drainage and adjacent floodplains. These wetlands typically begin to form after the first winter rains and fill as rain continues through the season. They drain primarily via drainage swales during high runoff, or via a combination of ground percolation and evaporation. By mid-summer or early fall these features will typically be dry. Depending on water depth and duration, seasonal wetlands can harbor federally listed invertebrates and provide habitat for a large number of species, including the listed western spadefoot toad. Seasonal wetlands primarily differ from vernal pools (see below) in their underlying soils. Seasonal wetland soils are typically more permeable than the soils associated with vernal pools.

VERNAL POOLS

Vernal pools are small basins, depressions on the landscape that collect seasonal rains to support a specialized collection of plant and animal species. Typically, semi-impermeable soil underlies most vernal pools and restricts downward percolation of collected rain water. As a result, water slowly evaporates during the spring creating showy displays of tiny flowers blooming in concentric circles as the water recedes. Most plants found in vernal pools are endemic (found only in these habitats) and have adapted to survive partially submerged conditions. These conditions have kept the non-native grasses that comprise much of the County’s grazing lands from invading or at least dominating the pools. Thus, vernal pools are small pockets of mostly native vegetation surrounded by mostly non-native grass species.

SEASONAL SWALES

Depending on the underlying soils, swales share similar characteristics with either seasonal wetlands or vernal pools. Typically, swales are shallow, linear features that may serve as drainage features into or out of a seasonal wetland or vernal pool. Although common throughout much of the County's wetland landscapes, the wetland functions of a swale are less pronounced than either of the aforementioned wetlands. Shallowness and topography of swales limit the duration of ponded water, thus reducing the expression of typical wetland characteristics.

MAN-MADE STOCK PONDS

In the County's rural lands ranchers have established water features, or stock ponds, typically by damming small drainages to form relatively deeper ponds which can hold water through much of the summer months. These ponds typically provide a deeper water habitat for some amphibian species.

REGULATORY SETTING

SACRAMENTO COUNTY GENERAL PLAN

The General Plan contains numerous goals, policies, concepts and strategies to protect and/or preserve biological resources. The following provides the goals and policies applicable to the proposed Project:

- AG-17. The establishment of conservation easements combining preservation of agricultural uses, habitat values, and open space on the same property should be encouraged where feasible.
- CI-60. Encourage maintenance of natural roadside vegetation and landscaping with native plants which usually provide the best habitats for native wildlife.
- CO-25. Support the preservation, restoration, and creation of riparian corridors, wetlands and buffer zones.
- CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
- CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:
 - vernal pools,
 - wetlands,
 - riparian,
 - native vegetative habitat, and
 - special status species habitat.

- CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).
- CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
- CO-62. Permanently protect land required as mitigation.
- CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.
- CO-65. Create a network of preserves linked by wildlife corridors of sufficient size to facilitate the movement of species.
- CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
- CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.
- CO-68. Preserves shall be planned and managed to the extent feasible so as to avoid conflicts with adjacent agricultural activities (Please also refer to the Agricultural Element).
- CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.
- CO-70. Community Plans, Specific Plans, Master Plans and development projects shall:
- Include the location, extent, proximity and diversity of existing natural habitats and special status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration.
 - Be reviewed for the potential to identify non-development areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat.
 - Be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance,

Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.

CO-71. Development design shall help protect natural resources by:

- Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain,
- Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry.
- Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function.
- Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation.
- Development adjacent to stream corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.

CO-75. Maintain viable populations of special status species through the protection of habitat in preserves and linked with natural wildlife corridors.

CO-78. Plans for urban development and flood control shall incorporate habitat corridors linking habitat sites for special status species. (Please also refer to the Open Space Element for related policies.)

CO-83. Preserve a representative portion of vernal pool resources across their range by protecting vernal pools on various geologic landforms, vernal pools that vary in depth and size, and vernal pool complexes of varying densities; in order to maintain the ecological integrity of a vernal pool ecosystem.

CO-84. Ensure that vernal pool preserves are large enough to protect vernal pool ecosystems that provide intact watersheds and an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool types.

CO-86. Limit land uses within established preserves to activities deemed compatible with maintenance of the vernal pool resource, which may include ranching, grazing, scientific study and education.

CO-91. Discourage introductions of invasive non-native aquatic plants and animals.

- CO-134. Maintain and establish a diversity of native vegetative species in Sacramento County.
- CO-135. Protect the ecological integrity of California Prairie habitat.
- CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- CO-145 Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.
- CO-147. Increase the number of trees planted within residential lots and within new and existing parking lots.
- CO-149. Trees planted within new or existing parking lots should utilize pervious cement and structured soils in a radius from the base of the tree necessary to maximize water infiltration sufficient to sustain the tree at full growth.
- LU-15. Planning and development of new growth areas should be consistent with Sacramento County-adopted Habitat Conservation Plans and other efforts to preserve and protect natural resources.
- OS-1. Actively plan to protect, as open space, areas of natural resource value, which may include but are not limited to wetlands preserves, riparian corridors, woodlands, and floodplains associated with riparian drainages.
- OS-2. Maintain open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement and sustain ecosystems.
- OS-9. Open space easements obtained and offered as mitigation shall be dedicated to the County of Sacramento, an open space agency, or an organization designated by the County to protect and manage the open space. Fee title of land may be dedicated to the County, the open space agency, or organization provided it is acceptable to the appropriate department or agency (Please also refer to Section V of the Conservation Element for related policies).

The major goal outlined in the Conservation Element of the General Plan is for the management and protection of natural resources for the use and enjoyment of present

and future generations, while maintaining the long-term ecological health and balance of the environment. In addition to the Conservation Element goals and objectives, the Open Space Element further identifies two key concepts that form the basis of the goals, objectives and policies contained in the element: (1) protecting the urban edge and (2) establishing natural area linkages.

The urban edge is defined as the Urban Services Boundary (USB) in the Land Use Element. This boundary is the ultimate boundary of the urban area and is based upon natural and environmental constraints to urban growth. Protection of the urban edge allows accommodation of large scale urban development, while maintaining substantial rural, natural open space areas. Confining urban development within the USB prevents urban sprawl into the rural and open space areas of the County; protecting the urban edge protects the existing open space and rural areas of the County from being lost to development.

Open space linkages increase the ecological value of the open space lands by connecting ecosystems and wildlife habitats. This is beneficial to species higher in the food chain since mammals and birds of prey require considerable supporting territory. When the habitat is reduced to isolated patches, the long term viability of the species is threatened. Furthermore, the establishment of natural habitat corridors facilitates migration of species between breeding populations, thus enlarging the gene pool and helping to ensure genetically diverse and healthy populations of individual species. In the rural areas of the County, contiguous open space already exists, allowing for preservation of larger, high quality natural areas.

SWAINSON'S HAWK IMPACT MITIGATION FEE PROGRAM ORDINANCE

The California Department of Fish and Wildlife requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk. In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended several times; the latest amendment went into effect December 2009. By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the Project's determined acreage impact".

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of less than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to CDFW and the County. Land can be provided in fee title or through conservation easement. The Sacramento County Office of Planning and Environmental Review (PER) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at their website

<http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance.aspx>.

FEDERAL AND STATE REGULATORY AUTHORITY

The two major federal laws regulating impacts to wetlands and wildlife species are the Clean Water Act (Section 404 and 401) and the Endangered Species Act (Section 7, 9, and 10). The U.S. Army Corps of Engineers (USACE) is responsible for administering the Clean Water Act (CWA), Section 404, with the U.S. Environmental Protection Agency serving in an oversight capacity. The U.S. Fish and Wildlife Service (USFWS) is responsible for administering the Endangered Species Act, Sections 7, 9, and 10. The state Regional Water Quality Control Board is the regulatory agency that enforces Section 401 of the CWA. The three most important state laws regulating wildlife species, streams, and wetlands are the California Endangered Species Act (Section 2081), Section 1600 of the Fish and Game Code, and the Porter-Cologne Water Quality Control Act. The first two are administered by the state Department of Fish and Wildlife (CDFW), and the latter is administered by the Regional Water Quality Control Board (Regional Water Board).

CLEAN WATER ACT SECTION 401 AND 404 PERMIT GUIDELINES

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. Waters of the U.S. are generally defined as “navigable waters,” which are defined as traditional navigable waters that are or were used for commerce, or may be used for interstate commerce; tributaries of navigable waters; and wetlands adjacent to navigable waters. “Discharge of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. The Solid Waste Agency of Northern Cook County (SWANCC) vs. United States Army Corps of Engineers decision made by the Supreme Court in 2001 altered the types of wetlands that can be regulated by Section 404. Isolated wetlands, that is, wetlands that are not hydrologically connected to other “navigable” surface waters (or their tributaries), are not considered to be subject to Federal jurisdiction. However the SWANCC decision only prohibits federal jurisdiction over isolated waters; State and local jurisdiction still applies.

The Central Valley Regional Water Quality Control Board (Regional Water Board) regulates wetlands pursuant to Section 401 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

FEDERAL ENDANGERED SPECIES ACT

Under the Federal Endangered Species Act (FESA) of 1973, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as endangered or threatened. FESA defines “endangered” species as any species in danger of extinction throughout all or a significant portion of its range. A “threatened” species is any species that is likely to become an “endangered” species within the foreseeable future throughout all or a significant portion of its range. Additional special-status species include “candidate” species and “species of concern.” “Candidate” species are those for which USFWS has enough information on file to propose listing as endangered or threatened. “Species of concern” are those for which listing is possibly appropriate but for which USFWS lacks sufficient information to support a listing proposal. A species that has been “delisted” is one whose population has met its recovery goal target and is no longer in jeopardy of extinction. Taking of federally listed species is prohibited under Section 9 of FESA. To “take” is defined by FESA (Section 2[19]) to mean “to harass, harm, pursue, hunt, shoot, would, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

All government agencies must review their actions and determine if a “may affect” situation occurs with respect to a federally listed or proposed species. If the agency makes a “may affect” determination, it is then required to formally consult with National Oceanic and Atmospheric Administration, Fisheries.

For federal agencies, the consultation is conducted under Section 7 of FESA. The agency submits a Biological Assessment to USFWS that evaluates the potential adverse effects to federally listed species. USFWS then prepares a Biological Opinion that addresses the requirements that must be followed to avoid, minimize, and compensate for impacts to federally listed species and their habitats.

For non-federal agencies or individuals (i.e. private applicants), the consultation is conducted under Section 10 of FESA. The agency or individual submits an incidental take¹ permit application to USFWS accompanied by a habitat conservation plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate minimization and mitigation of the effects of the authorized incidental take. The purpose of the permit is to authorize the incidental take of a listed species, not to authorize the activities that result in take (USFWS 2005).

Further explanation is provided in the following notification, which was submitted to the County by USFWS for inclusion² into all environmental documents when threatened or endangered species may be adversely affected:

¹ Incidental take is take of listed fish or wildlife species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a federal agency or applicant (50 CFR 402.2).

² As a condition of the USFWS Biological Opinion for the “Fazio Water” 101-514 water contract, the County of Sacramento has agreed to include Fish and Wildlife notification language in Initial Studies and EIRs when endangered and threatened species may be adversely affected.

As a requirement of the Department of Interior, U.S. Fish and Wildlife Service, the following notification is provided to proponents of any Project that has the potential to adversely affect threatened or endangered species:

“The applicant is hereby notified of additional conditions as stipulated by the U.S. Fish and Wildlife Service. Features of the applicant’s Project may adversely affect federally listed threatened or endangered species. An applicant must go through one of two processes to obtain authorization to take federally listed species incidental to completing his or her Project. One of the processes is formal consultation. When the authorization or funding of a Federal agency is an aspect of a Project that may affect federally listed species, Section 7 of the Endangered Species Act requires the Federal agency to formally consult with the Service.

Formal consultation is concluded when the Service issues a biological opinion to the Federal agency. The biological opinion includes terms and conditions to minimize the effect of take on listed species. The Federal agency must make the terms and conditions of the biological opinion into binding conditions of its own authorization to the Project applicant. An example of this process is when the U.S. Army Corps of Engineers consults with the Service prior to issuing a permit to fill jurisdictional waters under Section 404 of the Clean Water Act. The terms and conditions of the biological opinion become binding on the Project applicant through the Corps’ 404 authorization. When no Federal funding or authorization is involved in a Project, an applicant must prepare a habitat conservation plan and obtain a permit directly from the Service in accordance with Section 10(a)(1)(B) of the Act. For additional information on these processes please contact the Endangered Species Division of the U.S. Fish and Wildlife Service’s Sacramento Fish and Wildlife Office at (916) 414-6600.”

CALIFORNIA ENDANGERED SPECIES ACT (CESA)

The California Endangered Species Act (established in Fish and Game Code §2050) generally parallels the main provisions of the FESA and is administered by CDFW for most terrestrial species, with assistance from the National Oceanic and Atmospheric Administration Fisheries for most freshwater fishery species. The CESA prohibits the taking of state listed species except as otherwise provided by state law. Unlike the federal ESA, the CESA extends the take prohibitions to not only listed species but also for species petitioned for listing. “Take” is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Section 2081 of the CESA identifies the following criteria that must be met for CDFW to authorize the take of endangered, threatened or candidate species:

- The taking of a listed or candidate species can be minimized and fully mitigated.
- The take would not jeopardize the continued existence of the species.
- Authorization for take must be based on the best scientific material that is reasonably available, and that due consideration will be given to the species’ ability to survive and reproduce.

*CALIFORNIA FISH AND GAME CODE***ANIMALS AND PLANTS**

Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto. Section 3503.5 make it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto. Sections 1908, 3511, 4700, 5050 state that Fully Protected plant and animals or parts thereof may not be taken or possessed at any time.

SURFACE WATERS

Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

Notification is generally required for any project that will take place in the vicinity of a river, stream, or lake. CDFW will determine whether a Lake or Streambed Alteration Agreement is required for the activity. An agreement will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an agreement is required, it will be prepared by CDFW in coordination with the applicant. The agreement will include measures, as necessary, to protect fish and wildlife resources while conducting the project.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) of 1916 established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. Section 16 U.S.C. 703–712 of the Act states “unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill” a migratory bird. A migratory bird is any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle. Currently, there are 836 migratory birds protected nationwide by the MBTA, of which 58 are legal to hunt.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

This Act (State Water Code Section 13020) mandates that all the waters of the state be protected, that activities and factors affecting water quality be regulated to attain the highest water quality “within reason”, and that the state be prepared to exercise its power and jurisdiction to protect water quality from degradation. Waters of the state are defined as any surface or groundwater within the boundaries of the state. The Regional

Water Board issues permits, with varying conditions, to allow the discharge of dredge or fill material or a waiver of waste discharge into waters of the state.

SOUTH SACRAMENTO COUNTY HABITAT CONSERVATION PLAN

The anticipated **adopted** South Sacramento County Habitat Conservation Plan (SSHCP) is a regional approach to conserving species and addressing issues related to urban development, habitat conservation, open space preservation, and agricultural protection. To develop the SSHCP, the County is partnering with Rancho Cordova, Galt, the Sacramento Regional County Sanitation District, the Capital Southeast Connector Joint Powers Authority and the Sacramento County Water Agency. The intent of the anticipated **adopted** SSHCP is to minimize regulatory hurdles and streamline the permitting process for projects that engage in development-related activities inside the urban development area or UDA. The UDA corresponds to land within the County's Urban Services Boundary (USB), and to land within the city limits of Rancho Cordova and Galt, and Galt's adopted sphere of influence. As currently envisioned, the SSHCP would consolidate environmental efforts to protect and enhance vernal pool habitat and other aquatic and upland habitats to provide ecologically viable conservation areas in south Sacramento County for numerous species. The intent of the SSHCP is to provide a mechanism by which the County and its partners could be authorized to issue permits that allow landowners to engage in specific development activities (covered activities) that could result in the incidental take of listed species (covered species). The intent is that the County and its partners would adopt a developer-paid fee based on loss of habitat acreage, habitat type, and long-term management costs. Fees would fund the habitat preservation, restoration and management elements of the anticipated SSHCP. The final SSHCP and EIR/EIS were posted to the Federal Register for public comment on May 14, 2018. ~~The County is anticipating that the SSCHP will be approved late 2018.~~ **The SSHCP was adopted by the Sacramento County Board of Supervisors on September 11, 2018 and the Plan partners in subsequent months. Clean Water Act permits have been issued by the U.S. Army Corps of Engineers and Endangered Species Act permits have been issued by the U.S. Fish and Wildlife Service.**

SACRAMENTO COUNTY TREE ORDINANCE

The Sacramento County Tree Preservation and Protection Ordinance (Chapter 19.12 of the County Code) states that "it shall be the policy of the County to preserve all trees possible through its development review process." In addition, the "approving body shall have the authority to adopt mitigation measures as conditions of approval for projects in order to protect other species of trees." This protection is afforded to native oak trees, other native trees, and landmark trees (defined in Section 19.04.030 of the County Code as "an especially prominent or stately tree on any land in Sacramento County"). Furthermore, the Sacramento County General Plan Conservation Element Policy CO-138 states that the County "protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5

feet above ground.” The County has developed a list of native oak and specific non-oak native trees which are considered during environmental analysis and are listed below.

- Valley Oak/*Quercus lobata*
- Interior live oak/*Quercus wislizenii*
- Blue oak/*Quercus douglasii*
- Coast live oak/*Quercus agrifolia* (in Delta area)
- Oracle oak/*Quercus X morehus*
- Native oak hybrids
- California sycamore/*Platanus racemosa*
- Northern California black walnut/*Juglands californica v. hidsii*
- Oregon ash/*Fraxinus latifolia*
- Goodding’s black willow/*Salix goddingii*
- Box elder *Acer/Negundo v. caifornicum*
- White alder/*Alnus rhombifolia*
- California buckeye/*Aesculus californica*

SIGNIFICANCE CRITERIA

The significance of an environmental impact cannot always be determined through use of a specific quantifiable threshold. CEQA Guidelines Section 15064(b) affirms this by the statement: “An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting.” Significance of an impact to the biological resources discussed in this chapter rely on the policies, codes, and regulations described in the Regulatory Setting section, as well as the following CEQA Sections:

Section 15065:

- (a) A lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur:
- (1) The project has the potential to: substantially degrade the quality of the environment; 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; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.

Section 15382:

"Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a

significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

Standards for determining thresholds of significance were established based on the State CEQA Guidelines and professional standards. Impacts to biological resources were considered significant if the project would result in the following:

1. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a special-status-species in local or regional regulatory guidance, plans, policies, or regulations or by CDFW or USFWS;
2. Have a substantial adverse effect on protected surface waters, as defined by the Army Corps of Engineers Wetland Delineation Manual (1987 ed.) and/or as defined by Sections 401 and 404 of the Clean Water Act (including, but not limited to, seeps, vernal pools, swales, drainages, and perennial waterways) through direct removal, filling, hydrological interruption, or other means;
3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
4. Conflict with any local policies or ordinances protecting biological resources; or
5. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or approved local, regional, or state habitat conservation plan.

Note that there are no approved habitat conservation plans applicable to the Project area; however, a plan (SSHCP) is being prepared for this area of the County. Impacts will be discussed using applicable regulatory guidance and as if the SSHCP has been adopted.

METHODOLOGY

The methodologies used to determine significance rely on documents published by or endorsed by regulatory agencies. The applicable documents and methods are cited and described in the applicable impact discussions below. In absence of such published documents, the analyses rely on the general definitions of significance. In addition, several biological reports were prepared for a portion of the proposed Project. Information from the following reports is incorporated into the impact analysis and entire reports are included in the appendices.

- Wetland Delineation prepared by North Fork Associates dated Oct. 28, 2008 (Appendix BR-1)
- Draft Mitigation Monitoring Plan prepare by Gibson & Skordal, LLC. February 2014 (Appendix BR-2)

- Biological Resources Assessment prepared by Salix Consulting, Inc. dated April 2014 (Appendix BR-3)
- Initial Arborist Report and Tree Inventory Summary prepared by Sierra Nevada Arborists dated May 15, 2009 (Appendix BR-4)

Note that the biological reports were only prepared for the portion of the Project site that is owned by East Sacramento Ranch, LLC. This area includes the North Planning Area and upper West Planning Area.

The proposed Project identifies amended General Plan designations for the North, South and upper West Planning Areas only. Request for land subdivision and zoning entitlements for the plan area will follow sometime in the future. An amendment to General Plan designations for the lower West Planning Area is not proposed at this time. When such entitlements are requested in the future, the proposed project will be subject to additional CEQA review.

IMPACTS AND ANALYSIS

OVERALL PROJECT IMPACT AREAS AND AVOIDED AREAS

Out of the 1,095-acre Project site, approximately 336 acres are proposed to be protected as habitat. Approximately 286 of these acres are proposed to be protected in their current condition (Parcels W-30 and N-30), and 50 acres are proposed to be preserved as an open space/linkage corridor (Parcel N-36 through N-39). The remaining 759 acres are proposed to be designated for other uses, including urban and recreational.

There are three open space preserves: East Zinfandel, West Zinfandel and Frye Creek Preserves (Plate BR-3) and the specific acreages of these preserves are detailed in Table BR-1 below. Those areas to be avoided contain grasslands with complexes of vernal pools, seasonal wetlands, wetland swales and Frye Creek. The proposed Frye Creek Preserve comprises approximately 50 acres of created open space. Currently, Frye Creek is an ephemeral drainage and the Project proposes to develop the drainage into a multi-functional open space preserve and storm drainage system designed to appear and function as a natural ephemeral creek. The proposed open space preserves along with surrounding preserves would provide large expansive preserves that link together consistent with General Plan Policies: CO-61, 65, 75, 78, 83, 84, LU-15, OS-1 and 2.

Table BR-1: Proposed Open Space Preserves

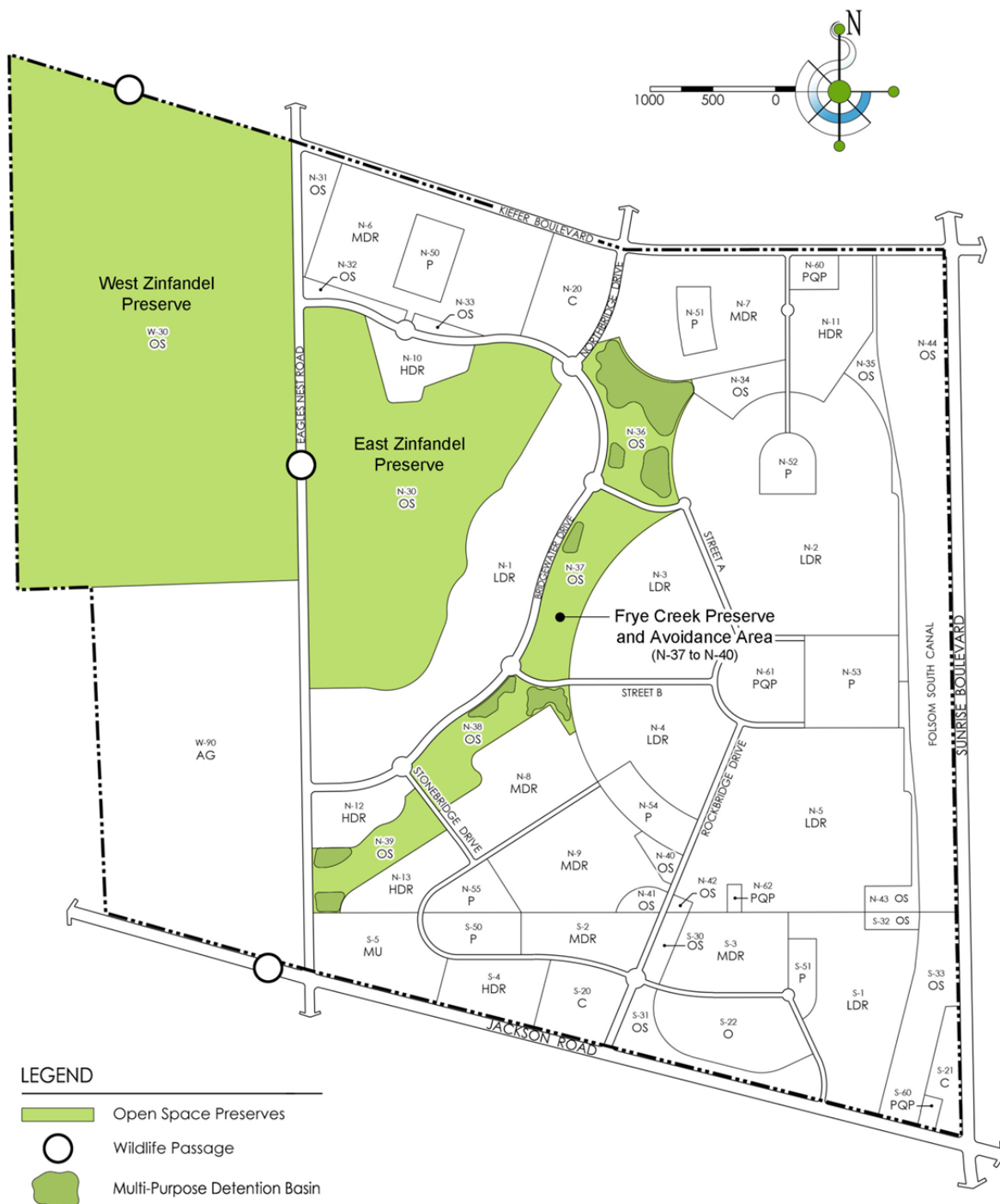
Planning Area	Open Space Preserve	Acreage
North	East Zinfandel	88.7
West	West Zinfandel	197.6
North	Frye Creek	50.2
Total		336.5

The applicant has paused pursuing a permit from the USACE to fill wetlands or waters of the U.S. for the North and upper West Planning Areas only since the SSHCP is close to adoption. Specific biological resource information is known for this portion of the Project area, and impacts for the remaining areas, South and lower West, will be discussed programmatically. The applicant does not anticipate filling any waters within the parcels that create the lower West Planning Area (105.4 acres in total); therefore, wetlands in this area have not been mapped. The identified open space preserves are consistent with the SSHCP hardline and linkage preserves and have been discussed with the USACE privately if the SSHPC **SSHCP** is not adopted (Plate BR-2 and Plate BR-3).

Plate BR-2: Regional Natural Preserve Areas



Plate BR-3: Proposed Preserves in NSP



IMPACT: WETLANDS AND SURFACE WATERS

A wetland delineation for a portion of the Project was conducted by North Fork Associates in October 2008 (see Appendix BR-1). The delineation covers approximately 810 acre area that is owned by East Sacramento Ranch, LLC – the North Planning Area and the upper West Planning Area. The remaining South and lower West Planning Areas were not included in the 2008 wetland delineation report.

The delineation report identifies a total of 22.23 acres of surface waters. The delineation was verified by the USACE on February 14, 2011. Most of the intact wetlands are concentrated on the northwestern half of the Project site, but swales and intermittent drainages are found throughout.

The project applicant has submitted a 404 permit application to the USACE. Since the South and lower West Planning Areas are not included in the wetland delineation and subsequent 404 permit, PER staff used ArcGIS software and aerial photography to map visually obvious surface waters along with utilizing information in the biological resource assessment prepared for the 404 permit to give an idea of the acreage of waters in absence of a formal delineation report. For the excluded Planning Areas, waters and acreage are not final and a formal wetland delineation verified by the USACE will be required prior to development of these Planning Areas.

In total, there are 20.52 acres of wetland resources and 1.71 acres of other waters delineated within the East Sacramento Ranch, LLC owned portion of the NSP. The term other waters is used to identify waters, such as ponds or creeks, which are under the USACE's jurisdiction but are not wetlands. An additional 6.6 acres of wetlands or waters of the U.S. are estimated within the remaining portions of the NSP. Table BR-2 below shows the respective acreages of waters in the various planning areas and associated impact acreages.

Table BR-2: Waters of the U.S.

North and Upper West Planning Areas			
Classification	Pre-Development Acreage	Impacted Acreage	Avoided Acreage
Vernal Pool	11.19	1.61	9.58
Seasonal Wetland	4.65	1.45	3.2
Seasonal Wetland Swale	4.68	1.42	3.26
Intermittent Stream	1.05	0	1.05
Pond	0.66	0	0.66
WETLAND SUBTOTAL	22.23	4.48	17.75
South Planning Area			
Classification			
Surface Waters*	2.2	2.2	0
Lower West Planning Area			
Classification			
Surface Waters*	4.4	0	4.4
TOTAL **	28.83	6.68	22.15

* This acreage is based on aerial photo wetland identifiers and is not official

** These totals are estimated and will change based on official delineation of the South Planning Area

Based on the proposed land use, a total of 4.48 acres of wetlands and other waters will be disturbed or removed to accommodate development in the North and upper West Planning Areas, and it is assumed that all wetlands, approximately 2.2 acres, will be disturbed in the South Planning Area. No impacts are assumed in the lower West Planning Area. Wetland resources provide habitat for several endangered or threatened species that are discussed later in this chapter.

There are two general types of impact to habitats: direct and indirect. An indirect impact occurs when activities near the wetland cause secondary effects, such as hydrologic changes which reduce the amount of water flowing to the wetland, or drift of pesticides and other pollutants into the wetland. For wetlands which may contain special status species, the rule of thumb for total avoidance of both direct and indirect impacts requires that construction and other activities occur at least 250 feet from the wetland³. For surface waters that do not contain special status species, PER has established a buffer of 50 feet as a rule of thumb. Note that these rules may be supplanted by site-specific analyses of hydrologic and other conditions. A direct impact occurs when a

³ Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (February 28, 1996)

wetland is destroyed by construction activities within the wetland margin; however, the programmatic consultation for vernal pool resources states that if any part of a vernal pool is destroyed, then the entire pool is directly affected. This statement is applied to all other non-linear wetlands for this analysis.

As illustrated in the land use plan, the proposed wetland avoidance areas are categorized as Open Space preserve. And as detailed in the NSP, specific development may occur within a 50-foot buffer area in the preserve areas. These include: roads, bicycle and pedestrian trails, outfalls, water quality basins, post and cable fencing, benches, trash receptacles, and interpretive signs. These uses will be permitted, subject to regulatory agency approval, within the 50-foot buffer zone around the preserves.

The overarching goals of General Plan Policies CO-64 and -65, OS-1 and -2 are to preserve large, high quality, contiguous pieces of land which support habitat for a large range of plant and animal species. Project design includes large areas of avoided open space that incorporates several types of wetland resources (vernal pools, seasonal drainages and associated upland) and species (reference Plate BR-4: Wetland Delineation). Project design appears to meet the intent of the General Plan policies. Further, the proposed preserve areas are consistent with exhibits in the ~~draft~~ **adopted** SSHCP.

Plate BR-4: Wetland Delineation

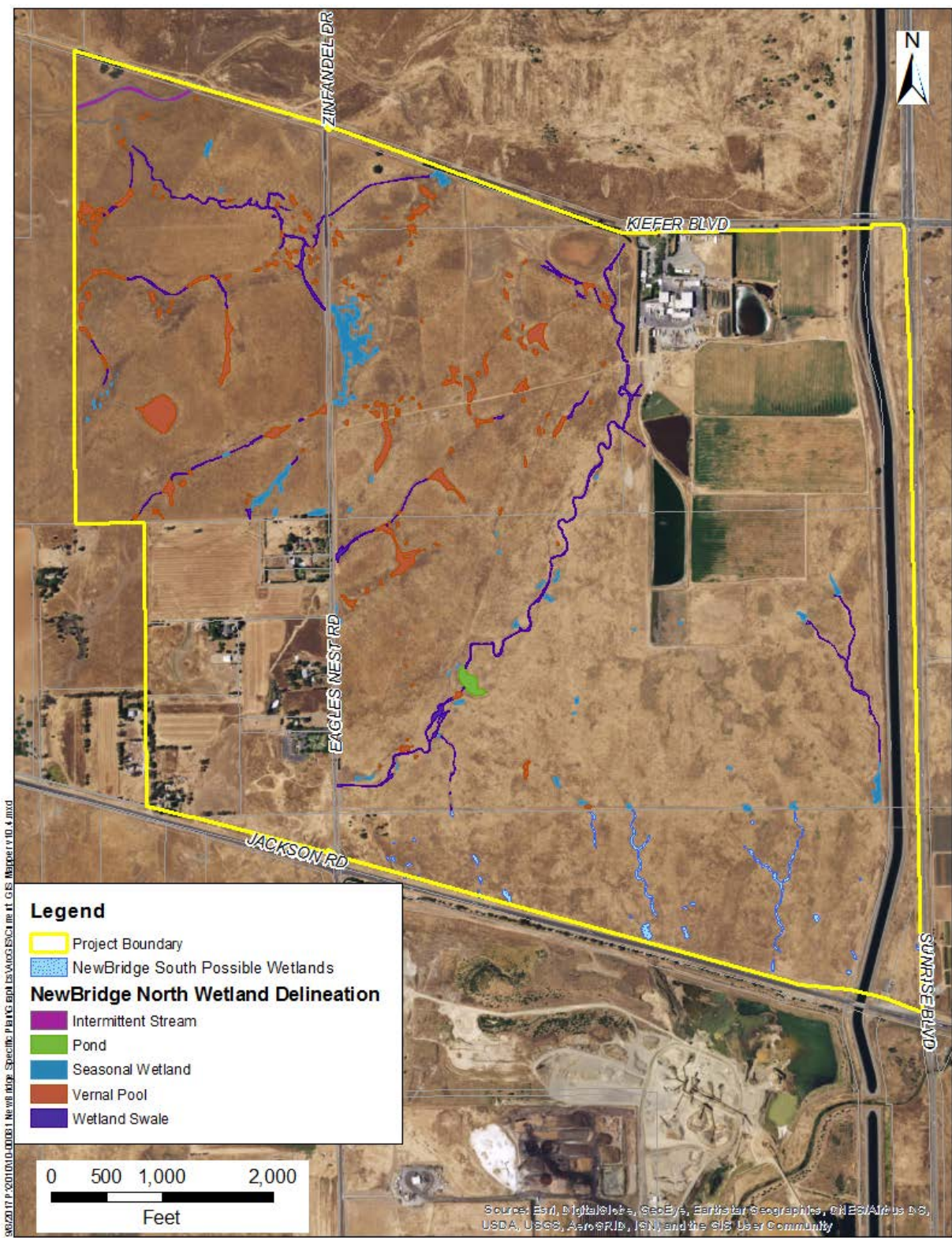
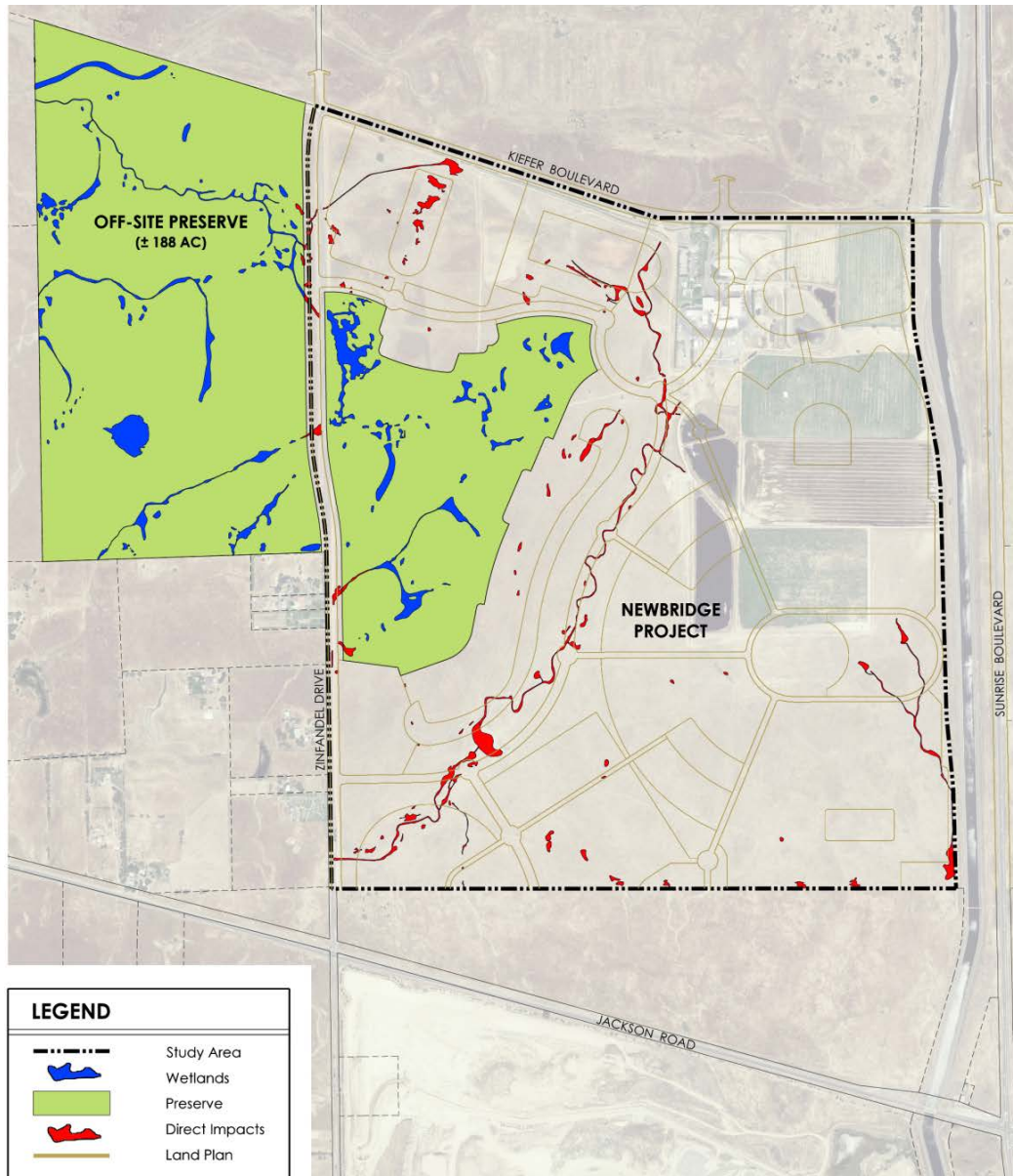


Plate BR-5: Wetland Impact Map for the North and Upper West Planning Areas
(Please note that the land use plan is outdated, but the impact/preserve areas have remained consistent)

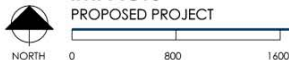


Off-Site Preserve- west of Zinfandel		
Waters of the US	Existing	Mitigation
Vernal Pool	5.28	5.13
Seasonal Wetland	0.87	0.87
Wetland Swale	1.42	1.36
Intermittent Stream	1.04	1.04
Pond	0.00	0.00
TOTAL	8.61	8.40

NewBridge Project - east of Zinfandel					
Waters of the US	Existing	Mitigation	On-Site Impacts	Off-Site Impacts	Total Impacts
Vernal Pool	5.91	3.93	1.98	0.15	2.13
Seasonal Wetland	3.78	2.34	1.44	0.00	1.44
Wetland Swale	3.27	0.10	3.17	0.06	3.23
Intermittent Stream	0.00	0.00	0.00	0.00	0.00
Pond	0.66	0.00	0.66	0.00	0.66
TOTAL	13.62	6.37	7.25	0.21	7.46

NewBridge

IMPACTS
PROPOSED PROJECT



March 2012

Salix Consulting, Inc. **MACKEY & SOMPS**

DIRECT IMPACTS

According to the plan as depicted in Plate BR-5 and as tabulated in Table BR-2, the Project will directly impact 4.48 acres of wetland resources within the North and upper West Planning Areas, which is 20 percent of the wetlands on this portion of the Project site. For the purpose of this analysis, all wetlands within the South Planning Area are considered to be directly impacted and no wetlands in the lower West Planning Area will be impacted.

The wetland delineation prepared for the North and upper West Planning Areas has been verified by the USACE and an application for a Section 404 individual permit for wetland loss has been submitted, but a permit has not yet been issued. Thus, the amount of wetland area that will require mitigation has not been determined by USACE at this time.

According to USACE mitigation guidelines and County mitigation requirements, minimum mitigation requirements are 1:1 (no net loss). Based on the minimum requirements, the Project applicant would have to mitigate for direct impacts to 4.48 acres of wetlands in the North Planning Area. It should be noted that species habitat mitigation (described later in this chapter) generally requires greater mitigation ratios. If wetland mitigation is pursued through purchasing credits at agency approved mitigation bank or through land dedication outside of the project area, suitable land is first sought within the same watershed that is disturbed, thereby preserving a portion of the micro-ecosystem of the watershed.

It should also be noted that USFWS has published the “Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon” (Recovery Plan), the purpose of which is to achieve self-sustaining populations of many species which rely on vernal pools. The Recovery Plan identifies “core areas”, which are areas that are vital to achieve the goals of the plan. Core areas are ranked 1, 2, or 3 depending on their overall priority for recovery, with rank 1 being highest priority. The Project site lies within the Mather Core Area (Plate BR-1), which is rank 1. USFWS has indicated that preservation of vernal pools in the Mather core area is of high priority, and that any mitigation required for the Project should take place within the core area.

INDIRECT IMPACTS

The proposed Project preserves large areas of existing wetlands within the boundaries of the project. These boundaries have been located in such a manner as to minimize the potential indirect impacts to the avoided wetlands. Avoided areas may not fully protect wetland features if not designed correctly. Among the possible indirect impacts are alterations to existing micro watersheds that cause a reduction in water flow to wetland areas, generally vernal pools. The NSP has utilized LIDAR information compiled for the SSHCP analysis identifying the individual watersheds for the wetland features within the preserve areas. The open space preserves were designed so that the contributing watersheds were incorporated to the extent practicable. The West Zinfandel preserve retains all existing watershed boundaries. The East Zinfandel preserve retains most of the existing watershed boundaries; however, a small portion in

the northwestern section of the preserve extends into another watershed. Within this area there are five vernal pools with a combined acreage of 0.078 acre, and all are within 250 feet of the preserve boundary. The Frye Creek Preserve area is a narrow band of land that surrounds the creek. The avoided wetlands within the preserve boundaries amount to 2.78 acres. All wetland features are within 250 feet of proposed development and the existing watersheds will be altered. Further, this preserve area will contain stormwater detention/water quality basins along the creek corridor.

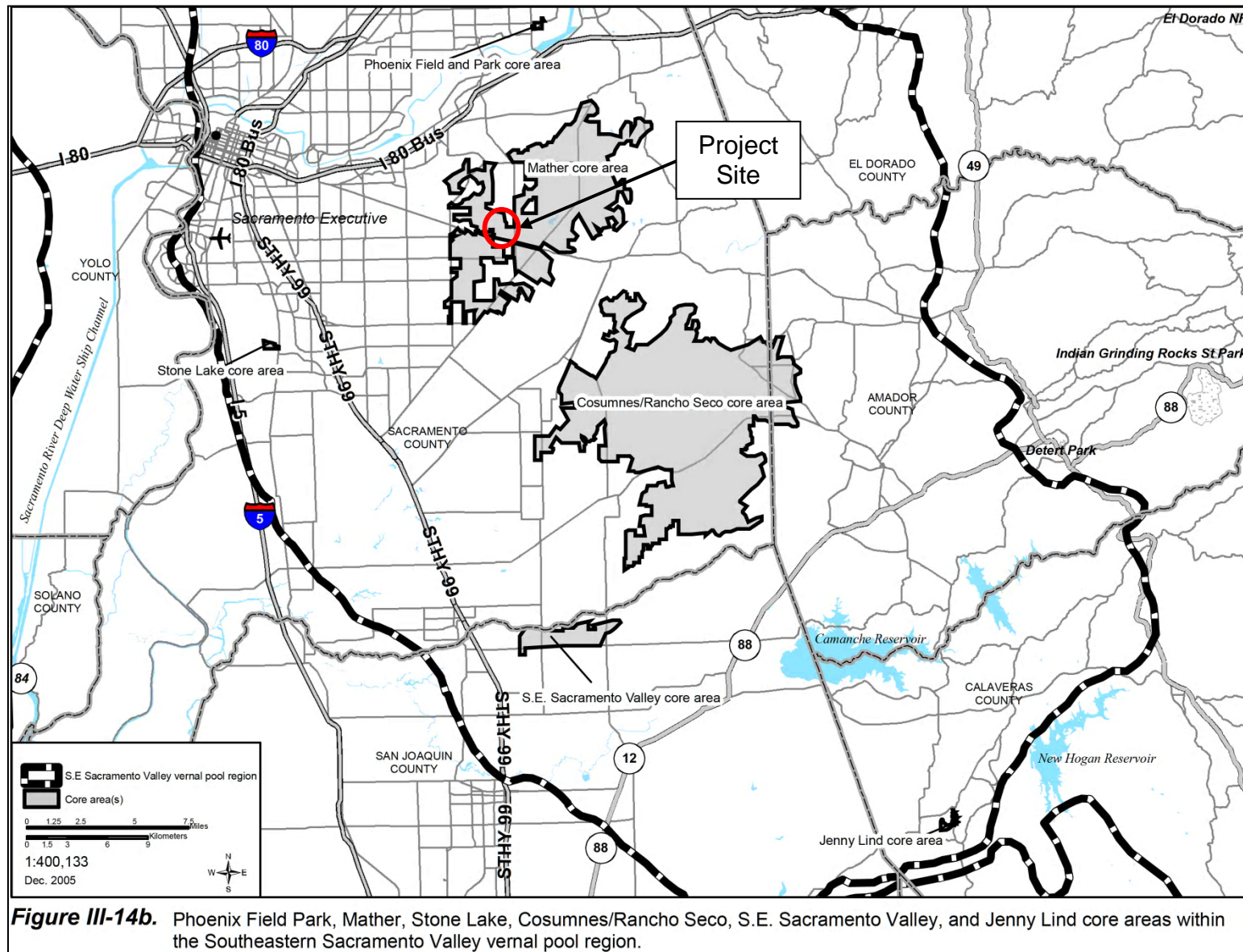
Based on watershed impacts and proposed stormwater quality and hydromodification techniques, preliminary review with the USACE concur that indirect impacts are considered minimal. Indirect impacts related to effects on the species that use the habitat are discussed in the Special Status Species section.

PROPOSED CONSERVATION MEASURES

As part of the 404 individual permit, the project applicant has prepared a draft Mitigation and Monitoring Plan (Gibson & Skordal, LLC; Appendix BR-2). The draft plan identifies the impacts and how the project applicant proposes to mitigate those impacts. Beyond the preservation of existing wetlands, the project applicant has proposed to restore and rehabilitate wetlands within the preserve boundaries. The history of the project site includes decades of agricultural uses including grazing and dry land farming. During land cultivation, many wetlands were filled in or otherwise modified from their original characteristics. The draft plan identifies approximately 9.4 acres of vernal pool rehabilitation and re-establishment. This is approximately twice the acreage that will be directly impacted.

If **Since** the SSHCP is **has been** adopted by the time of project construction, the project proponent ~~would~~ **shall** comply with the avoidance and minimization measures stated in the plan including land dedication and in-lieu fees. Restoration and creation of wetland resources is allowed in the SSHCP, but locations of those efforts have not been identified.

Plate BR-1: Recovery Plan Core Areas in Project Vicinity



CONCLUSION OF DIRECT AND INDIRECT IMPACTS

Prior to direct impacts to wetland features the Project applicant will be required to obtain all required permits from the USACE, USFWS, CDFW, and the Regional Water Board. Permits may be obtained through individual permits from the agencies, or if the County adopts the SSHCP and the Project is a covered activity, it would be subject to all requirements of that plan. Based on the analysis herein, the County will require 1:1 mitigation for direct wetland impacts.

Future development within the Project site could include amendments to the NSP which could modify the Avoided Area boundaries. This could result in additional incremental losses of needed uplands and/or wetlands, increasing the severity of what is already a significant impact in an area noted as vital to the recovery of vernal pool resources. For this reason, mitigation is also included which would require the establishment of a permanent conservation easement over all areas designated as Open Space - Preserve.

Impacts to wetland resources are significant without mitigation. While the Project applicant is proposing to avoid a considerable number of vernal pools, swales and seasonal wetlands, the Project nonetheless will result in the loss of a considerable amount of wetlands. Impacted wetlands will be off-set through permitting replacement credits and requirements; however, the loss of wetlands located on the Project site, especially given that this is in a recovery area, is still considered significant after mitigation. Impacts to wetlands are considered *significant and unavoidable*.

MITIGATION MEASURES:

BR-1. To compensate for the permanent loss of wetlands, the applicant shall **undertake compensatory mitigation sufficient to achieve no net loss of wetland resources, consistent with General Plan policy. This performance standard shall be achieved through** ~~perform~~ one or a combination of the following prior to the approval of grading permit, civil improvement plans, or building permit, whichever occurs first:

- A. Where a Section 404 Permit has been issued by the Army Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of achieving a no net-loss of wetlands. The required Plan shall be submitted to the Environmental Coordinator, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service for approval prior to its implementation.
- B. If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, the Project applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of

a permanent conservation easement, subject to the approval of the Environmental Coordinator.

- C. The Project applicant shall participate in the adopted South Sacramento Habitat Conservation Plan ~~if it is adopted, and if the Project area and activities are covered~~. The applicant shall prepare Project plans in accordance with that Plan and any and all fees or land dedications shall be completed prior to grading or construction, whichever occurs first.

- BR-2.** Prior to the approval of grading permit, civil improvement plans, or building permit, whichever occurs first, all areas designated within the NSP as Avoided shall be placed within a permanent conservation easement, which shall be reviewed and approved by the Office of Planning and Environmental Review. At a minimum, the permanent conservation easements must cover all areas which are required to be preserved as part of the Section 404 and Section 401 wetland permits or the South Sacramento Habitat Conservation Plan ~~if adopted~~.
- BR-3.** Prior to the approval of civil improvement plants for the sewer force main and water supply infrastructure in Eagles Nest Road, a hardpan restoration plan shall be developed by a qualified hydrogeologist and geotechnical expert and approved by Sacramento County to ensure consistency with SSHCP Avoidance and Minimization Measure EDGE-7. The plan shall be implemented for sewer and water line construction adjacent to the proposed preserves on Parcels N-30 and W-30. The detailed plan shall include identification and documentation of the hardpan depths during excavation of the sewer and water line trenches, and appropriate backfill material to restore the hardpan functionality. The detailed hardpan restoration plan shall be included in the construction specifications for the proposed sewer and water supply lines. The Sacramento County Office of Planning and Environmental Review shall coordinate with the Sacramento County Water Agency to develop a feasible treatment plan that does not hinder access to infrastructure maintenance.
- BR-4.** Any land use entitlements proposed for the South Planning Area (APNs: 067-0120-059, -060, 066, and -067) or the lower West Planning Area (APNs: 067-0080-013 – 016, -025, -029, -030, -037, -047 and 067-0110-066) must obtain a wetland delineation and comply with Mitigation Measures BR-1 and BR-2.

SPECIAL STATUS SPECIES

A "special status" species is one which has been identified as having relative scarcity and/or declining populations. Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as species of special concern. Also included are those species considered to be "fully protected" by CDFW, those granted "special animal" status for tracking and monitoring purposes, and those plant species considered to be

rare, threatened, or endangered in California by the California Native Plant Society (CNPS).

There are multiple status designations applied to animal and plant species; the relevant definitions are provided below⁴:

Endangered Species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened Species: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Species of Concern: Any species with declining population levels, limited ranges, and/or other factors that make them vulnerable to extinction and may ultimately qualify the species for threatened or endangered status.

Fully Protected: The classification of Fully Protected was California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Most have subsequently been defined as endangered or threatened, but there are exceptions.

Special Animals: A general term that refers to all of the taxa that CDFW is interested in tracking, regardless of their legal or protection status. Though the species themselves have not declined to the extent that they are listed by one of the classifications noted above (endangered, etc), such species are closely associated with a habitat that is declining in California.

List 1B Plants: Plants that are rare throughout their range, and have declined significantly over the last century. The majority of plants on this list are endemic to California.

List 2 Plants: The same as List 1B plants, except that List 2 plants are common outside of California.

Relevant species for analysis were identified based on species information gathered from the US Fish and Wildlife Service Sacramento office for federally listed species, from CDFW, CNPS, and from the Biological Resources Assessment prepared by Salix (Appendix BR-3). A CDFW California Natural Diversity Database (CNDDDB 2017) search was also conducted. For the initial CNDDDB search the study area was all lands within ten miles of the Project boundary, while the USFWS list was based on species present within the Carmichael and Buffalo Creek 7.5-minute United States Geological Survey quadrangle.

Table BR-3 reports the species identified in the species searches. The table reports the likelihood of occurrence based on habitat presence either on the site or in proximity of the site, survey results (if any), and nearby recorded species occurrences. Habitat

⁴ Source: California and Federal Endangered Species Acts, <http://www.dfg.ca.gov/wildlife/nongame/ssc/>, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html, and <http://www.cnps.org/cnps/rareplants/ranking.php>.

proximity is based on published buffers established by a regulatory agency. For instance, guidance for the Swainson's hawk establishes a nesting buffer of ½-mile, and includes mitigation requirements for construction activities in that range. Note that some species are listed for loss of foraging habitat, while others may be listed for loss of breeding habitat. If the species is listed for loss of a particular habitat, it is so reported in Table BR-3 and the likelihood of occurrence will be based specifically on that habitat type. Likelihood of occurrence is rated as Not Present, Low Potential, Moderate Potential, High Potential, or Present, which are defined as:

Not Present: A survey was performed by a qualified biologist, and the species was not found or habitat is absent both on the site and within one mile of the site.

Low Potential: Absence cannot be definitively stated because no surveys were performed, but habitat is near-absent or marginal.

Moderate Potential: Habitat is present, but the species has not been observed within five miles of the site.

High Potential: Habitat is present and the species has been observed within five miles of the site.

Present: The CNDDDB contains a recorded occurrence on the site, or the species was found during site-specific surveys.

Species which are not present or were found to have a low potential of occurrence are not discussed further in subsequent analysis sections.

Table BR-3: Special Status Species Matrix

Species	Status ¹	Habitat ¹	Potential for Occurrence
BIRDS			
Bald Eagle <i>Haliaeetus leucocephalus</i>	FSC	Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. Bald eagles are opportunistic feeders. Fish comprise much of their diet, but they also eat waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion.	Low Potential. Except for the ornamental redwoods shielding the SRP there are no native trees, cliffs, or other structures for nesting. There are no large impoundments or rivers within the Project site.
Bank Swallow <i>Riparia riparia</i>	ST	Requires vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. Feeds primarily over grassland, shrubland, savannah, and open riparian areas. Primarily listed for destruction of nesting habitat.	Low Potential. There is no nesting habitat on the Project site.
Burrowing Owl <i>Athene cunicularia hypugea</i>	FSC, CSC	Frequents open grasslands and shrublands with perches and burrows. Nests and roosts in old burrows of small mammals and rubble piles (Zeiner et. al., 1990).	High Potential. Suitable nesting and foraging habitat exists over much of the Project site. Species was observed on the Project site in 2013 during species surveys (Salix 2014).
Cooper's hawk <i>Accipiter cooperii</i>	SA	Frequents landscapes with wooded patches and groves, along with woodland edge habitats. Nests in riparian areas. Listed for nesting impacts.	Moderate Potential. Foraging habitat is not present on the site, but the site contains potentially suitable nesting trees, which are the ornamental redwoods shielding the SRP. Impacts are addressed in the "Nesting Raptors" section.

Species	Status ¹	Habitat ¹	Potential for Occurrence
Double-crested cormorant <i>Phalacrocorax auritus</i>	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Range is restricted to 5 – 10 miles of the nesting area. Listed for the protection of nesting colonies.	Low Potential. The nearest recorded nesting colony is along the American River, over six miles to the north.
Ferruginous hawk <i>Buteo regalis</i>	SA	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys. Listed for preservation of wintering habitat.	Low Potential. The nearest recorded occurrence is just under three miles west of the site. The site contains foraging habitat for the species.
Golden Eagle <i>Aquila chrysaetos</i>	CFP	Found in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons. Nests on cliffs and in large trees in open areas (Zeiner et. al., 1990).	Low Potential. Land to the east of the site provides the rolling wooded foothills and to the southeast provide riparian habitat potential suitable to the species, and may provide nesting habitat – though the species does prefer cliffs. The species could forage on the grassland of the site. There are no recorded occurrences for this species within ten miles.
Grasshopper sparrow <i>Ammodramus savannarum</i>	SA	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Builds nest of grasses and forbs in a slight depression in ground, hidden at base of an overhanging clump of grasses or forbs. Listed for loss of nesting habitat.	Moderate Potential. The nearest recorded occurrence is approximately 10 miles east of the site. The site contains potential foraging and nesting habitat, although there is a lack of shrubs (except for ornamentals associated with the SRP) or other singing perches which may inhibit use of the site.
Great blue heron <i>Ardea herodias</i>	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers tall trees beside water. The range is restricted to within 10 miles of the nesting area. Listed for the protection of nesting colonies.	Not Present (nesting). The site itself does not contain habitat, and the nearest recorded nesting colonies are over six miles to the north, along the American River.

Species	Status ¹	Habitat ¹	Potential for Occurrence
Great egret <i>Ardea alba</i>	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Listed for the protection of nesting colonies.	Not Present (nesting). The site itself does not contain habitat, and the nearest recorded nesting colonies are over six miles to the north, along the American River.
Loggerhead Shrike <i>Lanius ludovicianus</i>	CSC	Listed for loss of breeding habitat, the species breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground.	Low Potential. Though the site contains foraging habitat, there are no shrublands or open woodlands on the site, and thus no breeding habitat. The nearest recorded occurrence is over three miles to the west.
Northern Harrier <i>Circus cyaneus</i>	FSC, CSC	Frequents meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands (Zeiner et. al., 1990). Nests on ground in shrubby vegetation, usually at marsh edge.	Moderate Potential. Foraging habitat is present on the site, though no occurrences are recorded within ten miles. The site lacks the shrubby vegetation preferred for nesting.
Swainson's Hawk <i>Buteo swainsoni</i>	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah. Requires adjacent suitable foraging areas such as grasslands or grain fields supporting rodent populations (Zeiner et. al., 1990).	High Potential. Species recorded nesting 5 miles southwest of the site. There is limited nesting habitat available on-site. Species was observed flying overhead and foraging during surveys (Salix 2014). On this basis, the species is highly likely to forage on the Project site.
Tricolored Blackbird <i>Agelaius tricolor</i>	FSC, CSC	The species is listed for breeding habitat. Known to nest near marshes in large (several hundred to several thousand birds) breeding colonies in habitat made up of blackberry thickets, bulrush (<i>Scirpus</i> sp.) or cattails (<i>Typha</i> sp.) patches.	Present. Siting of species recorded by CNDDB within West Planning Area. The North Planning Area does not consist of suitable nesting habitat.

Species	Status ¹	Habitat ¹	Potential for Occurrence
White-tailed Kite <i>Elanus leucurus</i>	CFP	Inhabit low-elevation grasslands, wetlands dominated by grasses, oak woodlands, and agricultural and riparian areas (Dunk 1995).	High Potential. Foraging habitat is present on the Project site and nesting habitat is available within 1.75 miles at Mather Lake. The nearest recorded nest site is just over one mile to the southwest. Species observed flying overhead and foraging during surveys (Salix 2014).
MAMMALS			
American Badger <i>Taxidea taxus</i>	CSC	Occurs in a variety of habitats, including grasslands and oak woodlands with friable soils for digging (Zeiner et. al., 1990).	Low Potential. There is no suitable denning habitat on the project site. The nearest recorded occurrence is approximately 1.5 miles to the northeast.
REPTILES			
Western Pond Turtle <i>Emys marmorata</i>	FSC, CSC	Occurs in perennial ponds, lakes, rivers, and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter (Zeiner et. al., 1990). Require some slack- or slow-water aquatic habitat. Nests upland, on unshaded south-facing slopes with friable soils that have a high percentage of clay or silt (Jennings and Hayes, 1994).	Present. According to the Biological Resource Assessment and site surveys in 2010 (Salix 2014), two individuals were observed in the wastewater ponds. The wastewater ponds provide marginal habitat.
Giant Garter Snake <i>Thamnophis gigas</i>	FT, ST	Endemic to valley floors of the Sacramento and San Joaquin Valleys. Prefers freshwater marsh and low gradient streams. Has adapted to rice agriculture, drainage channels, and irrigation ditches. Requires permanent water, emergent vegetation, and upland habitat for basking and cover (USFWS, 1999).	Low Potential. The Project site is located ½ mile east of the Morrison and Elder Creeks and west of Sunrise Blvd. The project site does not contain suitable waterways, nor is it within 200 feet of suitable waterways.

Species	Status ¹	Habitat ¹	Potential for Occurrence
AMPHIBIANS			
California Tiger Salamander <i>Ambystoma californiense</i>	FT, ST	Endemic to annual grasslands and valley-foothill habitats in California. Adults spend most time in subterranean refugia, particularly in ground squirrel burrows (CDFG, 2005). Seasonal ponds or vernal pools are required for breeding.	Not Present. There are no recorded occurrences within 10 miles of the Project site and is outside of the current known range of species. There is limited suitable breeding habitat (stock ponds) and upland habitat for the species.
California Red-legged Frog <i>Rana draytonii</i>	FT, CSC	Adults prefer dense, shrubby or emergent riparian vegetation near deep (at least two feet), still, or slow-moving water. The species aestivate in upland burrows and in leaf litter. (Jennings and Hayes 1994)	Not Present. The nearest confirmed, documented breeding population is located approximately 30 miles northeast of the Project near Pollock Pines in El Dorado County (CNDDDB occurrence 586). There are no occurrences documented in Sacramento County, and the species is considered extirpated in the Central Valley (USFWS 2002).
Western Spadefoot Toad <i>Scaphiopus (Spea) hammondi</i>	FSC, CSC	Occurs primarily in grasslands but occasionally populates valley-foothill hardwood woodlands (Zeiner et. Al., 1990). Almost entirely terrestrial, but requires temporary rain pools that lack predators (fish, bullfrogs, crayfish) for breeding. Also needs burrows for refuge.	High Potential. Populations of western spadefoot toad have been documented within ½ mile north of the Project site. Appropriate breeding and aestivation habitat is present throughout the Project site.
FISH			
Delta Smelt <i>Hypomesus transpacificus</i>	FT, CE	The Delta smelt is a small, slender-bodied fish with a typical adult size of two to three inches that is found only in the Sacramento-San Joaquin Estuary. This species occurs in the Sacramento River as far upstream as the confluence with the American River. Delta smelt may also be found in the Cosumnes River and San Joaquin River.	Not Present. The Project has no access to a permanent water course inhabited by Delta smelt.

Species	Status ¹	Habitat ¹	Potential for Occurrence
Central Valley Steelhead <i>Oncorhynchus mykiss</i>	FT	Most of Sacramento County is within the distinct population segment area for this species. Critical habitat has been designated within Sacramento County on the Sacramento River, American River, Mokelumne River, and Dry Creek (both north and south creeks). Spawning has been documented on the Cosumnes River. (NMFS 2009)	Not Present. The Project has no access to a permanent water course inhabited by steelhead.
Central Valley Spring and Winter-run Chinook Salmon <i>Oncorhynchus tshawytscha</i>	FT, FE	Distribution occurs throughout the Sacramento River and through a portion of the American River, but the distribution maps do not include the Cosumnes River as habitat. (NMFS 2009)	Not Present. The Project has no access to a permanent water course inhabited by salmon.
INVERTEBRATES			
California Linderiella <i>Linderiella occidentalis</i>	FSC	A fairy shrimp which most often occupies pools that are vegetated and contain clear water. Not uncommon to observe the species in mud-bottomed pools with slightly turbid water. (Eriksen and Belk, 1999).	High Potential. The nearest recorded occurrence is directly across Kiefer Boulevard. The vernal pools and seasonal wetlands on the Project site provide suitable habitat.
Ricksecker's Water Scavenger Beetle <i>Hydrochara rickseckeri</i>	FSC	The Ricksecker's water scavenger beetle is an aquatic beetle that lives in weedy, shallow, open water, associated fresh water seeps, springs, farm ponds, vernal pools, and slow moving stream habitats. The beetle is known to occur with other vernal shrimp species.	High Potential. The nearest recorded occurrence approximately 0.5 mile to the north at Mather Field. Vernal pools, seasonal wetlands, seasonal wetland swales within the Project site provide suitable habitat.

Species	Status ¹	Habitat ¹	Potential for Occurrence
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i>	FT	Associated with mature elderberry (<i>Sambucus</i> spp.) trees found in riparian forests in the Central Valley (USFWS, 2003a).	Not Present. Elderberry host plant not present in the Project site.
Midvalley Fairy Shrimp <i>Branchinecta mesoatlantica</i>	FSC	Inhabit shallow vernal pools, vernal swales, and various artificial ephemeral wetland habitats in the Sacramento, Solano, Contra Costa, San Joaquin, Madera, Merced, and Fresno Counties (USFWS, 2003a).	High Potential. The nearest recorded occurrence is just over 0.25 mile to the southeast. Vernal pools, seasonal wetlands, seasonal wetland swales within the Project site provide suitable habitat.
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	FT	Inhabit alkaline pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stockpools, vernal pools, vernal swales, and other seasonal wetlands. Also found in basalt flow depression pools in unplowed grasslands (Eriksen and Belk, 1999).	High Potential. The nearest recorded occurrences are approximately 0.25 mile to the north and south of the Project. Vernal pools, seasonal wetlands, seasonal wetland swales within the Project site provide suitable habitat.
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i>	FE	Inhabits small to large vernal pools containing clear to highly turbid water (USFWS, 2003a).	High Potential. The nearest recorded occurrences are within a half mile to the north and south of the Project. Vernal pools, seasonal wetlands, seasonal wetland swales within the Project site provide suitable habitat.
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i>	FE	Large, cool vernal pools.	Not Present. Study area occurs outside of currently known range of species.
PLANTS			
Dwarf downingia <i>Downingia pusilla</i>	List 2	Valley and foothill grassland (mesic); vernal pools, seasonal wetlands, and wetland swales.(blooms March – May)	Moderate Potential. Suitable habitat is present on the Project site.
Bandage's Clarkia <i>Clarkia biloba</i> app. <i>Brandegeeae</i>	List 1B	Chaparral and cismontane woodlands; elevation 240 – 3,000ft	Not Present. Habitat type not present within the Project site or vicinity.

Species	Status ¹	Habitat ¹	Potential for Occurrence
Boggs Lake Hedge-Hyssop <i>Gratiola heterosepala</i>	SE, List 1B	Marshes and swamps, vernal pools/clay; elevation 30 – 7,790ft (blooms Apr. – Aug.)	Moderate Potential. Suitable habitat present on the Project site. Nearest occurrence is approximately 1.5 miles east of the Project site.
Northern California Black Walnut <i>Juglans hindsii</i>	List 1B	Riparian scrub, riparian woodland; elevation 0 – 1,320ft (blooms Apr. – May)	Not Present. There are no black walnut trees present on the Project site.
Ahart's Dwarf Rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	List 1B	Valley and foothill grassland/mesic; elevation 100 – 330ft (blooms Mar. – May)	Moderate Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest occurrence listed in the CNDDDB is approximately 0.25 miles to the northeast.
Legenere <i>Legenere limosa</i>	List 1B	Vernal pools; elevation 0 – 2,900ft (blooms Apr. – Jun.)	Present. Species identified as on-site by CNDDDB and identified during site surveys in 2012 (Salix 2014). The vernal pools, seasonal wetlands, seasonal wetland swales, drainages, ditches, and stock pond represent suitable habitat.
Pincushion Navarretia <i>Navarretia myersii</i>	List 1B	Vernal pools; elevation 65 – 1,100ft (blooms May)	Moderate Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest occurrence is 6 miles to the southeast.
Slender Orcutt Grass <i>Orcuttia tenuis</i>	FT, SE List 1B	Vernal pools; elevation 115 – 5,775ft (blooms May – Oct.)	Moderate Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest listed occurrence in the CNDDDB is 2.5 miles southwest of the Project site.
Sacramento Orcutt Grass <i>Orcuttia viscida</i>	FE, SE, List 1B	Vernal pools; elevation 100 – 330ft (blooms Apr. – Jul.)	Moderate Potential. The nearest recorded occurrence is within 0.25 miles from Project site. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species.
Sanford's Arrowhead <i>Sagittaria sanfordii</i>	List 1B	Marshes and swamps; elevation 0 – 2,000ft (blooms May – Oct.)	Low Potential. The vernal pools, seasonal wetlands and seasonal swales on-site may provide marginal habitat for this species. The nearest listed occurrence in the CNDDDB is 4.5 miles southwest of the Project site.

Source: California Dept. of Fish and Wildlife Natural Diversity Data Base (2013) and the U.S. Fish and Wildlife Service Species List for the Carmichael U.S.G.S. 7.5-minute quad.

Species	Status ¹	Habitat ¹	Potential for Occurrence
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1. Listing status sources and some habitat description sources (life history accounts) are:

California Species: <http://www.dfg.ca.gov/wildlife/nongame/list.html>

Federal Species: http://www.fws.gov/sacramento/ES_Species/Accounts/Home/es_species.htm and http://www.fws.gov/sacramento/y_old_site/es/spp_concern.htm

California Native Plant Society: <http://www.rareplants.cnps.org/>

FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate, FSC= Federal Species of Concern

SE = State of California Endangered; ST = State of California Threatened; CSC = State of California Species of Special Concern; CFP = State of California Fully Protected; SA = Special Animal

List 1B = California Native Plant Society Endangered, Threatened, or Rare in California

List 2 = California Native Plant Society Endangered, Threatened, or Rare in California but more common elsewhere

BIRDS

Based on the species table and types of habitat present on or near the Project site, the following special status avian species are identified as having potential to occur on or near the Project site: burrowing owl, Cooper's hawk, ferruginous hawk, golden eagle, grasshopper sparrow, northern harrier, Swainson's hawk, tricolored blackbird, and white-tailed kite. The section also addresses nesting raptors in general, which are afforded minimum protections pursuant to the California Fish and Game Code regardless of status.

SWAINSON'S HAWK

The Swainson's hawk (*Buteo swainsoni*) is listed as a Threatened species by the State of California and is a candidate for federal listing as threatened or endangered. It is a migratory raptor typically nesting in or near valley floor riparian habitats during spring and summer months. Swainson's hawks were once common throughout the state, but various habitat changes, including the loss of nesting habitat (trees) and the loss of foraging habitat through the conversion of native Central Valley grasslands to certain incompatible agricultural and urban uses has caused an estimated 90% decline in their population.

Swainson's hawks feed primarily upon small mammals, birds, and insects. Their typical foraging habitat includes native grasslands, alfalfa and other hay crops that provide suitable habitat for small mammals. Certain other row crops and open habitats also provide some foraging habitat. The availability of productive foraging habitat near a Swainson's hawk's nest site is a critical requirement for nesting and fledgling success. In central California, about 85% of Swainson's hawk nests are within riparian forest or remnant riparian trees. CEQA analysis of impacts to Swainson's hawks consists of separate analyses of impacts to nesting habitat and foraging habitat.

The CEQA analysis provides a means by which to ascertain impacts to the Swainson's hawk. When the analysis identifies impacts, mitigation measures are established that will reduce impacts to the species to a less than significant level. Project proponents are cautioned that the mitigation measures are designed to reduce impacts and do not constitute an incidental take permit under the California Endangered Species Act (CESA). Anyone who directly or incidentally takes a Swainson's hawk, even when in compliance with mitigation measures established pursuant to CEQA, may violate the California Endangered Species Act.

NESTING HABITAT

For determining impacts to and establishing mitigation for nesting Swainson's hawks in Sacramento County, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994). These state that no intensive new disturbances, such as heavy equipment operation associated with construction, should be initiated within ¼ mile of an active Swainson's hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15.

The Project area is within five miles of recorded nesting sites. The Project site provides nesting habitat for the hawk and development of the site would result in a potentially significant impact to nesting Swainson's hawk. Preconstruction surveys will be required to determine if there are nesting Swainson's hawks within $\frac{1}{4}$ -mile of the Project site. The purpose of the survey requirement is to ensure that construction activities do not agitate nesting hawks, potentially resulting in nest abandonment or other harm to nesting success. If Swainson's hawk nests are found, the developer is required to contact CDFW to determine what measures need to be implemented in order to ensure that nesting hawks remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, and whether the landform between the nest and activities provides any kind of natural screening. According to the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994), the mitigation described above will ensure that impacts to nesting Swainson's hawks will be less than significant.

FORAGING HABITAT

Swainson's hawks are known to forage up to 18 miles from their nest site; however, that is the extreme range of one individual bird's daily movement. It is more common for a Swainson's hawk to forage within 10 miles of its nest site. Therefore it is generally accepted and CDFW recommends evaluating projects for foraging habitat impacts when they are within 10 miles of a known nest site.

Statewide, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) for determining impacts to Swainson's hawk foraging habitat unless local jurisdictions develop an individualized methodology designed specifically for their location. Sacramento County has developed such a methodology and received confirmation from CDFW in May of 2006 that the methodology is a better fit for unincorporated Sacramento County and should replace the statewide, generalized methodology for determining impacts to foraging habitat.

Swainson's hawk foraging habitat value is greater in large expansive open space and agricultural areas than in areas which have been fragmented by agricultural-residential or urban development. The methodology for unincorporated Sacramento County is based on the concept that impacts to Swainson's hawk foraging habitat occur as properties develop to increasingly more intensive uses on smaller minimum parcel sizes. Therefore, the methodology relies mainly on the minimum parcel size allowed by zoning to determine habitat value. For the purpose of the methodology, properties with zoning of AG-40 and larger are assumed to maintain 100% of their foraging habitat value and properties with AR-5 zoning and smaller are assumed to have lost all foraging habitat value. Table BR-4 below illustrates the continuum between AG-40 and AR-5 that represents the partial loss of habitat value that occurs with fragmentation of large agricultural land holdings. The large, 50% loss of habitat value between AG-20 and AR-10 is due to the change in land use from general agriculture to agricultural-residential. The methodology does allow case-by-case analysis for projects with unique characteristics.

Table BR-4: Swainson's Hawk Foraging Habitat Value by Zoning Category

Zoning Category	Habitat Value Remaining
AG-40 and above (e.g., AG-80, 160 etc.)	100%
AG-20	75%
AR-10	25%
AR-5 and smaller (e.g., AR-2, 1 or RD-5, 7, 10, 15, 20 etc.)	0%

CONCLUSION

The Project area is within five miles of recorded nesting sites. The Project site provides foraging habitat for the hawk and development of the site would result in a potentially significant loss of that habitat. Although the project is not requesting a rezone, the project is requesting a General Plan and Community Plan amendment to convert 411.6 acres of General Agriculture and Permanent Agriculture, AG-20 and AG-160 respectively, to urban uses. Given that a purpose of a specific plan is to provide a coordinated and consolidated approach to land use development, it is wise to require mitigation that is also coordinated and consolidated to avoid piecemealing. Thus, mitigation for impacts to Swainson's hawk foraging habitat should be applied at the time General Plan and Community Plan entitlements are granted, and not wait until rezones are requested.

According to the methodology, the portions of the Project site designated AG-40 and above (AG-80, AG-160) will need to mitigate 100 percent for loss of foraging habitat, or, said another way, at a ratio of one to one. Portions of the Project site designated AG-20 will need to mitigate 75 percent for loss of foraging habitat. The analysis below relies upon the known habitat needs of the species, and compares that to what will be remaining on the site. The applicant has identified 286 acres of open space within the NSP that will provide foraging opportunities for the hawk (Table BR-5). Additional acreage is proposed as open space in the plan, and may provide limited foraging habitat requirements based on size and structure.

Table BR-5: NewBridge Specific Plan Open Space Meeting Foraging Habitat Requirements

Open Space/Preserve Areas that provide 100 % Foraging Value			
NewBridge North	NewBridge South	NewBridge West	Total
88.2 ac	0	197.8 ac	286 ac
Open Space/Preserve Areas that provide 25 % Foraging Value			
NewBridge North	NewBridge South	NewBridge West	Total
12.5	0	0	<u>212.5</u>

Reported mean home ranges in the Central Valley range from 6,820 acres (Estep 1989) to 9,978 acres (Babcock 1995). Swainson's hawk forage only incidentally in edge habitats or areas such as orchards which have narrow zones of available forage (Estep 1989), and prefer agricultural fields with row crops and open grassland areas. The need for large areas of open habitat makes the species sensitive to habitat fragmentation (Estep and Teresa 1992). The species must have suitable foraging habitat within three to five miles from the nest tree to successfully fledge young (England et al. 1995).

On the basis of the above research, 286 acres within the Project site could remain suitable habitat. The area surrounding the Frye Creek drainage open space/linkage preserve will not maintain full habitat value because it is narrow and will be surrounded by urban uses. However, while not specifically detailed in the impact methodology, this open space area would constitute edge habitat and would provide habitat value similar to properties zoned AR-10. The Frye Creek drainage/open space preserve is 50 acres and applying the 25 percent value remaining calculation, the Frye Creek drainage/open space preserve retains 12.5 acres of foraging habitat value. Mitigation has been written such that if the applicant establishes a conservation easement over the 286 acres (East and West Zinfandel Preserves; N-30 and W-30) and 50 acres (Frye Creek/open space preserve; N-36 through N-39), the acreage would not be considered impacted.

The identified open space acreage is located on lands owned by the applicant and will only provide mitigation for land that is owned by the applicant. Therefore, the South Planning Area would have to mitigate for foraging impacts separately. Table BR-6 below outlines the Planning Areas specific impacts.

With application of the preserved open space, the North Planning Area will fully mitigate for impacts to suitable Swainson's hawk foraging habitat. The South Planning Area will have to mitigate a total of 119.7 acres. There is no impact to foraging habitat in the lower West Planning Area as no development is proposed in this area pursuant to Section 9.4.c of the NSP. Any future development will have to go through the County entitlement process and impacts will be analyzed then.

In total, the Project will require 119.7 acres of off-site mitigation to compensate for the loss of Swainson's hawk foraging habitat. This can be done by utilizing the County's Swainson's Hawk Impact Mitigation Program detailed below, or by implementing a mitigation plan acceptable to CDFW. Alternatively, if the SSHCP is approved, mitigation as specified in the SSHCP would be available. Mitigation measures that compensate for the loss of Swainson's hawk foraging habitat will reduce singular and cumulative impacts to *less than significant* levels.

Table BR-6: NewBridge Specific Plan Planning Areas Foraging Habitat Impact

Planning Area	Land Use	Acreage	Acres of Habitat Value Impacted	Suitable Habitat in Preserved Open Space
North	M-2 Heavy Industrial	303	0	93.9
	AG-160	295.6	295.6	6.8
Upper West	M-1 Light Industrial	197.8	0	197.8
Subtotal			295.6	298.5
Outstanding Acreage for Properties Owned by East Sacramento Ranch LLC			-2.9	
South	AG-160	116	116	0
	AG-20	4.9	3.7	0
Subtotal			119.7	0
Outstanding Acreage for the South Planning Area			119.7	

SWAINSON'S HAWK IMPACT MITIGATION PROGRAM

In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended several times; the latest amendment went into effect in December of 2009.

By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the project's determined acreage impact". On an individual basis, the acquisition of lands for habitat conservation may not always be feasible or prudent and many small, disconnected preserves do not benefit the species as well as large, connected preserve systems. Therefore, the ordinance provides for the establishment of impact mitigation fees, which in some circumstances, may be paid in-lieu of providing habitat lands. These fees accumulate and are held in trust by the County until they can be used for the acquisition of foraging habitat of a size large enough to be biologically and economically viable. The current fee is \$12,925 per acre. In addition, there is a

one-time administrative fee of \$500. These fees may be amended from time to time to ensure they accurately reflect market-rate land prices.

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of less than 40 acres are eligible to pay fees, thus the project is not eligible. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to CDFW and the County. Land can be provided in fee title or through conservation easement. The Sacramento County Office of Planning and Environmental Review (PER) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at their website

<http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance.aspx>.

NESTING RAPTORS

Raptors are defined as members of the order Falconiformes (vultures, eagles, hawks, and falcons) and the order Strigiformes (owls). Common species of raptors found locally include Cooper's hawk (*Accipiter cooperii*) red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*).

Raptors and their active nests are protected by the California Fish and Game Code Sections 3503.5, 3511, and 3513. The Code states the following: "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird." Because most raptors migrate they are also protected by the Federal Migratory Bird Treaty Act of 1918, which states "unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill" a migratory bird. Section 3(18) of the Federal Endangered Species Act defines the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Causing a bird to abandon an active nest may cause harm to egg(s) or chick(s) and is therefore considered "take."

The Project site predominantly contains open annual grassland. Mature trees of sufficient size to support tree-nesting raptors are located around the SRP. Some hawk species less susceptible to human disturbance may use these trees. Raptors, in general, build nests in large mature trees; though there are some ground-nesting species such as the northern harrier and the burrowing owl (refer to species-specific discussions, below).

Since the Project area may provide suitable tree nesting habitat, construction activities may impact nesting raptors if they occur within 500 feet of suitable nesting trees; 500 feet is the buffer used by Sacramento County and other nearby jurisdictions as a screening tool, and has been accepted by CDFW. To avoid impacts to tree-nesting raptors, mitigation is recommended requiring pre-construction nesting surveys. The purpose of the survey requirement is to ensure that construction activities do not agitate

nesting raptors, potentially resulting in nest abandonment or other harm to nesting success. If raptor nests are found, the developer is required to contact CDFW to determine what measures need to be implemented in order to ensure that nesting raptors remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, whether the landform between the nest and activities provides any kind of natural screening, and other variables.

Prior to construction or land clearing activities which occur during nesting season (generally March through mid-September), all mature trees within 500 feet of Project construction activities shall be surveyed for nesting raptors. If nesting raptors are observed, the Project developer shall consult with CDFW and determine the appropriate measures that must be implemented. If no nesting raptors are observed, no further mitigation will be required. With implementation of recommended mitigation, impacts to nesting raptors are *less than significant*.

BURROWING OWL

The burrowing owl (*Athene cunicularia hypugea*) is a California Species of Concern. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and arid scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent to the ground surface. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nesting habitat for burrowing owls (Henny and Blus 1981). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also use man-made structures such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Breeding season takes place from February 1 to August 31 and wintering takes place from September 1 to January 31. Occupancy of suitable burrowing owl habitat can be verified at a site by detecting a burrowing owl, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992).

The nearest recorded burrowing owl is located 1 mile to the north. This occurrence (#1263) was listed in the 1980s and identified burrowing owls. There are notes as to their sudden disappearance possibly due to poison set out for ground squirrels and has not been looked into further. During the March and April 2010 field surveys, the species or evidence of the species was not observed. However, as noted in the Salix 2014 Biological Resource Assessment, during the spring 2013 survey, a burrowing owl was observed along Frye Creek. In addition, annual grasslands and the presence of rodent burrows that could be suitable for nesting was observed throughout the landscape.

According to the California Department of Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012), surveys for burrowing owl should be conducted whenever

suitable habitat is present within 500 feet of a proposed impact area; this is also consistent with the “Burrowing Owl Survey Protocol and Mitigation Guidelines” published by The California Burrowing Owl Consortium (April 1993). Occupancy of burrowing owl habitat is confirmed whenever one burrowing owl or burrowing owl sign has been observed at a burrow within the last three years.

The CDFW Staff Report on Burrowing Owl Mitigation indicates that the impact assessment should address the factors which could impact owls, the type and duration of disturbance, the timing and duration of the impact, and the significance of the impacts. The assessment should also take into account existing conditions, such as the visibility and likely sensitivity of the owls in question with respect to the disturbance area and any other environmental factors which may influence the degree to which an owl may be impacted (e.g. the availability of suitable habitat).

In order to reduce potential impacts to owl nests which may be undiscovered, the applicant shall have a qualified biologist perform a focused survey, prior to the construction of improvements or buildings, for burrowing owls according to the CDFW “Staff Report on Burrowing Owl Mitigation (March 2012)” and the “Burrowing Owl Survey Protocol and Mitigation Guidelines,” published by The California Burrowing Owl Consortium (April 1993). If no active burrows are found during the focused survey, no further mitigation will be required. If active burrows are found, mitigation shall be implemented consistent with the CDFW staff report recommendations. Both CDFW and the Environmental Coordinator shall be contacted and provided with an avoidance and mitigation plan. With mitigation, the development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to burrowing owls are *less than significant*.

FERRUGINOUS HAWK

According to the CDFW Life History Account for the ferruginous hawk, the species is an uncommon winter resident and migrant at lower elevations and open grasslands in the Central Valley. The species requires large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting. The species is migratory, and generally arrives in California in September and departs by mid-April. The Life History Account also indicates that the species has a tendency to displace red-tailed hawks and Swainson’s hawks. There is no published regulatory guidance on mitigation of foraging habitat for this species.

Any species wintering in the general Project area would likely be in competition with the known Swainson’s hawk that forage in the vicinity of the site. The fact that Swainson’s hawk are successfully occupying the area makes it less likely that ferruginous hawk use the site. Nonetheless, the Project has the potential to remove winter foraging habitat for the species. Mitigation for foraging habitat loss has already been required as part of Swainson’s hawk impacts, and since the two species use the same habitats, additional mitigation is unnecessary. The development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to ferruginous hawk habitat are *less than significant*.

GRASSHOPPER SPARROW

According to the CDFW Life History Account for the grasshopper sparrow, the species is an uncommon and local summer resident and breeder in foothills and lowlands, arriving in California from March to May and migrating south in August or September. The species occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests are built of grasses and forbs in a slight depression in the ground, hidden at the base of an overhanging clump of grasses or forbs. There is no published regulatory guidance on mitigation of foraging habitat for this species.

The Project has the potential to remove foraging and nesting habitat for the species. Unlike impacts for landscape-level predators such as the Swainson's hawk, all of the Avoided Areas on the site are considered to be retained habitat for more localized foragers such as the grasshopper sparrow. Mitigation for grassland habitat loss has already been required as part of Swainson's hawk impacts, so additional mitigation for the grasshopper sparrow is unnecessary. The development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to grasshopper sparrow habitat are *less than significant*.

NORTHERN HARRIER

According to the CDFW Life History Account for the northern harrier the species occurs in a wide range of habitat types and elevations, from grasslands in the Central Valley to alpine meadows as high as 10,000 feet. The species is a widespread winter resident and migrant, though an uncommon nesting season resident in the Central Valley. The population has declined in California, largely due to destruction of breeding habitat. The species is mostly found in flat or hummocky open areas of tall, dense grasses, moist or dry shrubs, with edges for nesting, cover, and feeding. There is no published regulatory guidance on mitigation of foraging habitat for this species.

The Project has the potential to remove foraging habitat for the species. Mitigation for foraging habitat loss has already been required as part of Swainson's hawk impacts, so additional mitigation for the northern harrier is unnecessary. The development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to northern harrier are *less than significant*.

TRICOLORED BLACKBIRD

According to the CDFW Life History Account for the tricolored blackbird, the species is mostly a resident in California, and common locally throughout the Central Valley. The species is a colonial nester which breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Nesting colonies usually support a minimum of 50 pairs. The species feeds in grassland and cropland habitats. The usual breeding season is mid-April into late July.

According to the CNDDB data, an occurrence of the species was last recorded in the lower West Planning Area in 1972 (Occurrence #158). This occurrence was noted for a

nest with eggs. The parcels within the lower West Planning Area and surrounding area have been manipulated since 1972; however, the area still contains ponded water features that may contain suitable nesting habitat of tules, cattails and opportunistic blackberry. Due to known occurrences in the vicinity it is possible that tricolored blackbirds may have nesting colonies near the Project site.

In order to reduce potential impacts to nesting tricolored blackbirds, mitigation measures have been included. Equipment operation and noise associated with construction activities may disturb nesting birds. If construction activities are proposed during the breeding season (March 1 through July 15) pre-construction surveys shall be conducted where suitable nesting habitat is present within 300 feet of the Project site. If tricolored blackbirds are found nesting within 300 feet of the survey area, the CDFW shall be contacted and appropriate avoidance and impact minimization measures shall be implemented. This may include establishing a buffer or postponing construction until fledging of all nestlings (about July 15). Specific measures cannot be outlined at this time, because the extent and type of measures required are highly situational, depending on distance to the nest, the number of nesting individuals, the type of nesting substrate, and other factors. If no tricolored blackbirds are found during the pre-construction survey, no further mitigation would be required.

In addition to potential impacts to nesting birds, the Project site provides suitable foraging habitat. The loss of grassland habitat would decrease the availability of foraging habitat. However, even though foraging habitat mitigation for the tricolored blackbird is not required, the Project does require foraging habitat mitigation for Swainson's hawk impacts. This mitigation will benefit all other species which may forage in this same habitat type. The development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to tricolored blackbirds are *less than significant*.

WHITE-TAILED KITE

According to the CDFW Life History Account for the white-tailed kite, the species is a resident in coastal and valley lowlands which is rarely found away from agricultural areas. The species forages in undisturbed grasslands, meadows, farmlands, and emergent wetlands. Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. The species is listed as Fully Protected due to nesting impacts.

The loss of grassland habitat would decrease the availability of foraging habitat. Mitigation for foraging habitat loss has already been required as part of Swainson's hawk impacts, so additional mitigation for the white-tailed kite is unnecessary. The development of the Project site would not result in substantial negative effects to the sustainability of the species and thus impacts to white-tailed kite are *less than significant*.

MITIGATION MEASURES:

- BR-5.** If construction, grading, or project-related improvements are to commence between March 1 and September 15, a focused survey for Swainson's hawk nests on the site and within ¼ mile of the site shall be conducted by a qualified biologist no later than 30 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Fish and Wildlife shall be contacted to determine appropriate protective measures, and these measures shall be implemented prior to the start of any ground-disturbing activities. **At a minimum, such protective measures shall include the creation of buffers sufficient to keep construction activities far enough away from any occupied nest to avoid disruption of rearing activities.** If no active nests are found during the focused survey, no further mitigation will be required.
- BR-6. North Planning Area (Land Owned by East Sacramento Ranch).** Prior to issuance of a grading permit or building permits, whichever occurs first, implement one of the options below to mitigate for the loss of 295.6 acres of Swainson's hawk foraging habitat on the Project site.
- A. Establish a permanent conservation easement over parcels N-30 N-36, N-37, N-38, N-39 and W-30. Foraging habitat preserved shall consist of grassland or similar habitat, not cropland, because this mitigation measure also offsets impacts to other species that do not use cropland habitat.
 - B. If the **Comply with** SSHCP is adopted, ~~the Project would be subject to the policies and requirements of that plan; including~~ **intended to mitigate for the loss of Swainson's hawk foraging habitat to an extent sufficient to mitigate for the loss of 295.6 acres of such habitat, such as** the dedication of the proposed open space preserve areas identified as hardline and linkage preserves.
- BR-7. South Planning Area.** Prior to the issuance of a grading permit or building permits, whichever occurs first, implement one of the options below to mitigate for the loss of Swainson's hawk foraging habitat on the Project site; based on current Project designs this is 119.7 acres. Foraging habitat preserved shall consist of grassland or similar habitat open habitat, not cropland, because this mitigation measure also offsets impacts to other species that do not use cropland habitat.
- A. The project proponent shall utilize one or more of the mitigation options (land dedication and/or fee payment) established in Sacramento County's Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code).

B. The Project proponent shall, to the satisfaction of the California Department of Fish and Wildlife, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

~~C. Should the County Board of Supervisors adopt a new Swainson's hawk mitigation policy/program (which may include the SSHCP) prior to the implementation of one of the measures above, the Project proponent may be subject to that program instead.~~ **Comply with SSHCP policies and requirements intended to mitigate for the loss of Swainson's hawk foraging habitat to an extent sufficient to mitigate for the loss of 119.7 acres of such habitat, such as the dedication of the proposed open space preserve areas identified as hardline and linkage preserves.**

BR-8. If construction, grading, or Project-related improvements are to occur between March 1 and September 15, a focused tree survey for nesting raptors within 500 feet of the site shall be conducted by a qualified biologist within 14 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Department of Fish and Wildlife shall be contacted to determine appropriate protective measures. **At a minimum, such protective measures shall include the creation of buffers sufficient to keep construction activities far enough away from any occupied nest to avoid disruption of rearing activities.** If no active nests are found during the focused survey, no further mitigation will be required.

BR-9. Prior to the commencement of construction activities (which includes clearing, grubbing, or grading) within 500 feet of suitable burrow habitat, a survey for burrowing owl shall be conducted by a qualified biologist. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. Surveys shall be conducted in accordance with the following:

1. A survey for-burrows and owls ~~should~~ **shall** be conducted by walking through suitable habitat over the entire project site and in areas within 150 meters (~500 feet) of the project impact zone.
2. Pedestrian survey transects ~~should~~ **shall** be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines ~~should~~ **shall** be no more than 30 meters (~100 feet), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors ~~should~~ **shall** maintain a minimum distance of 50 meters (~160 feet) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.
3. If no occupied burrows or burrowing owls are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the Environmental Coordinator and no further mitigation is necessary.

4. If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections of Appendix D of the California Department of Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012). Submit a survey report to the Environmental Coordinator which is consistent with the Survey Report section of Appendix D of the California Department of Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012).
5. If occupied burrows or burrowing owls are found the applicant shall contact the Environmental Coordinator and consult with California Department of Fish and Wildlife prior to construction, and will be required to submit a Burrowing Owl **Monitoring and** Mitigation Plan (subject to the approval of the Environmental Coordinator and in consultation with California Department of Fish and Wildlife). This plan ~~must~~ **shall include measures sufficient to avoid the destruction of occupied nests and mortality to individual owls, shall** document all proposed measures, including avoidance, minimization, exclusion, relocation, or other measures, and **shall** include a plan to monitor mitigation success. The California Department of Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012) should be used in the development of the mitigation plan.

BR-10. If construction occurs between March 1 and July 31 pre-construction surveys for nesting tricolored blackbirds shall be performed by a qualified biologist. Surveys shall include the project site and areas of appropriate habitat within 300 feet of the site. The survey shall occur no longer than 14 days prior to the start of construction work (including clearing, grubbing or grading). The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no tricolored blackbird were found during the pre-construction survey, no further mitigation would be required. If an active tricolored blackbird colony is found on-site or within 300 feet of the project site the project proponent shall do **both of** the following:

- A. Consult with the California Department of Fish and Wildlife to determine if project activity will impact the tricolored blackbird colony(s), and implement appropriate avoidance and impact minimization measures if so directed. **At a minimum, such measures shall include the creation of buffers sufficient to keep construction activities far enough away from the colony to avoid disrupting the normal biological functioning of the colony.** Provide the Environmental Coordinator with written evidence of the consultation or a contact name and number from the California Department of Fish and Wildlife.
- B. The applicant may avoid impacts to tricolored blackbird by establishing a 300-foot temporary setback with fencing that prevents any project activity within

300 feet of the colony. A qualified biologist shall verify that setbacks and fencing are adequate and will determine when the colonies are no longer dependent on the nesting habitat (i.e. nestling have fledged and are no longer using habitat), which will determine when the fencing may be removed. The breeding season typically ends in July.

REPTILES

As identified in Table BR-3 western pond turtles (*Emys marmorata*) were observed on the Project site in 2010.

WESTERN POND TURTLE

According to the CDFW Life History Account for the species, the western pond turtle (*Emys marmorata*), is an aquatic turtle that usually leaves the aquatic site to reproduce, to aestivate, or to overwinter. Western pond turtles require some slack- or slow-water aquatic habitat. High-gradient streams with minimal cover or basking habitat are not suitable. In pond environments the species typically only leaves the water to reproduce, whereas in stream environments the turtles more commonly leave the water to aestivate or overwinter, in addition to leaving for reproduction. Turtles leave the water to overwinter in October or November, and typically become active in March or April. Mating typically occurs in late April or early May, but may occur year-round. Most egg-laying occurs in May or June, but may occur as early as April or as late as August. The hatchlings remain in the nest over the winter, and emerge in the spring. Suitable nesting locations have dry soils (usually in a substrate with a high clay or silt fraction) on a slope that is unshaded and may be at least partially south-facing. The nest site can be up to 1,300 feet from the aquatic habitat, but it is more typical for the nest to be within 650 feet of aquatic habitat. The Life History Account conservatively recommends a buffer of 1,650 feet to ensure that neither adults nor nests will be impacted.

According to the information presented in the Biological Resource Assessment prepared for the Project site, two western pond turtles were observed in the SRP wastewater ponds. These ponds only provide marginal habitat due to the absence of cover, few basking sites, and possibly poor water quality. It is unknown how the turtles arrived, but they may have moved overland or had been translocated and released.

The CDFW has not published mitigation or other regulatory guidance for the treatment of impacts to this species. As a result, mitigation is focused on preventing construction activities from resulting in direct mortality of a western pond turtle. The developer will be required to perform surveys 24-hours prior to ground-disturbing activity to ensure that there are no western pond turtles within or near the construction area. With recommended mitigation impacts to western pond turtles are *less than significant*.

MITIGATION MEASURE:

BR-11. Prior to the commencement of ground-disturbing activity within 1,650 feet of aquatic habitat, the developer shall consult with California Department of Fish and Wildlife to establish appropriate avoidance procedures, and to establish procedures which would apply in the event that a **western pond** turtle is found

within the construction area. **Such procedures shall ensure the avoidance of mortality to individual turtles.** The developer shall submit written evidence of the consultation and its conclusions to the Environmental Coordinator. If California Fish and Wildlife recommends obtaining a permit, the applicant shall obtain the permit prior to the commencement of ground-disturbing activities. Unless California Fish and Wildlife recommends other mitigation **that is equally or more protective**, the following shall also apply:

1. Twenty four hours prior to the commencement of ground-disturbing activity (i.e. clearing, grubbing, or grading) within 1,650 feet of aquatic habitat, a qualified biologist shall perform a survey for western pond turtle. The survey shall include all suitable upland and aquatic habitat which is within 1,650 feet of all proposed construction areas. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity.
2. If western pond turtles are found during the survey, activities shall not commence until the animal has moved out of the construction area on its own. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area.
3. If a western pond turtle is encountered during active construction, all construction shall cease until the animal has moved out of the construction area on its own. If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area. California Fish and Wildlife and the Environmental Coordinator shall be notified within 24-hours that a turtle was encountered.

AMPHIBIANS

As identified on Table BR-3 the Project site supports suitable habitat for the western spadefoot toad (*Scaphiopus (Spea) hammondi*).

WESTERN SPADEFOOT TOAD

The western spadefoot (*Scaphiopus (Spea) hammondi*) occurs in shallow, seasonal wetlands in valley and foothill habitats such as grasslands, open chaparral, sage scrubland, short-grass plains, and pine woodlands. Spadefoot occur in both grazed and ungrazed habitat. Adult spadefoot occupy burrows up to three feet in depth in upland habitat during dry periods to avoid desiccation (Zeiner et al., 1990). Individuals may remain in these burrows for eight to nine months. Most surface activity is nocturnal. The spadefoot leave their upland burrows for wetlands during the breeding season, which lasts from January to August, depending on rainfall. It appears that vernal pools and other temporary wetlands may be optimal for breeding due to the absence or reduced abundance of both native and nonnative predators (bullfrogs, fish, and crawfish), many of which require more permanent water sources. Current research on

amphibian conservation suggests that average habitat utilization falls within 1,200 feet of aquatic habitats (USFWS 2005).

Wetland and vernal pool complexes on the Project site vary in size and depth and some retain water for several months. The surrounding upland area is grassland with many burrows. The Project site provides suitable breeding and non-breeding habitat to support the toad. There is no published regulatory guidance on habitat mitigation for this species.

Project development will remove potential habitat and may involve possible take of the species. According to the Vernal Pool Recovery Plan (USFWS, 2005), the western spadefoot was added as a Species of Concern in 2004. Western spadefoot has been observed in several counties across the state, and a number of sites with suitable habitat for western spadefoot are already being protected through National Wildlife Refuges, National Monuments, State Parks, State Ecological Reserves, private preserves, mitigation banks, and conservation easements. Additionally, 23 vernal pool species are federally protected; preservation efforts for those species and associated habitats will contribute to the conservation of the western spadefoot.

While a localized population of the toad may be reduced through development of the Project site, the regional population will not be reduced significantly for the reasons stated above. Locally, conservation lands which provide habitat for the western spadefoot toad include the Mather Regional Park, Burke Ranch (1,000 acres), Gill Ranch Conservation bank (1,800 acres) and Sunrise Douglas Preservation Bank (480 acres). Further, Project preservation of 286 onsite acres of vernal pool and associated upland habitat and other preservation/creation requirements included in mitigation for vernal pool invertebrates and wetland habitats will contribute to the local and regional conservation of western spadefoot habitat. Project impacts to the western spadefoot toad are *less than significant*.

MITIGATION MEASURES:

None Recommended.

INVERTEBRATES

The Project site contains vernal pool complexes and seasonal wetlands that support a variety of species. The following invertebrates have a high potential to exist on the Project site: California linderiella, midvalley fairy shrimp, Ricksecker's water scavenger beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp. All of these species are associated with vernal pool and wetland environments and are not readily observed through casual observation. If suitable habitat is present, the species must be assumed to be present unless surveys have found the species to be absent. Discussion of the California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp are grouped under the heading of Vernal Pool Crustaceans, because the survey protocols and mitigation requirements are applied to all four species.

VERNAL POOL CRUSTACEANS

California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp use the same habitat types, though California linderiella tends to prefer deeper pools. The shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus. The females carry their eggs in a ventral brood sac until they are dropped to the bottom of the pool, or the mother dies and sinks. At the end of the rainy season, as the pool dries up, the eggs remain in a dormant stage in the dried pool until the rains of the next season, or other environmental stimuli cause them to hatch. Cysts will hatch when the pool refills, although not all cysts present will hatch during the following rainy season, and they may remain dormant in the soil for multiple seasons.

Survey requirements and mitigation protocols published by USFWS (“Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods” published April 19, 1996 and the Programmatic Formal Endangered Species Act Consultation published on February 28, 1996) are only required by USFWS for the two species listed under the ESA: vernal pool fairy shrimp and vernal pool tadpole shrimp. However, the discussions and mitigation below apply them to the two Species of Concern, California linderiella and midvalley fairy shrimp.

All four crustacean species are recorded in the CNDDDB as occurring within ½ mile of the site. Based on the proximity of recorded sightings, it is reasonable to assume that the various shrimp species are present on the site as well. Furthermore, protocol surveys have not been performed for the site. Surveys to determine presence of absence of ESA-listed crustaceans must include either 2 years of wet season surveys completed within a 5-year period or consecutive wet season and dry season surveys. In the absence of surveys, presence should be assumed.

A USFWS programmatic consultation was published for ESA-listed vernal pool crustaceans on February 28, 1996. Programmatic consultation can only be used by Projects involving a maximum impact of one acre, and thus the Project must be individually permitted through the USACE and the USFWS. Individual permit requirements are varied, depending upon the quality of the habitat lost, the nature of the impact, and the quality of the mitigation land offered – among other factors.

The programmatic consultation indicates that all habitats within 250 feet of proposed development may be subject to indirect impacts, though this buffer distance can be smaller as part of the individual permitting process. In absence of the permit, for complete avoidance vernal pools must be avoided by a minimum of 250 feet. Encroachment within this buffer may only occur if approved by USFWS. Based on this guidance all vernal pools within 250 feet of proposed roads, trails, and land development will be indirectly impacted. Further, the watershed analysis described in the wetland impacts section noted that some vernal pools on the fringe of the Avoided Areas may have shorter inundation durations. Shorter inundation durations may mean a change in the pools temperature, depth, and pH. Vernal Pool features that may have been utilized by species that required specific inundation durations for the completion of breeding cycles may no longer provide suitable habitat. While these features will likely

retain some function for other special status species and plants, the loss of suitable habitat for other species would constitute an indirect loss for the local biological community. The Project will both remove some wetlands and encroach within the 250-foot buffer of other wetlands not removed.

Ultimately, mitigation requirements will be defined through the individual permitting process, but consistent with Sacramento County General Plan policy the mitigation below stipulates a minimum of 1:1 mitigation for habitat lost. It is probable that the individual permit requirements will require a larger amount of mitigation, and it is also possible that USFWS will require that mitigation occurs within the Mather core area. The Project will reduce local populations of California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Though in-kind mitigation will be required for the loss of habitat on the site, the loss of wetlands on the site within an area described as vital to the recovery for vernal pool habitats and their dependent species is significant even with mitigation; impacts are *significant and unavoidable*.

RICKSECKER'S WATER SCAVENGER BEETLE

The Ricksecker's water scavenger beetle is an aquatic beetle that lives in weedy, shallow, open water, associated fresh water seeps, springs, farm ponds, vernal pools, and slow-moving stream habitats. The USFWS species profile⁵ only contains listing status and a general map, as little is known about the life history of the species. It is listed primarily due to its association with in-decline habitats, rather than based on known population trends. The beetle is known to co-occur with vernal pool fairy shrimp. There are no recorded occurrences of Ricksecker's water scavenger beetle in the Project vicinity, but they are assumed to be present in the Project area due to the presence of suitable habitat.

Neither survey nor mitigation protocols for this species have been published by USFWS. Since population trends have not been well established, it is unclear to what extent the species relies on the rarer vernal pool and seasonal wetland habitats versus more abundant surface water types. For the purposes of this analysis, it is assumed that local populations of the species have at least some dependency on vernal pool and seasonal wetland habitats, since this is the more conservative assumption. Since the Project is within an area described as vital for the conservation of vernal pool habitats, loss of wetlands on the site will result in *significant and unavoidable* impacts to the species.

Mitigation below indicates that if protocol surveys indicate absence of all four species of crustacean, as described in the section above, then it may also be assumed that Ricksecker's water scavenger beetle is absent. Since the species occupies the same habitat as listed crustaceans, mitigation for wetland crustaceans will also serve as feasible mitigation for impacts to the Ricksecker's water scavenger beetle.

⁵ <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=I0FE>

MITIGATION MEASURES:

BR-12. Individual Permit Process. Presence of California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp and vernal pool tadpole shrimp shall be assumed unless determinate surveys that comply with U.S. Fish and Wildlife protocol conclude that the species are absent. If the protocol surveys are performed and all listed crustacean species are absent, Ricksecker's water scavenger beetle may also be presumed absent, and no further mitigation shall be required for listed vernal pool invertebrates. If species are assumed or found during determinant surveys, one or a combination of the following shall apply:

- A. *Total Avoidance: Species are present or assumed to be present.* Unless a smaller buffer is approved through formal consultation with the USFWS, construction fencing shall be installed a minimum of 250 feet from all delineated vernal pool margins. All construction activities are prohibited within this buffer area. For all vernal pools where total avoidance is achieved, no further action is required.
- B. *Compensate for habitat removed.* Obtain all applicable permits from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and the Central Valley Regional Water Quality Control Board **(e.g., incidental take authorization, streambed alteration agreement, waste discharge requirements)** for any proposed modifications to vernal pools and mitigate for habitat loss in accordance with the Biological Opinion and Section 404 permits obtained for the Project. At a minimum, mitigation ratios shall be consistent with County General Plan Policy, which requires no net loss of wetland resources. Any vernal pool loss not mitigated through the **relevant** permitting process shall be mitigated for by payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.

BR-13. SSHCP Process. ~~If the SSHCP is adopted, the Project will be~~ **is** subject to ~~that program instead~~ **the SSHCP**. The project proponent shall follow all avoidance and minimization measures outlined in the SSHCP and compensate for the loss of habitat pursuant to the plan. Evidence of compliance with the SSHCP shall be submitted to the Environmental Coordinator prior to approval of grading permit, civil improvement plans or building permits.

PLANTS

A variety of plant species are adapted to the hydrologic and soil conditions present in vernal pools, and generally do not occur elsewhere. Vernal pool habitats have dramatically declined in California, and as a result many of the plant species associated with the habitat have likewise declined. Vernal pool-associated special-status plant species found in Sacramento County are: Ahart's dwarf rush, Boggs Lake hedge-

hyssop, dwarf downingia, legenere, pincushion navarretia, Sacramento Orcutt grass, and slender Orcutt grass.

A plant survey was completed for the East Sacramento Ranch owned property during the preparation of the Biological Resource Assessment by Salix Consulting, Inc. in April 2012 (Appendix BR-3). Specific information from the Biological Resource Assessment is included in the impact analysis. Additional surveys will be required prior to ground disturbance since the timespan between the preliminary survey and actual construction is considerable. Otherwise, if project activities occur a minimum of 250 feet from vernal pools, then it may be presumed that impacts to rare plants within the vernal pools will be avoided.

LEGENERE

Legenere is a weakly erect or decumbent annual herb that grows in moist or wet ground. The plant has yellow flowers, which are produced between May and June and extend from the main body of the plant on long, slender pedicels. This species occurs in drying beds of vernal pools in valley grassland ranging from sea level to 1,400 feet in elevation. It has been found throughout the Sacramento Valley.

Legenere was found in one vernal pool to the west of Eagles Nest Road (parcel W-30) and in one pool east of Eagles Nest Road (parcel N-30) during the plant surveys for the Biological Resource Assessment.

While known occurrences are within proposed preserve areas, preserve areas are adjacent to proposed urban development. Further, in the time period between the survey and construction additional plants may propagate. Mitigation is recommended to conduct rare plant surveys for all directly impacted vernal pools. If legenere is identified, the project applicant will have to obtain appropriate permits or remain outside of the 250 foot buffer of the occupied pool. However, if development occurs within the 250 foot buffer, the stormwater management low impact design master plan will mitigate for any indirect impacts to legenere, subject to USFWS approval. Avoidance of direct impacts coupled with mitigation for potential indirect impacts will ensure that impacts to legenere are *less than significant*.

SACRAMENTO ORCUTT GRASS

Sacramento Orcutt is a small, densely tufted annual grass. It grows to about one to four inches tall. The plant is covered with small glandular hairs and is sticky. The plant has few to many stems and spike-like inflorescence clustered near the apex (USFWS, 2010). Orcutt grasses are strongly adapted to the more extreme hydrological cycles encountered in the spectrum of vernal pool types, e.g., they are typically associated with larger and/or deeper vernal pools. Orcutt grass plants are able to produce most of their aboveground vegetative growth, as well as flowers and seed as the vernal pools dry down in late spring and early to mid-summer (Crampton 1959). Sacramento Orcutt grass seeds germinate during the later spring months after cessation of winter rains as the shallow water at the pool margins begins to warm and recede (Griggs 1974, Holland 1987, Stone et al. 1988). Sacramento Orcutt grass plants flower and set seed as the margins and basin of the vernal pools dry from April through July.

Several occurrences of Sacramento Orcutt grass have been reported within 1/4 mile of the Project site (CDFW 2014) and the West Planning Area is located within Critical Habitat Unit 2 as identified in Federal Register Vol.71, No.28. As proposed, the West Planning Area will contain a 197.8 acre natural preserve (parcel W-30) and the remainder is not proposed for development; existing habitat value within Critical Habitat Unit 2 will remain unchanged.

According to the USFWS Five Year Review report prepared as part of the Recovery Plan, there are eight identified populations of Sacramento Orcutt grass within the county. The greatest threats to Sacramento Orcutt are development and invasive species. Invasive species may be introduced from private gardens and landscaping that surround preserved areas. Measures should be taken to reduce the threat of invasive species to existing wetland complexes. Mitigation is recommended to develop an invasive species prevention plan which includes provisions for restoration of vernal pools should preventive measures fail. Avoidance of direct impacts coupled with mitigation for potential indirect impacts will ensure that impacts to Sacramento Orcutt grass are *less than significant*.

MITIGATION MEASURES:

BR-14. Prior to any grading, grubbing, or excavation within 250 feet of a vernal pool or other suitable habitat, rare plant surveys shall be performed. The surveys ~~should~~ **shall** be floristic in nature, meaning that all plant species found in the survey area shall be identified to the taxonomic level necessary to determine rarity and listing status. The rare plant surveyor shall have experience as a botanical field investigator and familiarity with the local flora and potential rare plants in the habitats to be surveyed. The surveys shall be conducted when the rare plants at the site will be easiest to identify (i.e. flowering stage), and when the plants reach that stage of maturity. A minimum of three site visits shall be required during the plants flowering period in order to determine absence. Each site visit must be no less than 7 days apart.

Submit a written report to the Environmental Coordinator which describes the survey. The survey report ~~should~~ **shall** include a brief description of the vegetation, survey results (which includes a list of all species observed), photographs, time spent surveying, date of surveys, a map showing the location of the survey route and any rare plant populations and copies of any rare plant occurrence forms. If no rare plants are found, no further mitigation for plant species is required. If a special status plant or natural community is located, complete and submit to the CNDDDB a California Native Species (or Community) Field Survey Form or equivalent written report, accompanied by a copy of the relevant portion of a 7.5-minute topographic map with the occurrence mapped. Total avoidance of habitats which contain rare plants shall be required unless deemed infeasible by the Environmental Coordinator. If avoidance is infeasible, **then compensatory mitigation shall be required. Compensation measures may include transplanting perennial species, seed collection and dispersal for annual species, and other conservation**

strategies that shall restore and protect the viability of the local population, and shall replace any individual plants at a 1:1 ratio so as to achieve no net reduction in the numbers of individual plants. The performance standard for the compensatory mitigation shall be no net reduction in the size and viability of the local plant population. ¶Prior to

construction within 250 feet of the vernal pool(s) which contain the rare plant occurrences, notify California Department of Fish and Wildlife and U.S. Fish and Wildlife and comply with any permit or mitigation requirements stipulated by those agencies. Submit copies of all such correspondence, including a copy of any required permits, to the Environmental Coordinator.

- BR-15.** Surveys shall be performed by a qualified botanist during the species non-dormant, flowering period (June – July) prior to work within suitable habitat. If the species is not found during the survey, no further mitigation would be required. If plant(s) are found the botanist shall establish distribution of the colony(s) and estimate the number of individuals in the population. Unless deemed infeasible by the Environmental Coordinator, all plants or tuber/rhizomes shall be removed from the area of impact and transplanted to a new or existing preserve or, if the impact is temporary, replanted in the same location after the disturbance. Surveys shall be performed annually at the transplant location for a period of five years, to ensure success. If survival is not meeting a minimum 60% survivorship, transplantation will be deemed failed. In cases where transplanting is deemed infeasible, or where transplanting has failed, compensatory mitigation shall be provided. Compensatory mitigation shall **ensure that there is no net reduction in the size and viability of the local plant population and may** consist of placement of a conservation easement over a known, unprotected population of the species.

- BR-16. ~~Removed due to SSHCP adoption.~~** ~~[Measure applies if the South Sacramento Habitat Conservation Plan is not adopted.] The project applicant shall prepare an invasive species removal and prevention plan. The plan shall provide methods to remove invasive species from preservation areas and to restore the affected wetland features. The plan shall include methods for the prevention of the introduction of new invasive species from landscapes associated with the development. Minimum components of such a plan shall include: mapping of existing invasive plant populations within the avoided areas, with the map being updated a minimum of every five years; a description of acceptable methods for removing invasive species, examples of which include hand removal or biological controls (e.g. natural parasites); and a prohibition on the use of non-native plants within either of the habitat areas set aside to mitigate wetland impacts. The plan shall be incorporated in the Operations and Management Plan which is a requirement of the Section 404 permit process.~~

TREES

An Initial Arborist Report and Tree Inventory Summary (Appendix BR-4) was conducted on a portion of the project, namely those parcels owned by the Sacramento Rendering

Company that front Kiefer Boulevard. The consultant arborist was Sierra Nevada Arborists and the Tree inventory took place on February 16-20, 2009 and April 13-17, 2009. The tree inventory revealed that the Project site includes relatively few native trees compared to non-native or ornamental trees. The inventory identified 697 trees measuring four inches in diameter and larger at breast height (dbh). Composition of the 697 inventoried trees includes the following species and accompanying aggregate dbh (**Table BR-7**). Native trees provided a protected status within the County are listed first and are in bold font. By far the most prominent tree on the project site is the Coast Redwood, which are native to California but not to Sacramento County. The redwoods are used as a vegetative screen to shield the rendering plant from Kiefer Boulevard. They are all generally similar in size.

Table BR-7: Tree Inventory

Common Name	Number of Trees	Aggregate Inches
Blue Oak	1	39
Valley Oak	1	26
African Sumac	19	197
Blue Gum Eucalyptus	26	864
Brazilian Pepper	1	27
California Fan Palm	1	16
Coast Redwood	511	4,410
Cork Oak	1	10
English Walnut	3	34
Fremont Cottonwood	5	88
Fruiting Pear	1	10
Fruitless Mulberry	2	45
Modesto Ash	2	25
Monterey Pine	1	16
Olive	69	843
Pacific Willow	7	185
Plum	1	10
Poplar	5	53
Red Iron Bark Eucalyptus	26	439
Silver Dollar Eucalyptus	3	54
Silver Maple	1	24
White Alder	8	137
White Birch	2	12

A general background on native oak trees found within the County and potential impacts to native trees are discussed below.

BACKGROUND

The preservation of oak trees enhances natural scenic beauty, sustains the long term potential increase in property values which encourages quality development, maintains the original ecology, retains the original tempering effect of extreme temperatures, increases the attractiveness of the County to visitors, helps to reduce soil erosion, increases the oxygen output of the area, and increases the overall aesthetic value and environmental quality of land for both humans and wildlife.

Native oaks, when young trees, are very tolerant of their environment and make excellent and adaptable landscape assets. The mature native oak is an invaluable part of our environment, but any substantial change in its environment will weaken a healthy specimen and may eventually kill it. Native oak trees have adapted to the long dry

summers of the Sacramento Valley, primarily through the development of their root system. The initial root is a taproot extending deep for more dependable moisture. As the oak grows, the taproot is outgrown by an extensive lateral root system that spreads horizontally out from the trunk to, and well beyond, the dripline. For a mature oak, this horizontal root system is the primary supporter of the tree for the rest of its life. It includes the important feeder roots, which absorb moisture and nutrients. Nearly all of the lateral root system occurs within the top five feet of the soil surface. In shallower soils, the root system is concentrated in even a shallower zone, typically 1 to 2 feet below the surface. As oak trees mature, particularly in the summer-dry Sacramento Valley, deep growing vertical roots form off the laterals, usually within ten feet of the trunk. These are called “sinker” roots and they exploit deeper soil moisture and add stability to an increasingly massive tree. By the time the mature tree has established an elaborate root system designed for its environment and particular site conditions, it has lost the vigor of youth. It is less tolerant to change and/or damage and can less easily support its massive living structure. The activities that are likely to cause significant impacts to mature oak trees are discussed below.

The amount of soil that can be removed from beneath an oak before permanent root damage occurs varies depending on several factors including the individual tree size, species, location, and health. Although small amounts of soil may sometimes be removed without permanently damaging an oak, it is generally recommended that no soil be removed and the area beneath the tree remain undisturbed. The addition of fill and the operation of heavy equipment beneath an oak tree compacts the surface soils, prohibits the natural exchange of gases between the feeder roots and the atmosphere, and also restricts water percolation to the root zone. Excessive moisture may also be trapped by fill, which can cause root and crown rot. There is no guarantee that additional soil can be safely added around a mature oak tree. Arborists usually recommend not tampering with the natural grade within the root zone, using retaining walls where necessary. The major damage done to oaks in fill operations occurs because the soil is first excavated down to firmer and denser layers. Roots are damaged and removed. Then fill and native soil are knitted together in successive layers, each usually compacted to 90% to form a firm base for development.

Paving can cause the same problems associated with soil compaction. Impervious paving, such as asphalt and concrete, prevent water percolation and the exchange of gases between roots, soil and the atmosphere. In addition, paving usually requires excavation to create a stable base and to allow for depth of paving material. This process damages and removes roots, and compacts the soil.

Mechanical damage to the trunk or limbs of oak trees is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point of structural failure. The best cure in this case is prevention.

Chemical spills can be directly toxic to the roots. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree.

Good drainage is very important because oaks need a proper balance of moisture, air, and nutrients to grow and survive. Too much moisture, particularly during the warm growing months when the oak in nature is normally dry, can smother the roots and/or encourage the proliferation of crown and root rot fungus.

Trenching is an often-overlooked cause of oak tree death. Trenching usually occurs when utilities are installed, and can result in severing a significant portion of the total root area from a tree. A single three-foot deep trench at the dripline along one edge of an oak tree will remove approximately 15% of the roots. A similar trench made midway between the dripline and the trunk will remove approximately 30% of the roots. Trenches made within ten (10) feet of a large oak are considered very damaging. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance. A root loss of 50% or greater usually causes immediate water stress and reduces photosynthesis (food production). Growth is reduced and die back, or death, may result.

Young, healthy, vigorous trees can survive moderate root loss, while large, old, or declining trees may not. Recovery following the shock of severe root loss depends on rapid root replacement. Root growth requires adequate food resources, growth stimulating hormones, water and minerals. If these are available and there are no other restrictive influences or construction impacts, root growth and replacement will generally proceed rapidly. Low or depleted food reserves will delay root replacement. If the soil conditions have been altered by construction, root replacement will be slowed or stopped. A delay in recovery from root loss will result in growth loss, die back or death. The worst time to cut roots is just prior to bud break in the spring because growth hormones are not present in the roots to stimulate root growth. Also, cutting roots later in the spring should be avoided as food reserves have been nearly depleted by leaf growth. Root growth proceeds most rapidly in the summer and fall when top growth has slowed, food reserves are high and growth hormones are present in the roots.

IMPACTS TO NATIVE TREES

Native trees have been identified within the Project boundaries; however, a tree resources inventory has not been performed in the South or lower West Planning Areas. Additional native trees could be identified, especially near the old homestead (northwest corner of Eagles Nest Road and Jackson). As shown in

Table BR-7 above, there are two native oak trees, five Fremont cottonwood, and eight white alders within the North Planning Area. Almost all trees surveyed are located in and around the SRP. Most trees are planted as visual screens, or general landscaping and do not occur in a natural setting. Since the Fremont cottonwood and white alder trees are not located in natural setting, the removal of these trees will be analyzed in the impact discussion for non-native trees. The only remaining native trees within the Project boundary are the two oak trees – valley oak and blue oak.

The degree of impact to native oak trees that will result from development and redevelopment associated with the NSP is uncertain at this time. The NSP's proposed change to land use designations within the plan area does not in itself require the removal of any on-site native or non-native trees. As specific parcel redevelopment and development plans are not part of the proposed NSP project, impacts associated with development to native trees cannot be definitively determined at this time. Based on the illustrative land use plan, it appears that the two oak trees may be within an open space area (parcel N-31). However, there is also a water quality detention basin proposed for that parcel where grading activities would likely require the removal of the trees. It is important to note that the arborist report is ten years old and it may be some time before development occurs. With time, individual tree health and size will change. Mitigation is required when healthy native trees are removed for development. In the case of this Project, the arborist report does indicate some potential structural defects and decay; therefore, reassessment of tree health and size are necessary at the time of development. If it is determined that mitigation should be applied, replacement oak trees are planted in-kind, inch for inch. Impacts are considered potentially significant. Mitigation is recommended to either provide for the protection and preservation of native oak tree resources within the NSP area or to compensate for the loss of healthy oak trees consistent with General Plan policy. With recommended mitigation, impacts to native oak trees from development and redevelopment in accordance with NSP are considered *less than significant*.

MITIGATION MEASURES:

BR-17. Project proponents of subsequent development projects within the NSP area, shall submit **to the County prior to issuance of a grading permit or building permit, whichever occurs first,** an arborist report for the project impact areas when appropriate habitat exists. The report shall include the species, diameter, dripline, and health of the trees, and shall be prepared by an ISA certified arborist. The report shall include an exhibit that shows the trees and their driplines in proximity to the project improvements. The report shall identify any tree proposed for removal and shall quantify any encroachment from project equipment or facilities within driplines of native oaks.

- A) With the exception of the oak trees removed and compensated for through Part B below, all healthy native oak trees that are 6 inches dbh or larger on the project site, all portions of adjacent off-site healthy native oak trees that are 6 inches dbh or larger which have driplines that extend onto the project site, and all off-site healthy native oak trees that are 6 inches dbh or larger

which may be impacted by utility installation and/or improvements associated with this project, shall be preserved and protected as follows:

1. A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of the tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of the tree. Removing limbs which make up the dripline does not change the protected area.
2. Chain link fencing or a similar protective barrier shall be installed one foot outside the driplines of the oak trees prior to initiating project construction, in order to avoid damage to the trees and their root systems.
3. Any removal of paving or structures (i.e. demolition) that occurs within the dripline of a protected oak tree shall be done under the direct supervision of a certified arborist. To the maximum extent feasible, demolition work within the dripline protection area of the oak tree shall be performed by hand. If the certified arborist determines that it is not feasible to perform some portion(s) of this work by hand, then the smallest/lightest weight equipment that will adequately perform the demolition work shall be used.
4. No signs, ropes, cables (except cables which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the oak trees.
5. No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the dripline of the oak trees.
6. Any soil disturbance (scrapping, grading, trenching, and excavation) is to be avoided within the dripline of the oak trees. Where this is necessary, an ISA Certified Arborist will provide specifications for this work, including methods for root pruning, backfill specifications and irrigation management guidelines.
7. Before grading, excavation or trenching within five feet outside the driplines of protected oak trees, root pruning shall be required at the limits of grading or excavation to cut roots cleanly to a depth of the excavation or 36 inches (whichever is less). Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades or other approved root-pruning equipment under the supervision of an ISA Certified Arborist.
8. All underground utilities and drain or irrigation lines shall be routed outside the driplines of oak trees. If lines must encroach upon the dripline, they ~~should~~ **shall** be tunneled or bored under the tree under the supervision of a certified arborist.

9. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use. Any pesticides used on site must be tree-safe and not easily transported by water.
 10. Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of the oak tree.
 11. No sprinkler or irrigation system shall be installed in such a manner that it sprays water within the dripline of the oak tree.
 12. Tree pruning required for clearance during construction must be performed by an ISA Certified Arborist or Tree Worker.
 13. Landscaping beneath the oak tree may include non-plant materials such as boulders, decorative rock, wood chips, organic mulch, non-compacted decomposed granite, etc. Landscape materials shall be kept two (2) feet away from the base of the trunk. The only plant species which shall be planted within the dripline of the oak tree are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.
- B) To the maximum extent feasible, all on-site healthy native oak trees shall be protected and preserved. Any substantial (>20%) encroachment and/or removal of native oak trees shall be compensated by planting native trees (valley oak/*Quercus lobata*, interior live oak/*Quercus wislizenii*, blue oak/*Quercus douglasii*), equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Environmental Coordinator. Encroachment of over 20 percent within the dripline radius of native trees will require compensatory mitigation **as part of a Replacement Oak Tree Planting Plan** based on the percentage of encroachment multiplied by the dbh. Encroachment over 50 percent will require compensation for the entire tree.

Equivalent compensation based on the following ratio is required:

- one D-pot seedling (40 cubic inches or larger) = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh
- one 36-inch box tree = 3 inches dbh

Replacement tree planting shall be completed prior to the issuance of building permits or a bond shall be posted by the applicant in order to provide funding for purchase, planting, irrigation, and 3-year maintenance period, should the applicant default on replacement tree mitigation. The bond shall be in an amount equal to the prevailing rate of the County Tree Preservation Fund.

Prior to the approval of Improvement Plans or building permits, a Replacement Oak Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Oak Tree Planting Plan(s) shall include the following minimum elements:

1. Species, size and locations of all replacement plantings;
2. Method of irrigation;
3. The Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring hole to provide for adequate drainage;
4. Planting, irrigation, and maintenance schedules;
5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement oak trees which do not survive during that period.

No replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark size trees that are retained on-site, or within 15 feet of a building foundation or swimming pool excavation. The minimum spacing for replacement oak trees shall be 20 feet on-center. Examples of acceptable planting locations are publicly owned lands, common areas, and landscaped frontages (with adequate spacing). Generally unacceptable locations are utility easements (PUE, sewer, storm drains), under overhead utility lines, private yards of single family lots (including front yards), and roadway medians.

If oak tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of \$325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.

NON-NATIVE TREES AND TREE CANOPY

The Sacramento County General Plan Conservation Element contains several policies aimed at preserving tree canopy within the County. These are:

CO-145. Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.

CO-146. If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.

CO-147. Increase the number of trees planted within residential lots and within new and existing parking lots.

CO-149. Trees planted within new or existing parking lots should utilize pervious cement and structured soils in a radius from the base of the tree necessary to maximize water infiltration sufficient to sustain the tree at full growth.

The 15-year shade cover values for tree species referenced in policy CO-145 are also referenced by the Sacramento County Zoning Code, Chapter 5.2.4.F.3, and the list is maintained by the Sacramento County Department of Transportation, Landscape Planning and Design Division. The list includes more than seventy trees, so is not included here, but it is available at:

<http://www.per.saccounty.net/Programs/Documents/Tree%20Coordinator/landscape%20tree%20list%202009.pdf>. Policy CO-146 references the Greenprint program, which is run by the Sacramento Tree Foundation and has a goal of planting five million trees in the Sacramento region.

IMPACTS TO NON-NATIVE TREE CANOPY

Almost all of the non-native trees are located within the North Planning Area surrounding the SRP. However, there are a few trees located in the South Planning Area, surrounding the former homestead. The existing trees are located in areas proposed to be medium residential development, neighborhood parks and mixed uses. Based on the proposed density of the development and installation of public infrastructure, all trees are proposed to be removed to accommodate the new development. ArcGIS software was used to determine the approximate acreage of non-native canopy loss. In total, approximately 3.65 acres of non-native canopy exist on the project site. There are many trees located within the existing agricultural-residential area of the lower West Planning Area. Similar to the wetlands, these trees have not been inventoried because there are no proposed changes in land use; therefore, no trees are proposed to be removed in the West Planning Area as a result of the Project. Urban development associated with the Project will result in the removal of 3.65 acres of non-native tree canopy.

The goal of the General Plan policies related to non-native trees is to replace existing urban tree canopy that is removed due to development. Urban tree canopy provides many benefits: improved air quality by removing pollutants, shading structures, reducing the urban heat island effect and reducing energy costs associated with cooling buildings, and capturing and filtering stormwater. In the context of a large master plan such as the Project, tree removal is anticipated to occur in phases. As each development phase happens, new tree plantings will occur. The Countywide Design Guidelines, in general, require the planting of new trees in all new single family lots, commercial buildings, parking lots, and street frontages. In general, these planting requirements are enough to equal the amount of canopy lost. The Design Guidelines for the NSP are consistent with the Countywide Design Guidelines. Using the tree with the smallest shade value on the County's 15-year shade tree list (15-20 foot diameter tree = 314 square feet of shade/canopy), and applying one of the many Countywide Design Guidelines regarding vegetation (one shade tree planted on every single-family

lot) the total canopy acreage created would amount to 7.8 acres (1,085 dwelling units (<RD-7) x 314 sq ft / 43,560 sq ft per acre). This is double what would be removed for development and does not include tree plantings in landscape frontages, commercial lots, and medium and high density residential units. It is clear that with implementation of the NSP Design Guidelines, the new tree plantings associated with the Project will exceed the existing amount of non-native canopy acreage. This impact is *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: SOUTH SACRAMENTO HABITAT CONSERVATION PLAN

The adopted SSHCP identifies eight Preserve Planning Units (PPUs). The Project is within PPU 2 and the proposed onsite preserves are consistent with the preserve boundaries identified in the SSHCP for PPU 2 and connect with core preserve areas identified in the SSHCP to the north, south, and west. The SSHCP identifies the Project as an urban development area and provides incidental take coverage to the Project. Project development was assumed in the SSHCP Environmental Impact Report/Environmental Impact Statement and would not interfere with implementation of the SSHCP or prevent attainment of the SSHCP Biological Goals and Measurable Objectives. The Project design protects the natural segment of Frye Creek that traverses the Plan Area consistent with the SSHCP conservation strategy. The Project has potential impacts associated with light spilling over into the adjacent preserves, and the potential introduction and/or spread of invasive weed species due to construction activities such as grading. Mitigation for potential impacts to species proposed for coverage under the SSHCP is included in this EIR and would not conflict with the SSHCP conservation strategy for covered species. Therefore, this impact would be reduced to less than significant.

MITIGATION MEASURES

BR-18. Implement Applicable SSHCP Avoidance and Minimization Measures.

The Project Applicant shall implement SSHCP AMMs EDGE-8 (Outdoor Lighting), EDGE-10 (Prevent Invasive Species Spread), and BMP-2 (Erosion Control). If equivalent or more effect mitigation is required as part of the Project's State and federal permits, those mitigation measures may be implemented subject to the final determination of the Sacramento County Environmental Coordinator.

BIOLOGICAL IMPACTS ASSOCIATED WITH OFF-SITE IMPROVEMENTS

Since detailed construction plans are not available, off-site biological impacts are discussed programmatically. In some cases, environmental documents have been prepared for specific utility improvements. For most off-site improvements, additional environmental analysis will need to be completed and environmental impacts remain potentially significant. A broad discussion of likely biological impacts is included below.

SEWER

The Level 1 Sewer System Study prepared by MacKay and Somps identified a preferred alternative and identified in the NSP and associated financing plans.

This alternative would connect to the Mather Trunk (MAE). This alternative requires that the pipe is extended north along Zinfandel Road to Douglas Road. The Mather Field Specific Plan Update Final Revised Environmental Impact Report (County Control No. PLNP2013-00044) identified environmental impacts associated with the construction of the sewer pipeline to approximately 2,100 feet south of Woodring Drive. Construction from that point south to Kiefer Boulevard is discussed programmatically in the Mather Field Specific Plan FEIR and is being included in the environmental document being prepared for the Mather South Community Master Plan. Generally, the proposed sewer route will travel through grasslands and wetland/vernal pool complexes. Special status species likely include vernal pool crustaceans, western spadefoot toad, vernal pool plants, burrowing owl and tricolored blackbirds. A wetland delineation and species surveys will need to be completed for the proposed sewer alignment. Regulatory permitting compliance can be completed through the SSHCP (if approved).

WATER SUPPLY

Off-site water supply improvements associated with the Project include the construction of the North Service Area pipeline project. Environmental impacts associated with the construction of the pipeline were identified and evaluated in the Mitigated Negative Declaration certified on September 14, 2010 (County Control No. 2007-70373). Construction activities associated with the NSA pipeline will have to comply with the adopted mitigation monitoring and reporting program for that project. No other off-site water supply infrastructure has been identified to serve the project.

ROADWAY INFRASTRUCTURE

The Project is required to make the off-site road improvements which may include intersection improvements and/or road widening. When development commences, SacDOT will determine where and what off-site improvements are required. A project specific CEQA analysis will be required once roadway improvements are identified and project-level designs are prepared. A cumulative analysis for biological resources impacts was included in the FEIR/EIS for the South Sacramento Habitat Conservation Plan (SSHCP). The roadways affected by the Project are within the SSHCP Urban Development Area. In general, biological resources adjacent to local roadways may include: vernal pools/seasonal wetlands, creek crossings, special status species (vernal pool crustaceans, vernal pool plants, burrowing owls, and tricolored blackbirds), native and non-native trees. Specific impact amounts cannot be determined at this time for each biological resource type potentially affected by offsite roadway infrastructure.

7 CLIMATE CHANGE

INTRODUCTION TO CLIMATE CHANGE AND GLOBAL WARMING

The principal greenhouse gases (GHGs) that enter the atmosphere because of human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. From 1750 to 2004, concentrations of CO₂, CH₄, and N₂O have increased globally by 35, 143, and 18 percent, respectively. Other greenhouse gases, such as fluorinated gases, are created and emitted solely through human activities. (EPA 2012) Carbon dioxide is the gas that is most commonly referenced when discussing climate change because it is the most commonly emitted gas. While some of the less common gases do make up less of the total greenhouse gases emitted to the atmosphere, some have a greater climate-forcing effect per molecule and/or are more toxic than carbon dioxide.

CARBON DIOXIDE

Carbon dioxide emissions are mainly associated with combustion of carbon-bearing fossil fuels such as gasoline, diesel, and natural gas used in mobile sources and energy-generation-related activities. The U.S. Environmental Protection Agency (EPA) estimates that CO₂ emissions accounted for 84.6% of greenhouse gas emissions in the United States in 2004 (EPA 2012). The California Energy Commission (CEC) estimates that CO₂ emissions account for 84% of California's anthropogenic (manmade) greenhouse gas emissions, nearly all of which is associated with fossil fuel combustion (CEC 2005). Total CO₂ emissions in the United States increased by 20% from 1990 to 2004 (EPA 2012).

METHANE

CH₄ has both natural and anthropogenic sources. Landfills, natural gas distribution systems, agricultural activities, fireplaces and wood stoves, stationary and mobile fuel combustion, and gas and oil production fields categories are the major sources of these emissions. The EPA estimates that CH₄ emissions accounted for 7.9% of total greenhouse gas emissions in the United States in 2004 (EPA 2012). The CEC estimates that CH₄ emissions from various sources represent 6.2% of California's total greenhouse gas emissions (CEC 2005). Total CH₄ emissions in the United States decreased by 10% from 1990 to 2004 (EPA 2012).

NITROUS OXIDE

N₂O is produced by microbial processes in soil and water, including those reactions which occur in fertilizers that contain nitrogen. Global concentration for N₂O in 1998 was 314 ppb, and in addition to agricultural sources for the gas, some industrial

processes (fossil fuel fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load (EPA 2012).

The EPA estimates that N₂O emissions accounted for 5.5% of total greenhouse gas emissions in the United States in 2004 (EPA 2012). The CEC estimates that nitrous oxide emissions from various sources represent 6.6% of California's total greenhouse gas emissions (CEC 2005). Total N₂O emissions in the United States decreased by 2% from 1990 to 2004 (EPA 2012).

FLUORINATED GASES (HFCs, PFCs, AND SF₆)

Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆), are powerful greenhouse gases that are emitted from a variety of industrial processes. The primary sources of fluorinated gas emissions in the United States include the production of HCFC-22, electrical transmission and distribution systems, semiconductor manufacturing, aluminum production, magnesium production and processing, and substitution for ozone-depleting substances. The EPA estimates that fluorinated gas (HFC, PFC, and SF₆) emissions accounted for 2.0% of total greenhouse gas emissions in the United States in 2004. (EPA 2012) The CEC estimates that fluorinated gas emissions from various sources represent 3.4% of California's total greenhouse gas emissions (CEC 2005). Total fluorinated gas emissions in the United States increased by 58% from 1990 to 2004 (EPA 2012).

SACRAMENTO COUNTY EMISSIONS

The ICLEI (Local Governments for Sustainability) Clean Air and Climate Protection Model was used to estimate unincorporated Sacramento County emissions, along with the emissions of all of the incorporated cities in the County. This complete inventory was done to provide a regional picture, but the County does not have control over incorporated city emissions (<http://www.green.saccounty.net/Pages/GreenLinksandResources.aspx>). The baseline year 2005 was chosen based on availability of information. In cases where 2005 data was unavailable, 2006 or other recent-year data was substituted. The software inventories community GHG emissions for all operations, with a separate government analysis tab that determines GHG emissions of local government operations as a subset of the community analysis. The community analysis divides GHG emissions among residential (energy usage), commercial and industrial (energy usage), transportation (exhaust emissions), off-road vehicle use (exhaust emissions), waste (landfill emissions), wastewater treatment (energy usage), agriculture (fertilizers, enteric fermentation, etc), High GWP (high global warming potential, such as refrigerants), and airport (emissions from County buildings and fleets – does not include fleet owned by airlines) sectors. The government analysis divides emissions among buildings, vehicle fleet, employee commute, streetlights, water/sewage, and waste sectors.

For the community analysis, energy use was obtained for the Sacramento Municipal Utility District (SMUD) and the Pacific Gas and Electric Company (PG&E). Community waste generation for Sacramento County was collected through the California Integrated Waste Management Board web site and through consultation with staff of Sacramento County Municipal Services Agency. The SMUD reported its 2005 GHG emissions and an emissions factor for all electricity sold to customers that was verified and certified by the California Climate Action Registry. This emissions factor was input into the model as a replacement for the statewide emissions factor for electricity consumption to generate more accurate GHG emissions estimates for Sacramento County electricity consumption. The analysis also uses localized vehicle miles traveled information using the outputs from the Sacramento Regional Travel Demand Model and the emissions factors from the Emission Factors Model 2007 (EMFAC 2007). The software default emissions factors for other GHGs, which are based on statewide averages, were used in all other instances.

As shown in Table CC-1, the County 2005 emission baseline is approximately 5.0 MMT per year, with the transportation sector as the largest contributor at 41% of the total. The emissions per sector drop precipitously from there, with the residential sector emitting only half of the transportation sector total. However, the residential and commercial sectors can be combined to give a more overarching view, because though these sectors operate differently, the source of emissions are the same: private building and interior equipment energy usage. Combining these sectors, transportation accounts for 40% of emissions, and operation of residential, commercial, and industrial buildings accounts for 36% of emissions. The off-road vehicle, waste, wastewater, water, agriculture, and high global warming potential greenhouse gases (High GWP GHG) sectors combined are responsible for only 20% of the County emissions, with the airport as an additional 4%.

Table CC-1: 2005 Community Emissions by Sector

Sector	CO₂e (metric tons)	Percent
Residential	1,033,142	20.7
Commercial and Industrial	772,129	15.4
Transportation	2,066,970	41.4
Off-Road Vehicle Use	236,466	4.7
Waste	201,350	4.0
Wastewater Treatment	70,662	1.4
Water-Related	5,885	0.1
Agriculture	197,132	4.0
High GWP GHGs	203,528	4.1
Airport	200,404	4.0
Total	4,987,668	100

REGULATORY SETTING

EXECUTIVE ORDER S-3-05

Executive Order S-3-05 was the precursor to Assembly Bill 32 (AB 32 is described in the next section) and was signed by Governor Schwarzenegger in June 2005. The Executive Order states that California is “particularly vulnerable” to the impacts of climate change, and that climate change has the potential to reduce Sierra snowpack (a primary source of drinking water), exacerbate existing air quality problems, adversely impact human health, threaten coastal real estate and habitat by causing sea level rise, and impact crop production. The Executive Order also states that “mitigation efforts will be necessary to reduce greenhouse gas emissions”. To address the issues described above, the Executive Order established emission reduction targets for the state: reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020 and to 80% below 1990 levels by 2050. Currently only the 2020 target has been adopted by the state through legislation (see Assembly Bill 32, below). As a result, all of the impact discussions, mitigation, and strategies are based on meeting the 2020 target, not the longer-term 2050 target.

RENEWABLE PORTFOLIO STANDARD (RPS)

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

It should be noted that SMUD was the only large California utility to meet the statewide goal of supplying 20 percent of its power from renewables in 2010. In fact, SMUD exceeded the statewide goal and their own goal of 23.8 percent by supplying more than 24 percent of its retail sales with renewable energy in 2010. SMUD has chosen to meet or exceed the State requirements of 33 percent by 2020 and is well on their way to meeting their own 2020 goal of 37 percent. In 2015, SB 350 was signed into law by Governor Jerry Brown. This bill extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030.

ASSEMBLY BILL 32

In September 2006, Assembly Bill (AB) 32 was signed by Governor Schwarzenegger of California. AB 32 requires that California GHG emissions be reduced to 1990 levels by the year 2020, just like Executive Order S-3-05. However, AB 32 is a comprehensive bill that requires ARB to adopt regulations requiring the reporting and verification of statewide greenhouse gas emissions, and it establishes a schedule of action measures.

AB 32 also requires that a list of emission reduction strategies be published to achieve emissions reduction goals.

SENATE BILL 375

On September 30, 2008, Senate Bill (SB) 375 was signed by Governor Schwarzenegger. SB 375 combines regional transportation planning with sustainability strategies in order to reduce greenhouse gas emissions in California's urbanized areas.

Existing law requires each regional transportation planning agency, which in Sacramento County's case is the Sacramento Area Council of Governments (SACOG), to adopt a Metropolitan Transportation Plan. SB 375 required the California Air Resources Board (CARB) to set performance targets for reduction of passenger vehicle emissions per capita in each of 16 Metropolitan Planning Organizations (MPOs) in the state for 2020 and 2035. For the SACOG MPO, these targets were set at 7% below 2005 per capita emissions for 2020 and 16% below 2005 per capita emissions for 2035.

MPOs are not required to meet the greenhouse gas emission targets established by ARB, but if they conclude it is not feasible to do so, they must prepare an Alternative Planning Scenario to demonstrate what further land use and/or transportation actions would be required to meet the targets. SB 375 also requires that the Metropolitan Transportation Plan for each MPO include a Sustainable Communities Strategy (SCS) that integrates the land use and transportation components, and amends CEQA to provide incentives for housing and mixed use projects that help to implement an MTP/SCS that meets the CARB targets.

SENATE BILL X1-2, THE CALIFORNIA RENEWABLE ENERGY RESOURCES ACT OF 2011 AND SENATE BILL 350, THE CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly-owned utilities to procure 50 percent of their electricity from renewable resources by 2030.

EXECUTIVE ORDER B-30-15

On April 20, 2015, EO B-30-15 was signed into law and established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the same

target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 sets the next interim step in the State's continued efforts to pursue the long-term target expressed under EO S-3-05 to reach the goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically-established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

SENATE BILL 32

On September 8, 2016 Senate Bill (SB) 32 was signed by Governor Jerry Brown. SB 32 builds upon previous GHG reduction goals by requiring that the CARB ensures that statewide GHG emissions are reduced by 40 percent below the 1990 level by the year 2030. Additionally, SB 32 emphasized the critical role that reducing GHG emissions would play in protecting disadvantaged communities and the public health from adverse impacts of climate change. Enactment of SB 32 was predicated on the enactment of Assembly Bill 197, which seeks to make the achievement of SB 32's mandated GHG emission reductions more transparent to the public and responsive to the Legislature.

ENDANGERMENT FINDING

On December 7, 2009, the U.S. EPA made an Endangerment Finding and a Cause or Contribute Finding related to greenhouse gases. The U.S. EPA Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases – 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 (endangerment). The Administrator also found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare (Cause or Contribute).

CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24, PART 6)

CCR Title 24, Part 6 is California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24, Part 6 was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy-efficiency standards for residential and nonresidential buildings.

The 2019 Title 24, Part 6 Building Energy Efficiency Standards were adopted by the CEC on May 9, 2018 and will take effect on January 1, 2020. The standards are designed to move the State closer to its zero net energy goals for new residential development. It does so by requiring all new residences to install enough renewable energy to offset all the site electricity needs of each residential unit (CCR, Title 24, Part 6, section 150.1(c)14). CEC estimates that the combination of mandatory on-site renewable energy and prescriptively-required energy efficiency features will result in new residential construction that uses 53 percent less energy than the 2016 standards. Nonresidential buildings are anticipated to reduce energy consumption by 30 percent compared to the 2016 standards primarily through prescriptive requirements for high-efficacy lighting (CEC 2018). The building efficiency standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary in response to local climatologic, geologic, or topographic conditions, provided that these standards are demonstrated to be cost effective and exceed the energy performance required by Title 24, Part 6.

LOW CARBON FUEL STANDARD

In January 2007, EO S-01-07 established a Low Carbon Fuel Standard (LCFS). The EO calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and that a LCFS for transportation fuels be established for California. The LCFS applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment (Wade, pers. comm. 2017). The LCFS is measured on the total fuel cycle and may be met through market-based methods (e.g., providers exceeding the performance required by an LCFS receive credits that may be applied to future obligations or traded to Providers not meeting LCFS).

CLIMATE CHANGE SCOPING PLAN

In December 2008, CARB adopted its first version of its *Climate Change Scoping Plan*, which contained the main strategies California will implement to achieve the mandate of AB 32 (2006) to reduce statewide GHG emissions to 1990 levels by 2020. In May 2014, CARB released and subsequently adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching the goals of AB 32 (2006) and evaluate the progress made between 2000 and 2012 (CARB 2014). After releasing multiple versions of proposed updates in 2017, CARB adopted the final version titled *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) in December (CARB 2017). The 2017 Scoping Plan indicates that California is on track to achieve the 2020 statewide GHG target mandated by AB 32 of 2006 (CARB 2017:9). It also lays out the framework for achieving the mandate of SB 32 of 2016 to reduce statewide GHG emissions to at least 40 percent below 1990 levels

by the end of 2030 (CARB 2017). The 2017 Scoping Plan identifies the GHG reductions needed by each emissions sector.

The 2017 Scoping Plan also identifies how GHGs associated with proposed projects could be evaluated under CEQA (CARB 2017:101-102). Specifically, it states that achieving “no net increase” in GHG emissions is an appropriate overall objective of projects evaluated under CEQA if conformity with an applicable local GHG reduction plan cannot be demonstrated. CARB recognizes that it may not be appropriate or feasible for every development project to mitigate its GHG emissions to zero and that an increase in GHG emissions due to a project may not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change.

SENATE BILL 743 OF 2013

SB 743 changes the way that public agencies evaluate the transportation impacts of projects under CEQA. The proposed revisions to the State CEQA Guidelines would establish new criteria for determining the significance of a project’s transportation impacts that will more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs.

As detailed in SB 743, the Governor’s Office of Planning and Research (OPR) was tasked with developing potential metrics to measure transportation impacts and replace the use of delay and level of service (LOS). More detail about SB 743 is provided in the setting Chapter 17, “Traffic and Circulation.”

In November 2017, OPR released its proposed changes to the CEQA Guidelines, including the addition of Section 15064.3 that would implement SB 743 (OPR 2017a:77-90a). In support of these changes, OPR also published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the transportation impact of a project be based on whether it would generate a level of vehicle miles traveled (VMT) per capita (or VMT per employee) that is 15 percent lower than existing development in the region (OPR 2017b:12-13). OPR’s technical advisory explains that this criterion is consistent with Section 21099 of the California Public Resources Code, which states that the criteria for determining significance must “promote the reduction in greenhouse gas emissions” (OPR 2017b:18). It is also consistent with the statewide per capita VMT reduction target developed by Caltrans in its Strategic Management Plan, which calls for a 15 percent reduction in per capita VMT, compared to 2010 levels, by 2020 (Caltrans 2015:11). Additionally, the California Air Pollution Control Officers Association (CAPCOA) determined that a 15 percent reduction in VMT is typically achievable for projects (CAPCOA 2010:55). CARB’s *First Update to the Climate Change Scoping Plan* also called for local governments to set communitywide GHG reduction targets of 15 percent below then-current levels by 2020 (CARB 2014:113).

EXECUTIVE ORDER B-48-18: ZERO-EMISSION VEHICLES

In January 2018, EO B-48-18 was signed into law and requires all State entities to work with the private sector to have at least 5 million zero-emission vehicles (ZEVs) on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This EO also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a *Plug-in Charging Station Design Guidebook* and update the *2015 Hydrogen Station Permitting Guidebook* (Eckerle and Jones 2015) to aid in these efforts. All State entities are required to participate in updating the *2016 Zero-Emissions Vehicle Action Plan* (Governor's Interagency Working Group on Zero-Emission Vehicles 2016) to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential uses through the Low Carbon Fuel Standard Program, and recommend how to ensure affordability and accessibility for all drivers.

SACRAMENTO COUNTY GENERAL PLAN

The Land Use Element of the Sacramento County General Plan contains the following applicable policy:

- LU-115. It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.

SACRAMENTO COUNTY CLIMATE ACTION PLANNING

In ~~October~~ **November** of 2011 Sacramento County approved the **Phase 1** Climate Action Plan Strategy and Framework document (**Phase 1** CAP), which is the first phase of developing a community-level Climate Action Plan. The **Phase 1** CAP provides a framework and overall policy strategy for reducing greenhouse gas emissions and managing our resources in order to comply with AB 32. It also highlights actions already taken to become more efficient, and targets future mitigation and adaptation strategies. This document is available at http://www.green.saccounty.net/Documents/sac_030843.pdf. The CAP contains policies/goals related to agriculture, energy, transportation/land use, waste, and water.

Goals in the section on agriculture focus on promoting the consumption of locally-grown produce, protection of local farmlands, educating the community about the intersection of agriculture and climate change, educating the community about the importance of open space, pursuing sequestration opportunities, and promoting water conservation in agriculture. Actions related to these goals cover topics related to urban forest management, water conservation programs, open space planning, and sustainable agriculture programs.

Goals in the section on energy focus on increasing energy efficiency and increasing the usage of renewable sources. Actions include implementing green building ordinances and programs, community outreach, renewable energy policies, and partnerships with local energy producers.

Goals in the section on transportation/land use cover a wide range of topics but are principally related to reductions in vehicle miles traveled, usage of alternative fuel types, and increases in vehicle efficiency. Actions include programs to increase the efficiency of the County vehicle fleet, and an emphasis on mixed use and higher density development, implementation of technologies and planning strategies that improve non-vehicular mobility.

Goals in the section on waste include reductions in waste generation, maximizing waste diversion, and reducing methane emissions at Kiefer landfill. Actions include solid waste reduction and recycling programs, a regional composting facility, changes in the waste vehicle fleet to use non-petroleum fuels, carbon sequestration at the landfill, and methane capture at the landfill.

Goals in the section on water include reducing water consumption, emphasizing water efficiency, reducing uncertainties in water supply by increasing the flexibility of the water allocation/distribution system, and emphasizing the importance of floodplain and open space protection as a means of providing groundwater recharge. Actions include metering, water recycling programs, water use efficiency policy, water efficiency audits, greywater programs/policies, river-friendly landscape demonstration gardens, participation in the water forum, and many other related measures.

~~Consistent with mitigation included in the EIR for the Sacramento County General Plan,~~ publication of a “Phase II” CAP is anticipated to occur within five years of the adoption of the 2030 Sacramento County General Plan (the General Plan was adopted in November 2011). **The Phase 1 CAP is a strategy and framework document. The County adopted the Phase 2A CAP (Government Operations) on September 11, 2012. Neither the Phase 1 CAP nor the Phase 2A CAP are “qualified” plans through which subsequent projects may receive CEQA streamlining benefits. The Communitywide CAP (Phase 2B) has been in progress for some time (<https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/CAP.aspx>) but was placed on hold in late 2018 pending in-depth review of CAP-related litigation in other jurisdictions. The commitment to a Communitywide CAP is identified in General Plan Policy LU-115 and associated Implementation Measures F through J on page 117 of the General Plan Land Use Element. This commitment was made**

in part due to the County’s General Plan Update process and potential expansion of the Urban Policy Area to accommodate new growth areas. General Plan Policies LU-119 and LU-120 were developed with SACOG to be consistent with smart growth policies in the SACOG Blueprint, which are intended to reduce VMT and GHG emissions. This second phase CAP is intended to flesh out the strategies involved in the strategy and framework CAP, and will include economic analysis, intensive vetting with all internal departments, community outreach/information sharing, timelines, and detailed performance measures. ~~The County is currently preparing this second phase CAP and it is expected to be completed in 2020.~~ **The Countywide CAP was re-initiated in early 2020, with a target adoption of 12-18 months from July 1, 2020.**

As allowed under CEQA Guidelines Section 15183.5(b), lead agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. The analysis contained in this EIR is based on the project-specific Greenhouse Gas Reduction Plan prepared for the project consistent with CEQA Guidelines Sections 15183.5(b) and 15064.4.

SIGNIFICANCE CRITERIA

CEQA Guidelines section 16064.4 states that an agency should make a “good faith effort . . . to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project”. It is left to the lead agency’s discretion to use a quantitative or qualitative approach. Factors that should be considered when determining significance are:

1. The extent to which the project may increase or decrease greenhouse gas emissions compared to the baseline;
2. Whether the project exceeds any applicable significance threshold; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The guidelines do not include a numeric significance threshold, but instead defer to the lead agency to determine whether there are thresholds which apply to the project. With regard to the third item, statewide plans include AB 32 and SB 375, as described in the Regulatory setting. The underlying strategy and assumptions of the AB 32 Scoping Plan were used to develop County thresholds. AB 32 requires emissions be reduced to 1990 levels by the year 2020, which is estimated in the AB 32 2008 Scoping Plan to be 15% below *existing (2005) emissions*. The text is emphasized to note that the goal is not 15% below what is known as “business-as-usual” conditions or unmitigated project emissions; it is 15% below the emissions which were existing in California in the year

2005. In the AB 32 2017 Scoping Plan, emissions need to be reduced to 40% below 1990 levels by 2030.

As previously discussed, Sacramento County prepared a GHG emissions inventory for the County, and as an offshoot of that process has published a Draft Climate Action Plan. Both 2020 and 2030 thresholds have been developed based on the County inventory (see Table CC-3). The 2020 significance thresholds were promulgated through the General Plan Update FEIR (see pages 12-15, pages 12-36 through 12-40), which was subject to thorough public review and was certified as adequate and complete on November 9, 2011 (available online at <https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx>). These 2020 thresholds and accompanying analysis as presented in the 2011 General Plan Update EIR were relied on by both the 2030 General Plan and Phase I CAP (see Regulatory Setting), both of which were adopted via Resolution No. 2011-0833 (see November 9, 2011, Board of Supervisors Staff Report). As stated in the 2011 General Plan Update EIR (p. 12-36), the 2020 thresholds require periodic updating to reflect changes to the GHG inventory and the regulatory environment. The staff report for the November 9, 2011 Board of Supervisors hearing in which the 2030 General Plan and Phase 1 Climate Action Plan were adopted clearly identifies the reliance on the FEIR, and the Phase 1 CAP refers to the General Plan Update EIR on page 12. The Phase 1 CAP was adopted concurrently with the General Plan Update. These previously published materials are hereby incorporated by reference in their entirety. Therefore, the 2020 significance thresholds were adopted for general use through certification of the General Plan Update FEIR.

The 2030 thresholds present such an update, for use on a case-by-case basis (see CEQA Guidelines section 15064.7(b); see also *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) The DEIR relied on both sets of thresholds for analysis, but the FEIR relies only on the 2030 thresholds because the 2020 thresholds are no longer applicable. A threshold is only applicable if compliance with the threshold is possible (see CEQA Guidelines section 15064.7, subds. (a), (d)(4)). Here, because of the prolonged timeframe for environmental review, there can be no Project construction or operation by 2020, thereby making compliance with the 2020 thresholds impossible. The 2030 significance thresholds in Table CC-2 below reflect an update to the 2020 thresholds consistent with the reduction target established by SB 32 of 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, based on the same methodology used to develop the 2020 significance thresholds (see CEQA Guidelines section 15064.4(b)(2)). In the absence of a qualified Phase 2B Communitywide CAP, these project-specific thresholds were developed based on the substantial evidence contained in the County's emissions inventory and regulatory requirements.

The FEIR has also been updated to better include 2015 emissions data. The County's 2005 GHG emissions inventory was updated in 2015 as part of the

comprehensive Communitywide CAP (Phase 2B) preparation. Differences between the 2005 and 2015 emissions inventories include the following, as further described in detail in the November 15, 2016 Technical Memorandum regarding 2015 Greenhouse Gas Emissions Inventory and Forecasts (<https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/CAP.aspx>):

- **The use of different Global Warming Potential (GWP) values between inventories;**
- **Adjustments in calculation methodologies (equations and emission factors)**
- **Differences in data sources between the two inventories; and**
- **Changes in actual activity levels within the County since 2005 (e.g., population increase, number of buildings, building energy use, and vehicle travel).**

Table CC-2 below provides a comparison of the 2005 inventory and the 2015 inventory.

Table CC-2: Comparison of 2005 and 2015 GHG Emissions Inventories

Sectors	2005 Inventory (MTCO ₂ e/year)	2015 GHG Inventory (MTCO ₂ e/year)	Difference (MTCO ₂ e/year)	Percent change from 2005
Residential Energy	1,033,142	1,193,311	+160,169	+16%
Commercial and Industrial Energy ¹	772,129	890,603	+118,474	+15%
On-Road Vehicles	2,066,970	1,671,596	-395,374	-19%
Off-Road Vehicles	236,466	196,769	-39,697	-17%
Solid Waste	201,350	352,909	+151,559	+75%
Water-Related	5,885	15,222	+9,337	+159%
Wastewater	70,662	27,253	-43,409	-61%
Agriculture	197,132	254,710	+57,578	+29%
High-GWP Gases	203,528	251,085	+47,554	+23%
Sacramento International Airport ²	200,404	NA	NA	NA
Total ³	4,787,264	4,853,647	+66,383	+1.4%

Notes: Totals may not add due to rounding; MTCO₂e = metric tons of carbon dioxide equivalent; GWP = Global Warming Potential; NA = Not applicable

1. The 2005 Inventory separated Industrial and Commercial sectors, and thus they are combined here for comparison to the 2015 inventory, which did not separate industrial from commercial.

2. Aircraft emissions were not included in the 2015 Inventory, but they were included in the 2005 inventory and are included for reference purposes only.

3. Totals do not include aircraft emissions reported in the 2005 inventory.

Source: Sacramento County, 2011; 2015 inventory prepared by Ascent Environmental in 2016.

As shown below, separate thresholds have been included for each sector. The purpose of this division is to provide additional information about the source of emissions. When making a final determination of significance, these thresholds can be combined to

generate a total emissions threshold; it is this total threshold that will ultimately determine whether impacts are found to be significant.

Also note that the transportation sector is expressed in per capita, which is not applicable to non-residential projects. The determination was made that, in general, non-residential projects redistribute existing trips made by passenger vehicles – they do not generate new trips. The majority of trips to and from a commercial project are generated by residential uses. Residential projects are already being required to account for transportation emissions, so including them for commercial projects as well would result in double-counting. Therefore, only the truck-trips generated by a commercial project itself will be subject to analysis. An exception to this rule is any commercial project which is a regional draw or unique draw, and thus may cause the redistribution of existing trips in a manner that will increase total existing vehicle miles traveled (VMT).

After the release of the Newbridge Draft EIR, Sacramento County released updated guidance for applying the County’s draft 2030 GHG thresholds to individual projects. The updated guidance specified that projects with an anticipated date of operations after 2030 should extrapolate any County 2030 threshold, which may have been established for a project, based on existing statewide emissions reductions goals. For instance, by the year 2032, emissions would need to be reduced by seven percent from 2030 levels, in order to comply with statewide reduction goals. Thus, for a project that might begin operations in the year 2032, any 2030 thresholds established for that project may be extrapolated to the year 2032 through a seven percent reduction in allowable emissions. The extrapolated project-specific 2032 thresholds are presented and analyzed within the GHGRP and shown in Table CC-3 below

**Table CC-3: Sacramento County Greenhouse Gas Significance Thresholds
(Annual Metric Tons CO₂e)**

Sector	Thresholds of Significance (MTCO ₂ e/yr)		
	2020*	Draft 2030	<u>Extrapolated 2032</u>
Residential Energy	1.33 per capita	0.78 per capita	<u>0.73 per capita</u>
Commercial & Industrial Energy	7.87 per KSF	4.59 per KSF	<u>4.28 per KSF</u>
Transportation	2.67 per capita	1.57 per capita	<u>1.47 per capita</u>
Trucks	0.10 per 100 VMT		

KSF = thousand square feet

***2020 thresholds of significance are included here for reference only.**

Thresholds applicable to construction activities have not been developed **or adopted by the County**. Emissions resulting from the usage of off-road vehicles is only 4.7% of the total inventoried emissions in Sacramento County, which includes recreational and other vehicles, not just construction fleets. Furthermore, while emissions from the actual use of newly constructed buildings adds to existing building stock and thus results in a cumulative year-on-year increase in emissions, the amount of construction in a region does not result in cumulative additions. Though construction may increase or decrease in a given year due to market demand, the average amount of construction undertaken does not tend to increase over time. For this reason, even without mitigation the amount of annual emissions resulting from construction is expected to decrease over time as a result of the implementation of existing regulations (such as the low carbon fuel standard) and fleet turnover. An analysis of the data for construction equipment within the EMFAC (Emissions Factor Model) 2011 indicates that construction fleet emissions will reduce by approximately 11% between 2005 and 2020. Standard mitigation applied for the purpose of reducing other air pollutants (see the Air Quality chapter) will further reduce emissions. For the foregoing reasons, it was determined that construction emissions would not contribute to a significant climate change impact, and no threshold is necessary.

After the release of the Newbridge Draft EIR in July 2018, the SMAQMD published draft significance thresholds for greenhouse gas emissions for its entire jurisdictional area in December 2019. The SMAQMD Board of Directors adopted the proposed GHG thresholds¹ at a public meeting on April 23, 2020. The SMAQMD GHG thresholds indicate that they are applicable to local jurisdictions that have not yet adopted a Climate Action Plan. Although not required under CEQA Guidelines Section 15064.7, which gives lead agencies discretion to develop and use their own thresholds of significance rather than adopt another agency's thresholds, an additional analysis was conducted to compare the Project's GHG emissions reduction measures to the SMAQMD's adopted significance thresholds. Sacramento County has adopted a Phase 1 and Phase 2A Climate Action Plan, but the Countywide Climate Action Plan is currently in progress and has not been adopted, which is why project-specific significance thresholds based on the County's adopted GHG significance thresholds are used in this chapter.

METHODOLOGY

The impact analysis is based on the Project's entire land use plan. So, unlike other chapters, there will be only one analysis for the entire Project area. Raney Planning

¹ Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. Published December 2009, revised April 2020.

and Management, Inc, prepared a technical study for the Project which includes both an analysis of GHG emissions and an analysis of proposed mitigation measures (~~March-2018~~ **July 2020**). The GHG **Reduction** Plan is included as Appendix CC-1. The discussions that follow summarize the GHG **Reduction** Plan. **Based on the construction schedule presented in the Draft EIR prepared for the proposed project, and the passage of time since preparation of the analysis presented within the Draft EIR, it is anticipated that the project may not be fully operational until the year 2032, which is why the year 2032 was used for recent emissions modeling.**

The proposed project's residential and commercial GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software. CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including electricity and natural gas usage, water supply and distribution, wastewater treatment, and solid waste disposal. However, where project-specific data was available, such data was input into the model (e.g., sustainable design features). The emissions were modeled at full buildout for both 2020 and 2030 **for the DEIR. But, the FEIR only uses 2032 emissions because 2020 emissions are inapplicable to the Project given that no construction or operation can occur in this timeframe (see Significance Criteria above for more detail). 2020 emissions data is still included in the FEIR for reference, but impact analysis is prepared entirely from 2032 thresholds and data.** It should be noted that for analysis purposes, ~~for operational year 2020,~~ the modeling has been modified with the assumption that SMUD would, at a minimum, meet the ~~33 percent~~ statewide RPS goal (~~i.e., an additional nine percent from 2010 RPS levels~~) and ~~50~~ **of 60** percent by year 2030 **(an additional 10 percent increase from the previous 2030 target due to SB 100 in 2018).** All CalEEMod modeling results are available in Appendix CC-1.

The sections below separately analyze the mobile emissions and the building energy emissions that will result from the Project.

TRANSPORTATION ANALYSIS

The project's transportation-related GHG emissions were estimated based on project-specific traffic data, particularly the proposed Project's anticipated daily VMT provided by the traffic consultant for the project, DKS Associates, and CO₂ emission rate data (including Pavley and LCFS benefits) for the years ~~2020 and 2030~~ **2032** were obtained using the CARB's EMFAC~~2014~~**2017** model. The years 2020 and 2030 were chosen because those are the years by which the necessary emissions reductions must occur. **However, as discussed above in the Thresholds of Significance and Methodology sections, while the DEIR used 2020 thresholds and emissions projections, the FEIR does not because they are inapplicable** The project-specific VMT provided by DKS Associates, which was provided per speed bin (i.e., thirteen increments of five miles per hour, ranging from five to 70 miles per hour), included daily VMT data for

existing conditions and cumulative conditions with and without the proposed project. The daily VMT was converted into annual VMT by multiplying by 320 days per year, which accounts for the fact that VMT is lower on weekends, holidays, and other times of the year. In order to obtain the project-only VMT for operational year ~~2020 and 2030~~ **2032**, a straight-line regression between the project-only VMT under the Existing Condition (2013) and the Cumulative Condition (2035) was utilized. The project-only VMT under Existing Conditions was estimated by subtracting the Existing VMT from the Existing Plus Project VMT. Similarly, the project-only VMT under Cumulative Conditions was estimated by subtracting the Cumulative No Project VMT from the Cumulative All Projects VMT. As mentioned, a straight-line regression was used between the Existing Condition VMT and Cumulative Condition VMT to obtain the year ~~2020~~ **2032** VMT.

The resultant project-only VMT for operational years ~~2020 and 2030~~ **2032** were multiplied by the corresponding annual CO₂ emission rates per speed bin data in order to determine the associated GHG emissions.

COMMERCIAL AND INDUSTRIAL BUILDINGS ANALYSIS

The emissions associated with the commercial uses of the proposed project were determined by applying only the proposed commercial land uses (i.e., commercial, mixed use and office) into CalEEMod. As noted above, for analysis and modeling purposes, the Mixed Use was broken down as follows: seven acres associated with multi-family residential; and 4.4 acres and 130,000 square feet for commercial. Since CalEEMod does not have a general commercial category, the commercial land use was assumed to be similar to a “Regional Shopping Center,” which is defined in the CalEEMod User’s Guide as follows:

A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center’s composition is related to its market area in terms of size, location and type of store.

The mobile emissions were not considered for the total commercial emissions of the project in order to avoid double-counting of emissions. The total transportation-related GHG emissions of the entire project, including the proposed commercial and industrial uses, are considered separately and compared to the applicable threshold of significance. All other emissions categories were considered for the total commercial GHG emissions (i.e., area, energy, waste, and water). The resultant commercial GHG emissions estimated were divided by the total commercial and industrial square footage. At buildout, the Project will contain 500,000 square feet of commercial/office space.

RESIDENTIAL BUILDINGS ANALYSIS

The emissions associated with the residential uses of the proposed project were determined by applying only the proposed residential land uses (i.e., 2,004 DU²s single-family residential and 1,071 DUs multi-family residential) into CalEEMod. It should be noted that for analysis and modeling purposes, the Mixed Use was assumed to be broken down as follows: seven acres associated with multi-family residential; and 4.4 acres and 130,000 square feet for commercial. The mobile emissions were not considered for the total residential emissions of the project in order to avoid double-counting of emissions. The total transportation-related GHG emissions of the entire project, including the proposed residential uses, are considered separately and compared to the applicable threshold of significance. All other emissions categories were considered for the total residential GHG emissions (i.e., area, energy, waste, and water). The resultant residential GHG emissions estimated were divided by the total residential population anticipated for the project in order to get a per capita value for comparison purposes to the applicable threshold of significance. The total residential population for the proposed project is anticipated to be approximately 8,118.

Project emissions are compared to the significance thresholds, and are also compared (in the form of a percentage) to current CARB estimates of statewide emissions and 1990 emissions. Project emissions are also examined in light of existing statewide or County emissions reductions strategies to determine whether the project would significantly offset anticipated reductions. A menu of mitigation measures is offered with measures that are reasonable, feasible, and germane to the project.

IMPACTS AND ANALYSIS

The following section discloses the potential impacts of the proposed project on global climate change. Mitigation measures have been identified where feasible.

PROJECT GREENHOUSE GAS EMISSIONS

Project emissions were estimated as described in the Methodology section. Implementation of the Project would contribute to increases of GHG emissions that are associated with global climate change, primarily attributed to mobile sources and utility usage. The Project would introduce a variety of land uses, including uses such as residential and commercial.

The Project includes the following features inherent in the design or location, which are not considered mitigation measures and would reduce the operational GHG emissions:

- Use of low VOC paints and products per SMAQMD rules and regulations;

² Dwelling Unit

- Compliance with 2016 **2019** CALGreen Code, including mandatory energy efficiency measures;
- Restriction of wood-burning devices (~~i.e., only natural gas fireplaces permitted, if any~~) **and natural gas fireplaces (i.e., only electric fireplaces permitted)**; and
- Water conservation measures (turf reduction [approximately 28 percent reduction from residential and 20 percent for parks] and irrigation controllers).

In addition, the following Project features would provide a reduction in VMT from business as usual levels, which would further reduce the operational GHG emissions:

- Consistency with Sacramento County General Plan policy LU-120;
- Overall density of 8.6 dwelling units per acre;
- Bicycle and pedestrian connection throughout site and with surrounding developments;
- Designed consistent with SACOG Blueprint principles and the sustainability and transportation principles of the MTP/SCS;
- Incorporation of traffic calming measures;
- Transit facilities complementary to the bus rapid transit routes planned on Jackson Road and Sunrise Boulevard, including bus transit routes with 30-minute peak hour headways;
- All residential units are planned within one mile of three amenity categories (public elementary school, parks, and commercial center);
- 81 percent of the residential units would be within one mile of the office/office employment center;
- Increased diversity via mix of uses;
- 96 percent of the residential units would be within one-half mile walk of a planned transit stop;
- Project site is within five miles of approximately 62,276 existing jobs in the area, as well as proposed employment uses within project area; and
- Provides fees and land for construction of affordable housing units and provides 1,071 multi-family units (36.1 percent of housing stock) in densities greater than 23 units per acre.

A summary of Project emissions is included in Table CC-4 and Table CC-5, and comparison of Project emissions to regional and state-wide emissions is included in Table CC-6. **Construction emissions are included in Table CC-4 for 2030 buildout. As described above in the Significance Criteria and Methodology sections.**

Table CC-4: Proposed Project 2020 Operational GHG Emissions

Sector	Total Project Emissions (MTCO ₂ e/yr)	Per Capita Project Emissions (MTCO ₂ e/yr per capita)	Thresholds of Significance (MTCO ₂ e/yr per capita)
Residential	8,075.16	0.99	1.33
Commercial/Industrial	1,553.46	3.11 per KSF	7.87 per KSF
Transportation	31,340.79	3.86	2.67
Source: CalEEMod, March 2018, DKS Associates and EMFAC2014, January 2017			
NOTE: 2020 emissions data is included here for reference only.			

Table CC-5: Proposed Project 2030 Operational GHG Emissions

Sector	Total Project Emissions (MTCO ₂ e/yr)	Per Capita Project Emissions (MTCO ₂ e/yr per capita)	Draft Thresholds of Significance (MTCO ₂ e/yr per capita)
Residential	6,914.22 <u>4,200.74</u>	0.84 <u>0.52</u>	0.78
Commercial/Industrial	1,216.89 <u>828.10</u>	2.43 <u>1.66</u> per KSF	4.59 per KSF
Transportation	22,096.72 <u>19,940.93</u>	2.72 <u>2.46</u>	1.57
Source: CalEEMod, March 2018 <u>April 2020</u> , DKS Associates and EMFAC2014 <u>2017</u> , January 2017			
NOTE: Includes amortized construction emissions.			

Table CC-6: Proposed Project 2032 Operational GHG Emissions

Sector	Total Project Emissions (MTCO ₂ e/yr)	Per Capita Project Emissions (MTCO ₂ e/yr per capita)	Draft Thresholds of Significance (MTCO ₂ e/yr per capita)
<u>Residential</u>	<u>4,200.74</u>	<u>0.52</u>	<u>0.73</u>
<u>Commercial/Industrial</u>	<u>828.10</u>	<u>1.66</u> per KSF	<u>4.28</u> per KSF
<u>Transportation</u>	<u>19,940.93</u>	<u>2.46</u>	<u>1.47</u>
Source: CalEEMod, April 2020, DKS Associates and EMFAC 2017, April 2020			
NOTE: Includes amortized construction emissions.			

Table CC-7: 2020 Relative CO₂ Emissions (in CO₂ Equivalents)

Source	CO ₂	% of State - 2004	% of State - 1990	% of Entire County	% of Unincorporated County
Project	0.04 MMT/yr	0%	0%	0.33%	0.77%
Unincorporated County	5.2 MMT/yr	1.2%	1.3%	43%	
Entire County	12 MMT/yr	2.8%	3.1%		
State – 1990	389 MMT/yr				
State – 2004	427 MMT/yr				

MMT: Million Metric Tons

NOTE: 2020 emissions data is included here for reference only.

According to the CalEEMod results, the Project will not exceed the thresholds established by the County for 2020 GHG emissions in the residential and commercial sectors; however, the Project will exceed thresholds established for the transportation sector. Again the Project will not exceed the draft threshold established by the County for 2030 **2032** GHG emissions for the **residential and commercial sectors**. The Project will exceed the draft thresholds for both the residential and transportation sector. Therefore, additional analysis has been completed to assess the Project's consistency with the County's **project-specific** draft threshold of significance for 2030 **2032**.

GHG REDUCTION CREDIT

Considering the cumulative nature of GHG emissions, calculations were completed comparing the total Project's estimated GHG emissions across all sectors with the maximum allowable emissions set by the County thresholds. Since the general design of the Project is known, the maximum GHG emissions can be calculated by multiplying the number of future residents with the threshold rate. This calculation is presented in Table CC-8 below.

Table CC-8: Proposed Maximum Allowable Emissions

Sector	Draft threshold of Significance (MTCO ₂ e/yr)	Proposed Project Size	Maximum Allowable Emissions (MTCO ₂ e/yr)
Year 2020*			
Residential	1.33 (per capita)	8,118 Residents	10,796.94
Commercial/ Industrial	7.87 (per KSF)	500 KSF	3,935

Transportation	2.67 (per capita)	8,118 Residents	21,675.06
<i>Total:</i>			<i>36,407</i>
Year 2030			
Residential	0.78 (per capita)	8,118 Residents	6,332.04
Commercial/ Industrial	4.59 (per KSF)	500 KSF	2,295
Transportation	1.57 (per capita)	8,118 Residents	12,745.26
<i>Total:</i>			<i>21,372.3</i>
<u>Year 2032</u>			
<u>Residential</u>	<u>0.73 (per capita)</u>	<u>8,118 Residents</u>	<u>5,926.14</u>
<u>Commercial/ Industrial</u>	<u>4.28 (per KSF)</u>	<u>500 KSF</u>	<u>2,140.00</u>
<u>Transportation</u>	<u>1.47 (per capita)</u>	<u>8,118 Residents</u>	<u>11,933.46</u>
<i><u>Total</u></i>			<u>19,999.60</u>
<u>NOTE: 2020 thresholds and emissions data are included here for reference only.</u>			

Total **energy-related** GHG emissions related to the operation of the Project would be 5,103.28 MTCO₂e/yr below the maximum allowable level for 2020 and 495.94 **3,598.21** MTCO₂e/yr below the maximum allowable level for 2030 **and 3,037.30 MTCO₂e/yr below the maximum allowable level for 2032.** Concurrently, transportation related emissions would exceed the maximum allowable level by 9,665.73 MTCO₂e/yr in 2020 and 9,351.46 **7,195.67** MTCO₂e/yr in 2030 **and 8,007.47 MTCO₂e/yr in 2032.**

Since GHG emissions act cumulatively to impact the global climate, and Project GHG emission “savings” may be applied to the Project’s exceeded emissions (transportation sector). As such, the Project’s total transportation-related emissions in 2020 would be reduced from 31,340.79 MTCO₂e/yr to 26,237.51 MTCO₂e/yr (31,340.79 - 5,103.28 = 26,237.51 MTCO₂e/yr), and the transportation related emissions in 2030 would be reduced from 22,096.72 **19,940.93** MTCO₂e/yr to 20,600.78 **16,342.72** MTCO₂e/yr (22,096.72 - 495.94 = 21,600.78 **19,940.93 - 3,598.21 = 16,342.72** MTCO₂e/yr). **For 2032, transportation-related emissions would be reduced from 19,940.93 MTCO₂e/yr to 16,903.63 MTCO₂e/yr (19,940.93 - 3,037.30 = 16,903.63 MTCO₂e/yr).**

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

In addition to the above, the County’s draft development agreement and mitigation measures include specific requirements related to the provision and accessibility of electric vehicle charging stations within the proposed project. To maintain consistency with these requirements, the NewBridge GHGRP includes

mitigation that features specific standards to be used during the installation of on-site electric vehicle charging infrastructure. The provision of electric vehicle charging infrastructure in compliance with the County's requirements would promote California's Advanced Clean Car Program, which promotes the use of electric vehicles within the State, and the growing popularity of such vehicles.³

The proliferation of electric vehicles that would result from implementation of the Advanced Clean Car Program is taken into account by some of the outputs for the CARB's EMFAC program. Per the County's recommendations, EMFAC was used to model mobile GHG emissions for the project. Although some of the outputs from the CARB's EMFAC Program account for the proliferation of electric vehicles, specific tools within EMFAC can omit data related to electric vehicles. For instance, EMFAC estimates that by the year 2032, approximately 3.98 percent of the total on-road vehicle fleet within Sacramento County would be electric vehicles.⁴ Although EMFAC can provide general estimates of the proportion of electric vehicles within the on-road fleet during future years, because operation of electric vehicles do not result in any direct emissions (i.e., operation of electric vehicles does not result in any tailpipe emissions), EMFAC emissions rates for on-road vehicles do not contain data (related to VMT or emissions rates) for electric vehicle usage.⁵ For the analysis of unmitigated mobile emissions presented within this GHGRP, EMFAC emissions rates were used, which do not take into account the proliferation of electric vehicles. By using emissions rates that exclude electric vehicles, the unmitigated GHG emissions for the proposed project present a conservative approach to analysis as all project-related VMT is assumed to occur through the use of more emissions intensive fossil-fueled vehicles.

Installation of the electric vehicle infrastructure required by the County's COA would promote the use of electric vehicles within the project site, ensuring that project operations meet or exceed the 3.98 percent electric vehicle fleet make-up anticipated by EMFAC.

Electric vehicle use greatly reduces mobile source emissions. Because the EMFAC emissions rates do not take into account the proliferation of electric vehicles, in order to account for increased use of electric vehicles by future project residents and employees, the VMT for the proposed project was reduced by 3.98 percent as a proxy method of reducing mobile source emissions due to

³ California Energy Commission. *Zero-Emission Vehicles and Infrastructure*. July 5, 2017.

⁴ California Air Resources Board. *EMFAC*. Available at <https://arb.ca.gov/emfac/emissions-inventory>. Accessed April 2020. Outputs included in Appendix B of this GHGRP.

⁵ Yan, Fang, Manager, On-Road Mode Development Section, Mobile Source Analysis Branch, California Air Resources Board. Personal communication [email] with Jacob Byrne, Senior Associate/Air Quality Technician. July 3, 2020.

electric vehicle usage. Following reduction of the project-specific VMT, mobile emissions were recalculated using EMFAC, as shown in Appendix B. Emissions from the proposed project following consideration of the additional electric vehicle charging requirements are presented in Table CC-9 below.

Table CC-9: Transportation Related GHG Emissions with EV Usage

Adjusted Project Emissions (MTCO ₂ e/yr)	Emission Rate (MTCO ₂ e/yr/capita)	2032 Thresholds of Significance (MTCO ₂ e/yr/capita)
<u>14,693.38</u>	<u>1.81</u>	<u>1.57</u>
<i>Source: DKS Associates and EMFAC2017, April and July 2020 (Appendix B).</i>		

Calculating the per capita GHG emission rate for the transportation sector using the reduced emissions level would result in emissions rates of ~~3.23 in 2020 and 2.66~~ per capita in 2030 ~~and 2.08 in 2032~~. This still exceeds the County threshold of significance, reference ~~Table CC-8~~ **Table CC-10**.

Table CC-10: Transportation Related GHG Emissions

Year	Adjusted Project Emissions (MTCO ₂ e/yr)	Emission Rate (MTCO ₂ e/yr/capita)	Thresholds of Significance (MTCO ₂ e/yr/capita)
2020*	26,237.51	3.23	2.67
2030	21,600.78	2.66	1.57
<u>2032</u>	<u>14,693.38</u>	<u>2.08</u>	<u>1.47</u>
<u>NOTE: 2020 thresholds and emissions data is included here for reference only.</u>			

EXISTING EMISSIONS AT THE PROJECT SITE

Unique to the Project is the existing operation of the Sacramento Rendering Company. The Company's operations involve employee commutes to and from the site, as well as heavy-duty truck trips to and from the site. The Project would replace the existing operations with the proposed residential, commercial and office development. Absent the Project, the Company's operations would continue. According to CEQA Guidelines Section 15064.4(b), the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting should be considered with assessing the significance of impacts from GHG emissions on the environment. Therefore, in accordance with CEQA Guidelines, the transportation-related emissions presented above should be adjusted to account for the existing GHG emissions associated with the site. The existing GHG emissions at the project site have been estimated based on the number of employees commuting to the Sacramento Rendering

Company, and the VMT of the Company's fleet. Table CC-11, below, presents the new net emissions for the Project, after adjusting for the existing operational emissions.

Table CC-11: Transportation Related GHG Emissions After Adjustment

Year	Proposed Project Transportation Related Emissions (MTCO ₂ e/yr)	Existing Site Emissions (MTCO ₂ e/yr)	Net Project Emissions (MTCO ₂ e/yr)	Emission Rate (MTCO ₂ e/yr/capita)	Thresholds of Significance (MTCO ₂ e/yr/capita)
2020*	26,237.51	3,745.28	22,492.23	2.77	2.67
2030	21,600.78	3,745.28	17,855.5	2.20	1.57
<u>2032</u>	<u>14,693.38</u>	<u>3,291.00</u>	<u>11,963.28</u>	<u>1.473</u>	<u>1.47</u>
NOTE: 2020 thresholds and emissions data is included here for reference only.					

Even after adjusting the GHG emission numbers to account for existing emissions, the Project will exceed County significance thresholds.

CONCLUSION

The Project would result in emission of GHG through energy consumption and transportation sources. As shown in Table CC-11 above, even after applying GHG emission savings and considering existing on-site GHG emissions, the Project will exceed County thresholds for the transportation sector in ~~2020 and 2030~~ **and 2032**. This is considered a *significant impact*. Therefore, mitigation is required to reduce Project emissions below County thresholds for ~~2020 and 2030~~ **and 2032**.

Using the County emission thresholds, the Project's maximum allowable transportation-related GHG emissions would be ~~2.67 MTCO₂e/yr/capita or 21,675.06 MTCO₂e/yr for the year 2020 and 1.57 MTCO₂e/yr/capita or 12,745.26 MTCO₂e/yr for the year 2030~~ **and 1.47 MTCO₂e/yr/capita or 11,933.46 MTCO₂e/yr for the year 2032**. The Project's net emission would be ~~22,492.23 MTCO₂e/yr in the year 2020 and 17,855.5 MTCO₂e/yr in the year 2030~~ **and 12,223.31 MTCO₂e/yr in the year 2032**; thus the Project must reduce GHG emissions by ~~817.17 MTCO₂e/yr by 2020 and 5,110.24 MTCO₂e/yr by 2030~~ **with additional reductions to meet the 2032 threshold**. Given the plan level nature of the Project, specific additional mitigation measures are speculative at this time, **and may be substituted in the future following a demonstration that equivalent or more effective GHG reductions are achieved.**

The recommended mitigation measure below outlines how future development within the Project area will be required to achieve a project-wide reduction in GHG emissions of ~~817.17 MTCO₂e/yr by 2020 and 5,110.24 MTCO₂e/yr by 2030~~ **with additional reductions to meet the 2032 threshold**. At the time of tentative map approval or project design review, project plans must demonstrate how the development would

achieve a fair-share portion of needed GHG emission reductions. Consistent with the methodology used to determine Project GHG emissions and the cumulative nature of GHG emissions, emission reductions achieved for the residential or commercial sector could be applied to the transportation sector. For example, if future tentative maps for the development area specify the use of renewable energy within the development area, the proposed project's GHG emissions related to energy consumption would be reduced. The GHG emissions savings from the use of renewable energy could then be calculated and applied to a portion of the needed GHG emissions reduction.

By meeting the 2030 draft threshold of 1.57 MTCO₂e/yr/capita, the Project would also **incidentally** meet the 2020 threshold, **which is included in this discussion for reference only but not analytically used because they are inapplicable (see Thresholds of Significance and Methodology sections above for more detail)**. Therefore, the Project will be required to reduce emissions by 5,110.24 MTCO₂e/yr by 2030 **and achieve additional reductions to meet the 2032 threshold**. With recommended mitigation, impacts associated with GHG emissions are *less than significant*.

MITIGATION MEASURES

~~CC-1: Future developments for residential (tentative maps) and non-residential projects (Design Review), shall demonstrate a fair-share reduction towards reducing project-wide GHG emissions by 5,110.24 MTCO₂e/yr (i.e., 0.63 MTCO₂e/yr/capita). A fair-share contribution is to be made based on the total acreage proposed for development in any given Rezone, Tentative Map or Design Review area compared to the entire area of development proposed within the project as a whole. For the purposes of this mitigation measure, areas not anticipated for development such as parks, open spaces, and agricultural land as well as areas previously developed, such as the existing electrical facility, are not included in the total development acreage. Therefore, the total development area is considered to be 474.5 acres. Considering the total development area, a hypothetical ten-acre project would represent 2.1 percent of the 5,110.24 MTCO₂e/yr reduction required for the project area as a whole. Examples of measures that may be used by future development projects include, but are not limited to, the following:~~

- ~~• Exceedance of Title 24 Energy Efficiency requirements;~~
- ~~• Electrifying loading docks to reduce emission from engine idling of Transport Refrigeration Units;~~
- ~~• All-electric **ENERGY STAR** appliances, including water heaters and HVAC systems, **in residential and non-residential development projects**;~~
- ~~• Inclusion of on-site carbon-zero renewable energy capable of serving energy needs of any urban development within the Project, including energy needed for street lights, sewer pumps, drainage pumps, traffic signals, and water pumps;~~

- Residential photovoltaic systems designed to be scalable over time to accommodate varying energy demands;
- Indoor water use efficiency;
- Institution of a composting and recycling program in excess of local standards;
- Implementation of an Urban Forestry Management Plan to reduce the urban heat island effect;
- Use of energy efficient street lighting fixtures;
- Inclusion of Electric Vehicle parking infrastructure; and
- Purchase of off-site mitigation credits⁶ that may include energy efficiency retrofits in existing residential and commercial buildings

Thus, as development progresses within the Project area, each individual development would be required to show GHG emissions reductions in keeping with the project-wide reduction requirements.

CC-1: Reduce greenhouse gas emissions onsite. The project applicant and/or future developers shall incorporate the following mitigation measures into the project to reduce operational GHG emissions.

TRANSPORTATION

The project developer shall incorporate the following Tier 1 and/or Tier 2 California Green Building Standards mitigation measures into the project. Future developments for residential (tentative maps) and non-residential projects (Design Review), shall demonstrate inclusion of electric vehicle charging infrastructure in compliance, at a minimum, with the Tier 2 requirements of the 2019 CalGreen Code, except that all EV capable spaces shall instead be EV Ready. EV Ready is defined by the California Air Resources Board as, “Installation of dedicated branch circuit(s), circuit breakers, and other electrical components, including a receptacle or blank cover needed to support future installation of one or more charging stations”⁷. As such, each residential or non-residential project shall comply with the following standards, as applicable:

- **For each single-family residential unit, install a listed raceway, associated overcurrent protective device and the balance of a dedicated 208/240-volt branch circuit at 40 amperes (amp) minimum, to pre-wire the home for electric vehicle charging. The raceway shall not be less than trade size 1 (nominal 1-inch inside**

⁶ Purchase of off-site mitigation credits shall be negotiated with the County and SMAQMD at the time that credits are sought by future construction within the project areas.

⁷ California Air Resources Board. *Electric Vehicle (EV) Charging Infrastructure: Multifamily Building Standards*. Available at: <https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf>. Accessed April 2020.

diameter). The raceway shall originate at the main service or unit subpanel and shall terminate into a listed cabinet, box, or other enclosure near the proposed location of an Electric Vehicle (EV) charger. Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. The service panel and/or subpanel shall provide capacity for a 40-amp minimum dedicated branch circuit. All electrical circuit components and Electric Vehicle Service Equipment (EVSE), including a receptacle or box with a blank cover, related to Section A4.106.8 of the California Green Building Standards Code shall be installed in accordance with the California Electrical Code.

- Multifamily residential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.
- Nonresidential buildings shall design at least 10 percent of parking spaces to include EVSE, or a minimum of two spaces to be installed with EVSE for buildings with 2-10 parking spaces. EVSE includes EV charging equipment for each required space connected to a 208/240-volt, 40-amp panel with conduit, wiring, receptacle, and overprotection devices.
- Nonresidential land uses with 20 or more on-site parking spaces shall dedicate preferential parking spaces to vehicles with more than one occupant and zero emission vehicles (ZEVs) (including battery electric vehicles and hydrogen fuel cell vehicles). The number of dedicated spaces should be no less than two spaces or 5 percent of the total parking spaces on the individual project site, whichever is greater. These dedicated spaces shall be in preferential locations such as near the main entrances to the buildings served by the parking lot and/or under the shade of structures or trees. These spaces shall be clearly marked with signs and pavement markings. This measure shall not be implemented in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or disabled veterans.
- Research incentives for future residents to purchase electric vehicles, such as monetary incentives or other compensatory programs, and either implement selected incentives or provide information and/or assistance to future residents on how to utilize other existing electric vehicle incentive programs.

BUILDING ENERGY

The project developers shall incorporate the following Tier 1 and/or Tier 2 California Green Building Standards mitigation measures into the project:

- All project buildings shall be designed to include Cool Roofs in accordance with the requirements set forth in Tier 2 of the California Green Building Energy Code, Sections A4.106.5 and A5.106.11.2.
- All project buildings shall comply with requirements for water efficiency and conservation as described in the California Green Building Standards Code, Divisions 4.3 and 5.3.
- Multiple electric receptacles shall be included on the exterior of all nonresidential buildings and accessible for purposes of charging or powering electric landscaping equipment and providing an alternative to using fossil fuel-powered generators. The electrical receptacle shall have an electric potential of 100 volts. There should be a minimum of one electrical receptacle on each side of the building and one receptacle every 100 linear feet around the perimeter of the building.
- Ensure that all appliances and fixtures installed in buildings developed under the project are Energy Star®-certified if an Energy Star®-certified model of the appliance is available. Types of Energy Star®-certified appliances include boilers, ceiling fans, central and room air conditioners, clothes washers, compact fluorescent light bulbs, computer monitors, copiers, consumer electronics, dehumidifiers, dishwashers, external power adapters, furnaces, geothermal heat pumps, programmable thermostats, refrigerators and freezers, residential light fixtures, room air cleaners, transformers, televisions, vending machines, ventilating fans, and windows (EPA 2018). If EPA's Energy Star® program is discontinued and not replaced with a comparable certification program before appliances and fixtures are selected, then similar measures which exceed the most current California Green Building Standards Code may be used.
- All residential and non-residential appliances, including all space and water heating and cooking appliances, shall be solar- or electric-powered. Use of natural gas for heating or cooking in residences shall be prohibited.
- Install high efficiency lighting (i.e., light emitting diodes) in all streetlights, security lighting, and all other exterior lighting applications.

WASTE GENERATION

- Prior to issuance of the first residential certificate of occupancy, the project developer shall submit evidence to the County that it has created a local composting program for residents to achieve the statewide 75-percent waste diversion target.

CC-2: (a) Future developments for residential (tentative maps) and non-residential projects (Design Review) shall demonstrate a fair-share reduction towards reducing project-wide GHG emissions by 29.82 MTCO₂e/yr (i.e., 0.004 MTCO₂e/yr/capita and 0.06 MTCO₂e/yr/acre). A fair-share contribution is to be made based on the total acreage proposed for development in any given Tentative Map or Design Review area compared to the entire area of development proposed within the project as a whole. For the purposes of this mitigation measure, areas not anticipated for development such as parks, open spaces, and agricultural land as well as areas previously developed, such as the existing electrical facility, are not included in the total development acreage. Therefore, the total development area is considered to be 474.5 acres. Considering the total development area, a hypothetical ten-acre project would represent 2.1 percent of the total development area and would be required to show a GHG emissions reduction or savings of 17.9 MTCO₂e/yr, which would represent 2.1 percent of the 0.63 MTCO₂e/yr reduction required for the project area as a whole. Examples of measures that may be used by future development projects include, but are not limited to, the following:

- **Exceedance of Title 24 Energy Efficiency requirements;**
- **Electrifying loading docks to reduce emission from engine idling of Transport Refrigeration Units;**
- **All-electric building envelope systems, including water heaters and HVAC systems, or appliances, including clothes dryers and cooking equipment, in commercial developments;**
- **Inclusion of on-site carbon-zero renewable energy systems capable of serving energy needs of any urban development within the Project, including energy needed for street lights, sewer pumps, drainage pumps, traffic signals, water pumps, and commercial developments;**
- **Residential photovoltaic systems designed to be scalable over time to accommodate varying energy demands;**
- **Indoor water use efficiency;**
- **Institution of a composting and recycling program in excess of local standards;**
- **Implementation of an Urban Forestry Management Plan to reduce the urban heat island effect;**
- **Use of energy efficient street lighting fixtures;**

- Purchase of off-site mitigation credits consistent with the requirements of paragraph (b) below; and/or
- Energy efficiency retrofits in existing residential and commercial buildings.

Thus, as development progresses within the project area, each individual development would be required to show GHG emissions reductions in keeping with the project wide reduction requirement.

(b) Purchase of off-site mitigation credits shall be negotiated with the County and SMAQMD at the time that credits are sought by future construction within the project areas. Off-site mitigation credits purchased under paragraph (a) shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Sacramento County and/or the SMAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the CAPCOA GHG Rx and the SMAQMD.

CC-3: If the County adopts a Communitywide Climate Action Plan, future development projects within the NewBridge Specific Plan may comply with the GHG emissions reductions measures contained therein. Such participation shall be subject to a demonstration that the emissions reductions measures selected are equivalent or more effective to Mitigation Measures CC-1 and CC-2 above.

COMPARISON TO SMAQMD GHG THRESHOLDS

After the release of the Newbridge Draft EIR in July 2018, the SMAQMD published draft significance thresholds for greenhouse gas emissions for its entire jurisdictional area in December 2019. The SMAQMD Board of Directors adopted the proposed GHG thresholds⁸ at a public meeting on April 23, 2020. An additional analysis was conducted (Raney Planning and Management, June 2020, Appendix CC-3) to compare the Project's GHG emissions reduction measures to the SMAQMD's adopted significance thresholds. This analysis is included due to

⁸ Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. Published December 2009, revised April 2020.

the recent adoption of the SMAQMD GHG significance thresholds for information only and is not being used to make a significance determination.

SMAQMD's previous thresholds were originally adopted in October of 2014, and included emissions thresholds for operation and construction of proposed land uses. SMAQMD is not currently proposing changes to SMAQMD's construction emissions thresholds; however, SMAQMD's updated thresholds represent a different approach to the analysis of GHG emissions that seeks to ensure compliance with all relevant statewide and regional GHG reduction goals.

To accomplish consistency with statewide and regional GHG reduction goals, SMAQMD has prepared a two-tiered framework of analysis for new projects.

Tier 1

All projects within SMAQMD's jurisdiction would be required to comply with the Best Management Practices (BMPs) included in Tier 1. The proposed Tier 1 BMPs are as follows:

- BMP 1: No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
- BMP 2: Electric vehicle (EV) ready: Projects shall meet the current California Green Building Code (CalGreen) Tier 2 standards, except all EV Capable spaces shall instead be EV Ready.

If a project would not comply with both of the foregoing BMPs, the project would be required to include features that would achieve an equivalent level of GHG emissions reductions. For instance, a project that includes natural gas infrastructure may include pre-wiring to allow for the future retrofit of all natural gas appliances with all-electric appliances. Furthermore, projects that are below the Governor's Office of Planning and Research's de minimis vehicle miles travelled (VMT) criteria, and/or projects that emit less than 1,100 metric tons of carbon dioxide equivalence units per year (MTCO₂e/yr) prior to implementation of BMP 1 and BMP 2 would be considered sufficiently small to screen out of further requirements, and would be assumed to result in a less-than-significant impact related to GHG emissions and climate change.

The proposed Project does not screen out of further review and is subject to review under Tier 2 of SMAQMD's updated Thresholds.

Tier 2

The second tier of SMAQMD's updated thresholds includes the following BMP:

- BMP 3: As described in more detail in Section 4.3.1, residential projects shall achieve a 15 percent reduction in VMT per resident, and office

projects should achieve a 15 percent reduction in VMT per worker compared to existing average VMT per capita for the county, or for the city if a more local SB 743 target has been established. Retail projects should achieve no net increase in total VMT, as required to show consistency with SB 743. These reductions can be achieved by many strategies, such as:

- Locate in an area that already has low VMT due to location, transit service, etc.;
- Adopt CAPCOA measures;
- Adopt measures noted in Sacramento’s CAP checklist;
- Join a Transportation Management Association;
- Incorporate traffic calming measures;
- Incorporate pedestrian facilities and connections to public transportation; and/or
- Promote electric bicycle or other micro-mobility options.

If a project cannot incorporate the foregoing BMPs, other reductions or purchasing and retiring of GHG/carbon offsets can be used as an alternative method of compliance.

As previously stated, the County’s analysis of the Project uses the County’s adopted thresholds of significance for GHG emissions as a basis for project-specific thresholds in the buildout year of 2032. However, the analysis below includes consideration of the Project’s features and other mitigation measures included in this EIR in comparison to SMAQMD’s thresholds for informational purposes.

Tier 1

Features of a structure’s envelope that use natural gas, such as water heaters and space heaters, as well as appliances that use natural gas, such as cooking equipment and clothes dryers, have been prohibited within the residential portions of the proposed project by Mitigation Measures AQ-4 and CC-1. As a result, all proposed residential uses within the project site would be developed using all-electric appliances, and the residential portion of the proposed project would comply with BMP 1. However, the proposed non-residential land uses (i.e., commercial, office, school, and fire station) may be designed with the inclusion of natural gas infrastructure. Therefore, the non-residential portion of the project would not comply with BMP 1.

A Greenhouse Gas Reduction Plan (GHGRP) has been prepared for the proposed project in compliance with SMAQMD’s most recent *Recommended guidance for Land Use Emissions Reductions*.⁹ The GHGRP includes mitigation measures sufficient to ensure that the proposed project would comply with the County’s draft GHG emissions thresholds. One such mitigation measure is the requirement that all future development within the Newbridge Project include installation of EV ready charging infrastructure in compliance with the Tier 2 standards for EV Capable spaces of the CalGreen Code. Therefore, the proposed project would comply with BMP 2 of SMAQMD’s updated Thresholds.

Considering the above, the residential portion of the proposed Newbridge Project would comply with both BMPs within Tier 1 of SMAQMD’s updated Thresholds, but the non-residential portion of the proposed project would not comply with BMP 1. Pursuant to the SMAQMD guidance, alternative GHG reduction measures may be proposed to offer the same level of GHG reductions as BMPs 1 or 2. Alternative GHG reduction measures to off-set the inclusion of natural gas infrastructure within the commercial portions of the proposed project are not proposed at this time, and, thus, the non-residential portion of the proposed project remains in conflict with BMP 1.

Tier 2

Although a project-wide estimate of VMT has been prepared for the Newbridge Project, the project includes a variety of land uses, including residential, commercial, office, and educational, and a detailed analysis of VMT generation per land use has not been prepared. As such, the project’s compliance with the 15 percent reduction in VMT per resident, office worker, or retail development cannot be directly assessed at this time. Refer to the Traffic and Circulation chapter of this EIR for more detailed discussion of the VMT analysis.

Nevertheless, it is important to note that the project includes a variety of measures and site design features that would result in reductions in VMT. For instance, the proposed project is required to join or create a permanent Transportation Management Association. Furthermore, project design has incorporated traffic calming measures, anti-idling measures, pedestrian infrastructure, bicycle infrastructure, and transit infrastructure. Connections to public transportation would be provided within the project site, and the variety of uses within the project site would encourage future residents and employees to walk, bicycle, or take transit. Thus, the project would comply with the majority of the strategies identified by SMAQMD to reduce VMT.

Despite the incorporation of VMT reducing measures, due to the absence of a VMT analysis broken out by land use as required by SMAQMD to demonstrate

⁹ SMAQMD. *Recommended guidance for Land Use Emissions Reductions*, Version 4. November 30, 2017.

compliance with Tier 2, the project's compliance with BMP 3 cannot be determined at this time.

Considering the above, the residential portion of the Newbridge Project would be considered to substantively comply with BMP 1 and 2 of SMAQMD's updated GHG Thresholds. The non-residential portions of the proposed project would comply with BMP 2, but would not comply with BMP 1. Due to the absence of a VMT analysis by land use type, consistency with BMP 3 cannot be determine at this time Therefore, the proposed project would not be consistent with SMAQMD's updated GHG Thresholds at this time.

8 CULTURAL RESOURCES

INTRODUCTION

Under CEQA, lead agencies must consider the effects of their projects on cultural resources. This chapter describes the potential impacts to cultural resources that could occur as a result of implementation of the proposed NewBridge Specific Plan Project. This chapter also describes the regulatory and environmental setting for cultural resources. Cultural resources include several different types of properties: historic buildings and structures, historic districts, historic sites, culturally sacred sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts.

Overall, cultural resources that are known to exist and those that may be present in the NewBridge Specific Plan area could include the categories described in Table CR-1, identified pursuant to *California Code of Regulations, Title 14, Section 4852*. The following analysis provides an overview of known cultural resources within the portion of the NewBridge Specific Plan area owned by East Sacramento Ranch LLC¹ and identifies any potential adverse impacts to them associated with the Project. Potential unknown resources are also addressed. The analysis also recommends mitigation measures to reduce impacts to cultural resources within the Project area. The following cultural resources surveys, testing programs and evaluations of resources for the NewBridge Specific Plan site were prepared by Ric Windmiller, R.P.A., Consulting Archaeologist, and Dan Osanna, M.A. and submitted to Department of Community Development, Planning and Environmental Review Division (PER):

Redington: Sacramento Rendering Company Property: Cultural Resources Assessment (February 2009)

East Sacramento Ranch: Cultural Resources Inventory and Evaluation (September 2013)

This chapter is based on and contains portions of the above-listed cultural resources studies. Although the above reports were conducted in a segmented fashion, as properties were added to the Project area, the following analysis aggregates the above listed reports and provides a combined analysis to cultural resources impacts on a portion of the NewBridge Specific Plan area. The information presented in these reports can be generally applied the remaining portion of the Project area; however, specific surveys will need to be completed prior to development.

In November 2008, a cultural resources assessment of the subject property was completed. The assessment included a records search by the North Central Information Center, Native American Heritage Commission sacred lands file search, contacts with Native Americans to solicit further information, archival research, a historic

¹ The area owned by East Sacramento Ranch LLC encompasses the North Planning Area and the northern half of the West Planning Area for a total of 810 acres.

building survey and an archaeological field survey. As a result of the study, seven historic archaeological sites, two historic buildings and two isolates were identified. Subsequently, under the Clean Water Act, a Section 404 permit application was filed for the proposed project with the U.S. Army Corps of Engineers (USACE) initiating a National Historic Preservation Act, Section 106 consultation. The September 2013 cultural resources study was prepared to assist the USACE in meeting its responsibilities under Section 106 of the Act.

The September 2013 study was to identify historic properties eligible for the National Register of Historic Places, which included an updated records search by the North Central Information Center, current contacts with Native Americans listed by the commission and; inspection of each cultural resource identified in 2008, documenting any changes in condition. In addition, erosion surfaces (exposed flanks of hills and stream channel banks) were re-inspected for archaeological resources that may have been exposed by erosion since 2008. An additional effort was made to collect restricted information on the two high voltage electric power transmission lines crossing the APE. Both are likely older than 50 years.

Applicable details from the studies conducted within these areas are summarized below. The technical studies can be reviewed at 827 7th Street, Room 225, Sacramento, CA 95814.

Table CR-1: Categories of Cultural Resources

Category	Description	Example
Building	Structures created principally to shelter or assist in carrying out any form of human activity. May also refer to a historically and functionally related unit (e.g., courthouse and jail).	Houses, barns, churches, factories, and hotels
Site	A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historical, cultural, or archeological value regardless of the value of any existing building, structure, or object. A site need not be marked by physical remains if it is the location of a prehistoric event, and if no buildings, structures, or objects marked it at that time.	Trails, designed landscapes, battlefields, habitation sites, Native American ceremonial areas, petroglyphs, and pictographs
Structure	The term "structure" is used to describe a construction made for a functional purpose rather than creating human	Mines, bridges, and tunnels

	shelter.	
Object	The term "object" is used to describe those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed, as opposed to a building or a structure. Although it may be moveable by nature or design, an object is associated with a specific setting or environment. Objects should be in a setting appropriate to their significant historic use, role, or character. Objects that are relocated to a museum are not eligible for listing in the California Register.	Fountains, monuments, maritime resources, sculptures, and boundary markers
Historic District	Unified geographic entities which contain a concentration of historic buildings, structures, objects, or sites united historically, culturally, or architecturally. Historic districts are defined by precise geographic boundaries. Therefore, districts with unusual boundaries require a description of what lies immediately outside the area, in order to define the edge of the district and to explain the exclusion of adjoining areas.	---

CULTURAL HISTORY

In large part, the following Cultural History section is taken directly from the *Redington: Sacramento Rendering Company Property: Cultural Resources Assessment*, prepared in 2009, and *East Sacramento Ranch: Cultural Resources Inventory and Evaluation*, prepared in 2013. Parenthetical citations indicate information from additional sources.

LOCATION

The NewBridge Specific Plan is located in unincorporated southeastern Sacramento County, within the Vineyard community. The proposed Project is bounded on the east by Sunrise Boulevard (the City of Rancho Cordova and County boundary line); to the south by Jackson Road; to the north by Kiefer Boulevard; and the west boundary is west of Eagles Nest Road. The project site is approximately 16.4 miles east of downtown Sacramento and 3.6 miles south by southeast of Mather Airport. The project site is located on what historically was known as the "Sacramento Plains," flat to hilly grassland between the Sacramento Delta on the west and the foothills of the Sierra Nevada on the east. The region consists of flat to hilly grassland varying in elevation

between 126 and 150 feet above sea level. Frye Creek, which is no more than a swale, bisects the property northeast to southwest. The subject property lies within a mile west of what could be considered the first prominent hills of the Sierra's west slope.

PREHISTORY

Three miles southeast of the NewBridge Specific Plan lies the Cosumnes River drainage where archaeologists first began defining the culture sequence of Sacramento Valley prehistory. The earliest evidence of man along the Cosumnes drainage is found at the valley-Sierra foothills edge. In 1979, Peak and Associates began excavations at two such sites near Rancho Murieta, approximately 10 miles east of the NewBridge Specific Plan site. Peak and Associates' archaeologist speculated that the Rancho Murieta sites, CA-SAC-370 and CA-SAC-379 date back to the late Pleistocene of 18,000 to 12,000 years before the present. However, it seems more likely that they belong to the later Western Pluvial Lakes Tradition. Both sites are stone quarry/workshop and possibly camp sites where native people fashioned chipped stone tools from the greenstone (chert) bedrock and also used water worn cobbles of the Mehrten Formation (Peak 1981: 70).

The suspected antiquity of the Rancho Murieta sites creates a large temporal gap between the earliest occupation of the Cosumnes drainage and the earliest sedentary culture dating back to the Middle Archaic – a gap in prehistory of at least 6,500 years about which practically nothing is known in this region of northern California.

This gap may be filled in part by finds such as the artifact-bearing layer exposed in the banks of Arcade Creek, North Sacramento. Here, erosion exposed an artifact-bearing layer buried under nine feet of alluvium (Curtice 1961:20-25). Another example may be the Crevis Creek finds – chipped stone artifacts occurring in the gravels of Crevis Creek, six miles east of the NewBridge Specific Plan area.

The type site for the earliest sedentary culture is located approximately 12 miles south southeast of the NewBridge Specific Plan area. Named the "Windmill Mound" after the landowner, its antiquity spans approximately 4,500 years (Heizer 1974:192-193). Like many other prehistoric archaeological sites of the lower Cosumnes River within the valley proper, the Windmill Mound is situated on a natural clay knoll above seasonal flood waters. While prehistoric village sites and cemeteries are most common along the Cosumnes River (approximately six sites per linear mile), they do occur near other water sources such as seasonal tributaries and sloughs.

With a long-standing focus on prehistoric cultures, archaeologists largely ignored Native American settlements of the historic period. The exception was James A. Bennyhoff and his doctoral dissertation, *Ethnogeography of the Plains Miwok*. Using the results of earlier archaeological excavations, historical documents and revisiting the archaeological sites himself, Bennyhoff succeeded in linking historic events to specific Indian village sites and defined the physical territories within which the incipient chiefdoms or "tribelets" of the historic Miwok Indians lived, hunted, fished and gathered (Bennyhoff 1977).

ETHNOLOGY

The NewBridge Specific Plan project lies three miles west of the former territory of the Plains Miwok *Amuchamne* tribelet. The Plains Miwok were recognized as a distinct language group as early as 1806 when Spanish explorers first entered the region (Bennyhoff 1977:1). The *Amuchamne* tribelet was the northernmost tribelet on the Cosumnes River drainage within the boundaries of the Sacramento Valley. The tribelet center was tentatively identified about three miles southeast of the NewBridge Specific Plan project area. Missionization of the *Amuchamne* people began in 1834-1835 but the *Amuchamne* were the only organized Cosumnes River Miwok village to survive the Gold Rush. According to Bennyhoff, sometime between 1850 and 1870, the people of *Amuchamne* moved their village to the outskirts of Elk Grove possibly in response to several factors including an influx of Nisenan in the Michigan Bar area after the discovery of gold at this location.

HISTORY

The NewBridge Specific Plan project lies along the boundary between Brighton and Lee townships. Other than early Spanish expeditions, one of the earliest Europeans to cross the vicinity of Redington was William Daylor. One summer evening in 1840, Daylor rode to the top of a hill overlooking the Cosumnes River Valley looking for John Sutter's stray cattle. He found the verdant valley densely populated with Native Americans and returned to Sutter's Fort to report this finding to his friend, Jared Sheldon. Sheldon and Daylor formed a partnership and secured a grant of the valley, planting wheat, constructing a dam and a grist mill on the Cosumnes, and establishing a mining camp at Webber Creek in the Placerville vicinity. Daylor partnered with William Grimshaw and opened a store and trading post at Daylor's ranch on the Cosumnes near present-day Sloughhouse. The trading post was on the Jackson Road, a wagon road from Sutter's Fort to the Southern Mines. Built on this historic route, Jackson Road (State Route 16) today passes near the south side of Redington.

Historic maps show the NewBridge Specific Plan project area as grazing land located between scattered houses and fields to the west and Daylor and Sheldon's Cosumnes grant on the east. By 1885, the majority of the project area was parceled out to John Shulp (480 acres) with lesser parcels owned by A.J. Overton (160 acres), M.A. Fry (160 acres) and Abraham M. Plummer who had a small corner of the southeast quarter of Section 24 in addition to another 1,000 acres to the north. The old meandering "New Road to Jackson" was illustrated as a very straight "Sacramento and Jackson Road". Eagles Nest Road, which today bisects the project area, east from west, and Kiefer Boulevard, was also illustrated on historic maps. By 1910, a majority of the project area changed ownership to the Natomas Consolidated of California, a mining and agricultural company, with William P. Redington among the early landowners and officers of the Natomas Company. Over the years, the company changed ownership and ventures until the end of World War II, when the last Natomas dredge ceased operation in 1962 (Castenada *et al* 1984:7).

In 1955, the Sacramento Rendering Company moved its facility from Sacramento to its present location in the northeast quarter of Section 30, located in the NewBridge Specific Plan project area. Today, the rendering company site includes approximately 16 buildings, surrounded by 800 acres of land.

REGULATORY SETTING

FEDERAL

Cultural resources are considered during federal undertakings chiefly under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as the National Environmental Policy Act (NEPA). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of NHPA. Other federal laws pertinent to cultural resources include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act (AIRFA) of 1978, the Archaeological Resources Protection Act (ARPA) of 1979, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1989, among others. Below is a more detailed description of applicable federal regulations.

ANTIQUITIES ACT

The federal Antiquities Act of 1906 was created with the intent to protect cultural resources in the United States. The Act prohibits appropriation, excavation, injury, and destruction of “any historic or prehistoric ruin or monument, or any object of antiquity” located on lands owned or controlled by the federal government, without permission of the secretary of the federal department with jurisdiction. Accordingly, the Act provided early framework to protect cultural resources within the United States.

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires that federal agencies assess whether federal actions would result in significant effects on the human environment. The Council on Environmental Quality’s (CEQ’s) NEPA regulations further stipulate that identification of significant effects should incorporate “the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register for Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources” (40 CFR 1508.27[b][8]).

NATIONAL HISTORIC PRESERVATION ACT

Archaeological and built environment resources (buildings and structures) are protected through the National Historic Preservation Act (NHPA of 1966, as amended (16 United States Code [USC] 470f) and its implementing regulations: Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979.

Prior to implementing an *undertaking* (e.g., issuing a federal permit), federal agencies (e.g., U.S. Army Corps of Engineers [USACE]) are required under Section 106 of NHPA to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (NRHP). NHPA Section 101(d)(6)(A) allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Under the NHPA, a find is significant if it meets the NRHP listing criteria under 36 CFR 60.4, as stated below.

The quality of *significance* in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:

- a. Are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. Are associated with the lives of persons significant in our past; or
- c. Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. Have yielded, or may be likely to yield, information important in prehistory or history.

STATE OF CALIFORNIA REGULATIONS

The State of California implements NHPA through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation (OHP), an office of the California Department of Parks and Recreation (DPR), implements the policies of NHPA on a statewide level. OHP also maintains the California Historical Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdiction.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), as codified in Public Resource Code (PRC) Sections 21000 et seq. and implemented via the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000 et seq.), is the principal statute governing the environmental review of projects in the State. CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed

state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)). Section 21083.2(g) describes a *unique archaeological resource* as 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.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A *historical resource* is a resource listed, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Sacramento County does not currently have a local register.

Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as the basic guidelines for the cultural resources study. PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the register is to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the California Register were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP).

In order to be considered a historical resource, a resource must be at least 50 years old. In addition, the State CEQA Guidelines define a historical resource as follows:

- a. A resource listed in the California Register of Historical Resources (CRHR).
- b. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- c. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state

and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The CRHR criteria are based on National Register of Historic Places (NRHP) criteria (PRC Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the CRHR, including California properties formally eligible for or listed in the NRHP. To be eligible for listing in the CRHR as a historical resource, a prehistoric or historic-period resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history (14 CCR Section 4852[b]).

For a resource to be eligible for the CRHR, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet NRHP criteria may still be eligible for listing in the CRHR.

CEQA requires lead agencies to determine if a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and State CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the State CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources. A *unique archaeological resource* is 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:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2 [g]).

The State CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

MADERA OVERSIGHT COALITION, INC. V. COUNTY OF MADERA (2011)

In the past, it was common practice for many CEQA practitioners to provide performance-based mitigation for cultural resources, stipulating that further evaluation and treatment of resources would be performed in the future. The 2011 decision from the *Madera Oversight Coalition, Inc. v. County of Madera* (2011 [199 Cal. App.4th 48, 81]) case determined this practice to be unacceptable under CEQA and required evaluation of cultural resources subject to CEQA to be performed at a level sufficient to characterize the resources prior to environmental impact report (EIR) certification (instead of waiting until preconstruction or construction stages of a project). Cultural resources evaluations in this EIR have been completed consistent with the *Madera Oversight* decision.

DISCOVERY OF HUMAN REMAINS

California law protects Native American burials, skeletal remains and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (Section 7050.5 of the Health and Safety Code and Public Resources Code 5097.9).

When human remains are discovered, the protocol to be followed is specified in California Health and Safety Code, which states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop

an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the State CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include “an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.”

SENATE BILL 18

California Senate Bill (SB) 18 (Burton, Chapter 905, Statutes of 2004) requires local governments to consult with State- and federally recognized Native American tribes prior to making certain planning decisions and to provide notice to the tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans and specific plans. The principal objective of SB 18 is to preserve and protect cultural places of California Native Americans. SB 18 is unique in that it requires local government consultation with Native American tribes in early stages of land use planning, extends to both public and private lands, and includes both State- and federally recognized Native American tribes. The California Civil Code was amended by SB 18 and now allows State-recognized California Native American tribes to acquire and hold conservation easements.

LOCAL

SACRAMENTO COUNTY GENERAL PLAN

The Sacramento County General Plan Conservation Element, states under Section VIII, Cultural Resources, the following goal and six objectives:

Promote the inventory, protection and interpretation of the cultural heritage of Sacramento County, including historical and archaeological settings, sites, buildings, features, artifacts and/or areas of ethnic historical, religious or socio-economic importance.

1. Comprehensive knowledge of archeological and historic site locations.
2. Attention and care during project review and construction to ensure that cultural resource sites, either previously known or discovered on the project site, are properly protected with sensitivity to Native American values.
3. Structures with architectural or historical importance preserved to maintain contributing design elements.

4. Known cultural resources protected from vandalism unauthorized excavation, or accidental destruction.
5. Properly stored and classified artifacts for ongoing study.
6. Public awareness and appreciation of both visible and intangible historic and cultural resources.

To implement the primary goal and the objectives, the Conservation Element contains the following policies:

CO-150. Utilize local, state and national resources, such as the NCIC, to assist in determining the need for a cultural resources survey during project review.

CO-151. Projects involving an adoption or amendment of a General Plan or Specific Plan or the designation of open space shall be noticed to all appropriate Native American tribes in order to aid in the protection of traditional tribal cultural places.

CO-155. Native American burial sites encountered during preapproved survey or during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archeological significance of the site merits excavation and recording procedure. On-site reinterment shall have priority. The project developer shall provide the burden of proof that offsite reinterment is the only feasible alternative. Reinterment shall be the responsibility of local tribal representatives.

CO-157. Monitor projects during construction to ensure crews follow proper reporting, safeguards, and procedures.

CO-158. As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.

CO-169. Restrict the circulation of cultural resource location information to prevent potential site vandalism. This information is exempt from the "Freedom of Information Act".

DISCLOSURE OF CULTURAL RESOURCES INFORMATION

Public disclosure of site specific cultural resources information is expressly exempt from the California Public Records Act, Government Code Sections 6250-6270.

Furthermore, information obtained during Native American consultation or through consultation with the local and state agencies, including the North Central Information Center (NCIC), should remain confidential and is exempt from public disclosure under Senate Bill 922. Pursuant to General Plan Policy CO-169, Sacramento County staff has signed an "Agreement to Confidentiality" with the NCIC that states that site specific information will not be distributed or released to the public or unauthorized individuals.

An authorized individual is a professional archaeologist or historian that qualifies under the Secretary of Interior's standards to view confidential cultural resources materials.

SIGNIFICANCE CRITERIA

In order for a cultural resource to be considered a "historic property" under NRHP criteria (i.e., eligible for inclusion on the NRHP), it must be demonstrated that the resource possesses *integrity* of location, design, setting, materials, workmanship, feeling and association, and must meet at least one of the following four criteria delineated by Section 106 (Advisory Council on Historic Preservation 2000), as listed in 36 CFR 60.4:

- (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) That are associated with the lives of persons significant in our past; or
- (c) That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) That have yielded, or may be likely to yield, information important in prehistory or history.

The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP, enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to PRC Section 5024.1(c)(1-4), a resource is considered *historically significant* if it meets at least one of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (2) Is associated with the lives of persons important in our past;
- (3) Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) Has yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined as follows:

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.
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a “unique archaeological resource” under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, “A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” (PRC Section 21083.2(h)).

Impacts to *significant* cultural resources (“historic properties” under NHPA and “historical resources” under CEQA) that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed on or eligible for listing on the CRHR are considered a significant effect on the environment (CEQA guidelines 15065(a)(1)). Impacts to *significant* cultural resources from a proposed Project are thus considered significant if a project physically destroys or damages all or part of a resource, changes the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance or introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

In accordance with Appendix G of the State CEQA Guidelines, a project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Cause a substantial adverse change in the significance of an archaeological resource that is a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of a built environment resource that is a historical resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

METHODOLOGY

Only the portion of the Project owned by the East Sacramento Ranch, LLC., North and upper West Planning Areas (800 acres), has been subject to a complete cultural resources inventory, including pedestrian surveys, and is analyzed at the project level. These reports, identified earlier, establish what cultural resources may be present within the project area and, furthermore, may be impacted as a result of implementation of the proposed project.

For the remaining portion of the Project, South and lower West Planning Areas, this analysis is evaluated at a programmatic level since complete cultural resources inventory and pedestrian surveys were not conducted. However, general historical information and information from the records searches can be applied to the entire NSP since this information was included in the prepared reports (within the ¼ mile buffer for records searches), there are no natural features separating the survey areas, and is universal to the area.

INFORMATION CENTER RECORD SEARCH

In 2008, the North Central Information Center (NCIC), California Historical Resources Information System conducted a records search for the land owned by East Sacramento Ranch (800 acres) of the NewBridge Specific Plan project area. NCIC staff identified previous cultural resource studies along Jackson Road (S.R. 16), immediately north and east of the project site, as well as corridors along both sides of Eagles Nest Road and both sides of Sunrise Boulevard. However, the NCIC reported no previous studies within the project area. In 2013, the North Central Information Center provided an updated records search of the project area. Since the 2008 records search, two additional surveys were noted: a 1995 cultural resources inventory for the Mojave Northwest Expansion Pipeline project and the 2008 cultural resources study for the proposed project.

NCIC staff reported the identity of only one archaeological site in the vicinity of the project area, which is the location of a residence on the northeast corner of Jackson Road and Eagles Nest Road designated "P-34-1976." NCIC staff reported "no listings" in the Office of Historic Preservation's Historic Property Directory for Sacramento County, Determinations of Eligibility, National Register of Historic Places, California Register of Historic Resources, California Historical Resource Inventory, California State Historical Landmarks, or California Point of Historical Interest. The Caltrans inventory of historic bridges listed one bridge adjacent to the project site on Kiefer Boulevard at the Folsom South Canal. The bridge was listed as "5" (not eligible for the National Register).

NATIVE-AMERICAN CONSULTATIONS

On October 27, 2008, the Native American Heritage Commission responded to the consultant's (Ric Windmiller, Consulting Archaeologist) request for a sacred lands file search and list of Native American contacts. The file search was negative and no Native American cultural resources were identified by commission staff in the immediate project area. Commission staff recommended contacting other sources for information on known and documented sites, including a list of Native American contacts.

On November 13, 2008, the consultant mailed a letter to each contact describing the project area and asking for any information or concerns regarding known or suspected sites of Native American significance. The sole respondent was Kenneth Council by telephone on November 28, 2008. Mrs. Billie Blue Alliston, a retired State Parks cultural

resource specialist introduced Mr. Council to the consultant as her son. Neither Mrs. Alliston nor Mr. Council had any knowledge of Native American sites in the project area.

On June 4, 2013, the Native American Heritage Commission (NAHC) responded to the consultant's request for a sacred lands file search and list of Native American contacts. The file search was negative and no Native American cultural resources were identified by commission staff in the immediate project area. On June 28, 2013, the consultant mailed a letter to Native American contacts identified by the NAHC. The letter described the project area and asked for any information or concerns regarding known or suspected sites of Native American significance. One response was received by mail: an August 20, 2013 letter from Mr. Gene Whitehouse, Chairman, United Auburn Indian Community of the Auburn Rancheria. On September 24, 2013, the consultant attempted to reach each of the remaining contacts by telephone. Only two contacts were reached and both expressed concerns in the event that graves are encountered during ground disturbing activities.

In accordance to SB18 and Sacramento County General Plan Policy CO-151, County staff requested a sacred lands file search and Native American contact list from the NAHC in March, 2013. In July 2013, all contacts on the list were mailed a letter with the proposed Project description. Only the Shingle Springs Rancheria tribe responded and requested additional information. In October 2013, County staff responded to the request for more information. No further correspondence was received.

In February 2016, County staff resent letters to tribes on the NAHC sacred lands file list to follow-up on consultation efforts under SB18 requirements. The County received letters from three tribes requesting further consultation of the Project – United Auburn Indian Community (UAIC), Shingle Springs Rancheria, and The lone and of Miwok Indians. County staff followed up with the tribes and shared cultural survey reports. The UAIC notified the County that no further consultation is required, but to keep the tribe informed if anything new is discovered. The Shingle Springs Rancheria did not respond requesting further consultation after the reports were shared. County staff met with the tribal representative for the lone Band of Miwok Indians regarding the Project, provided additional information regarding preliminary grading plans and offered to conduct a site visit. Ultimately, a site visit was not conducted and no further concerns have been raised by the tribe.

FIELD ASSESSMENT

Ric Windmiller, Registered Professional Archaeologist, and one technical assistant conducted an archeological field survey of a portion of the NewBridge Specific Plan project area on November 17, 19, and 20, 2008. The project area was traversed on foot and using four wheel all-terrain vehicles at a walking pace to stage the survey along zig-zagging transects at various locations ranging approximately 15 to 25 meters apart. The narrower transects focused on two stream drainages: Frye Creek and an unnamed drainage in the northwest corner of the site. Most of the subject property consists of hilly grazing land with modern disturbances including dams, ponds, firebreaks, stockpiled earth and access roads. The area around the present rendering facility

included modern elevated and leveled pastures, ponds, fences and landscaping, with the facility's office and industrial buildings.

All archeological resources identified during the field inspection were documented on DPR523 forms distributed by the California Office of Historic Preservation. The extant buildings 50 years old or older were documented and evaluated on the same DPR series forms by historian Dan Osanna, M.A., Registered Historian 572 on January 28, 2009. No Native American archaeological sites were identified in the project study.

On August 29, 2013, the location of archaeological resources and historic buildings were revisited by the field team. The record forms for each of the previously identified resources were updated including photographs and descriptions of current conditions. The few areas of eroded surfaces including banks of Frye Creek that meanders across the project site and the bed and banks of an unnamed tributary to Morrison Creek in the northwest portion of the site were re-examined.

AREA OF POTENTIAL EFFECTS (APE) FOR CULTURAL RESOURCES

The geographic Area of Potential Effects (APE) for the NewBridge Specific Plan is bounded on the north by Kiefer Boulevard, on the east by Sunrise Boulevard, on the south by the south boundary of Section 30 and on the west by the west boundary of the East Sacramento Ranch's property boundary that follows the west boundary of Section 30 for a portion of its distance. The APE coincides with the 810 acre Section 404 permit area. Ingress and egress will be along existing roads.

The two large open space preserves, one on the west and the other on the east side of Eagles Nest Road will not be graded, but left in their existing condition. The area to be developed will be mass graded with cuts and fills; the cuts generally will not exceed two to three feet, with some exceptions. The creation of detention basins and wet basins along the Frye Creek drainage will require cuts as deep as 10 feet. There are a few basins outside the Frye Creek channel in various open space parcels. The basin in the northwest corner of the project site east of Eagles Nest Road will require cuts of 10 feet. Trenching for dry utilities will be cut to a maximum depth of six feet. Sewer trenching will be as great as 20 feet leading to the lift station on the southern edge of the development. Therefore, the maximum vertical APE will be 20 feet. Staging will be on-site within the area proposed for development.

IMPACTS AND ANALYSIS

IMPACT: HISTORICAL RESOURCES

Resources identified in the NewBridge Specific Plan project area consist of the remnants of historic homesteads and farms dating back to the late 1800s, early 1900s, two isolated objects, SMUD and PG&E transmission lines, and two buildings 50 years or older and associated with the present-day Sacramento Rendering Company and its operations (Table CR-2). No Native American archaeological or tribal resources were

identified either during the 2008 and 2013 surveys of the project site or through the SB-18 consultation process.

Three of the historic archaeological sites are located in designated open space preserve (P-34-2216, P-34-2217, and P-34-2220). The SMUD/PG&E electric transmission lines cross both areas of mass grading and open space preserve. The remainder of the sites and buildings are located in areas slated for mass grading and/or grading for wetland basins. Of all the buildings and landscape features identified within the Sacramento Rendering Company's industrial facility, only two buildings and their associated ancillary structures are historic: the Original Office building and the Watchman's House. The entire rendering plant consists of approximately 16 buildings. These buildings include the present office building (constructed *circa* 1970); a car garage (*circa* 1980); an employee locker room (*circa* 2005); a truck maintenance/storage building (1980s construction); and a large receiving building complex that includes an attached milling department building, the original plant, the original boiler and a west wing for receiving. The latter building was modified at various times in the 1970s, 1980s, 1990s and the most recent modification in 2004 completely encompassed the original plant with an all new building. Only two original walls are present on the interior. Other buildings are all *circa* 1990 or 2000 era Butler-type metal buildings. The development of the Project area will require the removal of all buildings that make up the existing rendering plant.

As indicated in Table CR-2 above, none of the archaeological features identified appear eligible for the California Register of Historical Resources, qualify as "unique archaeological resources" under Public Resources Code Section 21083.2, or meet the criteria of eligibility for the National Register of historic Places and are not considered historical resources or unique archeological resources as defined by CEQA. Proposed development within the North and upper West Planning Areas will have no effect on historical resources of an archaeological nature.

As always, with implementation of the Project, there remains a potential to encounter buried or as yet undiscovered resources during land clearing and construction work. Buried resources may consist of historic remains such as structural features (foundations, cellars, etc.) or buried trash deposits containing glass, ceramics and metal, or the resources may be of prehistoric origin containing chipped stone, shell, bone and other remains. If such subsurface resources are encountered, work should halt in the vicinity of the discovery until its significance can be evaluated by a professional archeologist. If during land clearing further surface resources such as historic trash scatters or prehistoric resources are encountered, work should halt in the vicinity of the find until the discovery can be evaluated by a professional archeologist. Mitigation is recommended below to ensure impacts remain *less than significant*.

For the remaining Planning Areas, there are no previously recorded historical resources; however, there are existing and former homesteads that have not been surveyed. Programmatically, mass grading associated with the proposed Project is *potentially significant*. Future environmental analysis, including a cultural resources inventory and pedestrian survey, will need to be completed prior to land development.

Mitigation is recommended below to ensure a cultural resources inventory and pedestrian survey are completed for the South and lower West Planning Areas.

Table CR-2: Identified Cultural Resources

Site Name or Number	Type of Cultural Resource	Property Type/Note	Year Built	Condition	Eligible for NR, CR, or Unique Resource under CEQA
P-34-2216; Site R-1	Archaeological	Foundations, Structure Pads, Privy and Landscaping	Turn of the 19 th century	Fair	No
P-34-2217; Site R-2	Archaeological	Fence Remnant	Unknown	Poor	No
P-34-2218; Site R-3	Archaeological	Earthen Dam	Unknown	Poor	No
P-34-2219; Site R-4	Archaeological	Trash Scatter	Unknown	Poor	No
P-34-2222; Site R-5	Archaeological	Earthen Dam	Unknown	Poor	No
P-34-2223; Site R-6	Archaeological	Earthen Dam	Unknown	Fair	No
P-34-2220; Site R-7	Archaeological	Trash Scatter, Fence Remnants and Pit	Unknown	Poor	No
P-34-1976; R-Isolate-1	Object	Pottery Fragment	n/a	n/a	No
P-34-2221; R-Isolate-2	Object	Aermotor Windmill w/ galvanized metal tower	Unknown	Modified extensively; appears modern.	No
P-34-2224; SRC Original Office	Building	SRC Original Office	1955		No
P-34-2225; SRC Watchman's House	Building	SRC Watchman's House	Circa 1940	Poor	No

MITIGATION MEASURES

CR-1: Unanticipated Discoveries of Cultural Resources

If subsurface deposits believed to be cultural or human in origin are discovered during construction, then all work must halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained at the Applicant's expense to evaluate the significance of the find. If it is determined due to the types of deposits discovered that a Native American monitor is required, the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites as established by the Native American Heritage Commission shall be followed, and the monitor shall be retained at the Applicant's expense.

Work cannot continue within the 200-foot radius of the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially eligible for listing on the National Register of Historic Places or California Register of Historical Resources.

If a potentially eligible resource is encountered, then the archaeologist and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations or total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the North Central Information Center (NCIC) as verification that the provisions of CEQA for managing unanticipated discoveries have been met.

In addition, pursuant to Section 5097.97 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

CR-2: Cultural Resources Inventory Report for the South and Lower West Planning Areas (APNs 067-0120-059, 060, 067; 067-0080-013 – 016, 025, 029, 030, 037, and 047)

Upon submittal of an application for General Plan Amendment, Specific Plan Amendment, Tentative Large Lot Map, Tentative Subdivision Map, or Rezone,

Cultural resources surveys will be required in areas not previously subject to intensive investigation. If ground disturbing activities are planned within or adjacent to the boundaries of any identified archaeological site, the following shall be required:

1. The site area will be inspected by a qualified professional archaeologist to assess the condition of the property and determine the current status of the deposit.

2. Based on this review and, as appropriate, a subsurface testing program will be developed and implemented to determine if the property meets criteria to be listed on the California Register of Historic Resources or the national Register of Historical Places. The course of the testing program ~~should~~ **shall** be clearly delineated in a research design which outlines prehistory of the area; research domains, questions, and data requirements; research methods inclusive of field and laboratory studies; report preparation; and significance criteria.
3. Following field investigations, a technical report describing the evaluation program ~~should~~ **shall** be prepared. At a minimum this report shall include the elements discussed in the research design, as well as a description of the recovered site assemblage and a significance evaluation. If, based on the results of the testing program, a site is not determined to be an important archaeological resource, then effects to it would have been reduced to less than significant.
4. If, based on the results of field investigations, resources were identified as being significant the following mitigation would apply:
 - a. Total Avoidance: Redesign the proposed project as to preserve and protect all significant cultural resources. This would reduce impacts to less than significant levels.

OR, if a redesign is determined infeasible by the Environmental Coordinator, then,

 - b. Data Recovery: After all design options have been exhausted that would result in the preservation of significant resources, institute a data recovery program to the satisfaction of the Environmental Coordinator.

IMPACTS: PREHISTORIC RESOURCES

The cultural resource inventories prepared for the majority of the Project site did not identify known prehistoric resources. However, this does not preclude the possibility of buried prehistoric archaeological materials or previously undiscovered surface resources within the Project area. In addition, a portion of the project area has not been surveyed and it is unknown whether or not there may be prehistoric resources. CEQA requires that lead agencies protect both known and unknown cultural resources. This is supported by County General Plan Policies CO-157 and 158. Therefore, mitigation is recommended to ensure that in the event that cultural resources are discovered during implementation phases that all work shall be halted until a qualified archaeologist may evaluate the resource encountered; or that a cultural resources survey is completed. With mitigation (see Mitigation Measure CR-1 and CR-2, above), environmental impacts to potentially sensitive cultural resources are considered *less than significant*.

IMPACT: HUMAN REMAINS

Section 5097.94 of the Public Resources Code and Section 7050 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. This is supported by County General Plan Policies CO-155. If human remains are encountered, work should halt in that vicinity and the County coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of such identification. In the event that a burial is discovered during implementation of the Project, strict adherence to mitigation as outlined in Mitigation Measure CR-1 (see above) would reduce this impact to *less than significant*.

9 GEOLOGY AND SOILS

INTRODUCTION

This chapter describes the geologic and soil setting of and around the Project area, including descriptions of potential geologic hazards and the presence of mineral resources. The impacts and analysis section of this chapter evaluates the effects of the proposed Project to geologic and soil resources as well as the effects of geologic and soil hazards to the Project.

ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

The present-day landscape of Sacramento County has been shaped over time by the ongoing processes of erosion and deposition. Material eroded from the ancestral Sierra Nevada, formed over 100 million years ago, was deposited onto the Sacramento Valley floor. Approximately 10 to 15 million years ago tectonic uplifts altered the geomorphology of the Sierra Nevada. Glaciation, volcanism, and erosion followed the uplifting, adding layers of sediment to the valley floor. Under the present geologic conditions, the alteration of the local geomorphology continues through stream erosion of the valley sediments and subsequent deposition in adjacent floodplains.

A "geomorphic province" is comprised of an area of similar geologic origin and erosional/depositional history. Sacramento County is situated in portions of two geomorphic provinces. By far the largest portion of the County, and the Project, lies in the Great Valley province. A small area in the eastern part of the County is in the Sierra Nevada province. The Great Valley province is further divided into four geomorphic subunits, as described below:

The Delta - The Delta, characterized by Holocene deposits, includes the low-Delta is arbitrarily fixed at the zero-elevation contour, which coincides with the contact between the organic and inorganic soils. Prior to human intervention, this region was dominated by tidal marshes that were traversed by meandering sloughs. Over time, however, the sloughs were altered and the marshes drained. Numerous islands have been created by the construction of a system of artificial levees.

River Floodplain - The river floodplain subunit consists of unconsolidated inorganic soils which were formed by the deposition of sediment when flood waters overtopped the natural levees of the County's rivers and major streams.

Alluvial Plain - To the east of the Sacramento River floodplain is an extensive area of former floodplain that has been highly dissected by subsequent stream

erosion. This geomorphic subunit is comprised of older, Quaternary, deposits. This area is underlain by soil which is characterized by layers of hardpan or dense, impervious clay.

Low Foothills - The low foothill area, located east of the alluvial plain, is typified by rolling, boulder-strewn topography and is underlain by moderately consolidated silts, sands, and clays of continental origin. The small area in the northeast part of the County within the Sierra Nevada geomorphic province consists of Pliocene and older deposits and is characterized by steep-sided hills and narrow, rocky stream channels. Stream patterns here are well established and are controlled principally by bedrock features.

The Project lies within the alluvial plain subunit.

GEOLOGICAL HAZARDS

SEISMIC HAZARDS

Geological literature indicates that active faults are largely considered those which have had movement within the last 11,000 years (within the Holocene or Historic time periods) and indicates that no major active faults transect the County; however, there is one known subsurface inactive fault in northern Sacramento County, and several subsurface faults in the Delta, some of which may have had movement but when that movement occurred is speculative. Also, a number of other fault systems lie to the east and west of Sacramento County which can be considered active and subject to possible seismic events.

California Geological Survey (CGS) (formerly the California Division of Mines and Geology) staff (W. Bryant) was consulted to obtain the most current seismic information in and around the Sacramento County Region. The closest known faults to the Project area are the Willows Fault and the Bear Mountain Fault.

The Willows Fault is located in the vicinity of Citrus Heights near Antelope Road and is presumably inactive. According to CGS staff, generalized geologic maps show the Willows Fault to be concealed by Pleistocene deposits and Harwood and Haley (1987) show this fault as pre-Quaternary (active 1.6 million years ago or longer). To the east of Sacramento County, the Bear Mountain fault zone trends northwest-southeast through Amador and El Dorado Counties. Where the Bear Mountain Fault lies closest to the Project site it is noted as pre-Quaternary. This fault is associated with the Foothills Fault system.

According to CGS staff, faults in the Foothills Fault system are largely characterized by very slow slip rates (generally less than 0.01mm/yr) and have long recurrence intervals. CGS staff further indicated that the Foothills Fault system east of Sacramento County have evidence of late Pleistocene to Holocene displacement and have the potential to produce infrequent, moderate magnitude earthquakes.

The Midland fault, buried under alluvium, extends north of Bethel Island in the Delta to east of Lake Berryessa. Studies by Webber-Band (1998) suggest that the Midland Fault offsets Pleistocene strata (1.6 million to 10,000 years old) and possibly even deforms basal peat deposits thought to be of Holocene age (10,000 to 200 years old); however, according to CGS staff, Holocene activity is unconfirmed. This fault is noted on the C.W. Jennings, Fault Activity Map of 1994 to be a pre-Quaternary fault (active 1.6 million years ago or longer). Although the timeframe of its most recent activity is speculative, this fault is considered capable of generating a near 6.6 (Richter Scale) earthquake. This figure is an assumption based on an 1892 earthquake measuring 6.6 on the Richter Scale with an epicenter possibly in the Midland Fault vicinity or along blind-thrust faults in the Coast Range, although the source of this earthquake is uncertain according to CGS staff.

Another delta fault is located further west of the Midland Fault. This fault is currently unnamed. It is concealed where it passes beneath the westernmost tip of Sacramento County, and may have been active within the past 11,000 years according to the C.W. Jennings Activity Map although, again, exact times of displacement are unknown. Oil and gas companies exploring the Delta area's energy potential have identified several subsurface faults, none of which show any recent surface rupture.

While Sacramento County has experienced relatively little seismic activity, faulting in neighboring regions, especially the San Francisco Bay area and the Sierra Nevada, suggests that the County could be affected by future ground motion originating elsewhere.

The Richter Magnitude Scale is used to quantify the magnitude or strength of the seismic energy released by an earthquake. The Modified Mercalli Intensity Scale (MMI Scale) is used to measure the intensity of groundshaking at a given site in response to an earthquake. The MMI Scale is useful in planning for seismic safety, as it translates the intensity of earthquake shaking into possible damaging effects on structures. Table GS-1 below shows the relationship of an earthquake's magnitude and intensity as well as describes the related intensity.

Table GS-1: Relationships Between Earthquake Magnitude and Intensity

Magnitude	Intensity (MMI)	Description
1.0 – 2.9	I	I. Not felt except by a very few under conditions especially susceptible to seismic events.
3.0 – 3.9	II – III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.

Magnitude	Intensity (MMI)	Description
4.0 – 4.9	IV – V	<p>IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.</p> <p>V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.</p>
5.0 – 5.9	VI – VII	<p>VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.</p> <p>VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.</p>
6.0 – 6.9	VIII – IX	<p>VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.</p> <p>IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.</p>
7.0 and higher	X and higher	<p>X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.</p> <p>XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.</p> <p>XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.</p>
Source: California Geological Survey http://earthquake.usgs.gov/learning/topics/mercalli.php .		

The intensity of ground shaking and its potential impact on structures is determined by the physical characteristics of the underlying soil and rock, building materials and workmanship; earthquake magnitude; location of the epicenter; and the character and duration of ground motion. Much of the County is located on alluvium which increases the amplitude of the earthquake wave. Ground motion lasts longer and waves are

amplified on loose, water-saturated materials as compared with solid rock. As a result, structures located on alluvium typically suffer greater damage than those located on solid rock.

The CGS has prepared a map of the State which shows the earthquake shaking potential of areas throughout California based primarily on an area's distance from known active faults. The map shows the east and central portions of the County in a relatively low intensity groundshaking zone, while the westernmost portion of the County is in a relatively moderate groundshaking zone (See Plate GS-1). The Project is located in an area which is noted to have some of the lowest groundshaking potential in the State.

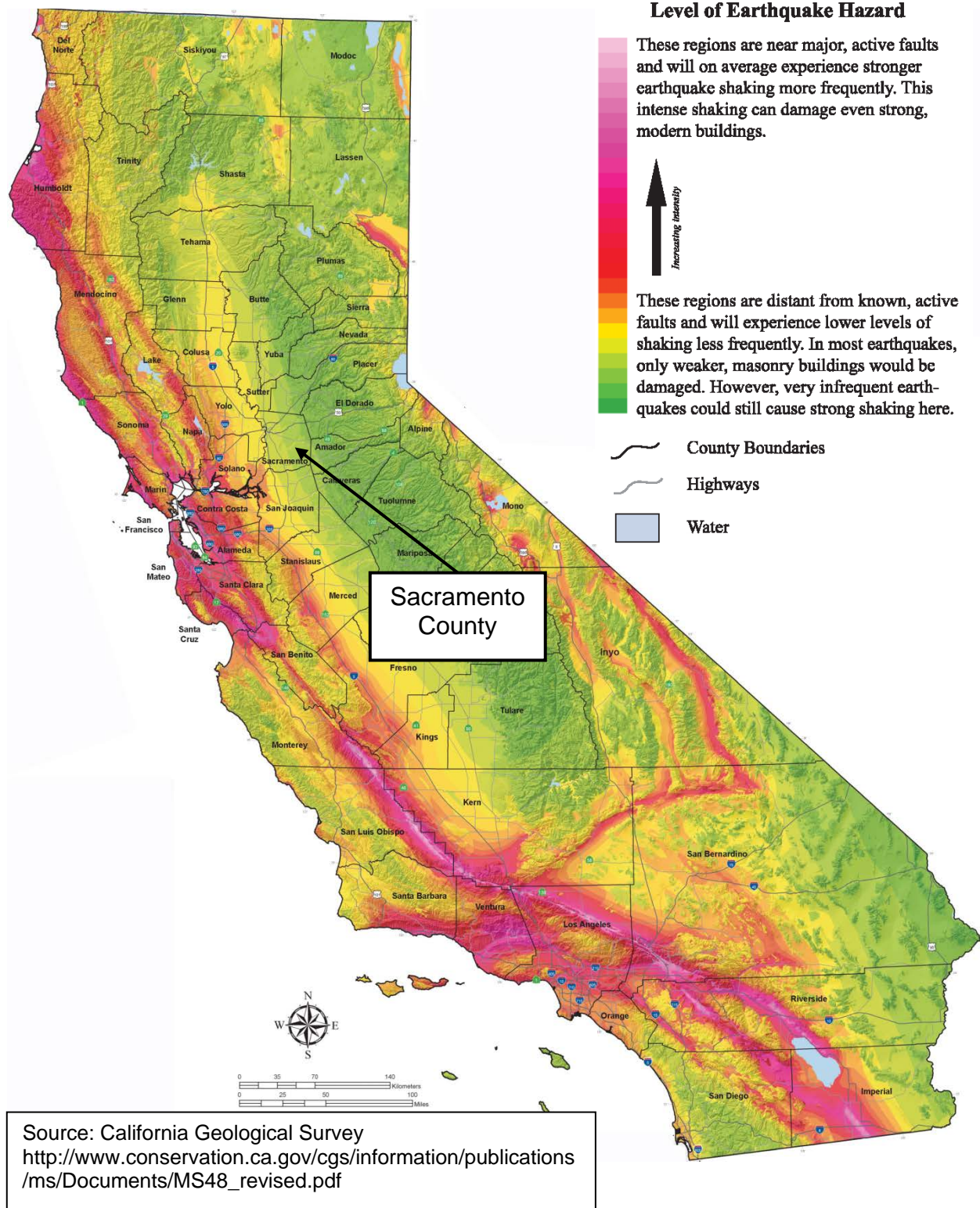
LIQUEFACTION

Sacramento County has two areas that have been suggested as posing potential liquefaction problems - the downtown area and the Delta. Liquefaction is a process whereby the strength and stiffness of a soil is reduced by earthquake shaking or rapid cyclic loading. Liquefaction occurs in saturated, typically cohesionless soils. Earthquake shaking can cause the pore water pressure to increase to a point where the strength of the soil decreases and the ability of a soil deposit to support foundations for buildings and bridges is significantly reduced. A geological and seismological study in 1972 for a downtown building site concluded that potential liquefaction problems may exist throughout the downtown area where loose sands and silts are present below the groundwater table. Liquefaction may also pose a serious threat to levees in the Delta. Levee failure, depending on the extent, could have adverse effects on agriculture, natural gas supply, fisheries, and lead to salt water intrusion from the San Francisco Bay as well as property value declines and safety hazards.

SOILS AND HAZARDS

The soils of Sacramento County can be separated into three general classifications based on geographic factors: Delta soils, flood basin soils, and bench soils. The dark soils of the Delta area are primarily fertile peat comprised of slow-to-decay organic matter. The geologically recent flood basin soils, rich with organic and mineral compounds, are alluvium formed by historic and ancient flood deposits from swollen rivers overflowing into adjacent floodplains. Lastly, the bench soils, elevated above the spreading basins, are river terraces. Due to erosion and leaching, these soils lack the high percentage of organic material found in the Delta and flood basin soils, and are the soils prevalent on the Project site.

Plate GS-1: Earthquake Shaking Potential for California



Soils in Sacramento County can be divided into 16 broad landscape classifications, or groups (see Plate GS-2); the Project soils are within groups 13 and 15. These groups are landscapes that have distinctive patterns of soils, relief, and drainage. Normally a soil association consists of one or more major soils and at least one minor soil. Groups 13 and 15 are described below.

Unit 13: Urban land-xerarents-fiddyment. These soils are generally located north of Highway 50 and east of Carmichael, just to the east of more recent flood deposited soils. However, a small pocket of this soil unit overlap the southeast corner of the proposed Project. They are adjacent and east of These soils are generally either urban land and/or well drained soils that are moderately deep to very deep over consolidated sediments or are moderately deep over a cemented hardpan.

Unit 15: Redding-Corning-Red Bluff. These soils are generally south of Highway 50 and east of the Wilton community. They are generally east of the more recent flood deposited soils. They soils are moderately well drained soils that are deep over a cemented hardpan, and well drained and moderately well drained soils that are very deep.

SUBSIDENCE

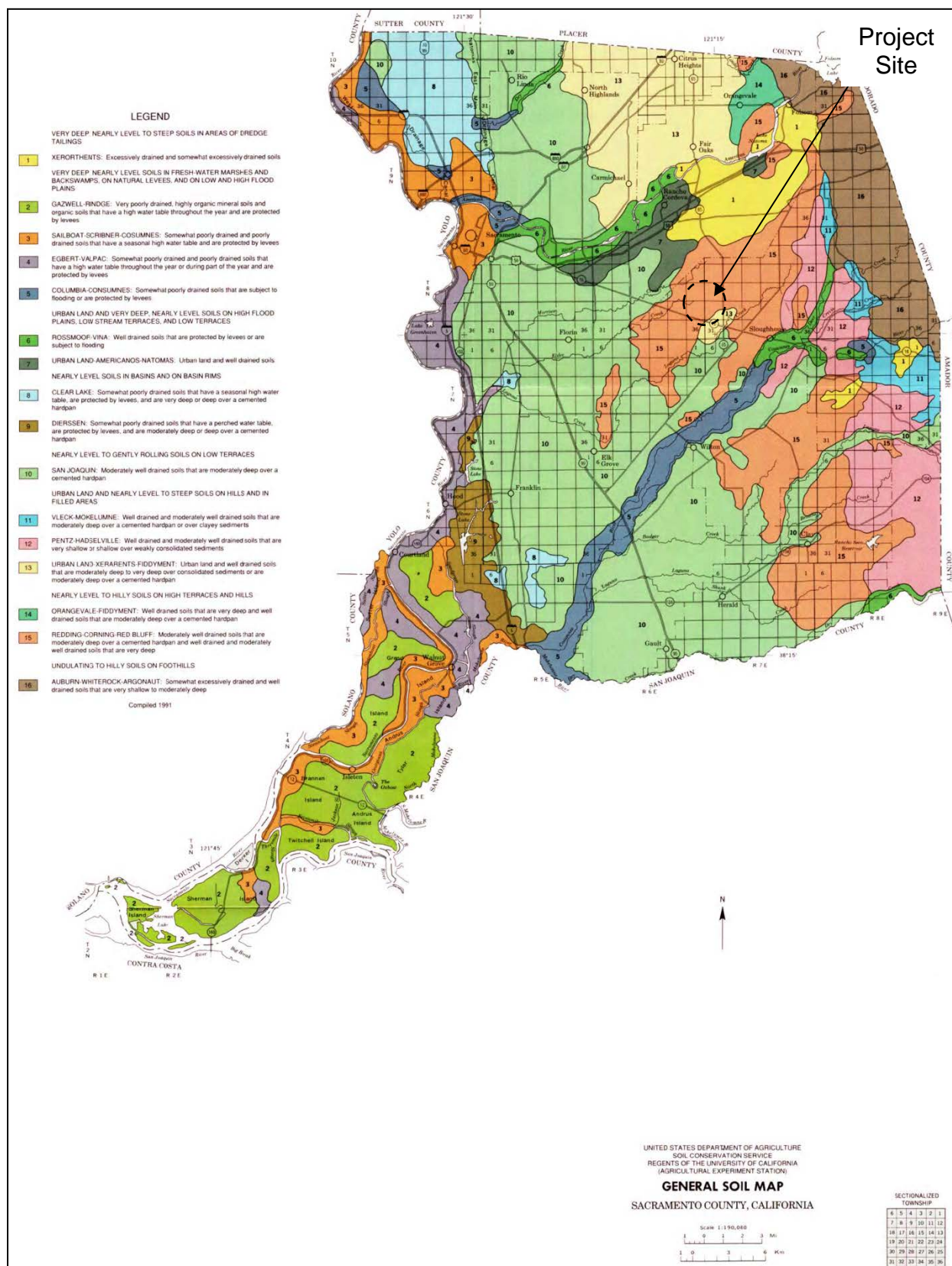
Subsidence is the gradual settling or sinking of the earth's surface with little or no horizontal motion. Sacramento County is affected by five types of subsidence. They are: compaction of unconsolidated soils by earthquake shaking, compaction by heavy structures, the erosion of peat soils, peat oxidation, and fluid withdrawal. The pumping of water for residential, commercial and agricultural uses from subsurface aquifers causes the greatest amount of subsidence in Sacramento County.

Subsidence has created major problems for flood control, particularly in the Delta. As levees sink under their own weight and are weakened by the erosive force of water, expensive periodic rebuilding is necessary. It is estimated that the Sacramento-San Joaquin Delta is subsiding at a rate of just over three inches per year. Many islands in the Delta that, at one time, were at or above sea level are now below sea level.

EXPANSIVE SOILS

Expansive soils represent approximately one third of all soil types in Sacramento County. These soils are largely comprised of clays, which greatly increase in volume when water is absorbed and shrink when dried. Expansive soils are of concern because building foundations may rise during the rainy season and fall during the dry season in response to the clay's action. If movement varies under different parts of the building, the result is that foundations crack, structural portions of the building are distorted, and doors and windows are warped so that they do not function properly.

Plate GS-2: General Soils Map



LANDSLIDES

Landslide is a general term used for a falling mass of soil and rock. The topography of the majority of Sacramento County is relatively flat and not subject to landslide. In Sacramento County, only a narrow strip along the eastern boundary, from the Placer County line to the Cosumnes River, is considered to have landslide potential. However, future slides on these slopes are expected to be minor in nature and do not pose a large scale threat to life or property. The American River Bluffs downstream from Folsom and in Fair Oaks and Carmichael are considered stable and are generally not subject to fracture or landslides.

EROSION

Erosion is a natural geological process by which landforms are worn down or reshaped by wind and water and the eroded material is deposited elsewhere. While natural erosion of undisturbed areas occurs in Sacramento County, it does not appear to pose a significant hazard to property. The principal area of erosion is along portions of the American River bluffs.

Erosion from agriculture seems to pose little problem in most of the County. The central and western portions of the County are fairly level and very little erosion takes place in these areas unless poor farming practices leave large areas of soil exposed and dry and subject to wind erosion.

There is a greater potential for erosion in the eastern foothills of the County, but extensive grass cover protects most of the vulnerable soils. Also, there is little agricultural activity, with the exception of grazing, in this area because the soils are generally of poor quality. The grasses, therefore, remain undisturbed unless a fire or some other event exposes the soil.

Perhaps the highest potential for erosion to occur is as a result of construction activity, where soils may be exposed for some length of time. However, Sacramento County, through Grading and Drainage Ordinances, provides measures to limit or restrict construction practices which might cause erosion, create a nuisance, constitute a hazard, or obstruct waterways. Permits issued under these ordinances ensure that Projects avoid potentially significant erosion hazards.

NATURALLY OCCURRING ASBESTOS

Asbestos is a naturally occurring, fibrous silicate mineral mined for its useful properties, such as thermal insulation, chemical and thermal stability, and high tensile strength (greater resistance to longitudinal stress before rupturing). The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Serpentine may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentine, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentine and/or ultramafic rock. However, the information available at this time is insufficient to allow such occurrences to be mapped on a statewide basis.

Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986. Asbestos poses a health risk only when it becomes friable, such as through disturbance or damage. Once airborne, asbestos fibers may be inhaled into the lungs where they can cause serious health problems (US EPA, 2008). All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos is commonly used as an acoustic insulator and in thermal insulation (fire proofing and other building materials). Serpentine and ultramafic rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities.

The EPA issued a final rule banning most asbestos-containing products in July 1989; however, this regulation was overturned in 1991 by the Fifth Circuit Court of Appeals in New Orleans. The Courts ruled that the EPA ban shall remain for specific asbestos-containing products. These banned products are flooring felt; rollboard; and corrugated, commercial, or specialty paper. The regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as "new uses" of asbestos.

Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects and at quarry operations (broken or crushed serpentine and ultramafic rocks). All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) has determined that Naturally Occurring Asbestos (NOA) is present within areas of eastern Sacramento County. SMAQMD commissioned the California Department of Conservation Geologic Survey to test for and map all areas of potential NOA within Sacramento County. The map depicts areas within Sacramento County relative to their potential to contain NOA (see Plate GS-3, which shows the location of the Project site). The map is divided up into the following three classifications:

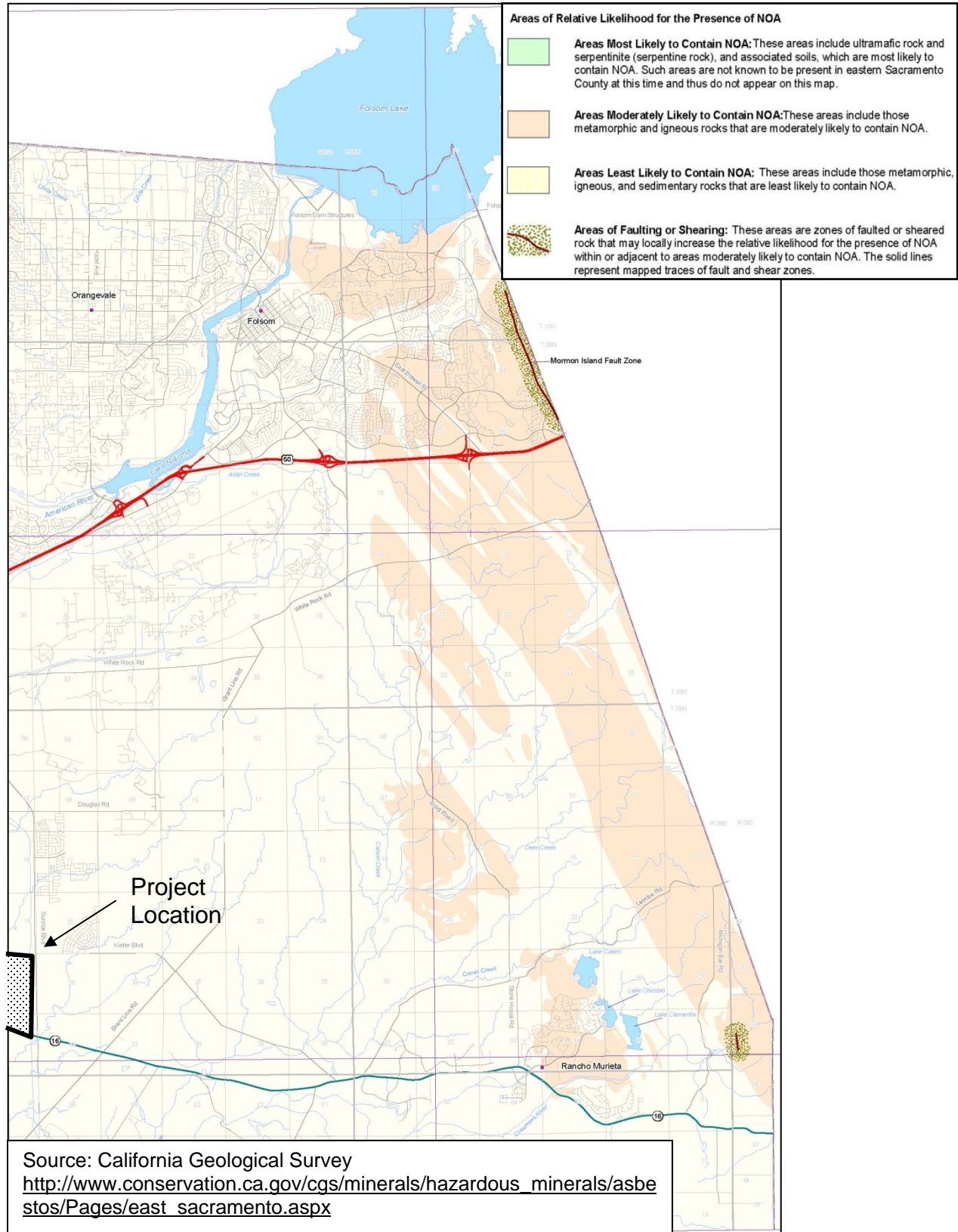
- Areas Most Likely to Contain NOA: These areas include ultramafic rock and serpentine (serpentine rock), and associated soils, which are most likely to contain NOA. Such areas are not known to be present in eastern Sacramento County at this time, and thus do not appear on this map.
- Areas Moderately Likely to Contain NOA: These areas include those metamorphic and igneous rocks that are moderately likely to contain NOA.
- Areas Least Likely to Contain NOA: These areas include those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA.

The other area shown on this map is areas of faulting or shearing. These areas are zones of faulted or sheared rock that may locally increase the relative likelihood for the presence of NOA within or adjacent to areas moderately likely to contain NOA. The solid lines represent mapped traces of fault and shear zones. The SMAQMD Air Pollution Control Officer (APCO) has determined that properties located partially or totally within the "Moderately Likely to Contain NOA" are subject to the requirements of Section 93105, *Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations* of the California Code of regulations (SMAQMD, 2006). Sacramento Air Quality Management District (SMAQMD) has regulatory authority of NOA.

In areas where NOA is located, the ATCM establishes particular controls related to testing, engineering and notification prior to construction related activities. Projects located in these areas are required to submit a "Dust Mitigation Plan" which needs to be approved by SMAQMD prior to the start of the Project. A property may be exempt from the requirements of the ATCM if no asbestos is found in concentrations greater than or equal to 0.25% through a geologic evaluation performed by a registered geologist.

The unincorporated areas in eastern Sacramento County with a moderate likelihood for the presence of NOA include portions of Rancho Murieta and areas south of US 50 in the City of Folsom's Sphere of Influence. The Project site is rated as least likely to contain NOA.

Plate GS-3: Naturally Occurring Asbestos Map



MINERAL RESOURCES

Mineral resources in Sacramento County include sand, gravel, clay, gold, silver, peat, topsoil, lignite, natural gas and petroleum (Plate GS-4). The principal resources which are in production are aggregate (sand and gravel) and natural gas. Resource conservation issues associated with natural gas production and the lesser minerals are not currently considered vital within Sacramento County and conservation issues related to mineral resources focus primarily on aggregate production. The southeastern corner of the Project is identified as overlapping a significant mineral deposit. In this case that deposit is aggregate which is currently being extracted by Triangle Rock.

The Surface Mining and Reclamation Act (SMARA) of 1975 requires the State Geologist to classify land into Mineral Resource Zones (MRZ's) based on the known or inferred mineral resource potential of that land. The classification process is based solely on geology, without regard to existing land use or land ownership. The purpose is to help ensure that the mineral resource potential of lands is recognized and considered in the land use planning process. Plate GS-5 below depicts the MRZ's on the Project site (MRZ-1 and MRZ-2). SMARA also requires that Sacramento County incorporate that information and develop policies in the General Plan that are related to mineral resource preservation. A 1988 special report (*"Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Sacramento-Fairfield Production Consumption Report"*, Dupras 1988) was the source of much of the mineral resource information in the current General Plan.

A portion of the aggregate area shown overlapping the Project site in Plate GS-4 is owned by Triangle Rock Products, Inc. The area south of Jackson Road is currently being mined while the area north of Jackson Road is within the Project site and the property owner, Triangle Rock, anticipates developing the property instead of extracting aggregates. The most recent environmental analysis of the Triangle Rock aggregate mine was done in a Final Supplemental EIR, released in November 2002 (Control No. 01-0107). A new planning application is in process to add a 152 acre site to mine to the southwest of the current mine (Control No. PLNP2017-00243). Mining of the site south of Jackson Road is being conducted in 12 phases, and aggregate reserves at the mine site are predicted to last through 2030. Choosing to develop urban uses north of Jackson Road removes future options for mining aggregate identified by the MRZ-2 designation. Four parcels directly west of Eagles Nest Road combine to form the 137-acre Triangle Rock Mitigation Site, which was established to mitigate impacts to vernal pools resulting from the Triangle Rock aggregate mine.

Plate GS-4: Mineral Resources Map

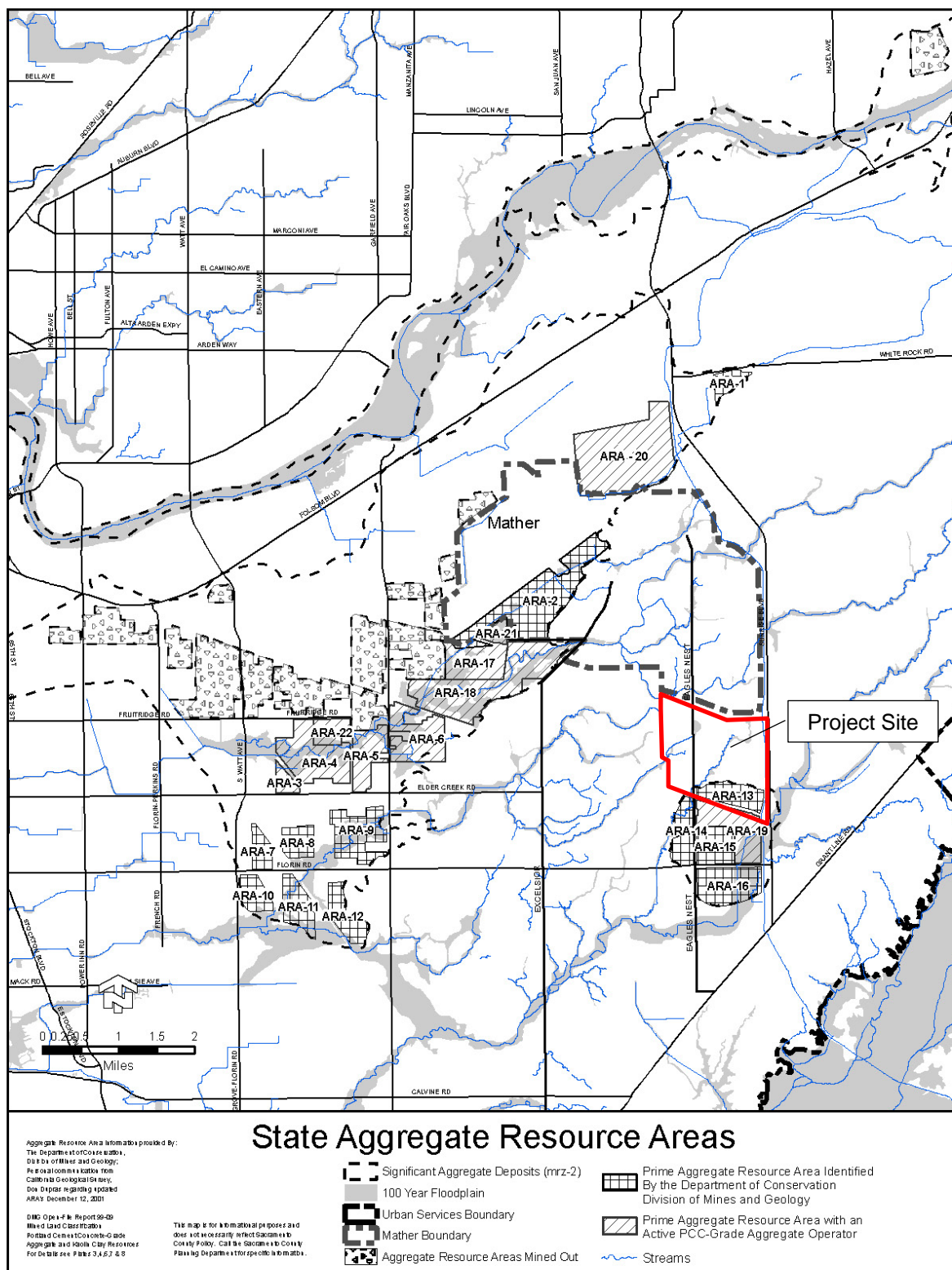
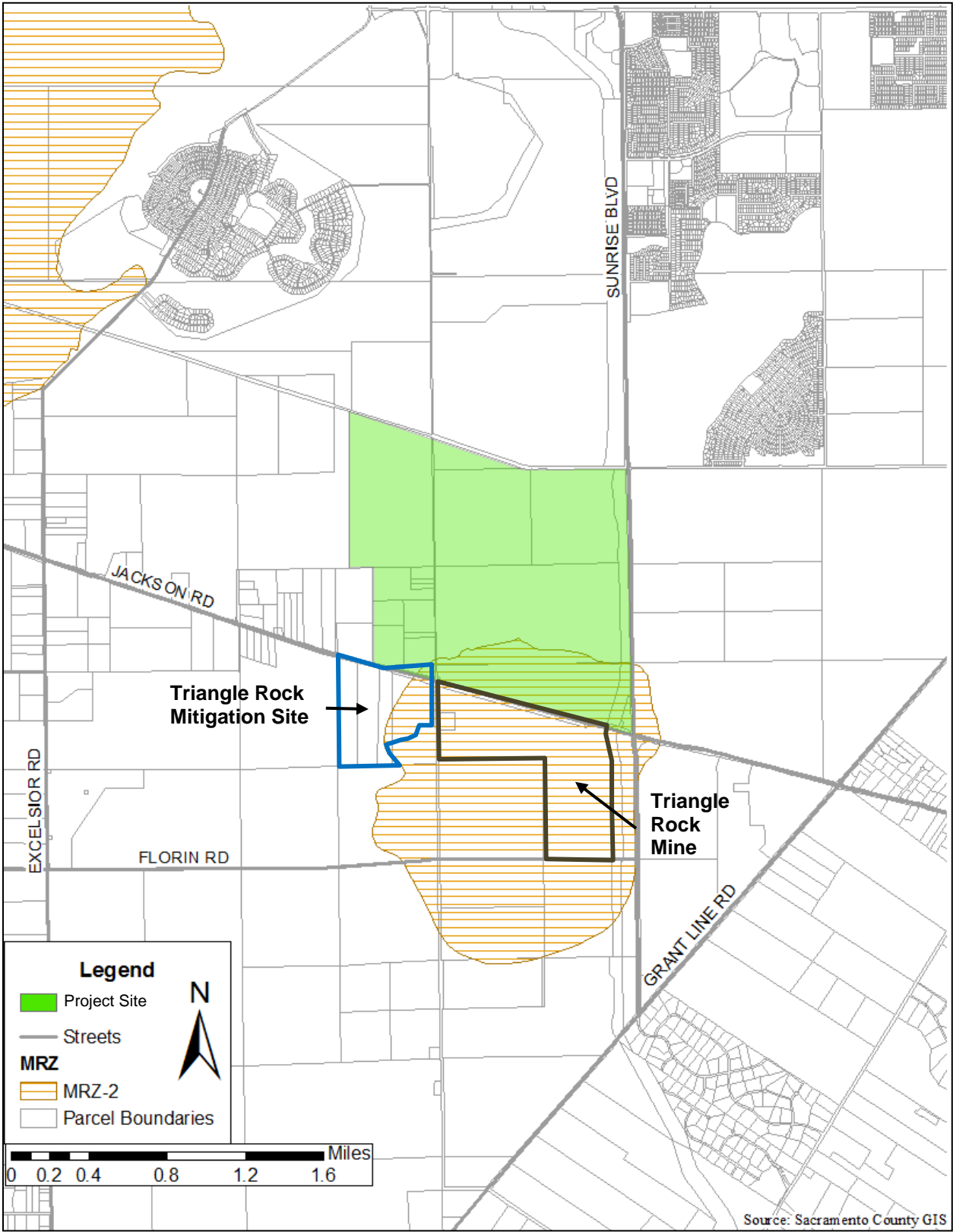


Plate GS-5: Project Area and Sacramento County MRZ Zones



MRZs are divided into six categories. The categories for establishing MRZs are as follows:

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.
- MRZ-2a: Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
- MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are significant inferred resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration work could result in upgrading areas classified MRZ-2b to MRZ-2a.
- MRZ-3a: Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration work within these areas could result in the reclassification of specific localities into MRZ-2a or MRZ-2b categories. MRZ-3 is divided on the basis of knowledge of economic characteristics of the resource.
- MRZ-3b: Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.
- MRZ-4: Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

As shown in the MRZ definitions above, MRZ-2a and MRZ-2b are the areas containing substantial aggregate resources. These areas contain geologic evidence which indicate that valuable resources are available and are of primary concern.

In 2001, the California Division of Mines and Geology submitted to the County of Sacramento Open File Report 99-09 titled "*Mineral Land Classification: Portland Cement Concrete-Grade Aggregate and Kaolin Clay Resources in Sacramento County*", which provides updated information on mineral resources in Sacramento County. This report presents updated maps of State-designated Aggregate Resource Areas (ARA) for the County to utilize for land use planning and conservation. In all, 22 ARAs are

designated as available land in Open File Report 99-09, in which a small portion of ARA 13 is located within the Project area.

The County subsequently adopted several amendments to the General Plan to incorporate the updated mineral resources information, though some changes were made to the State's ARAs through a County project entitled (*Mineral Resource-Related General Plan Amendments*, Control No. 2002-0104) in order to account for existing local land use conflicts. The County resource areas are known as Mineral Resource Areas (MRAs) which delineate the locations of high quality, available aggregate resources in Sacramento County, when considering land use conflicts. A small portion is within the Project area, north of Jackson Road.

REGULATORY SETTING

FEDERAL

Development within the State of California is required to at least adhere to the provisions of the Uniform Building Code (UBC). The UBC sets forth minimum standards related to development, seismic design, building siting and grading. Local jurisdictions typically adopt standards that are as stringent, if not more stringent than those of the UBC. California has adopted the UBC but has amended it to better meet the need of the specific conditions of California.

STATE GUIDELINES

The 1972 Alquist-Priolo Earthquake Fault Zoning Act regulates development near active faults to mitigate the hazard of surface fault rupture. Under this Act, the State Geologist is required to delineate earthquake fault zones along known active faults in California. Cities and counties affected by these zones must regulate certain developments within these zones, and withhold development permits for sites until geologic investigations demonstrate that they are not threatened by surface displacements from future faulting. For the purposes of this act, an active fault is defined as a fault that has "had surface displacement within Holocene time" (about the last 11,000 years). Sacramento County is not affected by Earthquake Fault Zones.

The Seismic Hazards Mapping Act of 1990 requires the State Geologist to delineate liquefaction and earthquake-induced landslide hazard zones in the state. Cities and counties affected by these hazard zones must regulate certain developments within these zones, and withhold development permits for sites until geologic investigations demonstrate they are not threatened by liquefaction, earthquake, or induced landsliding during future earthquakes. Sacramento County is located outside of the Seismic Hazard Mapping Zones, although according to the CGS, the county has not yet been evaluated for possible inclusion in a Seismic Hazard Zone.

The California Uniform Building Code (CBC) contains the minimum standards for design and construction in California. All development in California is subject to the regulations

of the CBC. Local standards other than the code may be adopted if those standards more strict. Some design considerations associated with seismic hazards need to address the appropriate building codes for a particular site. The code adopts all the standards associated with seismic engineering detailed in the Uniform Building Code of 1997. The 2007 California Building Code is adopted and incorporated into Title 16 of the Sacramento County Code and all construction, alteration, moving, demolition, repair and use of any building or structure within Sacramento County shall be made in conformance with the CBC.

The California Air Resources Board (ARB) has adopted an Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (17 CCR 93105). The Sacramento Metropolitan Air Quality Management District (SMAQMD) has mapped areas of serpentine and ultramafic rock in eastern Sacramento County and determined that these areas are subject to the ATCM (SMAQMD 2006b).

LOCAL GUIDELINES

LAND GRADING AND EROSION CONTROL

The Project will be required to comply with the Sacramento County Land Grading and Erosion Control Ordinance (Sacramento County Code Ch. 16.44). The ordinance was established to minimize damage to surrounding properties and public rights-of-way; limit degradation to the water quality of watercourses; and curb the disruption of drainage system flow caused by the activities of clearing, grubbing, grading, filling, and excavating land. The ordinance establishes administrative procedures, minimum standards of review, and implementation and enforcement procedures for the control of erosion and sedimentation that are directly related to land grading activities.

SACRAMENTO COUNTY GENERAL PLAN

The General Plan contains goals and policies related to seismic and geologic hazards, and to conservation of soils. Applicable goals and objectives include maintaining a high level of public health and safety for all residents of Sacramento County while minimizing the loss of life, injury, and property damage due to seismic and geological hazards. The following policies are applicable.

SA-1. The County shall require geotechnical reports and impose the appropriate mitigation measures for new development located in seismic and geologically sensitive areas.

AG-28. The County shall actively encourage conservation of soil resources.

SIGNIFICANCE CRITERIA

Sacramento County considers impacts to geology, soils, and seismic areas of concern to be significant if a project would:

1. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:
 - a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist of the area or based on other substantial evidence of a known fault
 - b. Strong seismic ground shaking
 - c. Seismic-related ground failure, including liquefaction
 - d. Landslides
 - e. Unsafe exposure to naturally occurring asbestos
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geological 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.
4. Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.
5. Result in obstruction of access to, and removal of, mineral resources. In particular for aggregate resources, removal or disruption of mineral resources delineated on a local general plan, specific plan, or other land use plan.

Sacramento County is not within a known Alquist-Priolo Earthquake Fault Zone, thus, significance criteria 1.a – c does not apply. Though there is topographical variation on the site, there are no major bluffs or other features that would make the Project susceptible to damage related to landslides; significance criteria 1d does not apply. None of the soils present on the site, as described in *The Soil Survey of Sacramento County, California*, are listed as unstable; significance criteria 3 does not apply.

METHODOLOGY

In general, the geotechnical characteristics of the Project area determine the potential for structural and safety hazards as well as mineral resource impacts that could occur with development related to the proposed Project. Existing conditions data was summarized from the previously identified documents and resources as well as the November 2008 geotechnical report prepared by Wallace Kuhl and Associates Inc. (Wallace Kuhl) which is available for review at the Office of Planning and Environmental Review or online. The Wallace Kuhl report evaluates the property owned by East Sacramento Ranch LLC (North and upper West Planning Areas) and does not include the Triangle Rock-owned property north of Jackson Road or the agricultural-residential parcels west of Eagles Nest Road and north of Jackson Road (South and Lower West Planning Areas). However, soils and geological characteristics are regional and the

information can be used broadly to adequately analyze impacts for the entire Project area.

The Project is analyzed in terms of its consistency with Sacramento County General Plan policies and potential for geologic or soils-related hazards to people and property in the Project area as well as potential for mineral resource impacts. It should be noted that soil resources generally pertain to the agricultural suitability of the soil; Project issues related to the agricultural suitability of the site are addressed in the Agricultural Resources chapter of this EIR.

IMPACTS AND ANALYSIS

The NewBridge Specific Plan Project is located on approximately 1,095 acres in southeastern Sacramento County, adjacent to the western city limits of Rancho Cordova. The Project is predominantly residential and includes a mix of residential uses from low to high density. Pockets of commercial and/or mixed use are along both Kiefer Boulevard and Jackson Road. Open space is identified along Frye Creek and the Folsom South Canal, which contains an existing trail.

IMPACT: SOIL EROSION

Erosion is a natural process that occurs when wind and water reshape or wear down landforms and the eroded materials are deposited in another location. The erosion of soil can be accelerated when existing groundcover is removed from the surface of the ground such as during grading or clearing activities which expose underlying soil to erosional forces. The most likely potential for erosion to occur is as a result of construction activity where soils may be exposed for some length of time.

According to the NCRS web soil survey, there are 10 different soil units within the Project area (refer to Plate GS-6). *The Soil Survey of Sacramento County, California*, (1993) issued by the USDA Soil Conservation Service indicates these soils range in depth from very deep to very shallow and that the hazard of erosion potential for these soils range from slight to severe. Implementation of the proposed Project may allow for development that could result in increased soil erosion.

The Project will be required to comply with the Sacramento County Land Grading and Erosion Control Ordinance (Sacramento County Code Ch. 16.44). The ordinance was established to minimize damage to surrounding properties and public rights-of-way; limit degradation to the water quality of watercourses; and curb the disruption of drainage system flow caused by the activities of clearing, grubbing, grading, filling, and excavating land. The ordinance establishes administrative procedures, minimum standards of review, and implementation and enforcement procedures for the control of erosion and sedimentation that are directly related to land grading activities. Also refer to the Hydrology and Water Quality chapter for further discussion.

Because development projects are already subject to the County Land Grading and Erosion Control Ordinance and the State Water Resources Control Board stormwater permitting requirements, any development related to the proposed Project will be subject to erosion and sediment control measures as a matter of course. As such, the Project will not result in substantial soil erosion or the loss of topsoil and impacts to soil resources are considered to be *less than significant*.

MITIGATION MEASURES:

None required.

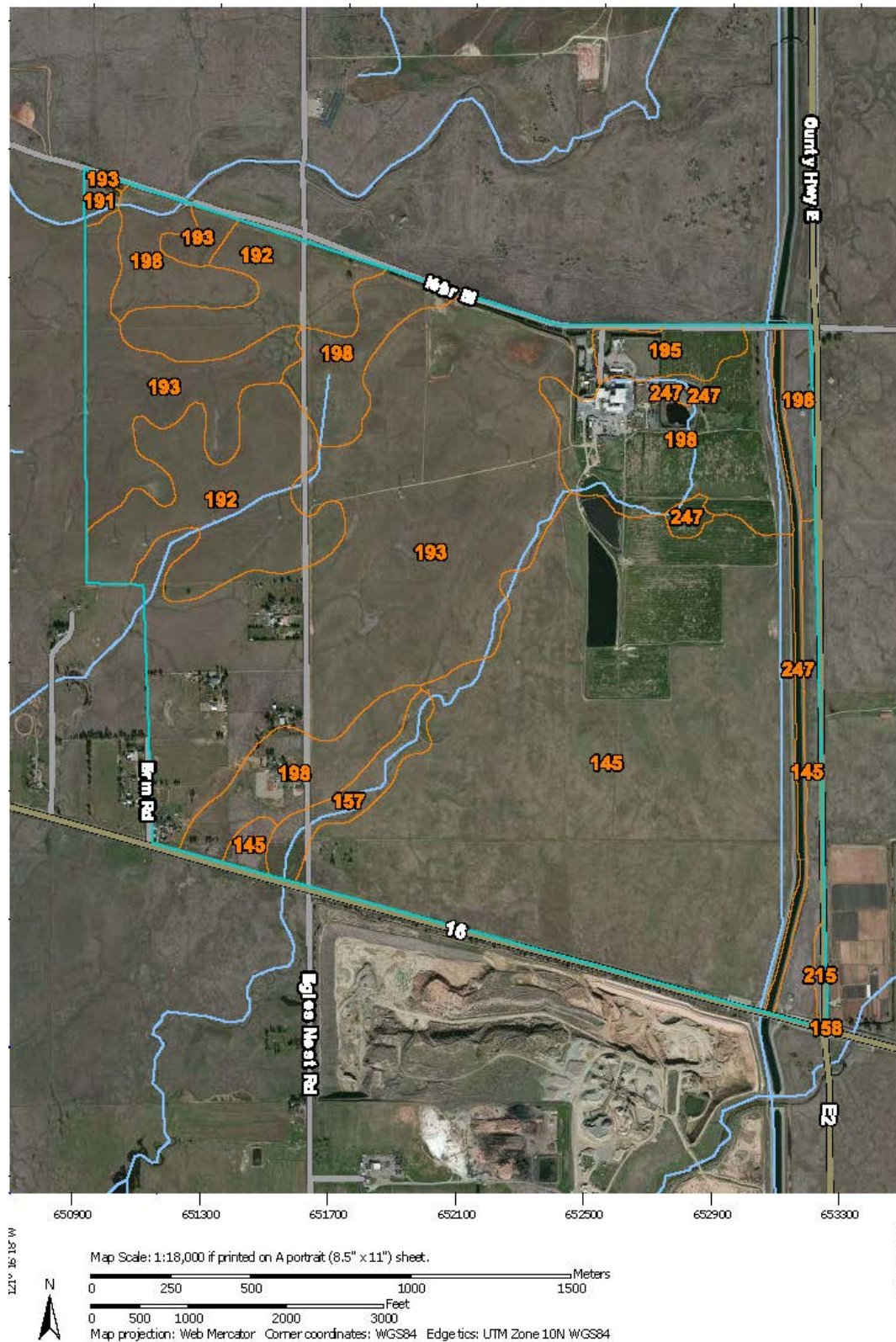
IMPACT: EXPOSURE TO EXPANSIVE SOILS

Consistent with Policy SA-1, a geotechnical report was prepared by Wallace Kuhl for the portion of the Project site owned by East Sacramento Ranch, LLC. The report tested three data points with different soil classifications (#145, 192, and 193). These soil classification extend into the South and lower West Planning Areas. According to the report, the Project site contains soils with low to moderate expansive properties when tested in accordance with ASTM D4829 test method. *The Soil Survey of Sacramento County, California* indicates that the majority of the soils in the Project area have either a moderate or high shrink-swell potential at various depths, depending on the soil.

Development related to the proposed Project may result in the addition of new structures and roadways located in areas containing expansive soils that have the ability to cause structural damage to both foundations and roads. To address this, the construction permitting process within Sacramento County requires completed geotechnical reports for development located within areas known to contain expansive soils; the purpose of this is to identify potential hazards that may impact a project as well as measures to eliminate the hazardous soil conditions. Measures related to eliminating potential hazards of expansive soils can include: the deepening of footings and increased reinforcement within footings; the excavation of silts and clays to a suitable depth, the replacement of these materials with engineered fill and compacted granular fill material, or the mixing of onsite soils to achieve a consistent soil composition. This effectively removes expansive soils from a project area, or ensures that any expansion and contraction under the foundation is evenly distributed. In addition, structural design must conform to the criteria detailed in the UBC and CBC (Chapters 16, 18, 33 and the Appendix to Chapter 33). The codes and policies are part of the existing regulatory framework of the County and reliance on them is assumed for any new development related to the proposed Project.

Any Project-related development will need to adhere to the existing UBC and CBC, which will ensure the maximum necessary protection available for development within areas known to contain expansive soils, and will avoid substantial risk to life and property; impacts are *less than significant*.

Plate GS-6: Soils within the Project Area



Note: The numbers shown on the map are the individual soil classifications. Reference the geotechnical report for details.

MITIGATION MEASURES:

None required.

IMPACT: EXPOSURE TO NATURALLY OCCURRING ASBESTOS

The Project area is located approximately 2,000 feet west of locations known as “Areas Moderately Likely to Contain NOA” based on the data provided in Special Report 192- Relative Likelihood for the Presence of Naturally Occurring Asbestos in Sacramento County, published by the California Geologic Survey. According to the Wallace Kuhl report, soil testing performed for the Project site revealed no ultramafic rocks, serpentine, or obvious evidence of NOA. Given that the Project site is not mapped for NOA presence and that soil testing found no obvious evidence of NOA on the site, Project impacts related to unsafe exposure to naturally occurring asbestos are *less than significant*.

MITIGATION MEASURES:

None required.

IMPACT: OBSTRUCTION OF ACCESS TO MINERAL RESOURCES

As noted above, mineral resources in Sacramento County have been classified in a number of ways over the years, including as MRZs, ARAs, and MRAs. Although the MRZs (broad categories that take into account only geological factors) indicate that much of the County lies over mineral resources ranging from areas with “known mineral occurrences of undetermined mineral resource significance” to “areas underlain by mineral deposits where geologic data indicate that significant measured resources are present,” only a relatively small portion of the county lies over known high-quality mineral resources that are available for extraction. These areas, which reflect the most recent mineral resource classification for the County, are the ARA’s (MRZ-2a or 2b and available for extraction).

The ARA’s are primarily located south and southwest of Mather Airport, though there are newly designated areas to the northeast as well. The aggregate resources of primary concern are largely located outside of the Project area; however, the southern portion of the Project area contains aggregate resources identified as ARA 13. This area is owned by Triangle Rock Products, Inc. and the mine operators intend to develop the area rather than extract the known mineral resources. The Project will result in the placement of urban structures over approximately 116 acres of known significant aggregate value. While this will obstruct access to these aggregate resources in the future, it is a very small portion of the larger aggregate area currently being mined south of Jackson Highway. Triangle Rock Products, Inc. as noted above, is actively mining the aggregate resources immediately south of Jackson Highway. Regionally, impacts to mineral resources are *less than significant*.

MITIGATION MEASURES:

None required.

IMPACT: EXPOSURE TO GEOLOGICAL HAZARDS OR UNSTABLE SOILS

SEISMICITY AND GROUND SHAKING

Ground shaking occurs as a result of significant amounts of energy that are released due to seismic events. Sacramento County is less affected by seismic events than other portions of the State of California. Sacramento County does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone nor are there any mapped seismic hazard zones within the County. Active faulting has not been mapped as occurring across or immediately adjacent to the County, and surface rupture due to faulting is not expected to occur unless some unknown fault is to rupture.

The majority of Sacramento County and the entire Project site have some of the lowest seismic potential in California. Nevertheless, some property damage has occurred in the County in the past due to seismic activity along faults in nearby counties. The damage that was experienced has largely been the result of major seismic events occurring in adjacent areas, especially the San Francisco Bay area and, to a lesser extent, the foothills of the Sierra.

Tectonically, the Project area is situated in between faults in Northern California and Nevada. Although the Willows fault is the nearest fault to the Project area, this fault is not considered active or capable of rupturing to the ground surface, nor is it considered in current ground motion estimates. The nearest known active fault that has been mapped on the C.W Jennings Fault Activity Map (see simplified version in Plate GS-7) is the Dunnigan Hills Fault located approximately 46 miles to the northwest of the site, although according to the CGS staff, evidence of Holocene displacement is questionable.

Although no active faults are known within Sacramento County, the region has undergone numerous instances of ground shaking caused by the surrounding faults. Peak horizontal ground acceleration values associated with characteristic earthquake events of faults can be used to assess probabilistic ground-shaking characteristics of a given region. The amount of shaking is often expressed in terms of "Peak Ground Acceleration," measured in percent of "g," the acceleration of gravity (approximately 9.80 meters per second per second). Although groundshaking may occur, a review of current information provided on the Department of Conservation website indicates that the peak horizontal ground acceleration within the Project area as well as the majority of Sacramento County, is estimated to be 10 to 20 percent of g or 0.10g to 0.20g, making the seismic ground-shaking hazard relatively low within the proposed Project area (see Plate GS-8).

Although seismic ground-shaking hazards are considered relatively low, ground shaking from earthquakes in the Sacramento region, contributed by the relatively close faults located primarily in the bay area, could cause light to moderate damage to structures depending on construction methods.

In Sacramento County, commercial, institutional and large residential buildings as well as all related infrastructure are required, in conformance with Chapter 16, *Structural Design Requirements*, Division IV, *Earthquake Design* of the CBC, to lessen the exposure to potentially damaging vibrations through seismic resistant design. In compliance with Sacramento County General Plan Safety Element policies and the UBC and CBC, all structures in the Project area would be well-built to withstand ground shaking from possible earthquakes in the region. Structures built to the requirements of these codes readily withstand the levels of ground shaking that could occur in the Project region.

Based on the existing regulatory framework that governs new development within Sacramento County which addresses safety issues and requires that development adhere to the CBC and other relevant policies, regulations, and design standards related to seismic activity, seismically induced groundshaking effects are not expected to be substantial hazards. Therefore, development related to the proposed Project will not expose people or structures to substantial new adverse effects related to a rupture of a known fault or strong seismic ground shaking; impacts are *less than significant*.

LIQUEFACTION

Liquefaction occurs when ground shaking causes a sediment layer saturated with groundwater to lose strength and take on characteristics of fluids, therefore reducing the ability of the soil to support the load of structures. As a result, structures could be shifted off balance or even destroyed under sufficient liquefaction conditions. Two possible liquefaction areas exist within Sacramento County: Sacramento City's Downtown area and the Delta area. Because the known liquefaction areas are not located within the vicinity of the Project site, the proposed Project will not expose people or structures to substantial adverse effects related to liquefaction; impacts are *less than significant*.

MITIGATION MEASURES:

None required.

Plate GS-7: Simplified Fault Activity Map

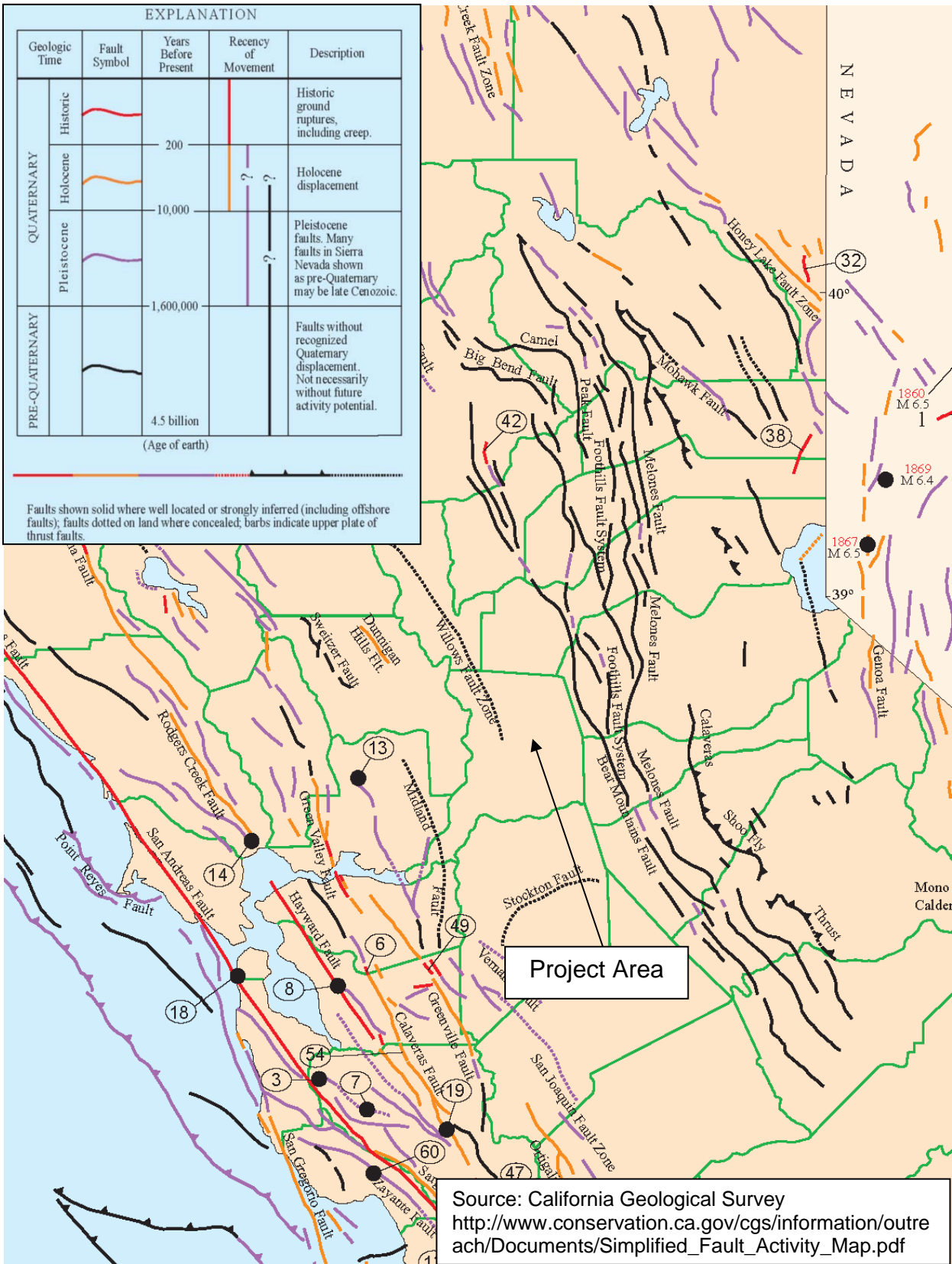
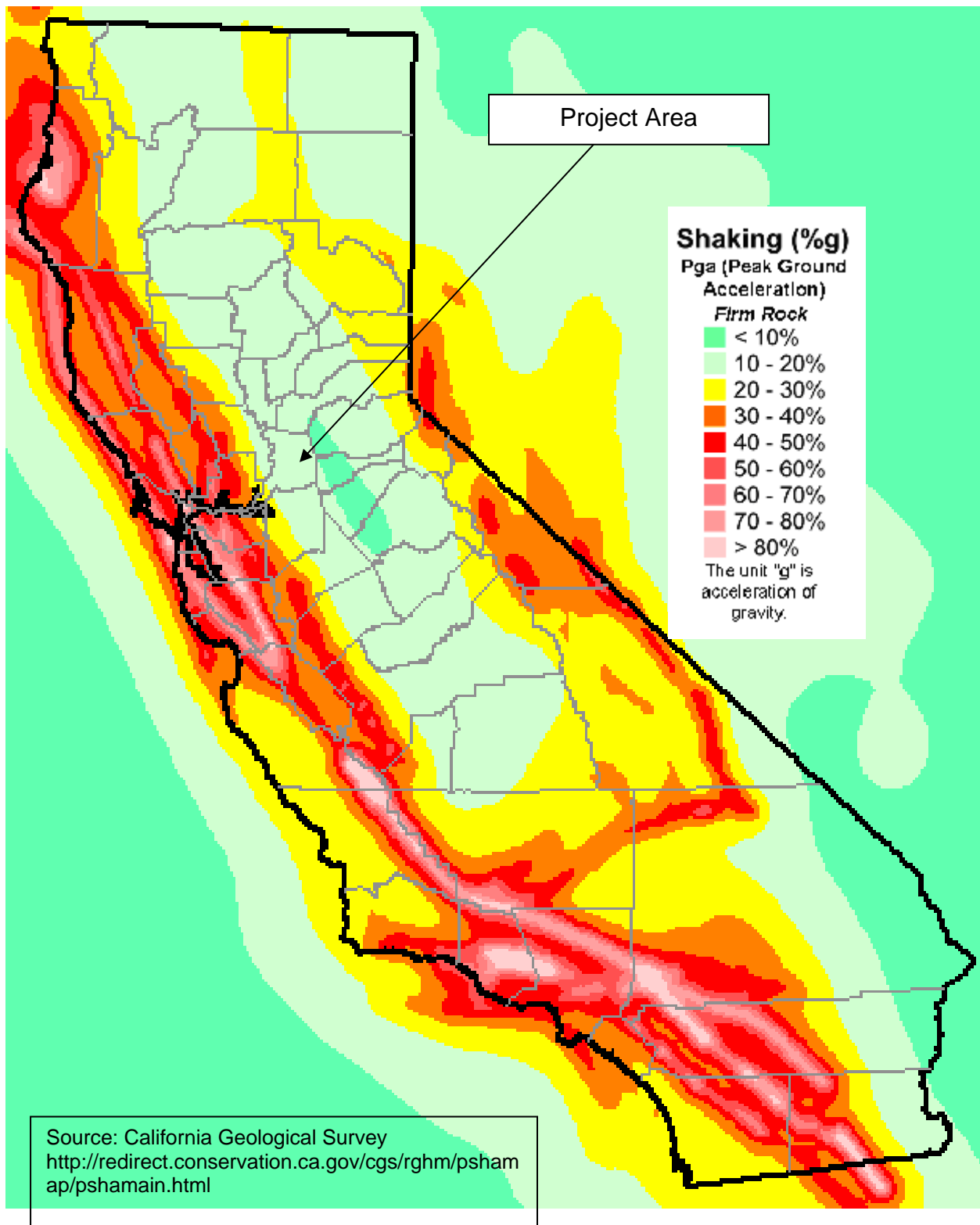


Plate GS-8: Seismic Shaking Hazards in California



10 HAZARDOUS MATERIALS

INTRODUCTION

This chapter describes the hazardous materials and waste in the Project area resulting from past and ongoing uses of the property, includes a description of applicable federal, state and local regulations and policies that influence hazardous materials and waste, and identifies potential impacts to future residents and workers relating to exposure to hazardous materials and waste.

BACKGROUND

The term “hazardous substances” refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. A “hazardous material” is defined in the Code of Federal Regulations (CFR) as “a substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce” (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

“Hazardous material” means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. “Hazardous materials” include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

The definition of a hazardous waste, as regulated by the California Environmental Protection Agency, Department of Toxic Substances Control (CAL-EPA, DTSC), is found in the California Health and Safety Code Section 25141 (b), as follows:

“...as hazardous waste because of its quantity, concentration, or physical, chemical, or infectious characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bio-accumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.”

A hazardous waste is a “solid waste” that exhibits hazardous characteristics. The federal Environmental Protection Agency (EPA) has defined the term “solid waste” to include the following: any gaseous, liquid, semi-liquid, or solid material that is discarded or has served its intended purpose, unless the material is excluded from regulation. Such materials are considered wastes whether they are discarded, reused, recycled, or reclaimed. The EPA classifies a waste as hazardous if it (1) is listed on the EPA’s list of hazardous waste and/or (2) exhibits one or more of the following properties: ignitability (including oxidizers, compressed gases, and extremely flammable liquids and solids), corrosivity (including strong acids and bases), reactivity (including materials that are explosive or generate toxic fumes when exposed to air or water), or toxicity (including materials listed by the EPA as capable of inducing systemic damage in humans or animals).

HAZARDOUS MATERIALS ENVIRONMENTAL SETTING

Sacramento County has a variety of hazardous substances associated with many uses. These include known contaminated properties; businesses that handle (use and/or collect) contaminants; household contaminants; landfills; lead-based paint; asbestos (in buildings predating 1970 – natural soil sources are discussed in the Geology and Soils chapter); and pesticides, fertilizers, and petrochemicals associated with agriculture. These sources can contaminate soil, ground and/or surface water, and buildings.

The Project site is located in an area historically used for agriculture and rural residential homesites. In addition, the Sacramento Rendering Plant has been utilizing the northern portion of the Project site since 1956. There are high voltage transmission lines that cross the northern portion of the Project site. The nearest Superfund site is the former Mather Air Force Base approximately 3.6 miles northwest.

Currently, there are relatively few sensitive receptors within the Project boundaries (all located within the West portion of the Project). There are no schools, hospitals, day care centers or senior care facilities currently located within the Project area.

POTENTIAL HAZARDS

Table HM-1 below lists the databases used to determine the presence or absence of known contaminated sites, a description of the information they contain, and the authority charged with maintenance of these databases.

Table HM-1: Federal, State, and Local Databases & Lists for Hazardous Materials

Database	Description
Federal	
National Priorities List (NPL)	This list is maintained by the Environmental Protection Agency (EPA) and includes the most severe hazardous waste sites as identified by Superfund. Sites are put on the NPL after they have been scored using the Hazard Ranking System, as well as having been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money. The NPL is primarily an informational resource that identifies sites that may warrant cleanup.
State	
Geo Tracker	This database is maintained by the State Water Resources Control Board and tracks regulatory information about leaking underground fuel tanks (LUFTs), fuel pipelines, and public drinking water supplies.
Envirostor	This database is maintained by the State Department of Toxic Substances Control (DTSC) and holds information on investigation, cleanup, permitting, and corrective actions that are planned, are being conducted, or have been completed under the DTSCs oversight.
Local	
Master List of Facilities within Sacramento County with Potentially Hazardous Materials (Master List)	This list is maintained by the Sacramento County Environmental Management Department
Toxic Site Clean-Up Site Specific Report	This list is maintained by the Sacramento County Environmental Management Department and lists where unauthorized releases of potentially hazardous materials have occurred.

KNOWN SMALL CONTAMINATED SITES

There are many types of businesses that handle hazardous wastes or materials, including automotive businesses, gas stations, building supplies (concrete, painting, lumber, etc), and dry cleaners. For many of these businesses, the contamination source is an above-ground or underground storage tank that has developed a leak. The contaminants may be contained solely within the surrounding soils, or they may pass into groundwater and cause a migrating contamination plume. The databases noted in Table HM-1 maintain lists of these known contamination sites, the source of contamination, and the status of cleanup efforts. Reviewing all of the lists for known contaminated sites within one mile of the Project disclosed nine small sites of which one is located within the Project boundary (Sacramento Rendering Company). All noted sites are closed and remediation has been completed.

KNOWN LARGE CONTAMINATED SITES

FORMER MATHER AIR FORCE BASE

Mather Air Force Base was established in 1918 as an airfield and pilot training school. The base consisted of housing, schools, hospital, commercial and recreational facilities, and of course the airfield. Base operations involved the use, storage and disposal of hazardous materials and wastes. A total of 89 areas with significant contamination were identified: seven disposal facilities and 82 individual known contaminated sites. These sites have contaminated soils/sediments and included fire training areas, drainage ditches, waste pits, oil/water separator sites, spill sites, landfills and a sewage treatment plant. Contaminates detected include: VOCs (solvents), fuel, fuel byproducts, pesticides, polycyclic aromatic hydrocarbons (PAHs) poly chlorinated biphenyls (PCBs), metals, and explosive residues. The contamination extends into the soil and groundwater in and around the base. A total of five groundwater plumes have been identified. The contamination from past uses remaining at Mather today has generated the federal Superfund designation.

Ongoing clean up actions consist of groundwater extraction, treatment and discharged back into the groundwater system. The largest off-site plume extends one mile to the west/south of the runways. A complex network of extraction wells has been installed to control the plume migration. Three landfills were excavated and consolidated into another landfill, and the remaining landfills have been properly capped to eliminate the potential for human contact and to reduce infiltration. These capped landfills are monitored for potential releases to groundwater or air. Sixty-nine of the contaminated soil sites have completed remediation. The remaining 13 sites are currently being remediated by soil vapor extraction. All potential exposure to contaminated soils and groundwater has been eliminated. The soil vapor extraction will continue to operate until cleanup levels are achieved. The groundwater treatment system will continue until all groundwater cleanup levels are achieved.

LEAD

Lead is commonly found in paint, dust, and soil. In 1978 the federal government banned the use of lead-based paint in housing. Many homes built before 1978 have

lead-based paint. If the paint is in good condition it is usually not a hazard. However, if lead-based paint is dry scraped, dry sanded, or heated, lead dust can form. This lead dust can get on surfaces and objects that people touch and settled lead dust can re-enter the air when people vacuum, sweep, or walk through it. Lead can also settle in soil from flaking or chipped exterior lead-based paint. Lead also used to be a gasoline additive. The Clean Air Act Amendments of 1990 mandated the elimination of lead from all U.S. motor fuel by January 1, 1996. This represented the final step in a gradual reduction of lead in gasoline since the early 1970s.

Lead poisoning, especially in children, can cause damage to the brain and nervous system, behavior and learning problems, hearing problems and headaches. Adults are also susceptible and can have difficulties during pregnancy, high blood pressure, nerve disorders, muscle and joint pain, and memory and concentration problems, to name a few (US EPA, 2007).

There are structures built prior to 1978 within the Project boundary.

ASBESTOS

Asbestos is a naturally occurring, fibrous silicate mineral mined for its useful properties, such as thermal insulation, chemical and thermal stability, and high tensile strength (greater resistance to longitudinal stress before rupturing).

Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board (ARB) in 1986. Asbestos poses a health risk only when it becomes friable, such as through disturbance or damage. Once airborne, asbestos fibers may be inhaled into the lungs where they can cause serious health problems (US EPA, 2008). All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos was commonly used as an acoustic insulator and in thermal insulation (fire proofing and other building materials). The EPA issued a final rule banning most asbestos-containing products in July 1989; however, this regulation was overturned in 1991, by the Fifth Circuit Court of Appeals in New Orleans. The Courts ruled that the EPA ban shall remain for specific asbestos-containing products. These banned products are flooring felt; rollboard; and corrugated, commercial, or specialty paper. The regulation continues to ban the use of asbestos in products that have not historically contained asbestos, otherwise referred to as "new uses" of asbestos.

In ARB's Final Regulation Order for Asbestos Airborne Toxic Control Measure For Construction, Grading, Quarrying and Surface Mining Operations (California Code of Regulations Title 17, Section 93105), specific mitigation measures were developed for asbestos. ARB's staff has the data and expertise necessary to determine appropriate control measures, and is the regulatory agency responsible for establishing controls.

There are structures built prior to 1986 within the Project boundary.

ELECTRIC TRANSMISSION LINES

Several transmission lines are located within the Project boundary. There are 69kV **sub-transmission** lines adjacent to Jackson Road and Sunrise Boulevard, and 230kV transmission lines traverse the northern portion of Project site. These lines are owned by both Pacific Gas and Electric (PG&E) and Sacramento Metropolitan Utilities District (SMUD).

Pole-mounted and pad-mounted electrical transformers are located along the **12kV** 69kV **distribution** lines. Electrical transformers are devices used to transfer electricity from one circuit to another, usually through a change in voltage, current, phase, or other electric characteristic. Typically, transformers are a health concern if they were installed prior to the late 1970's because they utilized Polychlorinated Biphenyls (PCBs). PCBs were used in electrical transformers because of their useful quality as a fire retardant. Transformers that contain 50 to 500 parts per million (ppm) PCBs are classified as PCB contaminated. The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers contain PCBs.

REGULATORY SETTING

Throughout the United States including California, hazardous materials are regulated by a number of federal and state laws, most of which are promulgated by the United States Environmental Protection Agency (EPA) and the California Environmental Protection Agency (Cal EPA). On the federal level, these regulations include the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Clean Air and Clean Water acts, Safe Drinking Water Act, Hazardous Materials Transportation Act, and the Emergency Planning and Community Right-to-Know Act. Together, these regulations serve as guiding principles governing the storage, use, and transportation of hazardous and other regulated materials from their time of origin to their ultimate disposal. The cleanup and remediation of environmental contamination resulting from the accidental or unlawful release of these materials and substances are also governed by these regulations. Solid wastes that are not classifiable as hazardous are regulated under RCRA and pollution prevention is also regulated under the Clean Air, Clean Water, and Safe Drinking Water acts.

On the state level, Cal EPA's DTSC is responsible statewide for matters concerning the use, storage, transport, and disposal of hazardous materials. Cal EPA's Office of Environmental Health Hazard Assessment (OEHHA) is involved in the evaluation of risks to public health and the environment posed by hazardous materials and environmental contamination. Cal EPA delegates much of the permitting, inspection, and enforcement responsibility for hazardous materials, hazardous waste, ASTs, USTs, and other related state programs to local governments under the Certified Unified Program Agency (CUPA) program.

County EMD is both the local Environmental Health regulatory agency and the County-wide Certified Unified Program Agency. County EMD is also the Local Oversight Program for UST site investigation, cleanup, and closure, and the Local Enforcement Agency for landfills. The Central Valley Regional Water Quality Control Board (Regional Water Board) also has jurisdiction over the management of surface and groundwater contamination such as the cleanup of spill sites. Finally, the Sacramento Metropolitan Air Quality Management District (SMAQMD) is involved in the assessment of health and environmental hazards associated with both “criteria” and toxic (or hazardous) air pollutants.

SACRAMENTO COUNTY GENERAL PLAN POLICIES

The Sacramento County General Plan Hazardous Materials Element provides a hazardous materials policy plan to manage hazardous materials and minimize their effects on humans and the environment. The General Plan policies include measures to educate and inform the public about hazardous waste management, implement public health and safety programs, and coordinate with other agencies to enforce hazardous materials regulations. The General Plan also provides details on emergency response plans for responding to hazardous material spills and other emergency actions.

The Sacramento County General Plan policies HM-1 through HM-15 are pertinent to Hazardous Materials. These policies are intended to support the stated objectives of the Hazardous Materials Element of the General Plan. As presented in the element the objectives are as follows:

County-wide public awareness of all available hazardous material informational and disposal programs;

Protect the residents of Sacramento County from the effects of a hazardous material incident via the implementation of various public health and safety programs;

Coordinated efforts by the applicable regulatory agencies, thereby facilitating effective long-term hazardous materials management;

Enforce all federal, state, and local regulations and if necessary prosecute those cases involving the mismanagement of hazardous materials; and

The availability of reliable and solvent funding sources to augment hazardous materials management

The policies in the Hazardous Materials Element most applicable to the Project are as follows:

HM-4. The handling, storage, and transport of hazardous materials shall be conducted in a manner so as not to compromise public health and safety standards.

HM-8. Continue the effort to prevent ground water and soil contamination.

HM-9. Continue the effort to prevent surface water contamination.

SIGNIFICANCE CRITERIA

Pursuant to the CEQA Guidelines, the County of Sacramento considers impacts to hazards and hazardous materials to be significant if a project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. 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;
5. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
6. 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 where residences are intermixed with wildlands.

Significance criteria 3 and 5 are not applicable to the Project because it does not involve the emission or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school; nor will the Project impair implementation or interfere with an adopted emergency response or evacuation plan. The analyses to follow focus on the proximity of proposed development areas to known hazardous sites or conditions.

METHODOLOGY

A review of two databases and two lists was conducted to assemble a list of hazardous materials storage and use, and known contaminated sites within the Project vicinity. Envirostor is a database maintained by the State DTSC and holds information on investigation, cleanup, permitting, and corrective actions that are planned, are being conducted, or have been completed under the DTSC's oversight. Envirostor was reviewed and a list of sites was generated. Geo Tracker is a second database that is

maintained by the State Water Board and tracks regulatory data about underground fuel tanks, fuel pipes, and public drinking water supplies. Toxic Site Clean-Up Site Specific Report (Toxic Site) is a County-generated and maintained list that shows a list of known contaminated sites. Finally, the County's Master List of Business Facilities identifies business in Sacramento County that store and use hazardous materials. Each of these databases lists sites with active, inactive, certified, de-listed, no further action, and refer to other agency statuses. A site that is listed as closed is one at which remediation and cleanup activities are complete.

In addition to the database review, Phase I environmental site assessments were completed for the portion of the Project site owned by East Sacramento Ranch, LLC. A site assessment was completed in 1999 by Kleinfelder, Inc., for approximately 679 acres (parcel numbers 067-0009-021 and -005, and 067-0050-048). A second site assessment was completed in 2008 by Wallace and Kuhl Associates (Wallace Kuhl) for approximately 122 acres (APN 067-0090-019). The Kleinfelder report assessed the land owned by East Sacramento Ranch, LLC surrounding the rendering plant facilities. The Wallace Kuhl report focuses on the property containing the rendering plant. The remaining properties within the Project area are not owned by East Sacramento Ranch, LLC, therefore, Phase I site assessments were not completed. However, surrounding properties were included in the reconnaissance level database research to capture potential know off-site contaminated properties. Further, current and past land uses are similar to those surveyed and will likely contain similar features (active/abandoned domestic wells, septic systems, etc.). Information from these reports is used in the following impact analysis discussions below and the full reports are available for review at 827 7th Street, Rm. 225, Sacramento, CA 95814 or at <https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2010-00081>.

IMPACTS AND ANALYSIS

IMPACT: ACCIDENTAL RELEASE DUE TO ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS

Standard construction activities would require the use of hazardous materials such as fuels, oils, lubricants, glues, paints, paint thinners, soaps, bleach, and solvents. These are common household and commercial materials routinely used by both businesses and average members of the public alike. The materials would only pose a hazard if they are improperly used, stored, or transported either through upset conditions (e.g. an explosion) or mishandling. All persons involved in the handling of these hazardous materials are required to use, store, and transport hazardous materials in compliance with local, state, and federal regulations during project construction.

In addition to hazardous materials used during construction, the operational Project would result in the use, transport, and storage of materials that are considered hazardous. Increased transport would occur in response to commercial demand for the

products within the Project development, and these materials would be used and stored in both residential and non-residential areas. Household hazardous materials include cleaners, pesticides, paints, lubricants, and similar items. Commercial uses would involve greater amounts and types of hazardous materials, including underground storage tanks associated with gas stations and automotive-related businesses. It is presumed that pharmacies and medical offices may also be developed, which would include the use of materials considered hazardous and the generation of medical wastes which are considered hazardous.

Regulations pertaining to transport of hazardous materials are codified in 49 CFR 171 – 180. These regulations provide definitions for hazardous materials, including a “hazard class” that requires the listing of each material type according to its major property (e.g. flammable solid). There are separate requirements for each stage of the transport process, including preparation of shipping paperwork, the appropriate labeling of shipping containers, the requirements specific to the shippers of the material, and the requirements specific to the carriers of the material. There are also categories of materials and packages that are prohibited from being shipped.

Hazardous materials transport regulations are enforced and monitored by the California Department of Transportation and the California Highway Patrol. All carriers and drivers involved in transportation of hazardous materials must apply for and obtain a hazardous materials transportation license from the California Highway Patrol. When transporting explosives and inhalation hazards, safe routing and safe stopping places are required, as described in 26 CCR Section 13 et seq. A route map must be carried in the vehicle. The purpose of these regulations is to reduce the likelihood of exposure to people and the environment.

Specifications for storage on a construction site are contained in various regulations and codes, including the California Code of Regulations, the Uniform Fire Code, and the California Health and Safety Code. Some of the relevant standards are:

- all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area,
- equipment refueling and maintenance must take place only within the staging area,
- construction vehicles shall be inspected daily for leaks, and
- a Spill Prevention, Control, and Countermeasure plan shall be prepared and implemented.

In addition to the above regulations pertinent to storage and spill prevention requirements, workplace rules administered by the California Occupational Safety and Health Administration (enacted by the California Code of Regulations) ensure that the hazards of all chemicals are evaluated and that information concerning chemical hazards is transmitted to employees. This is accomplished by:

- container labeling and other warnings,

- Material Safety Data Sheets, and
- employee training.

All regulations and codes must be implemented, as appropriate, and are monitored by the agencies described above. Such compliance would reduce the potential for accidental release of hazardous materials during construction and operation of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and employees to accidental release of hazardous materials, as well as the demand for incident emergency response.

The Environmental Compliance Division of EMD has been designated by the California Environmental Protection Agency as the Certified Unified Program Agency for Sacramento County. The role of the Certified Unified Program Agency is to implement six statewide environmental programs:

- underground storage of hazardous substances
- aboveground storage tanks (spill prevention and countermeasures)
- hazardous materials business plan requirements
- hazardous waste generator requirements
- California accidental release prevention program
- Uniform fire code hazardous materials management plan

Implementing the above includes the permitting and inspection of regulated facilities, providing educational guidance and notice of changing requirements, investigations of complaints regarding spills or unauthorized releases, and administrative enforcement actions levied against facilities that have violated applicable laws and regulations. Compliance with the above requirements, as monitored and enforced by EMD, lessens the risk of exposure of the general public to accidental release of hazardous materials.

Regulations pertinent to compounding, storing, and dispensing medicines and medical equipment such as needles are contained in the following: Title 16 of the California Code of Regulations section 1700 et. seq. and California Uniform Controlled Substances Act (Health and Safety Code 11000 et. seq.). These codes regulate how medicines may be legally supplied, compounded, stored, administered, and prescribed, as well as how to properly dispose of medicines and equipment such as needles.

For household materials use, all products offered for sale are required to be labeled appropriately to ensure safe use, storage, and disposal, and residents are required to use these materials consistent with labeling requirements. Laws regarding the safe disposal of hazardous materials apply to residents, just as they apply to businesses. The Sacramento County Department of Waste Management and Recycling operates multiple household hazardous waste drop-off locations, and also transports garbage collected from bins to the North Area Recovery Station, where household hazardous waste is separated for proper disposal.

Because construction and operation of the Project would implement and comply with federal, state, and local hazardous materials regulations and codes monitored by the state (e.g., California Occupational Safety and Health Administration, Department of Toxic Substances Control, California Highway Patrol, California Department of Transportation) and/or local jurisdictions (e.g., Sacramento Metropolitan Fire District and Sacramento County Environmental Management Department), impacts related to creation of significant hazards for construction workers, employees within the Project area, and the general public through routine transport, use, and disposal of hazardous materials would be unlikely; this impact is *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: PROXIMITY TO KNOWN CONTAMINATED SITES

There are nine agency-listed contaminated sites within approximately one mile of the Project site. All of these sites have a closed status and are not subject to further CEQA analysis and the approval of the Project will not result in the creation of a significant hazard to the public or environment.

The former Mather Air Force Base boundary is over one mile from the Project site; however, it is a Superfund site currently undergoing groundwater remediation. As described above (p. 10-4) the Air Force is actively remediating groundwater contamination. The contaminated groundwater plumes are migrating to the southwest of the western end of the runways. The extent of the plumes is approximately two miles to the northwest of the Project site. Based on the above information, groundwater contamination is being effectively contained, and even in absence of containment has been migrating in a southwesterly direction, away from the Project site. Furthermore, the potable water needs for the residential and commercial components of the Project will not be met through extraction of local (on-site) groundwater, but will be served by the Sacramento County Water Agency. Completion of the Project would not expose Project residents or visitors to a significant hazard as it relates to contaminated groundwater; impacts to the Project are *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: PRESENCE OF ONSITE HAZARDOUS MATERIALS OR CONDITIONS

SACRAMENTO RENDERING PLANT

The Sacramento Rendering Company (SRC) has been in operation in the current location since the late 1950s. Plant operations involved the storage of fuel in underground storage tanks. In 1998 the SRC experienced a hazardous material release from a leaking underground storage tank. All tanks were removed and the facility was issued a no further action letter by the Sacramento County Environmental

Management Department in 1999. The case is now identified as closed by the Sacramento County Environmental Management Department and the Regional Water Board.

The plant also has a floor drain sump in the truck maintenance building and discharges waste waters to surface ponds. The Wallace Kuhl report noted that upon removal of the sump, soils should be sampled and tested for potential automotive-related contaminants. Any other sumps that become evident during the demolition of the plant should be dealt with similarly.

There are ten wastewater settlement ponds associated with the plant. The wastewater discharge is permitted by the Regional Board. Generally, wastewater is discharged from the plant into the settling ponds. Once the solid particulates have settled out, the water is discharged into Frye Creek. There has only been one violation issued by the Regional Water Board, and the operators have rectified the violation and are in good standing with the Regional Water Board. Accumulation of organic materials is associated with the settlement ponds.

The Wallace Kuhl report noted that abandonment and backfilling of the wastewater ponds should be completed in conformance with the recommendations of an experienced geotechnical engineer, environmental and soils engineers. It is necessary to remove all accumulated organics and redoxymorphic soils from the bottoms of any on-site ditches, irrigation water and wastewater ponds. The report notes that the organics could be applied at agrarian rate to the surrounding soils. The EMD commented on the Phase 1 Site Assessments and provided the following comments:

EMD concurs with the spreading at agrarian rates of accumulated organics and sediments captured within the on-site settlement ponds, unless obvious evidence is observed that such accumulation(s) contain hazardous materials contaminants. If visual or olfactory evidence of contaminated settlement accumulation(s) is observed, EMD should be consulted at that time to develop sampling protocols, which would likely be coordinated with the agency named in the following sentence. Those ponds should additionally be decommissioned following whatever protocols are required by the Central Valley Regional Quality Control Board, which is the agency that issued SRC's existing Wastewater Discharge Requirements.

Considering the known potentially hazardous conditions that exist on the portion of the property used by the rendering plant, recommended mitigation measures for documentation of soil sampling protocols and remediation in and around sumps, settling ponds and ditches will reduce significant impacts from known hazardous materials to *less than significant*.

WATER SUPPLY WELLS

Currently, the primary source of potable and agricultural water within the Project area is groundwater supply wells. As a result, numerous wells are located within the Project area. According to the Wallace Kuhl and the Kleinfelder reports, the portion of the

Project site owned by East Sacramento Ranch, LLC contains four water supply wells; two wells are located near the southeast corner of the intersection of Eagles Nest Road and Kiefer Boulevard, and the other two wells are within the rendering plant operation area. Of the two wells located near the intersection of Eagles Nest Road and Kiefer Boulevard, one well is active with an operating windmill and the other well is hand dug and inactive (dry). The wells within the rendering plant operation area are active and operated by electric pumps.

The remaining portion of the Project area (largely the South and lower West Planning Areas), has residential uses, institutional uses, and an old homestead site. Active and/or abandoned private wells are likely associated with these properties.

Municipal water supplies would be extended to all parcels within the Project area as part of the future development. All water supply wells within the individual parcels would need to be properly destroyed in accordance with Sacramento County Code, Section 6.28.040.B, and in conjunction with the development of the parcel. The larger diameter of hand-dug wells requires additional care, and should be backfilled in accordance with the recommendations of a geotechnical engineer. In addition, wells that have been improperly abandoned should be assessed and abandoned in conformance with County guidelines. Well abandonment requires a permit from the Sacramento County Environmental Management Department, Environmental Health Division. Adherence to State and local regulations will ensure that impacts are *less than significant*.

PRIVATE SEPTIC SYSTEMS

The Sacramento Rendering Plant has a private septic system; however, as noted in the Wallace Kuhl report the plant manager was not sure on how many or the locations of the system(s). For the portion of the Project area not part of the Phase I assessment (particularly the lower West Planning Area), there are private septic systems associated with the residential and institutional uses. In addition, the old homestead site on the northeast corner of Eagles Nest Road and Jackson Road within the South Planning Area may also contain a private septic system. Though no development is proposed in the lower West Planning area, septic system(s) will need to be identified and properly abandoned in accordance with Section 722 of the Uniform Plumbing Code prior to land development.

Based on the above analysis, there is no evidence of any recognized hazardous conditions that may have a significant adverse effect on the development of the Project site. Though there are existing septic systems that are likely to require closure prior to development, the application of current laws and regulations will ensure that any of these features are identified and properly addressed prior to development. Existing regulations and programs will ensure that development in the Specific Plan area does not expose people to a significant hazard associated with proximity to hazardous materials or contaminates sites. Impacts are *less than significant*.

ASBESTOS OR LEAD EXPOSURE THROUGH RENOVATION OR DEMOLITION OF EXISTING STRUCTURES

The Rendering Plant, which is composed of several separate buildings, will be demolished prior to development of the Project. The Rendering Plant was built in the present location in the late 1950's when the use of leaded paint and asbestos containing construction material was commonly used. In addition, there are structures located in the lower West Planning Area; however, this area is not proposed for development at this time. No additional demolition has been identified within the Plan area.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) implements Rule 902 to limit the emission of asbestos into the atmosphere. Similarly Title 8, Section 15 of the California Code of Regulations details worker safety regulations during construction. Both Rule 902 and Title 8 regulate demolition activities. Existing rules and regulations ensure that exposure to asbestos remain *less than significant*; no additional mitigation measures are recommended.

MITIGATION MEASURES:

HM-1 Rendering Plant Site Remediation

Prior to grading permit, site improvement plan or building permit approval for development on the Rendering Plant site, or whichever occurs first, submit evidence to the Sacramento County Environmental Coordinator that all remediation requirements associated with the closure and demolition of the Rendering Plant, including but not limited to the floor sumps, settling ponds and surrounding ditches, have been completed to the satisfaction of the Central Valley Regional Water Quality Control Board and the Sacramento County Environmental Management Department.

IMPACT ANALYSIS: EXPOSE PEOPLE OR STRUCTURES TO WILDLAND FIRE

The Project will be creating new urban development with open space preserves. In addition, north of the project site is the Mather Field vernal pool recovery area and east are preserves associated with the Suncreek Specific Plan and proposed Arboretum Specific Plan. Prescribed burns are often used in preserves for the management of weeds and invasive species. The larger natural preserve areas are separated from the project site by four-lane arterial roadways which provide a substantial fire break. Nonetheless, placement of urban development surrounding open natural areas may require additional fire resources. The Project area is currently provided fire protection services by the Sacramento Metropolitan Fire District (SMFD). The Project land use plan dedicates a 2.5-acre site designated public/quasi-public for a new fire station site in the northern portion of the site (south of Kiefer Boulevard). The ultimate placement of the fire station will depend on surrounding development and revised emergency response modeling. Overall, needed fire protection services will be provided to the Project site. The proposed Project will not significantly expose people or structures to wildland fire; impacts are *less than significant*.

MITIGATION MEASURES:

None recommended.

11 HYDROLOGY AND WATER QUALITY

INTRODUCTION

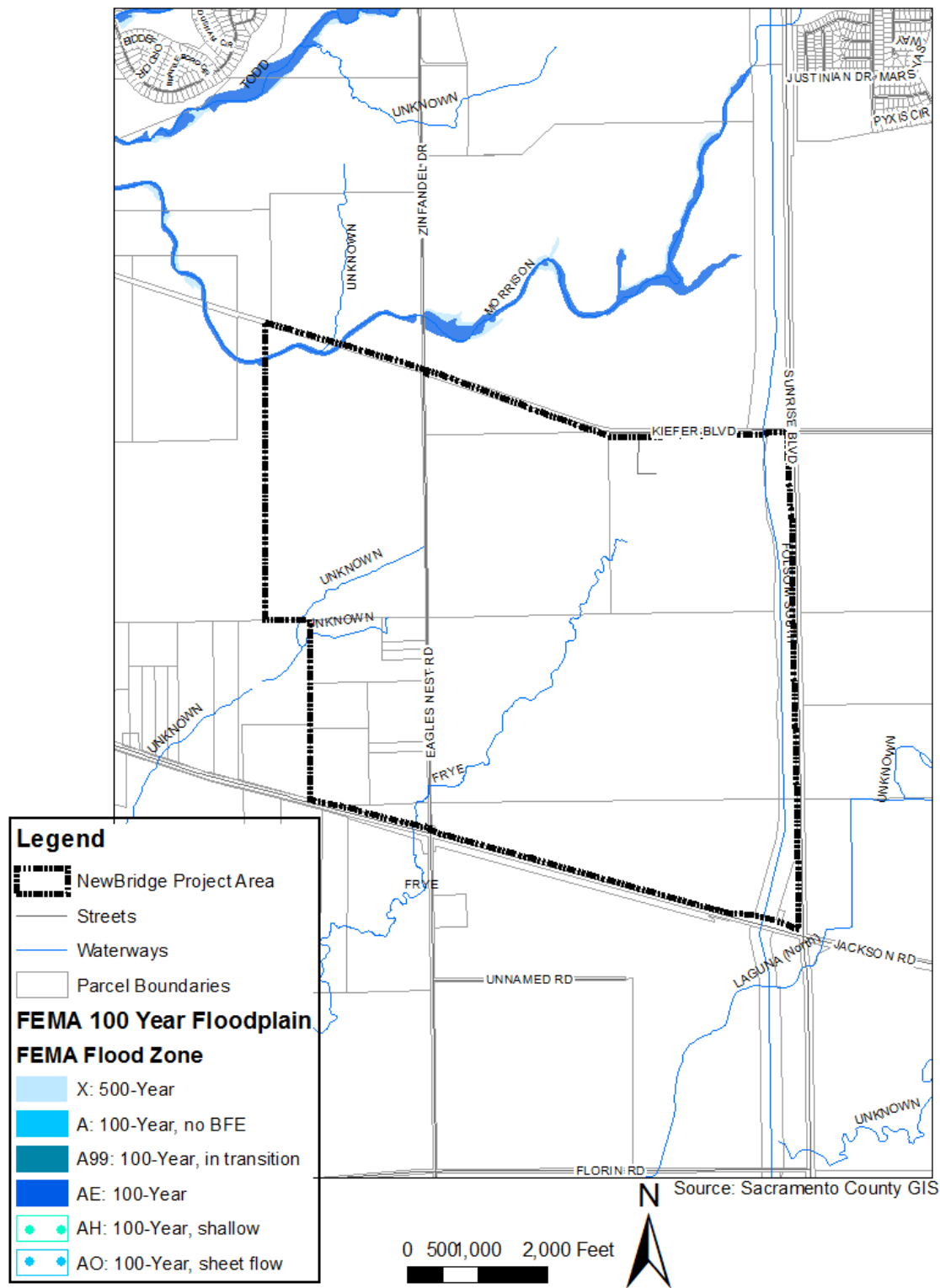
This chapter addresses the effects of development consistent with the Project relative to the hydrologic characteristics of the site and vicinity. There are many design standards, policies, and regulations that protect our water from pollution and our communities from flooding. An overview of pertinent regulations is important to include in this analysis; however, to prepare a concise report, the following documents are hereby incorporated by reference, and are available for review at 827 7th Street, Room 225, Sacramento:

- Stormwater Quality Design Manual for the Sacramento and South Placer Regions, May 2014.
- Sacramento County Improvement Standards
- Sacramento County Volume 2 Hydrology Standards
- Sacramento County Floodplain Management Ordinance
- Sacramento County Code Section 16.44 (Land Grading and Erosion Control)

HYDROLOGIC AND HYDRAULIC SETTING

The Project site is within the Laguna Creek, Frye Creek, Elder Creek and Morrison Creek watersheds. A very small area of the site, within the proposed preserve area (upper West Planning Area, reference the Project Description Chapter), is within mapped 100-year floodplain areas (Plate HY-1). There are two primary ephemeral drainages on the Project site that feed into Elder Creek. The central ephemeral drainage is the beginning of Frye Creek. Another ephemeral drainage is just west of Eagles Nest Road and extends southwesterly and eventually joins Gerber Creek. A small portion of Morrison Creek is in the northern portion of the preserve area.

Plate HY-1: 100-Year FEMA Floodplain in Project Vicinity



REGULATORY FRAMEWORK

SACRAMENTO COUNTY GENERAL PLAN

The General Plan includes multiple Elements containing policies relevant to flooding and water quality: the Agriculture Element, Circulation Element, Conservation Element, and Safety Element. There are many policies within each Element, but the policies of greatest relevance to the Project are included below.

AG-29. The County shall minimize flood risks to agricultural lands resulting from new urban developments by:

- Requiring that such developments incorporate adequate runoff control structures and/or
- Assisting implementing comprehensive drainage management plans to mitigate increased risks of farmland flooding resulting from such developments.

CI-65. Incorporate Low Impact Design (LID) techniques to the greatest extent feasible to improve water quality runoff and erosion control, infiltration, groundwater recharge, visual aesthetics, etc. LID techniques may include but are not limited to:

- Bioretention techniques, such as filtration strips, swales, and tree box filters
- Permeable Hardscape
- Green roofs
- Erosion and sediment controls
- Reduced street and lane widths where appropriate

CO-24. Comply with the Sacramento Areawide National Pollutant Discharge Elimination System Municipal Stormwater Permit (NPDES Municipal Permit) or subsequent permits, issued by the Central Valley Regional Water Quality Control Board (Regional Water Board) to the County, and the Cities of Sacramento, Elk Grove, Citrus Heights, Folsom, Rancho Cordova, and Galt (collectively known as the Sacramento Stormwater Quality Partnership [SSQP]).

CO-26. Protect areas susceptible to erosion, natural water bodies, and natural drainage systems.

CO-28. Comply with other water quality regulations and NPDES permits as they apply to County projects or activities, such as the State's Construction General Permit and Aquatic Pesticides Permit.

CO-30. Require development projects to comply with the County's stormwater development/design standards, including hydromodification management and

low impact development standards, established pursuant to the NPDES Municipal Permit.

CO-31. Require property owners to maintain all required stormwater measures to ensure proper performance for the life of the project.

CO-93. Discourage fill in the 100-year floodplain (Please also refer to CO-117).

CO-94. Development within the 100-year floodplain and designated floodway of Sacramento streams, sloughs, creeks or rivers shall be:

- Consistent with policies to protect wetlands and riparian areas; and
- Limited to land uses that can support seasonal inundation.

CO-107. Maintain and protect natural function of channels in developed, newly developing, and rural areas.

CO-114. Protect stream corridors to enhance water quality, provide public amenities, maintain flood control objectives, preserve and enhance habitat, and offer recreational and educational opportunities.

CO-117. Public roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings and for purposes of extending or setting back levees. The construction of public roads and parking should utilize structural materials to facilitate permeability. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.

CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.

CO-126. Prohibit obstruction or underground diversion of natural waterways.

SA-5. A comprehensive drainage plan for major planning efforts shall be prepared for streams and their tributaries prior to any development within the 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, defined by full watershed development without channel modifications. The plan shall:

- a. Determine the elevation of the future 100-year flood and/or 200-year flood in areas subject to the Urban Level of Flood Protection, associated with planned and full development of the watershed;
- b. Determine the boundaries of the future 100-year floodplain and/or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, for both flood elevations (planned and full development) based on minimum 2-foot contour intervals;

- c. Assess the feasibility of gravity drainage into the existing flowline of the stream;
- d. Assess the feasibility of alternative means of drainage into the stream;
- e. Identify potential locations for sedimentation ponds and other stormwater treatment facilities;
- f. Determine practical channel improvements and/or detention basins to provide the flood control needs of the proposed development;
- g. Determine the location and extent of marsh, vernal pool and riparian habitat;
- h. Develop measures for protecting and mitigating natural habitat;
- i. Develop measures for protecting and mitigating for federal and state listed endangered species;
- j. Develop and ensure implementation of measures that would reduce vector larvae;
- k. Identify appropriate plant species to be included as part of the natural features of the comprehensive drainage plan.

SA-14. The County shall require, when deemed to be physically or ecologically necessary, all new urban development and redevelopment projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing Comprehensive Drainage Plans.

SA-16. Deny creation of parcels that do not have buildable areas outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, unless otherwise allowed in the Floodplain Management Ordinance.

SA-17. For residential zoning, the area outside the 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, must be contiguous or reasonably situated to provide buildable area for a residence and associated structures. Examples of structures include swimming pools, sheds, barns, detached garages, and other outbuildings that are normally associated with residential development. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance.

SA-18. Vehicular access to the buildable area of newly created parcels must be at or above the 10-year flood elevation. Exceptions may be made when the existing public street from which access is obtained is below the 10-year flood elevation. There may be exceptions (such as the Delta area) as allowed in the Floodplain Management Ordinance.

SA-22. Areas within a 100-year floodplain, or the 200-year floodplain in areas subject to the Urban Level of Flood Protection, shall not be upzoned to a more intensive use unless and until a Master Drainage Plan is prepared that identifies areas of the floodplain that may be developed.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

FEMA maintains and updates the National Flood Insurance Program maps, called the Federal Insurance Rate Maps (FIRM), that define areas of federal flood hazard. In Sacramento County and elsewhere the floodplains are identified based on U.S. Army Corps of Engineers (USACE) studies. FIRM maps denote the location of the federal 100-year flood area, 500-year flood area, and the Base Flood Elevation. In a 100-year floodplain, there is a 1% chance of flooding in a given year, and in a 500-year floodplain, there is a 0.2% chance of flooding in a given year. If an area is within a 100-year floodplain, flood insurance is required by most mortgage companies. FEMA is also responsible for the accreditation of levee systems (certification is by the USACE).

Not all 100-year floodplains are mapped by FEMA, because the focus of the FEMA FIRM maps is to provide information for insurance programs. Areas that have very little development that would be at risk from flooding, such as rural areas and wilderness areas, typically are not mapped. Areas not mapped by FEMA, or areas where there are additional site-specific constraints that change the shape of the floodplain, are referred to as local floodplains in this EIR.

SACRAMENTO COUNTY DEPARTMENT OF WATER RESOURCES

As discussed above, not all floodplains are mapped by FEMA. Though not mapped by FEMA, many local 100-year floodplains have been identified by the Sacramento County Department of Water Resources (County DWR). Local floodplains in the County are typically mapped either in response to an area having flooding problems, or in response to a request by a property owner to make modifications to their parcel. In such circumstances, County DWR staff investigate the property and either decide if there is sufficient existing information to determine the floodplain elevation on the property or that a drainage study is required before a determination can be made. Further, pursuant to Senate Bill-5, County DWR has amended the General Plan and Zoning Code requiring a 200-year Urban Level of Flood Protection. The Urban Level of Flood Protection (ULOP) applies if the area is urban or urbanizing; is in a contributing basin of more than 10 square miles; and has a potential flood depth of more than three feet. Floodplains, whether local or FEMA, are regulated by the provisions of the Sacramento County Floodplain Management Ordinance, Improvement Standards, and Local Floodplain Management Plan.

WATER QUALITY LEGISLATION

Government agencies regulate potential impacts to water quality in order to comply with legislative acts such as: the Clean Water Act (CWA), the Porter-Cologne Water Quality Act (Porter-Cologne), the Rivers and Harbors Act, and the California Environmental Quality Act (CEQA). The Clean Water Act contributes to the dramatic improvement of surface water bodies in the United States. The Rivers and Harbors Act prevents obstructions to navigation, including dumping of trash and sewage. CEQA prevents avoidable damage to water quality by requiring changes in projects through the use of

alternatives or mitigation measures [PRC §15002(a)(3)]. Coordinated efforts by the following agencies protect water supplies from degradation:

- County of Sacramento
- Sacramento Area Flood Control Agency (SAFCA)
- California Department of Fish and Wildlife (CDFW)
- State Water Resources Control Board (State Water Board)
- Regional Water Quality Control Board (Regional Water Board)
- State Lands Commission
- U.S. Coast Guard (Coast Guard)
- National Park Service (NPS)
- State Department of Water Resources Reclamation Board
- U.S. Army Corps of Engineers (USACE)

STREAMBED ALTERATION

Section 1602 of the Fish and Game Code requires applicants to notify CDFW before beginning a project if the project will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed. Notification is generally required for any project that will take place in the vicinity of a river, stream, or lake. The recommendations of CDFW may include steps to protect water quality.

PORTER-COLOGNE WATER QUALITY ACT

Porter-Cologne is enacted as part of the California Water Code, and is intended to protect the quality of waters within the State. Porter-Cologne covers many of the same issues as the Federal Clean Water Act (see below), but is specific to the needs and objectives of the State. Waters protected by the Clean Water Act must be navigable or hydrologically connected to navigable waters, whereas Porter-Cologne protects non-navigable, or “isolated”, waters. The State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Board) are responsible for the coordination and control of water quality protection efforts related to Porter-Cologne.

CLEAN WATER ACT

The Clean Water Act (CWA) is the federal regulation covering surface water quality – it does not address either groundwater or water quantity. Surface waters protected by the CWA must either be navigable or hydrologically connected to a navigable water. The provisions of the CWA are administered and regulated primarily by the Environmental Protection Agency (EPA), the California EPA (Cal EPA), the USACE, and the State and Regional Water Boards. Under the “umbrella” of Cal EPA, the State and Regional Water Boards are responsible for administration of the National Pollutant Discharge

Elimination System program, which deals with stormwater pollution from construction, industrial areas, and municipal areas. The USACE is responsible for issuance of the CWA Section 404 permit, which deals with the discharge of dredged or fill material in a surface water, and the State and Regional Water Boards are responsible for issuance of the CWA Section 401 permit, which covers the same activity. Section 303(d) of the Clean Water Act (CWA) also requires States to identify waters that do not meet water quality standards, and to develop plans to address polluted water bodies on the 303(d) list (called Total Maximum Daily Load plans, or TMDLs).

STORMWATER POLLUTION AND EROSION CONTROL

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to prohibit the unauthorized discharge of pollutants from a point source to U.S. waters. The County of Sacramento has obtained a Municipal Stormwater NPDES permit from the Central Valley Regional Water Quality Control Board under the requirements of the Clean Water Act, to reduce pollutants found in urban stormwater runoff to the maximum extent practicable. The County complies with this permit by developing and enforcing ordinances and requirements to reduce the discharge of sediments and other pollutants in runoff from areas within the County.

Sacramento County must verify compliance with permit requirements by monitoring effluent, maintaining records, and filing periodic reports. A provision of the NPDES permit is the requirement that Sacramento County develop a Construction Site Management Program. The Construction Site Management Program is intended to help protect the water quality of surface waters by minimizing the amount of sediment runoff from a construction site. This is accomplished by enforcement of the existing County Land Grading and Erosion Control Ordinance.

The County has established a Stormwater Ordinance (Sacramento County Code 15.12). The Stormwater Ordinance prohibits the discharge of unauthorized non-stormwater to the County's stormwater conveyance system and local creeks. It applies to all private and public projects in the County, regardless of size or land use type. In addition, Sacramento County Code 16.44 (Land Grading and Erosion Control) requires private construction sites disturbing one or more acres or moving 350 cubic yards or more of earthen material to obtain a grading permit. To obtain a grading permit, project proponents must prepare and submit for approval an Erosion and Sediment Control (ESC) Plan describing erosion and sediment control best management practices (BMPs) that will be implemented during construction to prevent sediment from leaving the site and entering the County's storm drain system or local receiving waters. Construction projects not subject to SCC 16.44 are subject to the Stormwater Ordinance (SCC 15.12) described above.

In addition to complying with the County's ordinances and requirements, construction sites disturbing one or more acres are required to comply with the State's General Stormwater Permit for Construction Activities. The Construction General Permit is issued by the State Water Resources Control Board (http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml)

and enforced by the Regional Water Board. Coverage is obtained by submitting a Notice of Intent (NOI) to the State Water Board prior to construction. The General Permit requires preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) that must be kept on site at all times during construction for review.

Applicable projects applying for a County grading permit must show proof that a NOI has been filed and must submit a copy of the SWPPP. Although the County has no enforcement authority related to the Construction General Permit, the County is required by its Municipal Stormwater Permit (Order Number R5-2008-0142) to verify that the SWPPP program includes six minimum components (public education and outreach on storm water impacts, public involvement participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations).

In addition to the above construction controls, new development is required to include treatment of urban runoff using the BMPs required by the current standard defined in the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions, 2014*. The BMPs include a number of options for treatment including simple grassy swales and rain gardens, to more complex systems that use cisterns, pumps, and sand filters. Updates and background on the County's requirements for post-construction stormwater quality treatment controls, along with several downloadable publications, can be found at the following websites:

<http://www.waterresources.saccounty.net/stormwater/Pages/newdevelopment.aspx>

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, impacts may be significant if the Project results in one of the following:

1. A violation of any water quality standard or waste discharge requirement.
2. A substantial alteration of 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, siltation, and/or environmental harm on- or off-site (hydromodification).
3. Creation or contribution of runoff water that would provide substantial additional sources of polluted runoff. Changes in water quality would be considered substantial if the Project will not comply with the County NPDES Program, or there is a net increase in any other pollution source associated with an impaired waterway (under Section 303(d) of the Clean Water Act).

4. Substantial increase to the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.
5. Creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems.
6. Placement of housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map.
7. Placement of structures within a 100-year flood hazard area that would impede or redirect flood flows.
8. Develop in an area that is subject to 200-year urban levels of flood protection (ULOP).
9. Exposure of people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam.

Since the Project is not located within an area that is subject to the 200-year urban levels of flood protection, as it relates to item 8 above, there is no impact and this is not discussed further in this document.

STUDY AREA

The Project is within the Laguna Creek, Frye Creek, Elder Creek and Morrison Creek watersheds. A watershed is an area of land in which all of the surface water drains to the same waterway. For the purposes of this analysis, the entire watershed of a given creek need not be studied. Sufficient watershed area upstream and downstream of the site must be captured in order to ensure that the analysis properly models flows coming through the site and to capture the limits of any upstream or downstream impacts the Project may cause. The study area for the Project includes 1,198 acres of land within the affected watersheds, as shown in Plate HY-2. In the exhibit, the macro watersheds are broken down into smaller micro-watersheds (sub-sheds) based on the topography. In general, the topography of the site is gently rolling, with the highest elevation near the existing rendering plant and the lowest area is Frye Creek. The majority of the surface sheet flows enter Frye Creek.

METHODOLOGY

HYDROLOGY

MacKay and Soms Civil Engineers, Inc. prepared a Drainage Master Plan (dated May 2016) and errata memo (dated April 17, 2017), which is included as Appendix HY-1. The Drainage Master Plan was prepared in accordance with the Sacramento County

Improvement Standards, Hydrology Standards, and the Floodplain Management Ordinance, and was reviewed and approved as technically adequate by the Sacramento County Department of Water Resources. Runoff hydrographs for existing and developed conditions needed for input into the HEC-RAS model have been calculated using a Windows based application called the Sacramento Calculator (SacCalc) with what is commonly referred to as “the Sacramento Method”. Hydraulic analyses for water surface elevation assessment purposes have been performed using the U.S. Army Corps of Engineers HEC-RAS program, using the unsteady state routines.

The following existing on-site sub-sheds have not been modeled in this study as they will remain in the existing condition and the developed condition drainage system will not handle these flows:

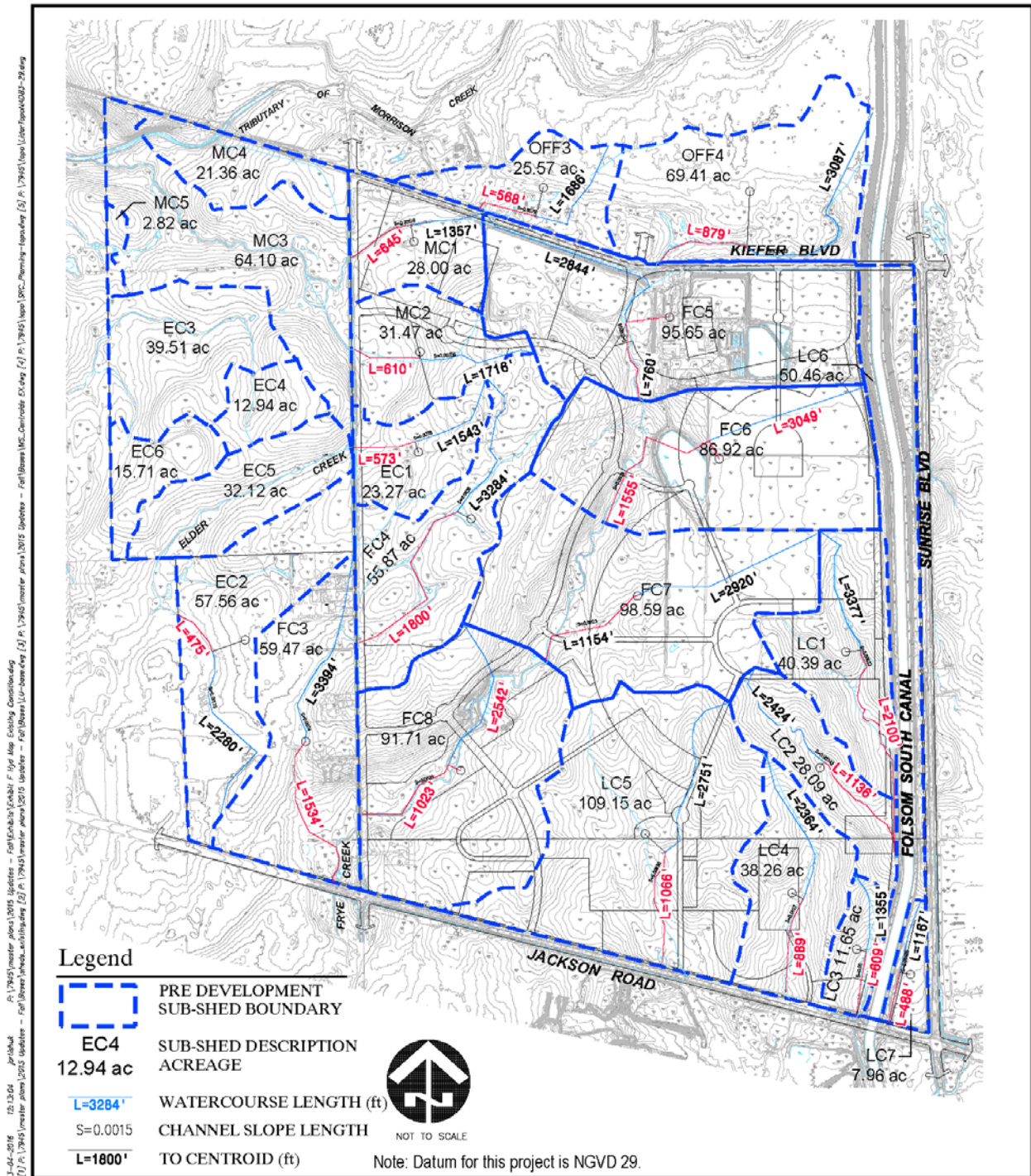
- Sub-Shed LC6, located east of the Folsom South Canal.
- Sub-Sheds EC3 through EC6, MC3 through MC5, located west of Eagles Nest Road in the upper West Planning Area.

Similarly, there are two areas within the Drainage Master Plan that are either located off-site or are not anticipated for development at this time, but have been included for drainage calculation purposes to ensure adequate Project detention requirements are met.

- Sub-Sheds EC2 and FC3, located in the lower West Planning Area, are presumed to be developed with 50 percent impervious area.
- Sub-Sheds OFF 3 and 4, located north of Kiefer Boulevard, are presumed to be developed with 90 percent impervious area.

The Drainage Master Plan study area along with pre-development sub-shed boundaries is depicted in Plate HY-2. Since this is a planning level study, more detailed design calculation will be performed alongside improvement plans that are reviewed and approved for each subdivision map within the Project boundary over time. This analysis develops the conceptual backbone drainage system, tributary sheds, locations of drainage facilities, pre-development and post development flows, flood detention and water quality to adequately serve the Project.

Plate HY-2: Hydrologic Study Area with Existing Condition Sub-sheds



NEWBRIDGE

Exhibit F - Existing Conditions Drainage Shed Map
Drainage Study

SACRAMENTO COUNTY, CALIFORNIA

MACKAY & SOMPS
ENGINEERS PLANNERS SURVEYORS
February, 2016

HYDROMODIFICATION

The Drainage Master Plan also includes a hydromodification assessment which examines the hydrologic and geomorphic impact of the Project relative to existing conditions of Frye, Morrison, Elder and Laguna Creek watersheds. Hydromodification refers to changes in a watercourse's physical structure and/or pre-development function. Stream channels change over time, but ultimately reach a dynamic equilibrium, which essentially means that although individual characteristics of the stream change, these balance each other out so that no net change in character (profile and pattern) results. Hydromodification occurs when the variables which created the current stream function (precipitation and the character of the surrounding watershed) are changed. Changes to the watershed which occur as a result of development alter the rate and volume of runoff, which exerts new erosive forces on the channel.

The Drainage Master Plan uses the Sacramento Area Hydrology Model (SAHM) software that was developed by the County, but not yet adopted, to simulate modeling of the developed conditions for the range of flows from 25 percent of the two-year storm event to the ten-year storm event. This model allows the designer to vary the size of a hydromodification basin until post-development flows meet the pre-development compliance as set forth in the Draft Hydromodification Management Plan (HMP). Since hydromodification basins do not empty as quickly due to the slow release rate, it is assumed that all of the hydromodification basins are full at the beginning of the 10-year/24-hour, 100-year/24-hour and 100-year/10-day storm events.

WATER QUALITY

For water quality impacts resulting from the deposition of pollutants in the watersheds, the effects of the Project have been examined based on the known pollutant types that occur from completed projects of this kind; the existing pollutant loads of creeks within the Project area as determined from the 303(d) list of impaired waterways; and the available control mechanisms for pollutants. The Drainage Master Plan for the Project included an assessment of detention needs for water quality treatment, which involves proposals to construct wet water quality treatment basins. It is important to note that the sizing of the basins was modeled assuming that no Low Impact Development features were incorporated into the development. Therefore, basin sizing assumes historical summer nuisance flows and flow rates, thus modeling the worst case scenario.

EXISTING CONDITIONS

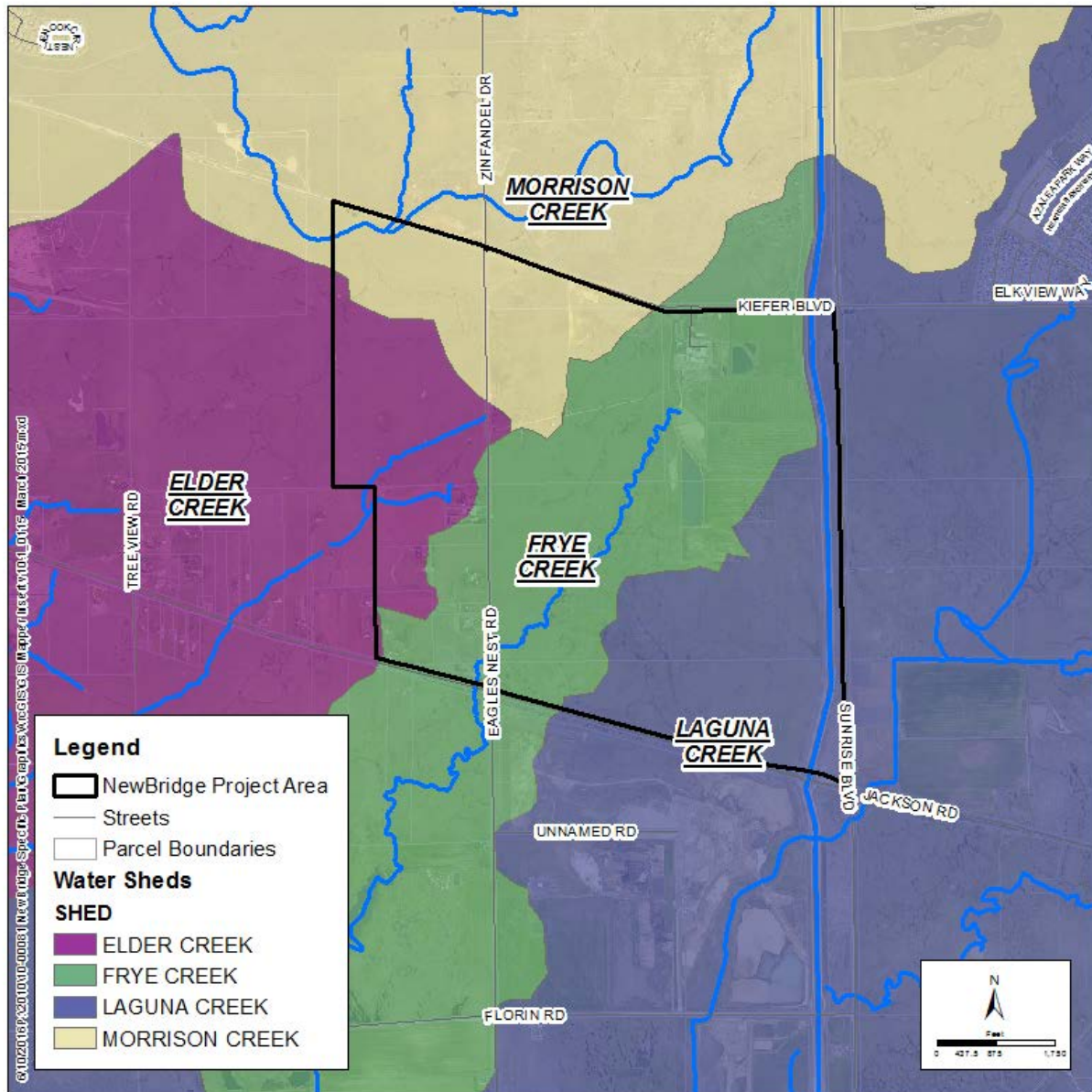
OVERALL SITE

The swales and drainages within the Project boundary are narrow, shallow to moderate channels with little to no riparian zones. The two-year flood event is contained within many of the channels, leaving poorly connected floodplains. This lack of floodplain connection is part of the reason why a riparian zone has not been established for most channels. Plate HY-3 depicts the waterways both on- and off-site, as referenced in the discussions to follow.

The Project site contains an industrial facility, agricultural-residential properties, human and pet cemeteries, and undeveloped grazing lands. The rendering plant area has approximately 15.4 acres of settling ponds for effluent from the plant. The effluent is eventually discharged to Frye Creek, or released overland according to permits issued by the Central Valley Regional Water Quality Board (Regional Water Board). The majority of the land is used for grazing, and unlike other types of agricultural activities, grazing land does not require the application of pesticides or other potential pollutants. Grazing animals on the land does introduce nutrients from livestock manure, and sediment can also be introduced as a result of large livestock creating areas of bare or disturbed soil. Though there are existing sources of such pollution in this area, the sources are relatively minor.

The Regional Water Board maintains and periodically updates a listing of “impaired” waterways, called the 303(d) list. This list indicates the waterway or reach of waterway that is impaired, the pollutant for which it is impaired, the source of that pollutant (if known), and the date by which the TMDL will be completed. The current 303(d) list is dated 2012, (Final 2012 Clean Water Act Section 303(d)/305(b) Integrated Report). A review of the existing 303(d) list of impaired waterways indicates that Morrison Creek (north of the Project) is listed as impaired, while Frye Creek was not evaluated. Morrison Creek is listed for agricultural pesticides, pentachlorophenol (PCP) and sediment toxicity. The northwestern section of the Project area drains to a tributary of Morrison Creek.

Plate HY-3: Existing Drainage Conditions



LAGUNA CREEK WATERSHED

The Laguna Creek watershed is large and extends east past Grant Line Road and southwest past Highway 99. The Project site does not contain any tributaries to Laguna Creek; however, sheet flows from the southeast portion of the Project do contribute to Laguna Creek. Within the Project area, the smaller sub-sheds are identified. The seven sub-sheds within the study area for Laguna Creek are shown on Plate HY-2.

FRYE CREEK WATERSHED

The Frye Creek watershed begins approximately 2,000 feet north and extends south of the Project site approximately 1.8 miles to the southwest. As shown in Plate HY-2, there are six different sub-sheds identified within the Project area.

The intermittent drainage that flows to the south through the approximate center of the site is Frye Creek, a tributary to Laguna Creek farther south. Frye Creek originates within the Project site and is a narrow channel with earthen bottom. The creek at one point had been dammed to create an agricultural pond; however, the dam has been breached and now only impounds a small volume of water.

ELDER CREEK WATERSHED

The Elder Creek watershed is located largely in the northwestern section of the Project site. The watershed begins in the Project area and extend southwest past Highway 99. There is an intermittent drainage that flows across the west and south and is tributary to Elder Creek. As shown on Plate HY-2, there are six sub-sheds identified within the Project area.

MORRISON CREEK WATERSHED

The Morrison Creek watershed is very large and only a small portion of the watershed is located within the Project site. The watershed extends east to White Rock Road and to the west past Highway 99. In the very northwest corner of the Project area is a segment of (lower) Morrison Creek. As shown on Plate HY-2, there are five sub-sheds identified within the Project area.

IMPACTS AND ANALYSIS

IMPACT: EXPOSURE OF PEOPLE OR STRUCTURES TO FLOOD HAZARDS

ON-SITE IMPACTS

The Drainage Master Plan assumed full buildout of the Project in order to model post-Project conditions. In addition, the Drainage Master Plan assumed a 50 percent buildout of the agricultural-residential area (lower West Planning Area) that is not proposed for development at this time. Site grading will alter the localized drainage conditions that generated the existing condition sub-sheds within the larger watersheds. The new sub-shed boundaries that would result from Project construction are shown in Plate HY-4, along with basic detention basin locations. Plate HY-5 depicts the proposed Project's conceptual basin designs and locations, main underground trunk drainage infrastructure, and sub-shed identification numbers.

The proposed detention basins are multi-purpose detention basins that will provide peak flow attenuation and hydromodification flow duration control storage in addition to wet basin water quality treatment. The basins are modeled to accept piped and overland release flows from the respective watersheds. Proposed detention basin volumes are reported in Table 4 of the Errata Memo for the Drainage Master Plan.

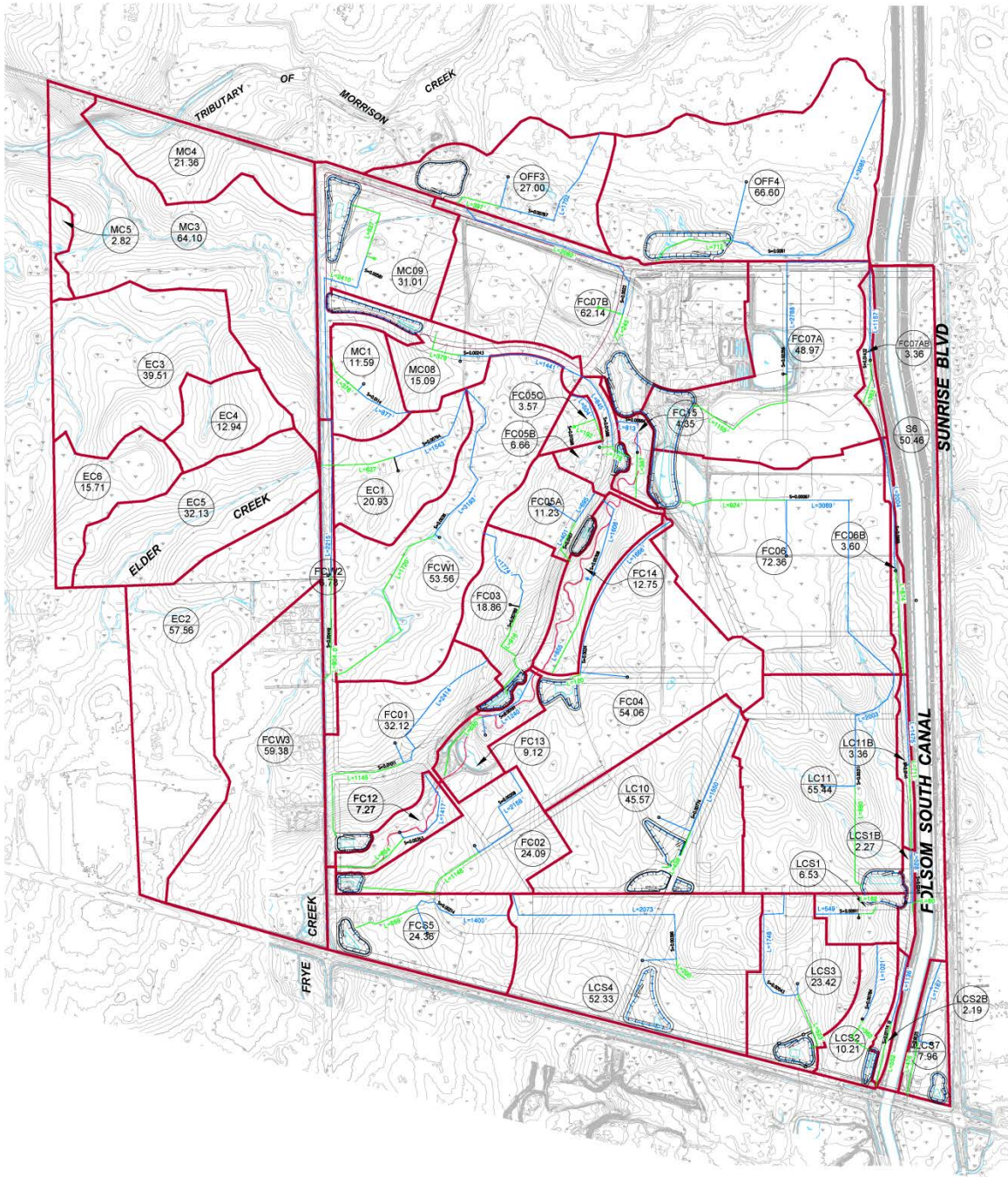
The proposed detention basins have been sized to ensure that the flow rate within the tributaries post-Project does not exceed the existing condition flow rates. The necessary volumes are based on the largest predicted volume requirement resulting from modeling the 10-year and 100-year 24-hour storms, and the 100-year 10-day storm. The resulting 100-year floodplain boundaries are contained within the open space land use designations (Plate HY-6). The Project will not expose people or structures to flood hazards; impacts are *less than significant*.

Although the hydrology analysis contained in the Drainage Master Plan demonstrates that the proposed land uses on-site will not be exposed to flooding, there remains some uncertainty regarding future precipitation frequency and intensity due to climate change. Changes in precipitation frequency and intensity may result in an increase in the floodplain on the project site and flooding of structures. This impact is *potentially significant*. Mitigation Measure HY-1 is included to require subsequent hydrology analysis at the time of future rezones and/or tentative subdivision maps. This subsequent analysis would incorporate assumptions for precipitation changes due to climate change. Implementation of Mitigation Measure HY-1 will reduce this impact to *less than significant*.

MITIGATION MEASURES:

HY-1: Subsequent applications for future rezoning or tentative subdivision maps within the project area shall include a hydrology analysis that incorporates assumptions for changes in precipitation due to climate change. Development of these assumptions shall be coordinated with the County's Department of Water Resources and the Office of Planning and Environmental Review.

Plate HY-4: Developed Condition Sub-sheds and Detention Basins



Legend

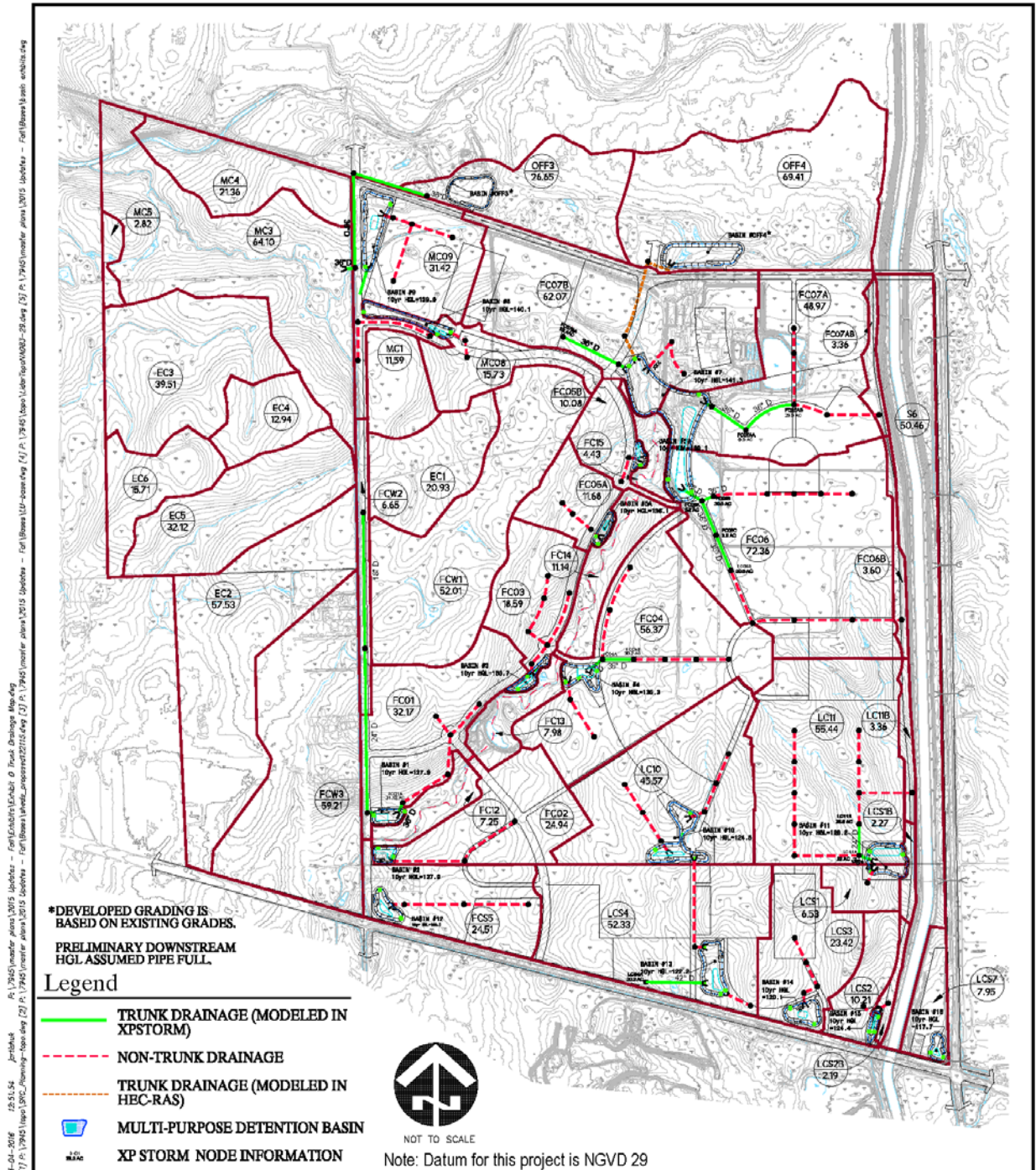
- POST DEVELOPMENT
- SUB-SHED BOUNDARY SUB-SHED DESCRIPTION ACREAGE
- WATERCOURSE LENGTH (ft)
- S= CHANNEL SLOPE
- L= LENGTH TO CENTROID (ft)
- MULTI-PURPOSE DETENTION BASIN
- CHANNEL PATH



0 200 400 800
SCALE: 1"=400'

Note: Datum for this project is NGVD 29

Plate HY-5: Developed Conditions Topography, Basin Design Concepts, Trunk Drainage Lines, and Sub-shed Identifications



NEWBRIDGE

SACRAMENTO COUNTY, CALIFORNIA

Exhibit O
 Developed Conditions Trunk Drainage Map
 Drainage Study

Mackay & Somps
 ENGINEERS PLANNERS SURVEYORS
 March, 2016

Plate HY-6: Post-Project 100-Year Floodplain and Project Uses



OFF-SITE IMPACTS

BACKGROUND

The Project is located in the eastern portion of the Morrison Creek Stream Group which ultimately feeds into the Beach Stone Lakes watershed. The Beach Stone Lakes watershed area is approximately 40,118 acres and regularly floods due to water entering the watershed from the north (Morrison Creek Stream Group), rainfall in Beach Stone Lakes area, and backflow water from the Cosumnes and Mokelumne Rivers to the south. Within the Beach Stone Lakes area is the community of Point Pleasant. Runoff from the Cosumnes and Mokelumne Rivers, and from the Morrison Creek Stream Group combine south of Point Pleasant, generally in the area south of Twin Cities Road and west of Interstate 5. The runoff must flow through the existing network of reclamation district levees before entering the Sacramento River and ultimately the larger Sacramento-San Joaquin Delta. When runoff volumes are high, these flows cannot efficiently move through this system and instead result in the widespread flooding of the lands to the north and east. In these larger events, water is pushed north and begins to flow from the south to the north over Lambert Road, threatening Point Pleasant from the west. Water is also backed up east of I-5 and east of the Union Pacific Railroad/Franklin Boulevard Corridor, and when high enough will flow through existing culverts under the UPRR and Franklin Boulevard and threaten Point Pleasant from the east. The Point Pleasant community has been impacted by flooding in storm events in 1986, 1997, and recently in January and February 2017.

Over the past several decades, the County has studied various flood control proposals to identify a feasible project to provide a significant level of flood protection. Such projects included large scale levee improvements that would effectively create a ring levee around Point Pleasant. The County also established a fund to help mitigate flooding in the Beach Stone Lake/Point Pleasant area. The sources of this funding include one-time mitigation contributions and Mello-Roos funds from the Laguna West/Lakeside development projects (now within the City of Elk Grove); and an existing Beach Stone Lake development impact fee charged to new development in the larger Morrison Creek Stream Group watershed. The mitigation funds were intended to contribute to the large flood protection project. Additionally, the Board authorized the use of interest generated by the funds to pay the annual flood insurance premiums for Point Pleasant residents, which is limited to the Point Pleasant/Beach Stone Lake area on the west side of Franklin Road/UPRR. The Sacramento Area Flood Control Agency (SAFCA) subsequently agreed to cover the flood insurance premiums, and annually reimburses the County Beach Stone Lake mitigation fund for those costs.

In 2007, the Board of Supervisors determined that it was infeasible to pursue the larger levee projects due to the high cost, lack of viable partners, and inability to mitigate the impacts to the floodplain that these projects would create. Instead, the Board redirected staff to use the funds to pursue individual flood protection measures on a property-by-property basis, such as construction of small floodwalls or contributing a portion of the local share towards home elevation projects so that the finish floor elevation is above the Base Flood Elevation.

PROJECT ANALYSIS

The Project is designed so that peak flows are attenuated to pre-project conditions; however, there will be more volume leaving the site due to the increase in impervious surfaces. The increased volume of runoff will be conveyed downstream via Frye Creek and Laguna Creek, which are part of the Morrison Creek Stream Group. This analysis assumes there is no potential for volume storage in the downstream creek system. In lieu of performing detailed modeling for the entire Beach Stone Lake/Point Pleasant area¹, the total volume calculated for the Project can be applied to the Beach Stone Lake/Point Pleasant area with the following assumptions:

- All the volume ends up at Beach Stone Lake/Point Pleasant,
- The volume increase from the Project will occur at the same time as the peak water surface elevation in the Beach Stone Lake/Point Pleasant area,
- The volume increase is applied to the ±14,257-acre area where flood insurance premiums are currently being paid by the County/SAFCA instead of the entire ±40,118-acre Beach Stone Lakes watershed.

This is a conservative assumption set since it does not account for the loss of water to evaporation and infiltration as the water moves through the system, and it does not take into account the time it would take for the water to travel through the system.

Currently, there are 30 residences within the Beach Stone Lake area of which only a handful have finished floor elevations at or above the Base Flood Elevation. The calculations indicate that the Project could add 1/8 of an inch to the water surface elevation in the Beach Stone Lake/Point Pleasant area. This is an indiscernible amount to the regular observer; however, there are two residences that could possibly be flooded that were not previously subject to flooding.

The Project would add to the volume of water which would contribute to an existing floodplain downstream. Additional structures may become flooded or it may increase the duration of flooding to structures already inundated. Therefore, the Project's impacts to off-site flooding are *significant*. Recommended mitigation ensures payment into the County Beach Stone Lakes mitigation fund which provides financial assistance to the programs the County has in place to reduce this flooding impact. However, flooding will still occur off-site in the Beach Stone Lakes area; therefore, this impact remains *significant and unavoidable*.

CUMULATIVE HYDROLOGY ANALYSIS

As described above, the Project is located in the eastern portion of the Morrison Creek Stream Group which ultimately feeds into the Beach Stone Lakes watershed (Plate HY-7). The Morrison Creek Stream Group covers approximately 123,536 acres and

¹ A Technical Memorandum, Beach Stone Lakes Area Impact Analysis for NewBridge and Mather South Developments, prepared by Ken Giberson, MacKay and Soms Engineers, March 2, 2018.

includes the sub-watersheds shown in Table HY-1. This table also shows the proposed urban acreage that the NewBridge Specific Plan would contribute to each sub-watershed in both acreage and a percentage. The proposed urban acreage does not include areas within the Project that are proposed to be set aside in permanent open space, and therefore would not contribute increased runoff to the hydrologic system.

Sacramento County Department of Water Resources prepared a cumulative hydrology analysis in 1996 as part of a process to update the County's drainage fees for Zone 11. The land use assumptions in the 1996 DWR study were taken from Holding Capacity, Sacramento County General Plan 1990-2010 (August 20, 1991), which assumed ultimate buildout to the Urban Services Boundary with an average imperviousness of 50 percent. This imperviousness assumption is consistent with the method used for projecting ultimate land use imperviousness for County drainage master plans.

Table HY-1: NSP Urban Acreages in Morrison Creek Stream Group Watersheds

Sub-Watershed	Acres	NSP Urban Acreage	Contribution Percentage
Beach Stone Lake	40,118	0	n/a
Elder Creek	7,632	1.14	0.01%
Elk Grove Creek	4,019	0	n/a
Florin Creek	2,875	0	n/a
Frye Creek	1,286	237.59	18.48%
Gerber Creek	2,579	0	n/a
Laguna Creek	21,176	185.25	0.87%
Morrison Creek	34,502	51.62	0.15%
Strawberry Creek	5,588	0	n/a
Unionhouse Creek	2,194	0	n/a
Whitehouse Creek	1,585	0	n/a
Grand Total	123,536	475.60	19.51%

Subsequently in 1998, the U.S. Army Corps of Engineers (USACE) and Sacramento Area Flood Control Agency (SAFCA) prepared a cumulative hydrology analysis for the San Joaquin River Basin/South Sacramento County Streams, which includes the Morrison Creek Stream Group. This analysis was done as part of a feasibility study to

define potential flood control approaches in the area. As shown in Plate HY-8, this analysis assumed the future condition in the Project area as well as most of the Morrison Creek Stream Group watershed area as residential and commercial land uses (Chart 10: Land Use Map Future Conditions).

These results of these two studies predicted a range of increases in the water surface elevation during a flood event in the Beach Stone Lakes area. The range of increases cannot be precisely determined due to differences in hydrologic and hydraulic modeling assumptions such as channel geometries, precipitation duration and location, and changes in jurisdictional standards over time. Since completion of the 1998 USACE/SAFCA feasibility study, Sacramento County Department of Water Resources has been regularly coordinating with SAFCA and the USACE to update the hydrology modeling for this area of the County. At the time of this writing, County DWR is actively pursuing an updated hydrology analysis that reflects the current hydrology standards, existing land use information, and future land use assumptions. Existing land use information and future cumulative land use assumptions are shown in Plate HY-9. This updated modeling and analysis is anticipated to be complete in 12 to 18 months.

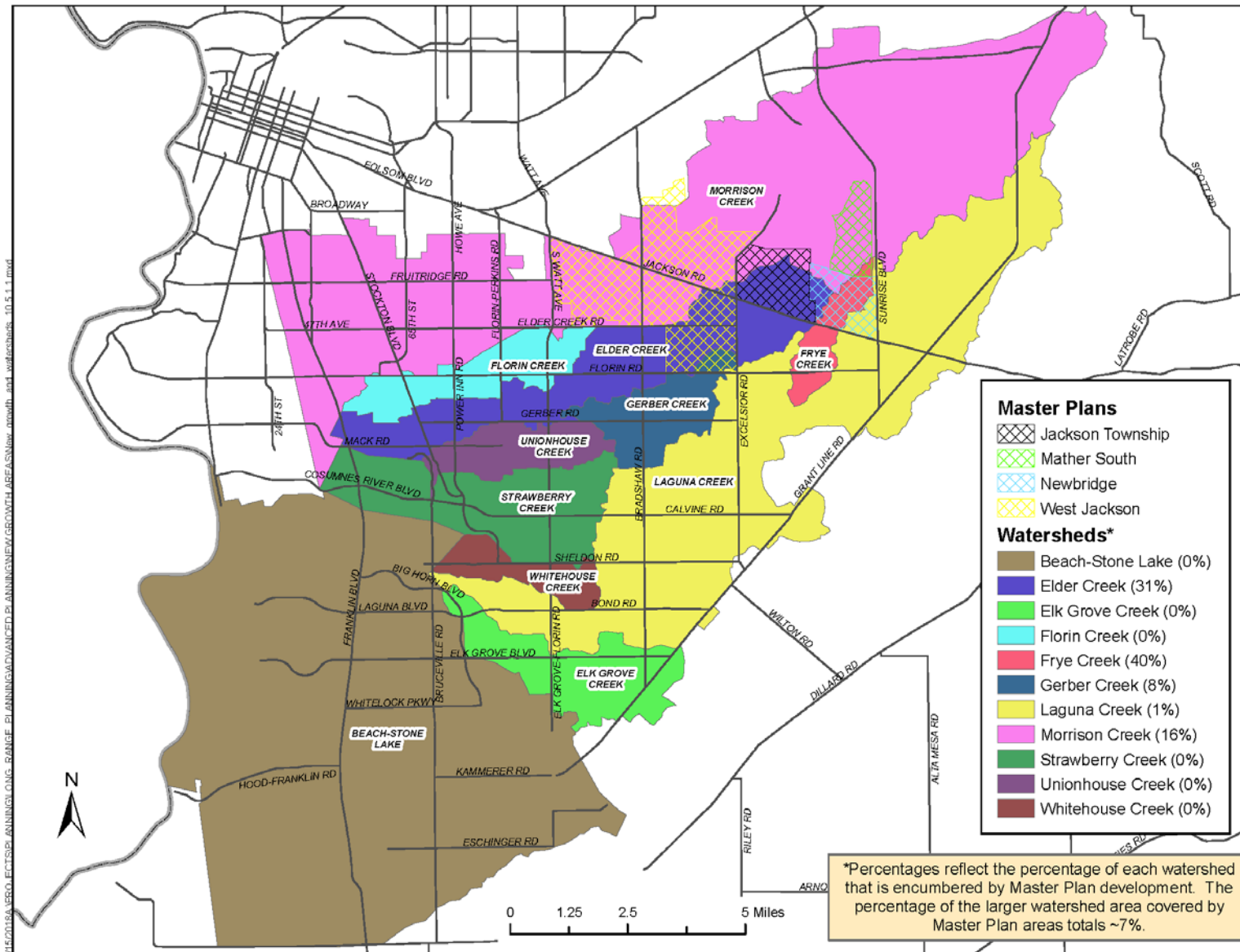
As described in MacKay & Somps' March 2, 2018 Technical Memorandum, the Project will have an increase in runoff volume of ± 124.1 acre-feet in a 100-year/10-day design event. Using the same conservative assumptions described above, the potential flooding impact associated with this volume increase is *potentially significant*. Implementation of Mitigation Measure HY-2 will reduce the severity of the impact, but the timing of completion of flood protection projects in the Point Pleasant area or implementation of regional flood volume storage solutions is unknown. Therefore, cumulative impacts related to hydrology are *significant and unavoidable*.

MITIGATION MEASURES:

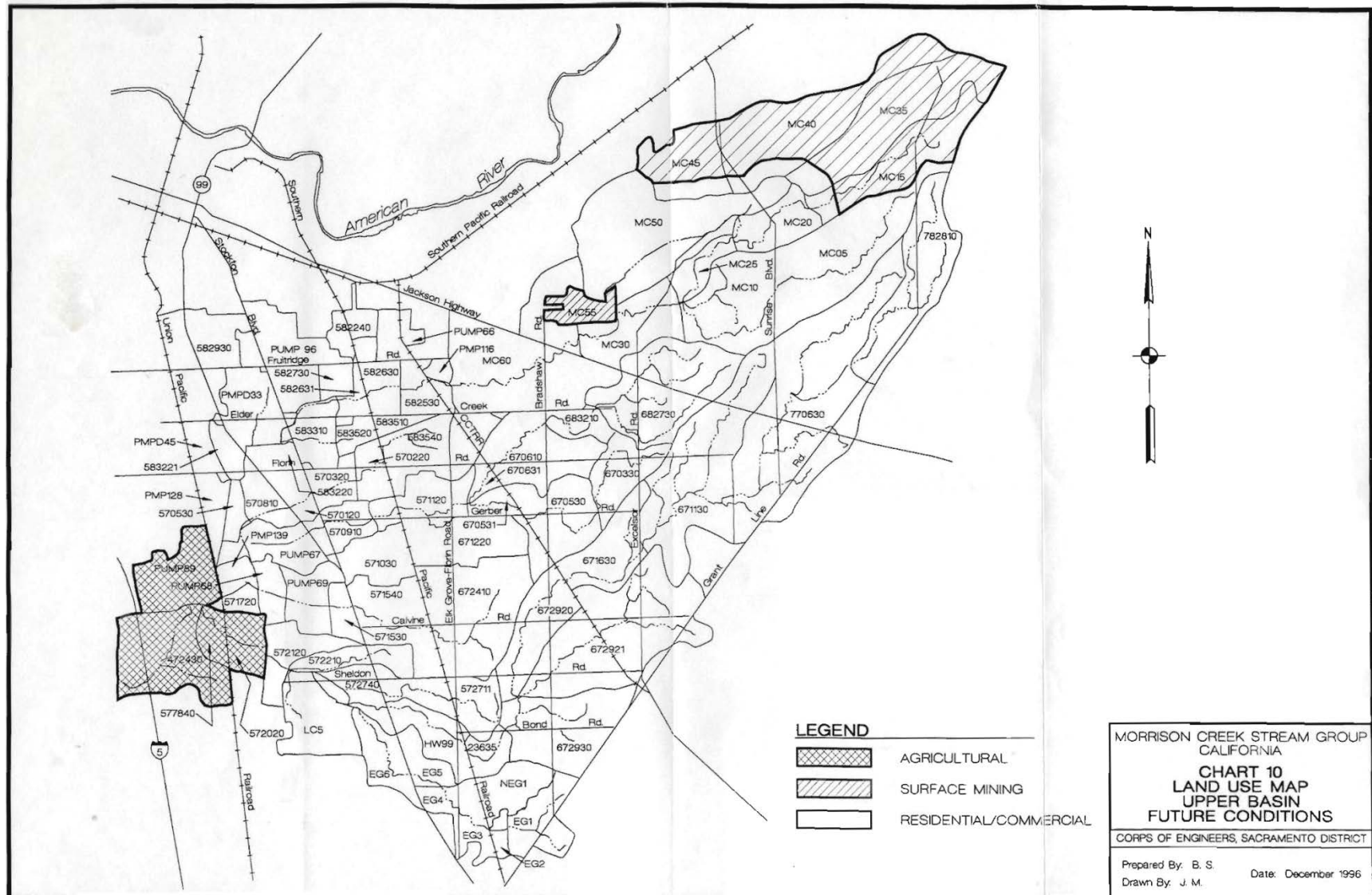
HY-2. The Project shall mitigate its downstream impacts by either of the following options:

- a. Payment of the Beach Stone Lakes Mitigation Fee (Sacramento County Water Agency Zone 11A).
- b. Ensuring no net Project-related increase in volume in Beach Stone Lakes by metering outflow from the project site, increasing storage capacity of onsite facilities, directing drainage into downstream facilities offsite, or other regional drainage solutions as determined by the County Department of Water Resources.

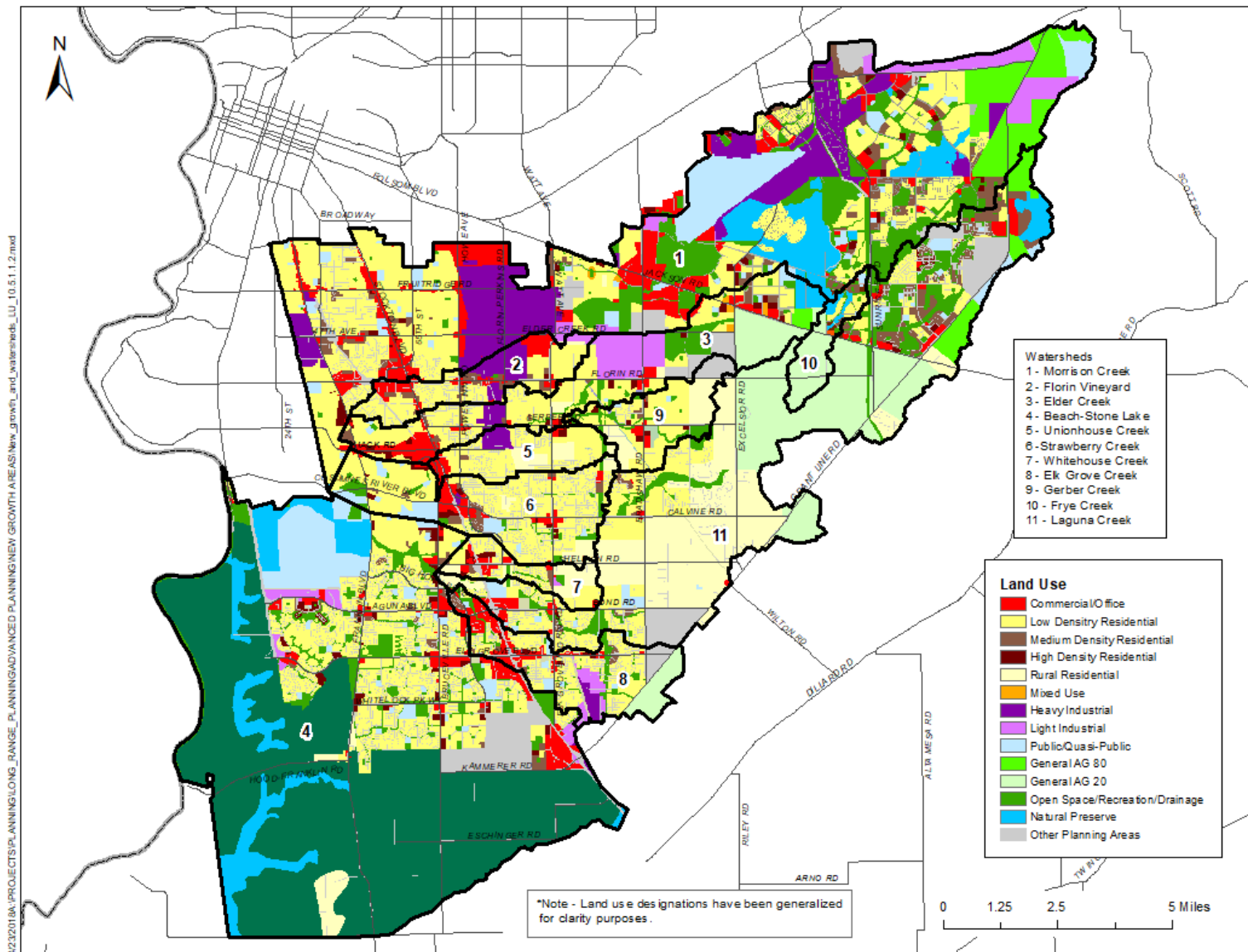
Plate HY-7: Watersheds in the Morrison Creek Stream Group



**Plate HY-8: Future Land Use Assumptions, 1998 Cumulative Hydrology Analysis,
South Sacramento County Streams**



**Plate HY-9: Existing Land Uses and Cumulative Land Use Assumptions,
Morrison Creek Stream Group Watersheds**



IMPACT: HYDROMODIFICATION

The hydromodification plan proposed for the Project consists of the enlargement of the detention basins to provide adequate capacity required for hydromodification mitigation. Consistent with the Draft HMP, the Project will utilize flow duration control structures (orifices) in each of the detention basins to accomplish flow matching in the downstream creek systems. The flow duration control structures modeled are overflow pipe and/or overflow weir. The hydromodification basin and outlet orifices were sized using the SAHM. The modeling results can be found in Appendix D of the Drainage Master Plan. Modeling indicates that the detention basins will control flows so that substantial hydromodification impacts do not occur; impacts are *less than significant*.

MITIGATION MEASURES:

None required.

IMPACT: EXCEED CAPACITY OF STORMWATER SYSTEMS

Virtually all stormwater flows overland on the site as sheet flow into swales and Frye Creek. Existing stormwater conveyance systems are comprised of roadside ditches and culverts. Along Eagles Nest Road there is one 12-inch culvert crossing approximately 2,700 feet north of Jackson Road and a 24-inch and 18-inch culvert further north. Most of the surface flow exits the Project site at the southwest corner under Jackson Road via two 6'x4' box culverts. Surface flows that drain east and south exit the site either through an over-chute over the Folsom South Canal and discharge into the roadside ditch along Sunrise Boulevard or through 24-inch or 30-inch culverts under Jackson Road. There are several culverts crossing down the length of Sunrise Boulevard. Surface flows entering the Project site from the north either breach Kiefer Boulevard or through an existing culvert under Kiefer Boulevard just west of the rendering plant.

The Drainage Master Plan is designed such that post-development conditions remain equal to or below pre-development conditions. Boundary roadways will be improved and widened. All crossings will have to meet design flows and new culverts will be sized accordingly. The Project also includes installation of a new trunk drainage system to convey flows throughout the site to the various proposed detention basins and outfalls. The trunk system consists only of the major underground piping, which has all been proposed within the major streets of the proposed land use plan (refer to Plate HY-5). Subsequent project-level applications for subdivisions and commercial development will, pursuant to existing County ordinances and requirements, need to design small-diameter collection pipe systems that will connect to the proposed trunk system. The overall trunk system has been designed consistent with County requirements, and will include sufficient capacity to serve buildout of the Project. The Project will not exceed the capacity of existing or planned stormwater systems; impacts are *less than significant*.

MITIGATION MEASURES:

None required.

IMPACT: CONTRIBUTION OF POLLUTED RUNOFF

Pollutants entering waterways are generally categorized by regulatory agencies as either point or nonpoint discharge. A point source discharge is one that comes from a specific location, such as a wastewater treatment plant outfall. A nonpoint source discharge is one that comes from multiple locations over a wide land area, and is the type of pollution that occurs as a result of land use activities. Rainwater or irrigation runoff flows over agricultural fields, streets, parking lots, backyards, and other areas, picking up sediment, pesticides, fertilizers, heavy metals, oils, and other pollutants before ultimately flowing into a waterway. It is nonpoint pollution that the proposed Project has the potential to generate. Nonpoint source pollution may be generated both during construction and after a site is operational; construction and operations are discussed separately below.

CONSTRUCTION IMPACTS

The Project would result in construction of residential and commercial buildings, along with associated streets and other paved areas. Water quality impacts could occur during construction from increased soil erosion and sedimentation due to clearing of vegetation, alteration of drainages, and grading. Construction also involves solvents, paints, concrete, and other materials that have the potential to contact and affect runoff from construction sites.

During the wet season (October 1 – April 30), development on the Project site must include an effective combination of erosion, sediment, and other pollution control BMPs in compliance with the Sacramento County Stormwater Ordinance, the Land Grading and Erosion Control Ordinance, and the State's Construction General Permit. During the rest of the year erosion controls typically are not required, except in the case of predicted rain. Examples of erosion controls include: stabilized construction entrances, tackified mulch, 3-step hydroseeding, spray-on soil stabilizers, and anchored blankets. Sediment controls help to filter sediment out of runoff before it reaches the storm drains and local waterways. Examples include rock bags to protect storm drain inlets, staked or weighted straw wattles/fiber rolls, and silt fences. Erosion control plans are a requirement of the County grading permit, and would be developed and submitted for review and approval prior to the commencement of grading. Each plan would be tailored to address the constraints specific to the proposed grading area.

In addition to erosion and sediment controls, individual development projects that occur as a result of Project approval must have BMPs in place to keep other construction-related wastes and pollutants out of the storm drains. Such practices include, but are not limited to: filtering water from dewatering operations, providing proper washout areas for concrete trucks and stucco/paint contractors, containing wastes, managing portable toilets properly, and dry sweeping instead of washing down dirty pavement. Compliance with adopted Ordinances and standards will ensure that future

development projects implemented as a result of Project approval will not cause violation of a water quality standard or waste discharge requirement, result in substantial erosion or siltation, and will not result in substantial increases to polluted runoff associated with construction; impacts are *less than significant*.

OPERATIONAL IMPACTS (POST-CONSTRUCTION IMPACTS)

New development proposed by the Project will result in the use of substances that could pollute waterways if not regulated. Vehicles deposit heavy metals, oils, and other substances onto roadways, parking lots, and driveways; residents wash their cars in streets and driveways, and the water picks up soaps, waxes, dirt, oils, and heavy metals from the cars; and people maintaining landscaping areas use pesticides and fertilizers. Water carries these and other pollutants into storm drains, where the water flows without treatment directly into the streams that provide drinking water, recreation, and wildlife habitat. This runoff could increase pollutant loads to such an extent that the waterway becomes impaired. Water temperatures can be increased, which affects the health of many organisms that live in the creeks. Even the nutrients in fertilizers can cause water quality problems, because they promote blooms of algae. Increases in discharge amounts or velocity have the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainage systems. These impacts must be addressed by requiring appropriate runoff reduction and pollution prevention controls to minimize runoff and keep runoff clean for the life of the Project.

It is critical that stormwater runoff be treated, in particular for the first flush that carries the greatest concentration. Typically, the first flush is the first ½ inch of rain after an extended dry period; it carries the accumulation of many weeks or months of pollutants that have been deposited onto the soils, pavement, and plants. It is impractical to treat all stormwater run-off during large storm events, but the use of standard water quality treatment methods can treat the first inch of run-off, which is highly beneficial and can avoid significant impacts to water quality.

The Drainage Master Plan for the Project includes an analysis of water quality basins, which function by retaining water long enough to let sediments, metals, and other heavy pollutants settle out of the water. The same basins which provide peak storm control have also been designed to function as water quality basins, consistent with the design requirements of the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*. Table 10 of the Drainage Master Plan includes calculations for each basin indicating the amount of storage needed for water quality.

In addition to retention treatment of wintertime storm flows, the Project also includes designs to reduce summertime “nuisance flows” by allowing runoff to percolate on-site rather than discharge into waterways. Summer nuisance flows consist primarily of irrigation runoff, but can also include runoff from washing vehicles in driveways or water play equipment. These flows can cause formerly ephemeral streams to become somewhat perennial, and introduce pollution. As part of the USACE 404 permitting and the Draft SSHCP, Frye Creek is to remain ephemeral. The Drainage Master Plan includes three strategies intended to retain nuisance flows: permanent wet basins, installation of percolation trenches in detention basins adjacent to Frye Creek, and the

use of Low Impact Development (LID) measures to capture and retain runoff. Appendix J of the Drainage Master Plan contains an evaluation of the number of percolation trenches that will be required, though a more detailed evaluation will be necessary at the individual project application phase.

Most of the above discussion relates to the plan-level designs that will be incorporated to control pollution in the watershed and sub-sheds as a whole. Further, measures will be required for the Project-level development proposals that would follow approval of the NSP. The County requires that projects include source and/or treatment control measures on most new development projects. Using the BMPs required by the current standard defined in the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* and subsequent editions in the years to come, Low Impact Development components and other measures will be required. Section eight of the Drainage Master Plan details the LID master plan and Appendix E of the Drainage Master Plan depicts potential types of LID measures. Section 7.4 of the NSP reiterates the implementation of LID measures. These may include simple grassy swales and rain gardens, notched curbs and disconnected roof drains. Basic source controls applicable to all projects include “No Dumping – Drains to Creek/River” stencils/stamps on storm drain inlets to educate the public, and providing roofs over areas likely to contain pollutants, so that rainfall does not contact the pollutants.

A review of the 303(d) list of impaired waterways indicates that Morrison Creek is listed as impaired. Although the waterway is listed as impaired, development of the Project site consistent with NPDES regulations will not cause a net increase of the pollutants for which the waterway is listed.

Compliance with the County Stormwater Ordinance, implementation of Low Impact Development Standards, and implementation of the Drainage Master Plan will ensure that development of the site will not alter the course of local waterways in a manner that results in substantial erosion or siltation, will not cause violation of a water quality standard or waste discharge requirement, and will not result in substantial increases to polluted runoff; impacts are *less than significant*.

MITIGATION MEASURES:

None required.

IMPACT: POTENTIAL CLIMATE CHANGE EFFECTS ON THE PROJECT

The standard of practice for planning, designing, and constructing flood protection measures is to identify the probability of inundation, to estimate the associated flow rate, and to take action to prevent property damage or personal injury because of water reaching the level associated with the flow rate. Actions taken to manage flooding can include structural actions, such as the construction of a levee, a detention, or a diversion. Non-structural actions could include floodproofing or constructing property at elevation greater than the stage associated with the design flow rate. Assessment of future flooding hazard potential is critical to the successful planning for flood protection and measures

are anticipated to prevent inundation for 50 years or longer. Current science indicates that the climate is changing over time, and flooding potential which is partially driven by climate, may also change. The probability of exceeding a specified flow rate may increase, or the flow rate associated with a specified probability may increase.

At the federal level, Executive Order (EO) 13690, signed in 2015, established a Federal Flood Risk Management Standard (FFRMS). The FFRMS requires federal agencies responsible for flood risk management to accommodate shifting flood frequency in their activities. California Water Code Section 9614(f) requires that the state's Central Valley Flood Protection Plan to consider "the probable impacts of projected climate change...on the ability of the system to provide adequate levels of flood protection."

METHODOLOGY

The NewBridge Specific Plan Area is within the watershed of the approximately 180 square mile Morrison Creek Stream Group. Traditional methods for estimating the flow rate for the 10-year and 100-year design event assume that flow rates would not change over time. However, the uncertainty associated with climate change indicates that the potential for flow rates to vary over time in response to changing climate patterns. Because the County does not yet have adopted hydrologic design standards for climate change, assessment of whether the project could accommodate the changing flow rates associated with climate change is characterized by evaluating the ability of detention facilities and other associated improvements to withstand additional flows that may be generated from the effects of climate change.

The precipitation and runoff characteristics of the NewBridge project under existing and post-development conditions was extensively modeled for the Drainage Master Plan. The results of the analysis indicated that the facilities would provide the required level of protection from the 10-year/24-hour, the 100-year/24-hour and the 100-year/10-day design events. Although the hydrology analysis contained in the Drainage Master Plan demonstrates that the proposed land uses onsite would not be exposed to flooding, there remains some uncertainty regarding future precipitation frequency and intensity because of climate change. The County has not adopted any policies or guidance with regard to the evaluation of hydrologic climate-related impacts. The modeling performed for the Project is based on a range of potential climate assumptions (scenarios) that could occur based upon the science as it currently stands. However, climate change science is a rapidly evolving area that is continually subjected to new legislation, policy, and scientific advancement. Concurrently, the County is considering regional policies and solutions to address climate-related impacts, but as of the date of this document, no such solution has been developed. Because the County does not have adopted hydrologic design standards that accommodate the impacts of climate change, assessment of whether the Project could accommodate the changing flow rates associated with climate change is characterized by evaluating the ability of detention facilities and other associated

improvements to withstand additional flows that may be generated from the effects of climate change.

The methodology used to check the resiliency of the NewBridge drainage and flood control facilities to control the effects of climate change incorporates projections under climate change scenarios on existing climate discharge frequency curves from the Central Valley Flood Protection Project derived by the California Department of Water Resources and based on a technical memorandum summarizing the DWR findings for several streams in the Sacramento Valley prepared by David Ford Consulting Engineers in April of 2018. Sacramento County requested a bookend approach to evaluating the resiliency of the projected NewBridge drainage and flood control improvements, and scaling factors for Arcade Creek and Pleasant Grove Creek Canal provide an adequate range of impacts for this analysis. Sacramento County DWR suggested that the differences in scaling factors between these two creeks should provide an adequate range of impacts for analysis. Because the climate change analysis relies on scaled-up hydrographs which exaggerate flows, the analysis is considered to be conservative.

Of the watersheds for which climate change predictions are available, Arcade Creek is representative of the area because the watersheds are located at similar elevations (less than 200 feet), the watersheds are similarly flat and of similar distance to the foothills, and the watersheds experience similar annual precipitation. Therefore, values for Arcade Creek were used as the low bookend value. To establish the high end of the expected climate change scaling factors, the Pleasant Grove Creek Canal was modeled. This modeling is conservative because it includes runoff from the foothills, which is not expected to affect the plan area. Scaling factors were derived from the analysis for three design events (10-year, 100-year, and 200-year events) and five different durations (1, 3, 7, 15 and 30-days). This is consistent with the methodology used for the Jackson Highway Corridor Projects.

CLIMATE CHANGE ANALYSIS

One model was prepared for the Plan Area for Frye Creek and 12 model scenarios were made for the purposes of scaling the storms to account for climate change. With one exception, the proposed drainage and flood control facilities would maintain climate change flows without overtopping the top of berm elevations of the basins. The one exception is during the 100-year/24-hour event in Detention Basin No. 11 under the Pleasant Grove Creek Canal (PGCC) scenario. Under this scenario, the water surface elevation in the basin overtops the top of the berm in the worst-case climate change scenario. If the PGCC scaling factors are adopted, then the proposed design of the basin would need to be redesigned to prevent overtopping during the 100-year PGCC-scaled event. Design changes would be implemented at the time of tentative map preparation and after a climate change standard has been approved by the County. It should also be noted that the discharge out of Detention Basin No. 11 to the east is somewhat constrained by the existing capacity of the culvert crossing over the Folsom South Canal.

The modeling concludes that the proposed detention basins would continue to provide peak flow mitigation, although many basins may not retain 1 foot of freeboard. One basin would overtop under the Pleasant Grove Creek Canal scaling factor (i.e., the worst case). Assuming a similar climate change scaling factor is adopted by the County, the design of this basin would need to be modified to include additional freeboard to meet the standard at the tentative map design stage. The preliminary analysis demonstrates that minor changes in the proposed design of the drainage facilities would be feasible, if required (MacKay & Soms 2018, Appendix HY-2).

While the modeling performed for the Project shows that changes in precipitation frequency and intensity may result in an increase in runoff in the Plan Area and potential flooding/overtopping of drainage facilities, the County has not adopted a countywide policy directing how new and existing development should assess and plan for hydrologic impacts of climate change. Furthermore, while it is generally understood that precipitation patterns could change in the future due to climate change, the degree and timing of the changes and how those would be effectuated locally remains a point of speculation.

The County has not adopted guidance for evaluation of project effects on flood potential in light of climate change or established a regional solution to addressing flooding because of climate change and, therefore, there is not a clear threshold upon which to measure Project effects. It would be speculative to reach a conclusion regarding the actual degree to which the Project would be able to adequately accommodate the increased flows from a climate change scenario. Nonetheless, it is acknowledged that some level of planning may be required by the County to address a regional solution to the potential hydrologic impacts that could occur with climate change.

If the County has not developed a regional solution or guidance for evaluating hydrologic climate-related impacts when backbone infrastructure plans are submitted, a hydrologic analysis would be submitted to the County that is based on the best available technical information at that time, in consultation with the County's Department of Water Resources and the Office of Planning and Environmental Review. Alternatively, if the County has adopted a regional solution for flooding related to climate change, the Project Applicant would contribute its fair share towards funding the construction of the regional solution. Potential improvements could include deepening the existing basin(s) within the Plan Area that would be subject to over-topping. Basin deepening would require minimal construction-related impacts including excavation and hauling of an additional increment of soil from the site. These construction-related impacts have been evaluated throughout this EIR.

CONCLUSION

Although the hydrology analysis contained in the Drainage Master Plan demonstrates that the proposed land uses on-site would not be exposed to flooding, there remains some uncertainty regarding future precipitation frequency and intensity because of climate change. The County has not yet adopted any policies or guidance with regard to the evaluation of hydrologic climate-related impacts. Because of the uncertainty associated with the physical effects of climate change that would be experienced in the Plan Area, it is too speculative to determine with certainty the actual impacts that would occur and render an impact conclusion. The modeling performed for the project is based on a range of potential climate assumptions (scenarios) that could occur based upon the science as it currently stands. However, climate change science is a rapidly evolving area that is continually subjected to new legislation, policy, and scientific advancement. Concurrently, the County is considering regional policies and solutions to address climate-related impacts, but as of the date of this document, no such solution has been developed.

While the modeling performed for the project shows that changes in precipitation frequency and intensity may result in an increase in runoff in the NewBridge Specific Plan Area and potential flooding/overtopping of drainage facilities, the County has not adopted a countywide policy directing how new and existing development should assess and plan for hydrologic impacts of climate change. Therefore, a conclusion regarding the actual degree to which flooding or other downstream effects might occur is too speculative to determine whether the project would be able to adequately accommodate the increased flows from a climate change scenario. Nonetheless, it is acknowledged that some level of planning may be required by the County to address a regional solution to the potential hydrologic impacts that could occur with climate change. Therefore, the County is requiring the implementation of Mitigation Measure HY-3.

MITIGATION MEASURES:

HY-3: At the time of submittal of backbone infrastructure plans, the project applicant shall submit a hydrologic analysis that is based upon adopted County guidance regarding a reasonably foreseeable climate change scenario. Based on the results of the hydrologic analysis and if impacts are identified, the project applicant shall implement design measures within the project's drainage system that can be shown to adequately maintain pre-project flows with consideration of climate change effects and are reasonably achievable, such as deepening the existing basin(s) within the Plan Area that would be subject to over-topping. Basin deepening would require minimal construction-related impacts including excavation and hauling of an additional increment of soil from the site. These construction-related impacts have been evaluated throughout this EIR.

Alternatively, if the County has adopted a regional solution for flooding related to climate-change, the project applicant shall contribute its fair share towards funding the construction of the regional solution.

If the County has not developed a regional solution or has not adopted guidance for evaluating hydrologic climate-related impacts, the project applicant shall prepare submit a hydrologic analysis that is based on the best available technical information at that time, in consultation with the County's Department of Water Resources and the Office of Planning and Environmental Review.

12 LAND USE

INTRODUCTION

The following chapter addresses potential physical environmental impacts related to land use. The Project is a land use plan; therefore, this chapter will address the entire Project area at a project level CEQA analysis. Areas of analysis include Project compatibility and consistency with adopted land use plans of Sacramento County, consistency with adopted Sacramento County General Plan policies, division or disruption of an established neighborhood, and the displacement of housing. Though growth inducement is discussed in this chapter as it relates to General Plan policy consistency, the overall discussion of growth inducement is within the Cumulative Impacts chapter.

LAND USE SETTING

The NewBridge Specific Plan (NSP) is located in the Vineyard community of unincorporated Sacramento County, southeast of Mather Airport, and just west of the City of Rancho Cordova. The Project is outside the Urban Policy Area (UPA), but is within the Urban Services Boundary (USB). The proposed Project is bounded on the east by Sunrise Boulevard (the City of Rancho Cordova and County boundary line); to the south by Jackson Road; to the north by Kiefer Boulevard; and the west boundary is 2,000 feet west of Eagles Nest Road (reference Plate LU-1).

The existing General Plan land use designations for the Project area are: Extensive Industrial (513.3 acres), General Agriculture 20 (411.6 acres), and Recreation (65 acres). The existing Vineyard Community Plan land use designations are shown in Table LU-1. The existing zoning designations are as follows: M1 (Industrial Intensive) (199.6 acres) and AG-80 (Agricultural 80-acre minimum) (105.4 acres) on the west side of Eagles Nest Road; M2 (Industrial Extensive) (313.7 acres), AG-160 (Agricultural 160-acre minimum) 411.6 acres and Recreation (60.0 acres) on the east side of Eagles Nest Road. Reference Plate LU-2 through Plate LU-4.

Table LU-1: Community Plan Land Use Designations

Existing Community Plan Designations	Acre±
Permanent Agriculture-AG160	411.6.
Permanent Agriculture-AG80	105.4
Permanent Agriculture-AG20	5.0
Heavy Industrial	313.7
Light Industrial	199.6
Recreation	60.0
Total Acres	1,095.3

Plate LU-1: Regional Map

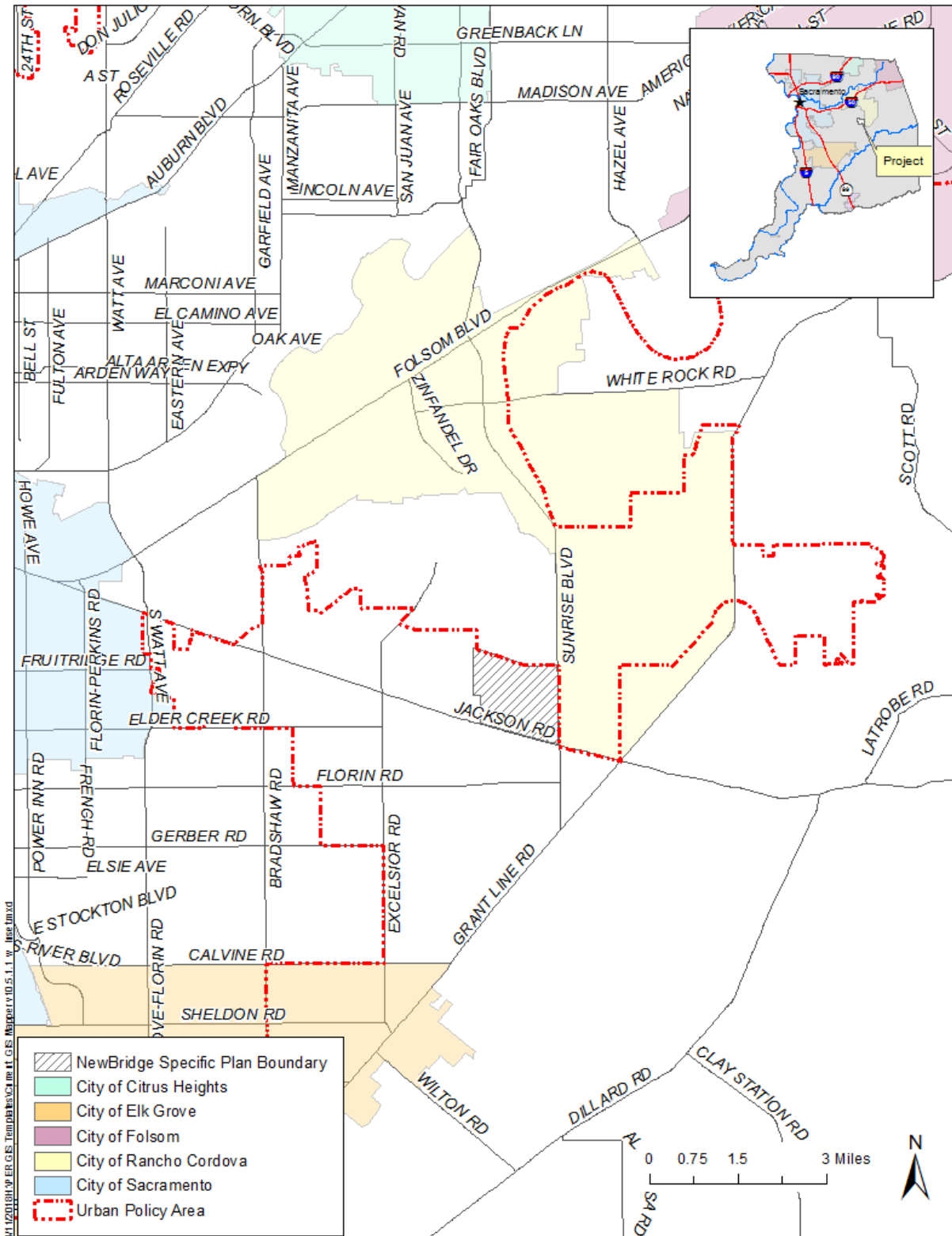
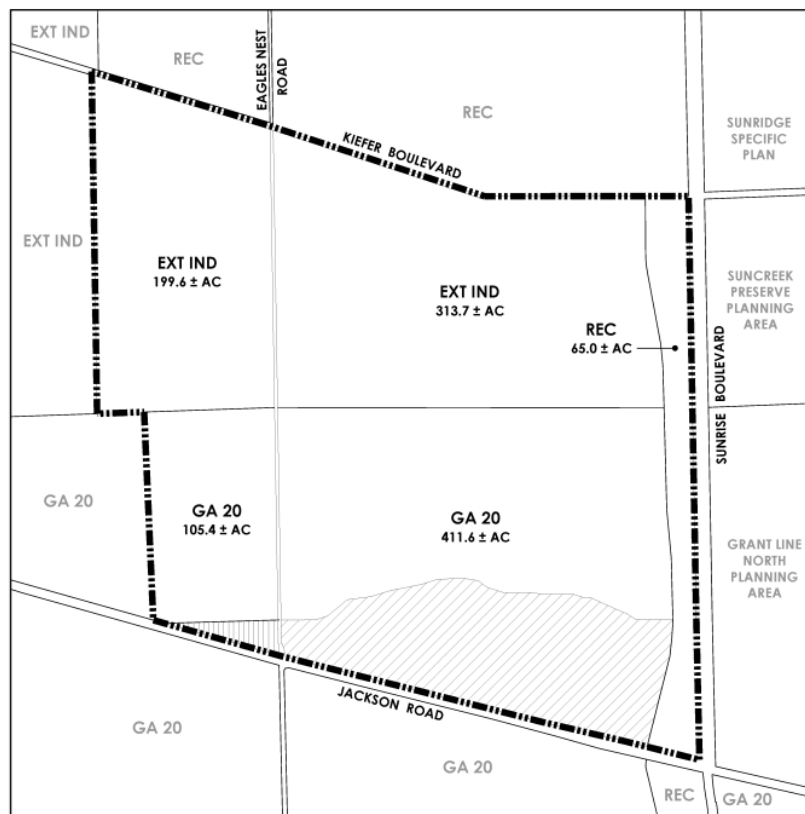
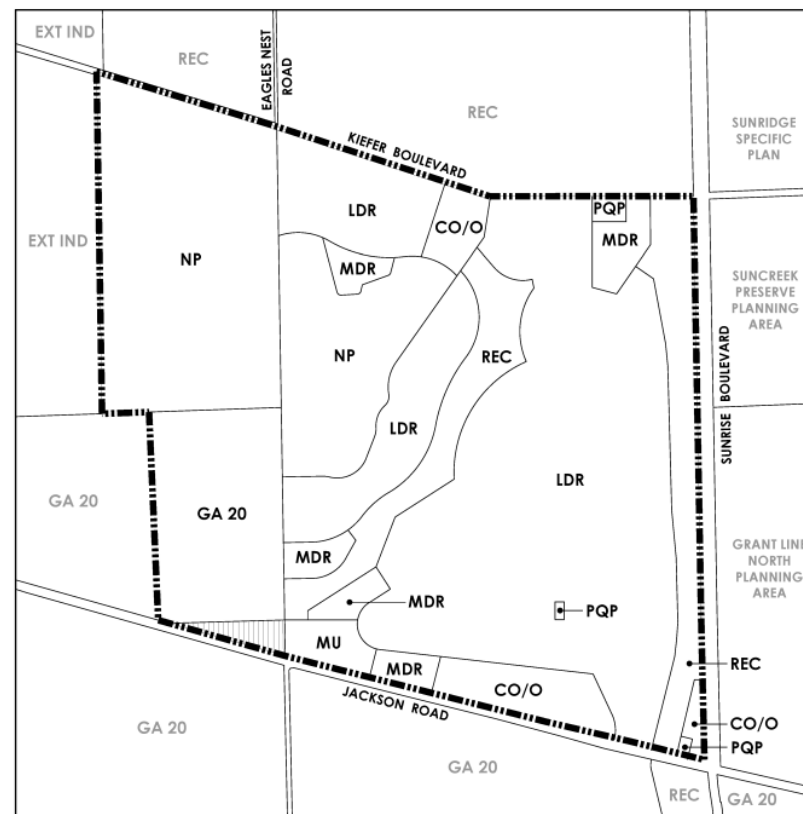


Plate LU-2: Existing and Proposed General Plan Land Use Designations



Existing General Plan Land Use Designations



Proposed General Plan Land Use Designations

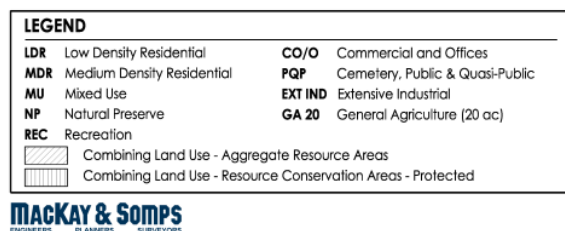
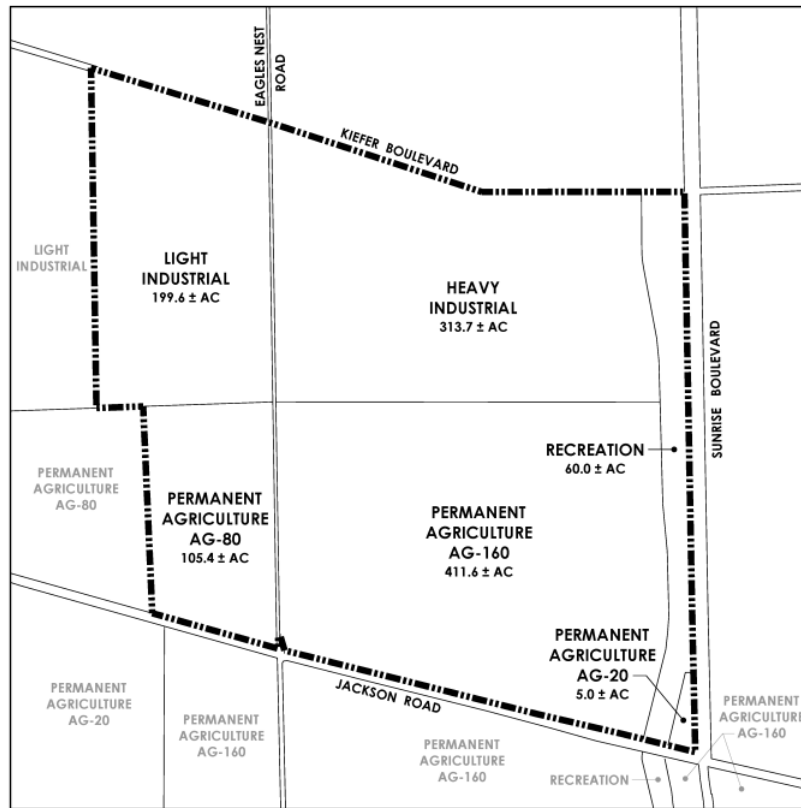


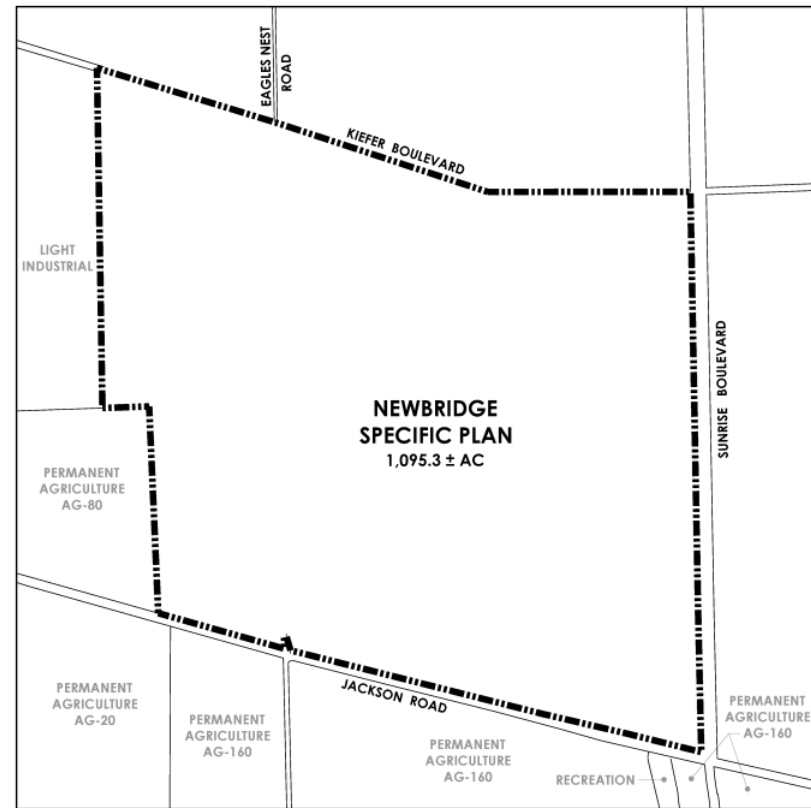
Plate LU-3: Existing Zoning in Project Area



Plate LU-4: Existing and Proposed Community Plan Land Use Designations



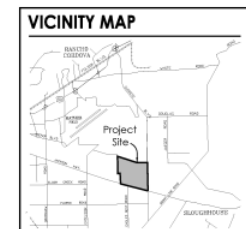
Existing Vineyard Community Plan Land Use Designations

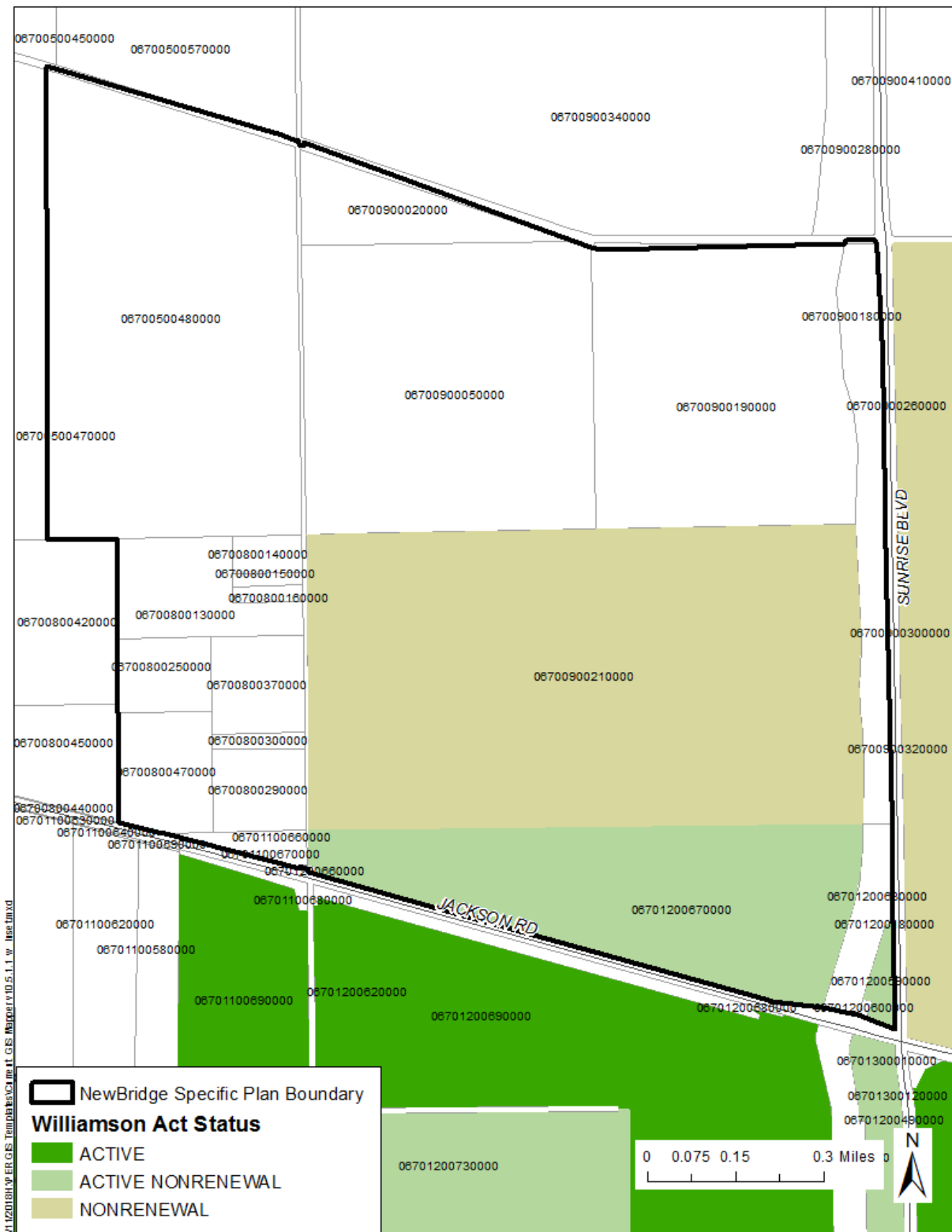


Proposed Vineyard Community Plan Land Use Designation

MacKAY & SOMPS
ENGINEERS PLANNERS SURVEYORS

Community Plan Amendment
Vineyard Community Plan
NewBridge
Sacramento County April 2015





Two parcels (APN 067-0120-067 and -059) are currently under the Land Conservation Act agreement, commonly referred to as the Williamson Act; however, the contract is in non-renewal and will expire in 2022 (reference Plate LU-5). Additional analysis is included in Chapter 4 – Agricultural Resources of this EIR.

The prominent development within the NSP is the Sacramento Rendering Company (SRC) which receives animal waste products for processing into other uses. The remaining lands south of the rendering plant are used for grazing. West of Eagles Nest Road, there are eleven parcels in which two parcels are considered socially sensitive in that one parcel is a cemetery associated with the Muslim faith and the second parcel is a pet cemetery. Other notable man-made features on the Project site are: the Folsom South Canal with associated bike trail; the 230-kilovolt electrical towers and lines that traverse the northern third of the site; and a Caltrans park and ride lot and small Sacramento Municipal Utility District electrical distribution facility in the southeast corner.

There are a wide range of land uses surrounding the Project site. Immediately east of Sunrise Boulevard is the City of Rancho Cordova. There are several approved developments (Sunrise Douglas Community Plan including the SunRidge and SunCreek Specific Plans) and one proposed plan (Arboretum Specific Plan) on the east side of Sunrise Boulevard. These plans incorporate a mix of land uses, such as, residential, commercial, office park, park, and schools. Immediately south of Jackson Highway is an active aggregate mine operated by Triangle Rock. To the west are agricultural, agricultural-residential, and industrial uses. There are proposed master plans to the west and north of the project site – Jackson Township Specific Plan, West Jackson Highway Master Plan, and Mather South Community Master Plan. Mather Airport is located approximately 3.6 miles to the northwest.

REGULATORY SETTING

To analyze the potential land use effects of the Project, this EIR considers the policies and land use designations of the Sacramento County General Plan, Vineyard Community Plan and Zoning designations currently guiding development in the project area. In addition, this EIR will analyze impacts associated with the Project and SACOG's "Blueprint" plan. Note that although the Project does not propose property rezones, rezones will be required subsequent to Project approval at the time of individual tentative subdivision map applications.

SACRAMENTO COUNTY GENERAL PLAN

The General Plan Land Use Element provides land development guidance through the implementation of policies LU-1 through LU-128. The land use policies listed below are those that are both pertinent to the Project and are intended to avoid an environmental effect. Though all of the policies listed below are located within the Land Use Element, many are intended to avoid impacts related to other topical impact areas, such as public services and air quality.

- LU-12. The County will prohibit land use projects which are not contiguous to the existing UPA, city boundaries, or existing planned communities or master plan areas (i.e. leapfrog development).
- LU-13. A Public Facilities/Infrastructure Master Plan shall be prepared to identify the major facilities required to serve new development in urban growth areas. A Public Facilities Financing Plan shall be prepared and approved by the Board of Supervisors prior to or concurrent with the approval of any zoning for any urban uses in urban growth areas. The Financing Plan shall include a Public Facilities/Infrastructure Master Plan describing required major infrastructure improvements necessary to support proposed developments, and present a detailed plan for the phasing of capital improvements and identifies the extent, timing and estimated costs of all necessary infrastructure.
- LU-19. Incompatible urban land uses should be buffered from one another by methods that retain community character, and do not consume large land areas or create pedestrian barriers.
- LU-21. Promote a better balance of employment, neighborhood services, and different housing types by reviewing development projects and the surrounding community and designing new projects wherever feasible so that they maintain or improve the mix of uses in the community.
- LU-22. Specific Plans and Community Plans should provide a balance of employment, neighborhood services, and different housing types wherever feasible.
- LU-23. Providing compact, mixed use developments shall be an integral part of all master planning efforts for new growth areas and commercial corridors.
- LU-25. Depending on its emphasis, a mixed use development may include the following proportions of different uses, shown as percentages of the site area:

TABLE 6			
USE	EMPHASIS OF DEVELOPMENT		
	COMMERCIAL	OFFICE	RESIDENTIAL
Retail	50 – 70%	10 – 30%	10 – 30%
Office	0 – 20%	50 – 70%	0 – 30%
Residential	20 – 40%	0 – 30%	50 – 80%
Public	10 – 30%	10 – 30%	10 – 30%
NOTE: Commercial uses refer to the LC and SC zones. Office uses refer to the BP and MP zones. Residential uses refer to the RD-5 through RD-50 zones.			

- LU-26. When planning for new development in new communities, the features below shall be incorporated for their public health benefits and ability to encourage

more active lifestyles, unless environmental constraints make this infeasible. In existing communities, the features below shall be considered, as appropriate and feasible:

- Where appropriate, compact, mixed use development and a balance of land uses including schools, parks, jobs, retail and grocery stores, so that everyday needs are within walking distance of homes.
- Grid or modified-grid pattern streets, integrated pathways and public transportation that connect multiple destinations and provide for alternatives to the automobile.
- Wide sidewalks, shorter blocks, well-marked crosswalks, on-street parking, shaded streets and traffic-calming measures to encourage pedestrian activity.
- Walkable commercial areas with features that may include doors and windows fronting on the street, street furniture, pedestrian-scale lighting, and served by transit when feasible.
- Open space, including important habitat, wildlife corridors, and agricultural areas incorporated as community separators and appropriately accessible via non-vehicular pathways.

LU-34. Developments in the areas designated on the Land Use Diagram as Transit Oriented Development shall be designed in a manner that conforms to the concepts of transit-oriented development, including:

- High intensity, mixed-use development concentrated in a Core Area within an easy walk (one quarter mile) of a transit stop on the Trunk or Feeder Line Network.
- An emphasis on neighborhood support commercial services at street level in the Core Area that can serve the residents of the Core and surrounding Secondary Areas, with other employment encouraged in the TODs created along the Trunk Line Network.
- A pleasant walking environment created through good land use design, short distances, amenities, and streetscape features.
- Direct, multiple linkages, especially for bicycles and pedestrians, between the Core Area and the surrounding Secondary Area.

Note: although the proposed specific plan is not identified on the Land Use Diagram, policies LU-35 and LU-36 do apply and are linked to Policy LU-34.

LU-35. The primary concepts in LU-34 should be employed wherever feasible in new urban development.

LU-36. Community Plans and Specific Plans shall employ the primary concepts in LU-34 in designating locations for higher intensity mixed use development and designing circulation and pedestrian networks.

LU-46. Assure that regionally-oriented commercial and office uses and employment concentrations have adequate road access, high frequency transit service and an adequate but efficient supply of parking.

LU-113. The County shall work with SACOG to support implementation of Blueprint's policies and land use objectives.

LU-120 The County shall only consider approval of a proposed UPA expansion and/or Master Plan outside of the existing UPA if the Board finds that the proposed project is planned and will be built in a manner that¹:

- meets all of the requirements per PC-1 through PC-10, and;
- meets ONE of two alternative performance metrics:
 - *Alternative #1- Criteria-Based*
 - *Alternative #2 - VMT/ Greenhouse Gas Emissions Reduction Metric*

PC-1. Vision for connection to other adjacent existing and potential future development areas.

Required: Include a vision of how the development will connect to other adjacent existing and potential future development areas within the USB, including how roadways, transit, sewer, and water could occur within all adjacent areas.

PC-2. Housing choice.

Required: A variety of housing types and densities, including single-family homes, duplexes, triplexes, accessory dwelling units, townhomes, condominiums, apartments and similar multi-family units, in a variety of settings including both residential neighborhoods and mixed use nodes.

PC-3. Quality.

Required: Design guidelines, development standards and/or similar assurances that will require high-quality development consistent with the vision set forth in the Master Plan.

¹ Some areas within a Master Plan may have existing uses that are not likely to change and are appropriate to remain. If the Master Plan designates such areas with a land use category that reflects that existing use, the Board may exclude these areas for purposes of determining consistency with these criteria.

Discussion: The County's General Plan contains numerous policies that address quality of new development, but does not provide specific details regarding how a particular Master Plan will be planned and built to ensure that quality is achieved. Conversely, many of the County's tools used implement the General Plan (such as zoning) provide specific details about how land can be used and developed, but do not necessarily address quality. The Master Plan is the bridge between the broad-based General Plan and fine-grained implementation tools like zoning, making it the ideal context to address the quality of development expected within its boundaries.

Master Plans should provide specific details regarding the quality envisioned for the project and appropriate standards to ensure that it will be built out over time in a manner that achieves the stated vision. Detailed design guidelines and firm development standards can be excellent tools for creating certainty that quality will be achieved. Elements of quality to be addressed may include:

- Building form, including architectural styling, materials, articulation, orientation, size, massing, etc.
- "Theming" at the neighborhood or community level, including consistent signage, materials, landscaping, and other elements
- Amenities provided beyond those required by law
- The public realm
- Relationship between uses

PC-4. Accommodate the percentage of low and very low income residential units required by state law per the County's current Housing Element based on the Regional Housing Needs Allocation (RHNA).

Required: Accommodate ≥90 percent of the obligation per RHNA (currently ~33% of units accommodated in RD-20 or higher).

Discussion: State law (California Government Code Section 65583) requires cities and counties to provide "adequate" sites with appropriate zoning, development standards, infrastructure, and public services to facilitate and encourage the development of a variety of types of housing for all income levels.

State law requires SACOG to periodically adopt a Regional Housing Needs Plan (RHNA) for the six-County region. The RHNA determines each jurisdiction's "fair share" of the region's housing needs per a methodology established by state law and approved by the California

Department of Housing and Community Development (HCD). The purpose of this is to avoid over-concentration of low-income households in any one community.

As part of periodic Housing Element updates required by state law, the County must create a land inventory that identifies vacant and underutilized land available for residential development within the unincorporated area. This land inventory is used to demonstrate how the County can accommodate its “fair share” of the region’s housing needs as determined by the RHNA, including how it will provide adequate sites for low and very low households. Currently, 37 percent of the units allocated to the County per the RHNA are for low and very low households and must be accommodated on land zoned for 20 dwelling units per net acre (RD-20) or greater.

Requiring Master Plans to be consistent with this criterion ensures that they are contributing their “fair share” of adequate sites toward the County’s overall obligation per state law. It represents the “break even” point where the County’s ability to meet state law neither helped nor hurt by adoption of the Master Plan. If numerous Master Plans were adopted with a considerably lower percentage of its units accommodated on land zoned RD-20 or greater, the County could fall short of adequate sites over time and be forced again to rezone properties in existing communities or planned growth areas, or face other negative consequences such as a moratorium on issuing building permits.

PC-5. Pedestrian- and transit-oriented design.

Required: Pedestrian- and transit-oriented design, including:

- Sidewalks and bike routes along interconnected streets with short block lengths and a high intersection density.
- Prominent pedestrian and bicycle network.
- Few if any cul-de-sacs.
- Pedestrian and bike connections at the ends of all cul-de-sacs unless infeasible due to topography or similar impediments inherent in the project site.

PC-6. Infrastructure Master Plan and Financing Plan

Required: Inclusion of an Infrastructure Master Plan and Financing Plan that include the following:

- The Infrastructure Master Plan shall identify required public facilities and infrastructure (including roads, transit, water, sewer, storm

drainage, schools, fire, park, library, and other needed community facilities) and associated costs for the development of the proposed UPA expansion/Master Plan;

- The Financing Plan shall:
 - Include an infrastructure phasing analysis that examines development through buildout taking into consideration potential development activities, facilities requirements and constraints;
 - Identify the phase or timing for when the facilities are needed;
 - Identify the funding mechanisms proposed to pay for the identified infrastructure and facilities;
 - Demonstrate that infrastructure requirements and the associated costs are reasonably balanced throughout each development phase and outline solutions for any potential constraints and/or shortfalls for any given phase.

PC-7. Services Plan

Required: Inclusion of a Services Plan to demonstrate:

- that provision of services to the proposed UPA expansion/Master Plan are cost-neutral to the County's General Fund and existing ratepayers;
- that the operations and maintenance costs stemmed from the required public facilities and infrastructure for the development of the proposed UPA expansion/Master Plan are cost-neutral to the County's General Fund and existing ratepayers, and;
- that existing levels of municipal services will not be negatively impacted by approval and buildout of the proposed UPA expansion/Master Plan.

PC-8. Consistency with County-adopted plans.

Required: Consistency with all applicable County adopted plans not sought to be amended by the proposed project.

PC-9. Consideration of regional planning efforts.

Required: Inclusion of a discussion/analysis of how the proposed UPA expansion/Master Plan relates to broad-based and regional planning

efforts, such as SACOG's adopted Blueprint Vision and Metropolitan Transportation Plan, Sacramento County's Visioning documents created for the Jackson Highway and Grant Line East Areas, any applicable Habitat Conservation Plan(s), the Sacramento Metropolitan Air Quality Management District's State Implementation Plan, and Regional Transit's Master Plan.

PC-10. Consideration of jobs-housing balance.

Required: Inclusion of a discussion/analysis of the proposed UPA expansion/Master Plan's jobs-housing balance. Master Plans should provide an internal jobs-housing balance and/or improve the jobs housing balance within the project's vicinity.

Alternative #1 – Criteria-Based

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that:

- meets all of the requirements per the criteria below, and;
- qualifies for a minimum of 18 points (out of a possible 24) per the criteria below

CB-1. Minimum net density.

Required: Minimum density of at least 7 dwelling units per net acre if using "double net" methodology or 9.3 dwelling units per acre if using "triple net" methodology.

Points:

1. ≥ 8 dwelling units per acre if using "double net" methodology, or ≥ 10.6 dwelling units per acre if using "triple net" methodology.	3 points
2. ≥ 9 dwelling units per net acre if using "double net" methodology, or ≥ 12 dwelling units per acre if using "triple net" methodology.	4 points
3. ≥ 10 dwelling units per net acre if using "double net" methodology, or ≥ 13.3 dwelling units per acre if using "triple net" methodology.	5 points

Discussion and definitions:

Double net density methodology: Double net density shall be calculated by considering land area dedicated exclusively to residential and mixed-use residential areas, **including** land for streets and alleys internal to the residential and mixed use residential areas. All other lands are excluded from this calculation, including streets not internal to the residential or mixed use areas, parks, schools, detention basins, other infrastructure, and services needed to support the development, and non-residential uses such as commercial areas, offices, and open space. This methodology shall be used if the Master Plan does not contain details regarding the location, size and extent of streets internal to residential and mixed use areas. A graphic representation of this methodology is provided below, with blue shading representing the residential and mixed use areas included in the calculation.



Triple net density methodology: Triple net density shall be calculated by considering land area dedicated exclusively to residential and mixed-use residential areas, **excluding** land for streets and alleys internal to the residential and mixed use residential areas. All other lands are excluded from this calculation, including streets not internal to the residential or mixed use areas, parks, schools, detention basins, other infrastructure, and services needed to support the development, and non-residential uses such as commercial areas, offices, and open space. This methodology may only be used if the Master Plan contains sufficient details regarding the location, size and extent of streets internal to residential and mixed use areas. A graphic representation of this methodology is provided below, with blue shading representing the residential and mixed use areas included in the calculation.



Allowable deviations from density calculations: Certain lands may be excluded from the density calculation to allow for larger lot residential development and/or a transitional zone between urban uses within the USB and rural uses beyond, including:

- Land within ¼ mile of the USB, OR;
- Up to 10 % of the net residential acreage.

Definition of “dwelling units”: Dwelling units shall include single family homes, duplex and triplex units, condominium units, townhomes, apartment and multiple-family units, and residential units in mixed use buildings. Residential units in congregate care facilities and in the residential portion of a university may be counted when calculating a master plan’s overall density if the County finds that the Master Plan includes assurances that these units will be built. Each planned accessory unit that is allowed “by right” per the Master Plan’s design guidelines, development standards and zoning will be counted as ½ a dwelling unit. If the County finds that the Master Plan includes assurances that planned accessory dwelling units will be built to habitable standards and rented or sold to people outside the family resident in the primary unit, they will be counted as one dwelling unit. Hotel rooms and other similar transient housing will not be considered as dwelling units.

CB-2. Proximity of residential units to amenities.

Required: ≥80 percent of all residential units located within one mile of at least three of the following existing or planned amenity categories:

- Public elementary, middle, or high school
- Park or recreational facility

- Grocery store, drug store or commercial center
- Office or industrial employment center
- Civic use (e.g. library, post office, community garden, urban farm)
- Preschool, childcare or senior care facility
- Medical offices or facilities

Points:

1. ≥85 percent of all units located within one mile of at least three of the amenity categories	2 points
2. ≥90 percent of all units located within one mile of at least three of the amenity categories	3 points
3. ≥90 percent of all units located within one mile of at least four of the amenity categories	4 points

CB-3. Mixed use.

Required: Include a mixed use designation, overlay, and/or zoning category that allows vertical mixed use by right, provides uninterrupted pedestrian connections, and prohibit barriers between different uses.

Points:

1. At least 5 percent of a Master Plan's developable land zoned for mixed use (horizontal or vertical).	2 points
2. At least 10 percent of a Master Plan's developable land zoned for mixed use (horizontal or vertical).	3 points
3. At least 15 percent of a Master Plan's developable land zoned for mixed use (horizontal or vertical) or assurances that at least 5 percent of the residential units will be located and built within vertically integrated mixed-use buildings.	4 points

Discussion: Mixed use shall be defined as “residential uses and at least one or more different use integrated vertically and/or horizontally in

conformance with a coherent plan with significant functional, aesthetic, and physical integration of project components including, but not limited to, pedestrian and vehicle circulation, jointly accessible common areas and shared parking, and shared architectural, landscaping, lighting and signage themes.” Mixed use zoning shall allow vertical mixed use by right, provide uninterrupted pedestrian connections, and prohibit barriers between different uses.

CB-4. Transit.

Required: ≥65 percent of all residential units located within ½ mile of existing or planned transit service, which consists of light rail, streetcars, buses, vanpools and/or shuttles that connects with regional public transit service.

Points:

Proximity

1. ≥70 percent of residential units located within ½ mile of existing or planned transit service	2 points
2. ≥75 percent of residential units located within ½ mile of existing or planned transit service	3 points
3. ≥80 percent of residential units located within ½ mile of existing or planned transit service	4 points

Headways

1. Transit service with headways of 60 minutes or less during peak hours (Monday through Friday from 7-9 a.m. and 4-6 p.m.)	1 points
2. Transit service with headways of 30 minutes or less during peak hours (Monday through Friday from 7-9 a.m. and 4-6 p.m.)	2 points
3. Transit service with headways of 15 minutes or less during peak hours (Monday through Friday from 7-9 a.m. and 4-6 p.m.)	3 points

Discussion: “Planned transit service” shall be defined as service identified in SACOG’s Metropolitan Transportation Plan (MTP), Regional Transit’s (RT) Short Range Transit Plan (SRTP), and/or service to be provided as

part of the Master Plan and funded via a secure financial mechanism (example: CSA 10; North Natomas TMA/developer fees). The MTP has a 20+ year planning horizon and is updated every four years; the SRTP has a 10-year planning horizon and is updated every year. Both the MTP and SRTP must be “financially constrained” in that only those transportation projects and programs for which funding is reasonably expected to be available may be included in the plan. Therefore, there is a high likelihood that transit service identified in these plans will ultimately be provided. Service to be provided as part of a Master Plan and funded via a secure financial mechanism would provide similar assurances that identified service will ultimately be provided.

In contrast, transit service envisioned in RT's long-range TransitAction Plan cannot be implemented until a significant new revenue source is secured, making such service far more speculative. For example, a new ½ cent sales tax increase would only partially fund transit service envisioned in the TransitAction Plan. Therefore, service(s) identified in the TransitAction Plan and similar visioning documents will not be considered “planned transit service” for purposes of determining consistency with this criterion.

CB-5. Proximity to employment.

Required: Analysis of existing employment/jobs within a five mile radius of the proposed UPA expansion/Master Plan boundary.

Points:

1. <50,000 existing employees/jobs within a 5 mile radius of the proposed project	2 points
2. Between 50,000-100,000 existing employees/jobs within a 5 mile radius of the proposed project	3 points
3. >100,000 existing employees/jobs within a 5 mile radius of the proposed project	4 points

Alternative #2 – Vehicle Miles Travelled (VMT)/Greenhouse Gas (GHG) Emission Metrics

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that results in:

- ≤14 vehicle miles travelled (VMT) per resident per day (or the equivalent VMT per *household* per day);

OR

- ≤Equivalent GHG per capita per day from cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight).

Discussion: While consistency with the criteria in Alternative #1 provides a level of certainty that a proposed project will achieve particular outcomes, *measuring* the actual projected outcome(s) of the project is a viable alternative. These projected outcomes can be compared against pre-defined metrics to determine the project's "performance". VMT and greenhouse gas (GHG) emissions are logical metrics because a project's performance in these areas is directly correlated to the project's ability to achieve the same goals and mandates (relative to air quality, transportation, land use, infrastructure, and GHG emissions) as the criteria in Alternative #1. Additionally, VMT and GHG are very closely related; the mix of vehicles that residents use for their daily travel has a relatively narrow range of GHG emissions per mile traveled. Given the direct correlation between improved VMT and associated reductions in GHG emissions, this alternative directly addresses goals and mandates relative to recent state laws aimed at reducing GHG emissions, including AB 32, SB 375 and SB 97.

VMT is easily measured using standard travel demand analysis methods. Multiple traffic models exist for conducting such analysis. Given the long-range nature of the General Plan and the ever-evolving nature of traffic models, it does not make sense to require use of a specific model to determine compliance with this alternative. However, to ensure that a credible model is employed, the project proponent and County staff (including DERA, DOT, Planning, etc.) will discuss the merits of available models and determine which will be used to determine compliance with this alternative prior to starting the analysis.

The 14 VMT per capita can be translated into a 13 lbs. of GHG per capita by using the same assumptions that SACOG is required to use for calculating SB375 GHG targets. These assumptions are that this travel will use cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight), and that vehicle and fuel improvements are not included. If the technology improvements are included (fuel economy increases and a 10% reduction in the carbon content of gasoline), then the GHG metric would be 8 lbs. of GHG per capita.

LU-123. Before granting approval of an amendment to the Land Use Diagram, the Board of Supervisors shall find that:

- the request is consistent with the objectives and policies of the General Plan;
- the request is consistent with the goals and objectives of a Sacramento County-adopted Habitat Conservation Plan;

- approval of the proposal will not adversely affect the fiscal resources of the County;
- the project will be consistent with the performance standards in this Plan and, for urban uses in urban growth areas, the project complies with the requirements of LU-13.

VINEYARD COMMUNITY PLAN

The Vineyard Community Plan was adopted June 12, 1985 by the Sacramento County Board of Supervisors. The Vineyard Area Community Planning and Advisory Council developed goals and objectives to act as guidelines for the future development of the plan area. Goals and policies that pertain to the proposed Project are:

Natural Environment Resources Goals and Objectives:

3. To preserve existing natural stream channels, wetlands, vernal pools and wildlife habitats.
5. To provide open space and recreational opportunities for all Vineyard residents.

Agricultural-Residential Goals and Objectives:

2. To support land use proposals which will provide for reasonable housing growth consistent with the rural atmosphere and character of the Vineyard Community.

Future Urbanization Goals and Objectives:

1. To encourage infilling of property and the development of urban growth areas adjacent or contiguous to existing developed areas rather than permitting leapfrogging of urban residential development into primarily agricultural areas.

SACRAMENTO COUNTY ZONING REGULATIONS

The development of Specific Plans is regulated by the Sacramento County Code, Title 21, Chapter 21.14. In general, Specific Plans are intended to serve as a policy and/or regulatory document, with policy direction and project development concepts consistent with the County's General Plan, and the development standards and zoning included to address the unique characteristics within the Specific Plan area. The Board of Supervisors will either approve or deny the proposed Project. If the Project is approved, the Specific Plan, Development Standards and design guidelines will be adopted by ordinance and referenced by Title and section in the Zoning Ordinance.

SACRAMENTO AREA COUNCIL OF GOVERNMENTS (SACOG) BLUEPRINT

The SACOG Board of Directors adopted the Preferred Blueprint Scenario (<http://www.sacregionblueprint.org/adopted/>) in December 2004, hereinafter referred to as the Blueprint. The Blueprint is a growth concept for the greater Sacramento region

based on the seven principles listed below, with an ultimate horizon of the year 2050. Consistent with General Plan Policy LU-113, the Blueprint is treated as an applicable land use policy document intended to avoid environmental impacts. General Plan policies LU-23 and LU-26 are also applicable in this context, as they require inclusion of many of the growth principles (mixed use, compact community design, walkable environments, and open space) unless determined to be infeasible.

1. Provide a variety of transportation choices, including walkable paths
2. Mix land uses
3. Take advantage of compact building and community design
4. Create a range of housing opportunities and choices
5. Strengthen and direct development toward existing communities
6. Foster distinctive, attractive communities with a strong sense of place
7. Preserve open space, farmland, natural beauty, and critical environmental areas

The ultimate purpose of the “smart growth” concept supported by the principles is sustainable communities, and is a reaction to the recognized health and safety impacts of urban sprawl and vehicle-centric development strategies. Various studies have demonstrated that smart growth development significantly reduces impacts to air quality, water quality, open space/biological resources, and public health. A 2000 study found that compact development in New Jersey would produce 40 percent less water pollution than more dispersed development patterns (Rutgers University). A 2005 Seattle study found that residents of neighborhoods where land uses were mixed and streets are better connected, making non-auto travel easier and more convenient, traveled 26 percent fewer vehicle miles than residents of neighborhoods that were more dispersed and less connected (Lawrence Frank and Company). Smart growth development also promotes the clean-up and redevelopment of contaminated lands (brownfields), supports maintenance of infrastructure by concentrating post-development revenue into smaller areas, and requires less extension of new infrastructure. It has also been demonstrated that the greenhouse gas emission reductions incorporated within California’s Executive Order S-3-05 are unlikely to be achieved just through vehicle efficiency and development of low-carbon fuels – significant vehicle trip reductions will also be required (Yang, et. al.) and can be fostered through smart growth land use policies.

The SACOG website for the blueprint (<http://www.sacregionblueprint.org/adopted/>) states that the Blueprint “should be interpreted and used as a concept-level illustration of the growth principles” and that it is “not intended to be applied or implemented in a literal, parcel-level manner”. The Blueprint can be considered an example of how the seven principles could be applied in the Sacramento region. This analysis includes the Blueprint map applicable to the Project area, but the analysis relies on analysis of the Project’s conformity to the principles and overall vision of the Blueprint, rather than conformity to the concept map. This analysis relies on a strict definition of smart growth – a proposal must be consistent with all seven principles to be called smart growth. The

following paragraphs expand on the seven principles, and describe both what does and does not satisfy each principle. The descriptions below were developed using information from the Blueprint, from the Environmental Protection Agency's Smart Growth program (www.epa.gov/dced), from Smart Growth Online (smartgrowth.org), and from Smart Growth America (www.smartgrowthamerica.org). Though these descriptions are provided, the analysis recognizes that the Blueprint principles are general policy statements, and there is no clearly empirical way to analyze a project's consistency. This analysis is somewhat subjective in nature.

TRANSPORTATION

The first principle recommends a mix of transportation options, including walkable paths. This does not merely imply that there must be sidewalks, a bus turnout, and roadways. Those design elements are normal infrastructure required by existing development standards. A project must go beyond these minimums to satisfy the principle. The following paragraphs include some of the design elements that typify pedestrian-, bicycle-, and mass transit-friendly development.

Pedestrian-supportive development includes placing commercial and retail buildings close to the road rather than separated by large parking lots, providing separated sidewalks with landscaping, avoiding cul-de-sacs and non-linear street design that lengthens the distance from one place to another, placing amenities within 5 – 10 minutes walking distance, and creating community trails.

Bicycle-supportive development includes bicycle lanes on roads carrying higher volumes and/or speeds, avoidance of cul-de-sacs and non-linear street design, placement of secure bicycle parking facilities at all amenities, provision of showering facilities at places of employment, and providing a cash buy-out program for employees that do not use a parking space.

Transit supportive development includes creation of exclusive Bus Rapid Transit lanes, provision of queue-jump processes for buses, creation of bus stops at key locations, providing subsidies for employees who choose mass transit, institution of maintenance fees to support ongoing operation of transit, provision of high residential density along all mass transit routes to provide adequate ridership, provision of medium density in many non-corridor areas to support mass transit, provision of a jobs-housing balance within each community rather than just in the region as a whole, and location of development near existing transit lines and job centers.

MIXED-USE

A development is often called mixed use if two or more uses are proposed adjacent to one another. However, this type of project would be better described as multiple use. A mixed use project would involve multiple uses in the same building (e.g. a building with retail on the first floor and apartments on the second floor) or would at a minimum intersperse and blend multiple uses throughout a development rather than grouping most of the similar uses together. This involves the inclusion of neighborhood

community retail centers, markets, and parks within a ¼ or ½ mile radius, rather than clustering these amenities in regional centers several miles from the average home.

COMPACT DESIGN

Compact building and community design refers to higher density development, cluster development, including multiple-story buildings, and including smaller buildings. The typical subdivision in Sacramento County is less than 5 dwelling units to the acre, whereas compact community design would involve a minimum of 10 dwelling units to the acre. In many typical subdivisions, the greenspace is divided up amongst all of the residential and commercial lots and fenced off, while in a cluster development homes and businesses would be given smaller private yards and clustered together facing a common greenspace. Townhomes and other types of housing products can be included to provide home square-footage without taking up additional land, and homes can be built with less square footage in general to avoid taking up additional land.

RANGE OF CHOICES

Many subdivisions provide only a handful of floorplans and often only one type of product. A smart growth development would include a range of house sizes and product types to accommodate the range of residents in the community. The needs of young single individuals differ from the needs of a family of 5, and differ again from the needs of seniors. The purchasing power of the different resident groups also varies. Rather than building predominantly single-family homes of several thousand square feet, developments should include cottages of 700 – 1,000 square feet, townhomes, condominiums, apartments, and other housing choices.

DEVELOP IN EXISTING COMMUNITIES

Directing development toward existing communities is accomplished by building on infill land and urban brownfields before developing greenfields, building on greenfields only after the prime infill and brownfield land is developed, and developing greenfields in a logical and phased progression beginning in those areas nearest to existing urban lands.

SENSE OF PLACE

Creating a sense of place, and creating distinctive, attractive communities can be accomplished through a variety of means, and the existing landscape and community context will be a significant driver for that process. However, it can generally be stated that the inclusion of focal points, such as town centers and community main streets plays a role in creating a sense of place. Distinctiveness and attractiveness is a function of how the setbacks are implemented, the amount and location of landscaping, providing variation in building façades while maintaining cohesion, the placement of garages at homes, and a multitude of other factors. To ensure that this principle is achieved, it is often important to include a comprehensive set of design guidelines for a community.

PRESERVE OPEN SPACE

Preservation of open space, be it for the benefit of agriculture, ecological function, or cultural resources, is an often-overlooked component of smart growth. A project may meet all of the smart growth principles listed above, but still be developed within prime open space. Clearly, it is inevitable that development will involve the destruction of some open space resources if a project is located on undeveloped land (as opposed to a reuse project). The purpose of this principle is not to entirely prevent loss of open space, but to ensure that a project preserves the most sensitive and prime resources within the area. This is partly accomplished through principle five, which directs development toward existing communities where the open space environment is already compromised by existing urbanization. This is also accomplished by identifying the prime ecological, agricultural, and cultural resources during project design, and avoiding those areas. These resources can then become recreational and visual amenities, sequestration areas for carbon dioxide, and natural preserves.

FEDERAL AVIATION ADMINISTRATION REGULATIONS

The Federal Aviation Administration (FAA) is the federal agency responsible for developing and enforcing air transportation safety regulations. Many of these regulations are codified in the Federal Aviation Regulations. The FAA also publishes a series of guidelines for airport operators to follow called Advisory Circulars (ACs). Advisory Circulars in the 150 series deal with airport safety issues, including wildlife hazards. In addition to Federal Aviation Regulations and ACs, the FAA periodically issues Certalerts for internal distribution and to provide recommendations on specific issues for inspectors and airport personnel. All of the above-mentioned regulations, Advisory Circulars, and Certalerts are frequently changed or updated, and their current status should be verified on a regular basis. This may be accomplished by contacting the FAA directly or by visiting their website at http://www.faa.gov/airports/resources/advisory_circulars/ or http://www.faa.gov/airports/airport_safety/certalerts/ for the most current revision.

On August 28, 2007, the Federal Aviation Administration (FAA) released a revised Advisory Circular for Hazardous Wildlife Attractants on or near Airports (AC 150/5200-33B), which among other things addresses stormwater detention facilities as potential hazardous wildlife attractants. The AC states the following:

New Storm Water Management Facilities.

The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird

balls, wire grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

According to the FAA, all stormwater facilities must drain within 48 hours of the design storm if they are located within 10,000 feet of all airports' operations areas. Furthermore, for a five mile radius (nearly 20 square miles) the AC discourages hazardous wildlife attractants which may include detention basins that do not drain within 48 hours. In a January 17, 2008 comment letter on the Natomas Levee Improvement project, the FAA informed the USACE that,

FAA Advisory Circular 150/5200-33 recommends a separation distance of 10,000 feet between aircraft movement areas such as runways and taxiways, aircraft loading ramps, aircraft parking areas, and any wildlife attractant at airports normally serving turbine-powered (jet) aircraft. FAA Advisory Circular 150/5200-33 also recommends a distance of 5 statute miles between approach and departure airspace and any wildlife attractant which may cause wildlife movements into or across the approach or departure airspace. An additional resource providing information regarding aircraft-wildlife strike hazards is *Wildlife Hazard Management at Airports: A Manual for Airport Personnel (2005)* available on-line from the University of Nebraska, Lincoln at http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1127&context=icwdm_usdanwrc, or by searching the World Wide Web.

The 10,000 foot separation is considered a critical area where there should be no hazardous wildlife attractants. Out to five miles, the language is less absolute and, according to the Sacramento County Airport System, focuses on how multiple attractant sources may cause wildlife to move across approach and departure airspace. For example, a corn field may in itself not provide a hazard if located 4.5 miles out and not in line with a runway but if a source of water was located such that it caused wildlife to move from the corn field across an approach departure zone to get to the water, the AC advises against the land use.

The AC differentiates between detention ponds and retention ponds as follows:

Detention ponds. Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.

Retention ponds. Storm water management ponds that hold water for several months.

Within Sacramento County, development is required to comply with the Stormwater Quality Design Manual for the Sacramento and South Placer Regions - <http://www.sactostormwater.org/SSQP/development.asp>. As part of the development process, developers are commonly required to provide stormwater detention facilities. These facilities serve to collect runoff and provide treatment for water quality purposes and additionally they buffer peak stream flows by holding water and discharging after peak events. This detention of water and temporary storm flow storage can conflict with the AC if water is held over 48 hours and the facility is located within five miles of an airport.

SIGNIFICANCE CRITERIA

CEQA Guidelines defines “significant” as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant” (Section 15382).

Based on the CEQA Guidelines, a land use impact is significant if Project implementation results in any of the following:

1. Substantial conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to a general plan, specific plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
2. Substantial physical disruption or division of an established community.
3. Displacement of substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
4. Creation of an airport safety hazard for people residing or working in the Project area.

METHODOLOGY

The evaluation of the potential land use impacts associated with implementation of the Project is based on a review of planning documents, including the various components and policies of the Sacramento County General Plan, the Vineyard Community Plan, the Sacramento County Development Code, and consultation with appropriate agencies.

IMPACTS AND ANALYSIS

As stated in the Project Description chapter the proposed Project is the development of a Specific Plan. In order to do so, the Project is requesting the following General Plan amendments:

1. Move the Urban Policy Area (UPA) boundary south and west to include approximately 1,095.3 acres encompassing the NewBridge Specific Plan area.
2. Amend the Land Use Diagram to:
 - a. Change the land use designations from Extensive Industrial (513.3 acres), General Agriculture (20 acre) (411.6 acres), Recreation (65 acres) to Low Density Residential (470.0 acres), Medium Density Residential (42.1 acres), Commercial & Offices (47.9 acres), Mixed Use (13.5 acres), Natural Preserve (294.2 acres), Cemetery, Public & Quasi-Public (5.0 acres), and Recreation (116.0 acres). *Note: A portion of the NewBridge West Planning Area on the northwest corner of Jackson Road and Eagles Nest Road (105.6 acres) will retain all existing General Plan Land Use Designations.*
 - b. Remove the Aggregate Resource Areas combining land use designation on the area designated General Agriculture (20 acre) – Aggregate Resource Areas.
3. Change the Bicycle Master Plan to add and amend on- and off-street bikeways as shown in the Bicycle Master Plan
4. Amend the Transportation Diagram to change:
 - a. Kiefer Boulevard between Eagles Nest Road to Sunrise Boulevard from developing post-2030 (4-lane arterial) to developing pre-2030 (4-lane arterial), as shown in the Transportation General Plan Amendment Diagram.
 - b. Sunrise Boulevard between Kiefer Boulevard to Jackson Road from developing post-2030 (thoroughfare) to developing pre-2030 (thoroughfare).
 - c. Jackson Road between Eagles Nest Road and Sunrise Boulevard from developing post-2030 (thoroughfare) to developing pre-2030 (thoroughfare).
5. Amend the General Plan, including the Land Use Diagram, to include a Mixed Use Diagram Designation.

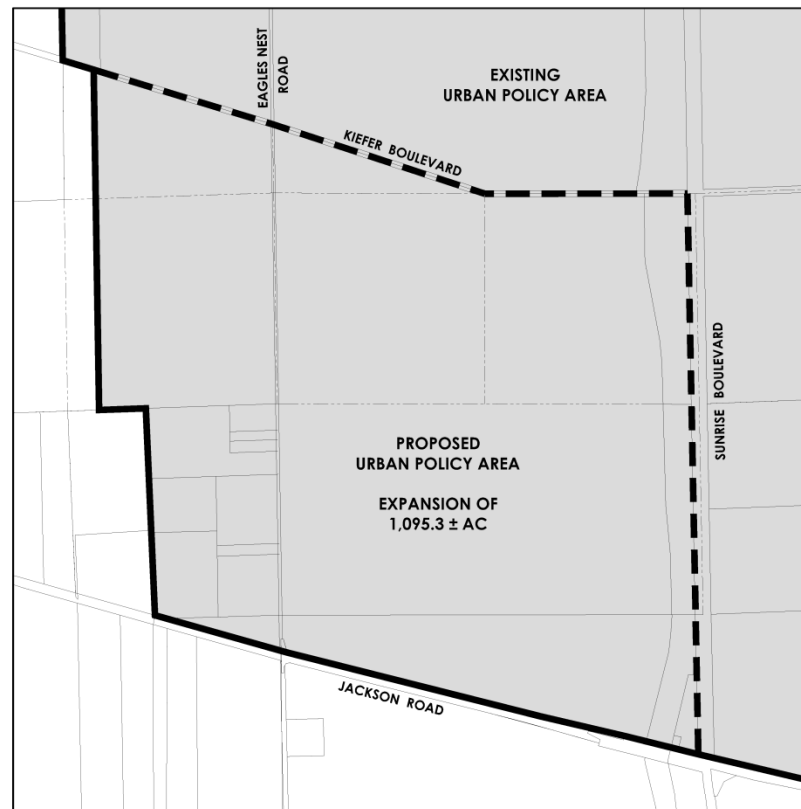
6. Amend the Vineyard Community Plan to change the Community Plan designation of the parcels located within the NewBridge Specific Plan area (1,095.3 acres) from Permanent Agriculture (AG-160) (411.6 acres), Permanent Agriculture (AG-80) (105.4 acres), Permanent Agriculture (AG-20) (5.0 acres), Heavy Industrial (313.7 acres), Light Industrial (199.6 acres), and Recreation (60 acres) to NewBridge Specific Plan Area (1,095.3 acres). Reference Plate LU-2, Plate LU-4, and Plate LU-6 through Plate LU-8, which show the existing and proposed changes.

Corresponding rezones are not proposed as part of this Project. Future entitlements would have to be consistent with the land use designations proposed in the Specific Plan or follow amendment guidelines as specified in Section 9.7 of the NSP.

Plate LU-6: Urban Policy Area



Existing Urban Policy Area



Proposed Urban Policy Area

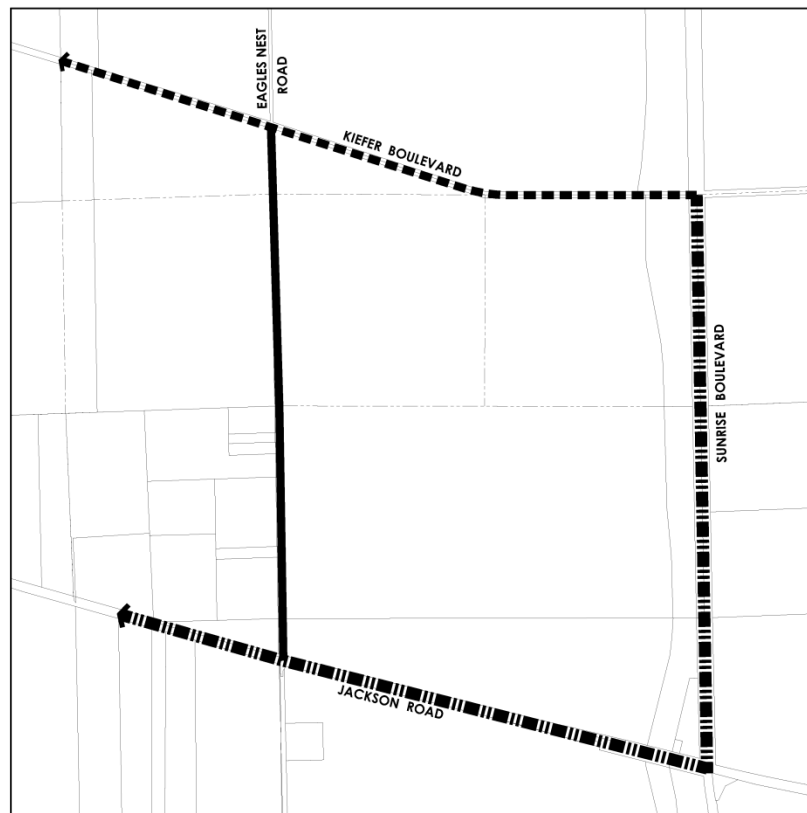


General Plan Amendment
Urban Policy Area Expansion
NewBridge
Sacramento County April 2015

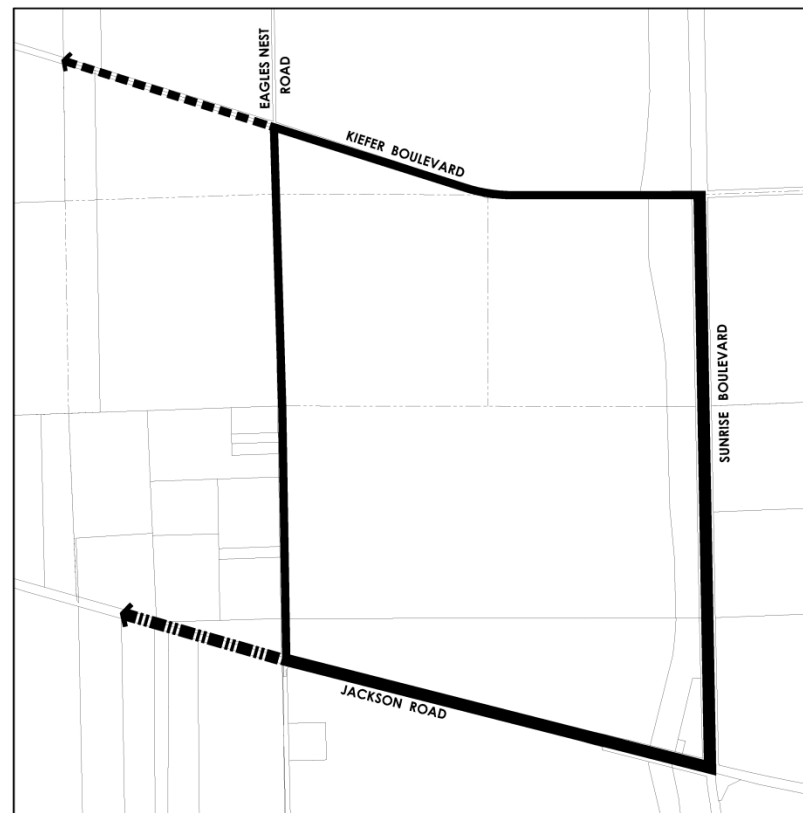
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Plate LU-7: General Plan Transportation Diagram



Existing Transportation Plan



Proposed Transportation Plan

LEGEND	
	Pre 2030 Thoroughfare
	Post 2030 Thoroughfare
	Pre 2030 4-Lane Arterial
	Post 2030 4-Lane Arterial

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General Plan Amendment Transportation Plan

NewBridge

Sacramento County

April 2015

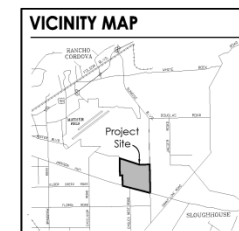
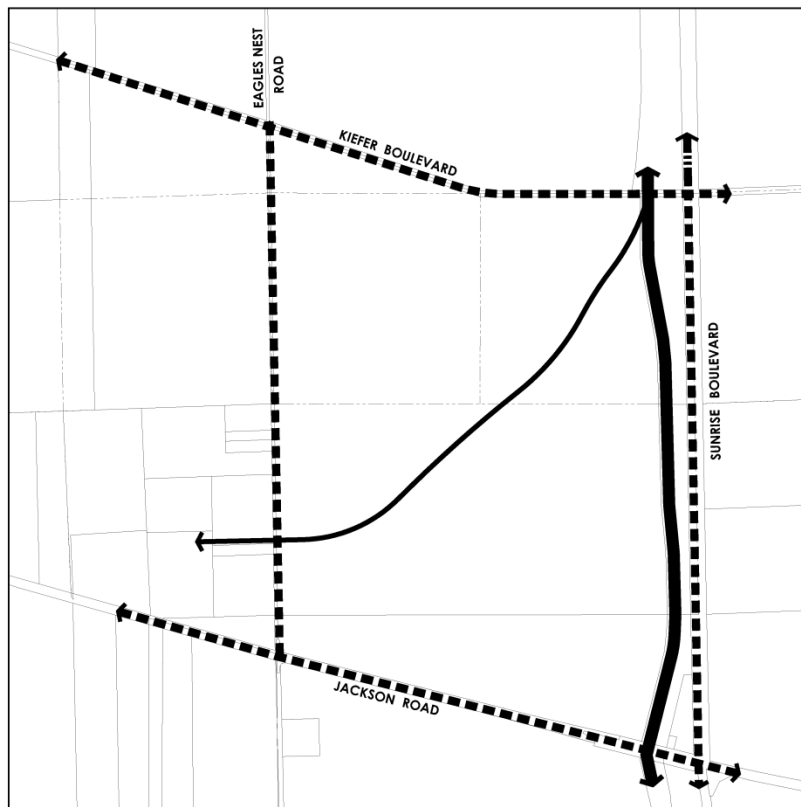
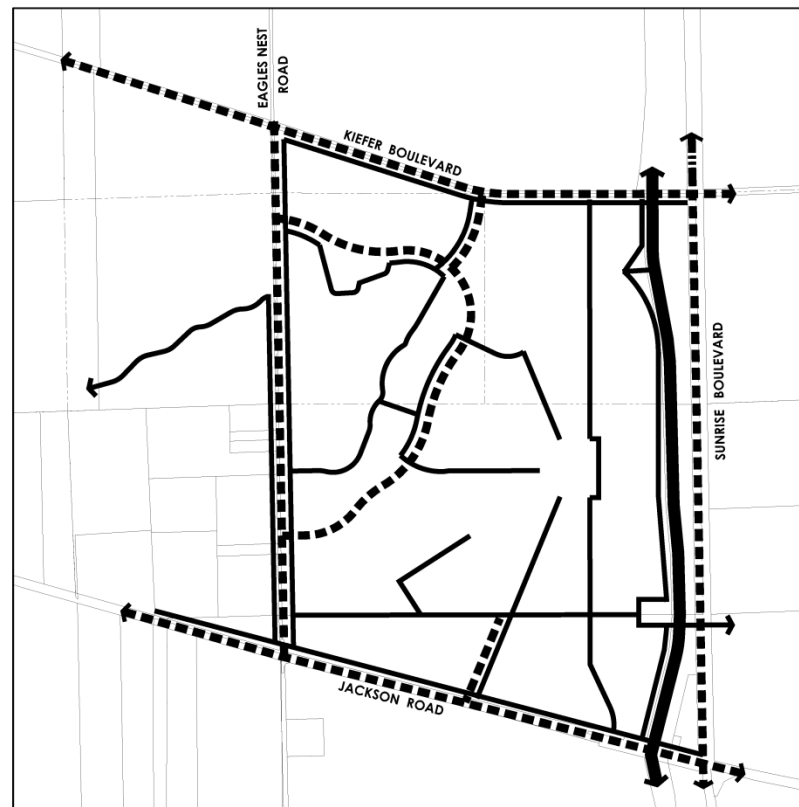


Plate LU-8: Bicycle Master Plan



Existing Bicycle Master Plan



Proposed Bicycle Master Plan

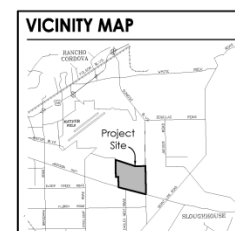
LEGEND	
	Existing Class 1
	Future Class 1
	Existing Class 2
	Future Class 2

MACKEY & SOMPS
ENGINEERS PLANNERS SURVEYORS



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NORTH

General Plan Amendment
Bicycle Master Plan
NewBridge
Sacramento County April 2015



IMPACT: CONFLICT WITH LAND USE PLANS, POLICIES AND REGULATIONS

URBAN POLICY AREA/GENERAL PLAN GROWTH MANAGEMENT POLICY

The proposed Project is within the Urban Services Boundary (USB) which indicates the ultimate boundary of the urban area in the unincorporated County. This boundary is based upon jurisdictional, natural and environmental constraints to urban growth. It is intended to be a permanent growth boundary not subject to modification except under extraordinary circumstances. Within the USB is the Urban Policy Area (UPA). The UPA is defined as the area designated for urban development within the timeframe of the General Plan. The Project site is located immediately south of the UPA and therefore requires an amendment to the General Plan to move the UPA south and west to encompass the Project. As a result, the Project would expand the extent of the area where growth can occur beyond what was anticipated in the General Plan. In order for the County Board of Supervisors to approve this amendment, the requirements of General Plan Policies LU-119 and LU-120 must be met.

According to LU-119, proposed UPA expansions must have significant borders that are adjacent to the existing UPA or a city boundary and that the boundary of the expansion must be logical. The Project is located adjacent to the UPA and the City of Rancho Cordova. In addition, the boundary of the Project is not irregular and forms a logical edge. The proposed expansion of the UPA is consistent with this policy.

General Plan Policy LU-120 is intended to reduce impacts of many different types – such as growth inducement, unacceptable operating conditions on roadways, poor air quality, and lack of appropriate infrastructure – by establishing design criteria for all amendments to the Urban Policy Area. A project must be consistent with the policy before it may be considered for approval. Based on Project characteristics and as outlined in the NewBridge Specific Plan document, the Project will meet the requirements of LU-120. The Project has been deemed consistent with criteria PC-1 through PC-10, and has achieved a total of 18 points in the criteria-based standards (CB-1 through CB-5). A total of 18 points is required and 24 points are possible. The tables below (Table LU-2 and Table LU-3) summarize how the Project complies with each performance criteria (PC-1 through PC-10) and performance metrics (CB-1 through CB-5) as outlined in LU-120. Given that the Project has been deemed consistent, Project impacts related to conflict with growth management policy are *less than significant*.

Table LU-2: NewBridge Criteria-Based Standards Determination

	Consistency
<i>PC-1 Vision for connection to other adjacent existing and potential future development areas.</i>	The NSP provides linkages to existing and planned development via public transit, preserve connectivity, infrastructure and makes use of existing regional roadways which provide connections to adjacent areas.
<i>PC-2 Housing Choice. A variety of housing types and densities.</i>	The NSP includes 3,075 residential units in nine housing types and three densities ranges. The variety of housing choices meets the needs of a diverse range of households, preferences, lifestyles, and income levels.
<i>PC-3 Quality. Design guidelines, development standards that will require high-quality development consistent with the vision set forth in the Master Plan.</i>	The NSP includes Development Standards and Design Guidelines to ensure consistent high quality design within the community. The Design Guidelines describe principles and attributes for consistent streetscapes, entry features, walls and fencing, identification signage, landscape elements, residential design and other site-design specific considerations.
<i>PC-4 Accommodate the percentage of low and very low income residential units required by state law per the County's current Housing Element based on the Regional Housing Needs Allocation (RHNA).</i>	The NSP is required to accommodate greater than 90% of its share of the unincorporated County's proportional obligation of the RHNA. Current RHNA obligation is 38.7% of the housing stock. Ninety percent of that obligation would require 34.8% of the housing stock in the NSP be suitable for low and very-low income units. The NSP include 1,071 residential units designated High Density Residential or Mixed Use with planned densities of 22.0 units per acre. This accounts for 34.8% of the units in the NSP and satisfy the NSP's share of the County's overall RHNA obligation.
<i>PC-5 Pedestrian- and transit-oriented design.</i>	The NSP emphasizes pedestrian and bicycle connection between uses and minimized barriers among uses. All residential units are within 1,000 feet of a neighborhood or community park, open space, and/or bicycle/pedestrian trail. The bikeway system consists of Class I, Class II and Class III facilities and make used of the existing Folsom South Canal. The NSP includes parkways that provide pedestrian connections among land uses and open spaces. The use of cul-de-sacs has been limited in the community design. Where cul-de-sacs occur, they are adjacent to open space and include a parkway connection to the adjacent bikeway/pedestrian trail system.
<i>PC-6 Infrastructure Master Plan and Financing Plan.</i>	The NSP includes infrastructure master plans (sewer, water, drainage) which describe infrastructure needed for the NSP as well as sizing and timing of facilities. The NSP Public Facilities Financing Plan identifies funding mechanisms for those improvements.
<i>PC-7 Services Plan demonstrating that the proposed expansion to the UPA is cost-neutral to the County's General Fund and existing ratepayers. And that the existing levels of service will not be negatively impacted.</i>	The NSP Urban Services Plan and Fiscal Impact Analysis demonstrate that operations and maintenance within the Project are cost neutral to the County's General Fund and that existing levels of municipal services will not be impacted by implementation of the NSP.
<i>PC-8 Consistency with County adopted</i>	The NSP is consistent with County-adopted plans that affect the plan area including the General Plan, Vineyard

<i>plans.</i>	Community Plan, Bicycle Master Plan, and the Climate Action Plan (2011).
<p><i>PC-9</i> <i>Consideration of regional planned efforts.</i></p>	<p><u>SACOG Blueprint</u>. The NSP is consistent with regional planning efforts and the SACOG Preferred Blueprint Scenario and Blueprint Planning Principles.</p> <p><u>Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) 2035</u>. The NSP is not included in the land use scenario for the MTP/SCS. However, the NSP is designed consistent with SACOG Blueprint principles and the sustainability and transportation principles of the MTP/SCS.</p> <p><u>Jackson Visioning Area Plan (Nov. 2008)</u>. The Jackson Visioning Area Plan envisions a land use pattern for the site that includes low, medium and high-density residential uses, mixed uses, community commercial and open space uses. The land use pattern of the NSP is generally consistent with the land uses envisioned in the Jackson Visioning Area Plan.</p> <p><u>Draft South Sacramento Habitat Conservation Plan (SSHCP)</u>. The NSP is consistent with the draft SSHCP's hard-line preserve strategy and has incorporated the draft Avoidance and Minimization Measures.</p> <p><u>Sacramento Metropolitan Air Quality Management District's (SMAQMD) State Implementation Plan (SIP)</u>. The NSP Air Quality Mitigation Plan (AQMP) and Greenhouse Gas Plan demonstrate the NSP air quality mitigation and greenhouse gas reduction features.</p> <p><u>Sacramento Regional Transit Action Plan</u>. The NSP proposes transit facilities and service complementary to the bus rapid transit routes planned on Jackson Road and Sunrise Boulevard, including transit routes and stops within the NSP.</p>
<p><i>PC-10</i> <i>Consideration of jobs-housing balance.</i></p>	<p>The NSP includes employment-generating land uses (commercial, mixed-use, office, school) that will accommodate approximately 2,530 employees. The NSP's internal jobs/housing ratio is 0.81 jobs per housing unit.</p>

Table LU-3: NewBridge Criteria-Based Standards Determination

CRITERIA			POINTS ACHIEVED BY NEWBRIDGE
CB-1	Minimum density	The NSP achieves a density of 12.1 dwelling units per acre based on a triple net density calculation.	4 points
CB-2	Proximity to Amenities	All NSP residential unit are planned within one mile of three planned amenity categories: public elementary school (Parcel N-61), parks, and commercial center (Parcel N-20, S-20, and S-21) or mixed use (Parcel S-5). Eighty-one percent of all units are located within one mile of a fourth amenity category: office uses (Parcel S-22), and 81 percent are within one mile of office uses (Parcel S-22).	4 points
CB-3	Mixed Use	There is mixed use proposed as part of the project; however, it only accounts for 1.7% of the developable land area and it does not restrict the residential units to be vertically integrated.	0 points
CB-4a	Transit Proximity	In the NSP, 96 percent of residential units are planned within a one-half mile walk of one of the three planned transit stops in the NSP.	4 points
CB-4b	Transit Headway	Transit service will, at a minimum, deliver headways of 15 minutes or during peak hours (Monday through Friday from 7-9 am and 4-6 pm) and 30 minute during non-peak hours.	3 points
CB-5	Employment Proximity	The NSP is with five miles of approximately 62,276 existing jobs (2011) in the Highway 50/Sunrise/Mather corridor as well as proposed employment uses along the Jackson Corridor and within the NSP. The NSP is designed to include employment-generating land uses (commercial, office, mixed-use) which will accommodate approximately 2,530 employees.	3 points
TOTAL POINTS			18 points

GENERAL PLAN POLICIES RELATED TO GROWTH INDUCEMENT

Compliance with General Plan Policies LU-1 and LU-12 can avoid the negative physical impacts that result from growth inducement. The need to extend new service lines or improve existing infrastructure is often a financial or physical barrier to new growth. Extending services from an existing developed area to reach a non-contiguous development area, either because of a proposed land use or existing land use, can remove these barriers for the in-between lands. As a direct result, the area may be developed and cause an increase in impacts such as vehicle congestion, pollutant emissions associated with those vehicles, and loss of biological and other physical resources. Growth inducement is discussed in broader terms in the Cumulative and Growth Inducing Impacts chapter of the EIR, and that analysis concludes differently than this analysis. The reason is that this analysis is quite narrowly confined to discussing the ramifications of the policy language, not to the overall effect of the Project on growth inducement. The Project includes an expansion of the Urban Policy Area to include the Project. The Project is adjacent to existing and planned communities (the Sunridge Specific Plan, Mather South and Jackson Corridor projects) and is therefore consistent with Policy LU-12. The Project will not result in any substantial negative environmental impacts related to conflict with policies LU-1 or LU-12; impacts are *less than significant*.

GENERAL PLAN POLICIES RELATED TO PUBLIC SERVICES AND UTILITIES

Compliance with General Plan Policies LU-13, LU-66, LU-110, and LU-123 is intended to ensure that minimum service standards for public services and utilities are met. The policies address a variety of issues, including the need to ensure that adequate facilities will be constructed and that funding is secured for construction and that service providers are contacted to ensure that service planning is adequate. These issues are discussed in detail in the Public Services and Public Utilities chapters of this EIR, but a brief summary is provided here. The Project includes a facilities financing plan which was submitted to all of the applicable service entities for review and approval. Long-term funding sources have been identified for the maintenance of public services. The Project will not result in any substantial environmental impacts related to conflict with General Plan policies which pertain to public services or utilities; impacts are *less than significant*.

GENERAL PLAN POLICIES RELATED TO TRANSPORTATION AND AIR QUALITY

Compliance with General Plan Policies LU-21, LU-22, LU-25, LU-34, LU-35, LU-36, LU-38, LU-46, and LU-71 can reduce the impacts of a project related to transportation and air quality. These policies address provision of a mix of uses, adequate pedestrian circulation, access to non-vehicular transportation, and reduction in energy demand. Providing a mix of uses and access to non-vehicular travel modes can reduce traffic congestion and reduce total trip lengths, which in turn reduces pollutant emissions. Reducing energy demand reduces pollutant emissions generated by the provision of energy. These issues are discussed in more detail in the Air Quality and Transportation and Circulation chapters of the EIR, but a summary is provided here.

The proposed Project includes a mix of uses and a multi-modal transportation system which includes pedestrian, bicycle, vehicular and transit uses. The Project also includes an Air Quality Mitigation Plan and a Greenhouse Gases Reduction Plan which include measures to reduce energy usage.

It is difficult to assess the proposed Project against Policy LU-25, because it is a Specific Plan and does not fall into the zoning categories assumed for this policy. The Project includes areas designated for commercial uses which do not separate retail from office uses. Moreover, the South Planning area portion of the Project will include some multi-story, mixed-use buildings, and thus analyzing the percent of the site footprint does not fully assess the Project mix. In addition, several of the land use categories allow both residential and commercial development. Nonetheless, including only commercial, public, and residential acreage, the Project is a mix of 61% residential, 8% commercial, and 31% public. This places the Project generally within the ranges specified by LU-25 for projects with a residential emphasis.

Though the Project does result in substantial impacts related to transportation and air quality, it is not due to conflicts with policies of the General Plan; impacts are *less than significant*.

GENERAL PLAN POLICIES RELATED TO LAND USE COMPATIBILITY

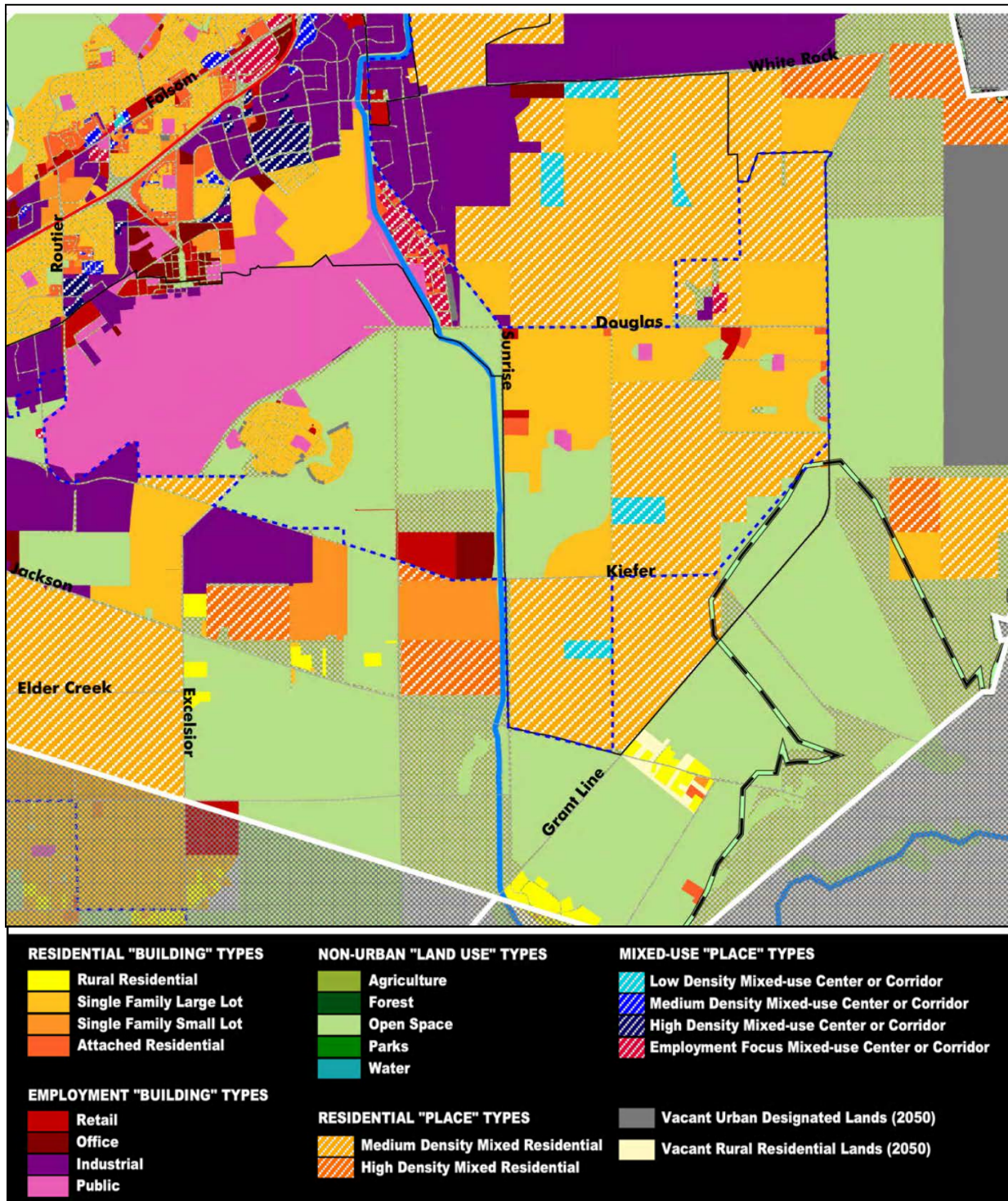
Policy LU-19 states that appropriate buffers should be placed between incompatible uses, and Policy LU-94 states that new development should be compatible with existing development. Although the Project area includes the current rendering facility, for this analysis, the Project must assume that the development of NewBridge only occurs with the relocation of the rendering plant; therefore, eliminating the incompatible use. Other adjacent uses include the aggregate mine to the south across Jackson Road, and surrounding vacant or agricultural properties. The aggregate mine operators have estimated to complete mining operations by 2033. The mining operation would likely cease before the South Planning Area builds out with urban uses. Finally, the surrounding vacant or agricultural properties to the west, north and east of the Project site have either existing or planned development that will convert undeveloped land to urban uses similar to NewBridge. The Project is consistent with land use compatibility policies.

SACOG BLUEPRINT, LU-23, LU-26, AND LU-113

The Blueprint concept plan for the Project area is provided in Plate LU-9. The concept plan depicts conceptual buildout in the year 2050, and depicts buildout of the City of Rancho Cordova planning areas east of Sunrise Blvd, but shows a relatively minor amount of residential development north of Jackson Road in the Mather South area. As this map is not intended for parcel-level interpretation, it should not be construed as depicting specific, preferred development locations but should instead be interpreted as displaying preferred overall patterns. In this context, the Blueprint indicates that development should be city-centric, focusing growth within the confines of incorporated city boundaries as a logical buildout from existing urban areas. On this basis, development is assumed within the Project area. The sections below discuss the

Project's conformity with the seven blueprint principles, which are also captured by several General Plan policies.

Plate LU-9: Preferred Blueprint Scenario in Project Area



VARIETY OF TRANSPORTATION CHOICES

The circulation system for the Project addresses mobility within the Project site. The NSP includes roadways, bikeways, pedestrian paths and public transit, which collectively, provide multiple transportation options to encourage people to rely less on automobiles. The circulation system is designed to maximize efficiency for automobiles and enable safe movement for bicycles and pedestrians. The bicycle and pedestrian network is a comprehensive system of trails and paths – on and off the roadway. The overall street network deviates from the grid pattern; however, the NSP street pattern is intended to promote decreased reliance upon automobiles for internal travel. General Plan Policy LU-26 does allow for a modified grid pattern. The Project does provide a variety of transportation choices, and is consistent with this principle and with General Plan policy.

COMPACT BUILDING AND COMMUNITY DESIGN

The Project Description chapter includes a table of residential unit totals. The Project is denser than the County average of five units per acre, and is consistent with the compact building principle and with General Plan policy.

RANGE OF HOUSING

Residential types in the Project range from low density residential of less than seven units per acre, to dense multi-family areas of 30 to 40 dwelling units per acre. Based on Table 3-3 of the NSP, the percentage of housing types is approximately as follows: 34.8% HDR (23 – 40 units per acre), 28.6% MDR (7 – 22.9 units per acre), and 36.5% LDR (<7 units per acre). The Project includes a reasonable range of housing densities. In terms of product types, details would not be known until tentative map stage, but the NSP does include design guidelines for basic product types that show a variety of parcel layouts including alley loaded, cluster development, zero lot lines, and townhomes (beginning with Section 3.5). The NSP also includes a section on design themes for those products (Appendix PD-1). From these details it can be concluded that the Project includes an array of housing choices, and is consistent with this principle and with General Plan policy.

DIRECT DEVELOPMENT TOWARD EXISTING COMMUNITIES

Based on the language contained within the Blueprint, an existing community is defined for this analysis as one that is physically constructed in the existing condition, rather than one that is planned for development at a future time. The County and the City of Rancho Cordova have several pending Specific Plans adjacent to or near the Project, but most of these are undeveloped, except for the SunRidge Specific Plan adjacent and diagonally across from the northeast corner of the proposed Project. However, connectivity between the two is limited by the wetland preserve area within SunRidge and the Folsom South Canal. The residential-only Independence at Mather is approximately one mile to the northwest; however, connectivity is limited by the surrounding vernal pool area in the Mather Preserve. The Project's geographic proximity to the existing SunRidge community allows the proposed Project to meet this principle.

FOSTER A SENSE OF PLACE

The Project includes development standards and design guidelines in the Specific Plan which intend to create a variety of building façades and treatments which retain a unified theme. Standards address walls and fencing, entry features and gateways and park designs. The overall Project layout also includes a variety of open space types integrated with the residential and commercial areas. The NSP delineates criteria that will foster a sense of place.

PRESERVE OPEN SPACE

It is recognized that loss of open space resources is an inherent part of development within greenfield areas, and is not meant to suggest that greenfield development should be prohibited or avoided altogether. The key of the principle is to preserve the most sensitive and prime resources, but on this basis the principle is somewhat subjective, as there is no set definition of what is “most sensitive” or of how much preserved land is sufficient to meet the intent of the principle. One relevant planning document for this analysis is the United States Fish and Wildlife Service “Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon” (Recovery Plan). This document identifies vernal pool habitats in the Project area as within the Mather Core area, a high priority (Rank 1) vernal pool recovery area. On this basis, the analysis focuses on wetland resources as being the “most sensitive”.

The Project involves the avoidance of 336 acres of land within the 1,095.3-acre Project boundary, which is approximately 30% of the total site area. The largest of these avoided areas (197.8 acres) contains the largest assemblage of vernal pool features on the site and is within designated critical habitat for several vernal pool species. On this basis it can be stated that the applicant has made an effort to identify the most sensitive areas and preserve them, so the issue then revolves around the determination of sufficiency regarding the land area.

Though the Project does preserve large areas which were based on sensitivity analysis, the Project will nonetheless result in the loss of approximately 20% of the wetlands on the Project site. If the Project were not within an area identified as vital to the preservation and recovery of vernal pools, the analysis would likely conclude that the preserved area was sufficient; however, under the circumstances it is concluded that the land area preserved is insufficient to meet the intent of the principle, and thus with General Plan policy.

Though this analysis concludes that the amount of area preserved is not considered sufficient for the purposes of consistency with the principle, it is acknowledged that this determination is somewhat subjective, and that disagreement will exist. It is further acknowledged that although the Project is considered inconsistent based on the amount of land preserved, the Project is consistent inasmuch as the open space areas were designed to avoid the largest concentrations of the most sensitive vernal pool resources on the site.

SUMMARY OF SACOG BLUEPRINT ANALYSIS

The Project includes a standard variety of transportation choices, a conventional array of housing choices, a mix of uses, areas of compact community design, and certain design treatments which foster a sense of place. While acknowledging that in terms of internal community design, the Project appears to be an example of “smart growth” development, it must also be acknowledged that the Project provides only standard transportation choice and a somewhat limited mix of residential housing types, along with converting a sizeable amount of open space to urban uses. In terms of open space preservation, the analysis is somewhat subjective, and the Project has directed preservation toward the most sensitive vernal pool areas of the site. However, in terms of future development, SACOG’s Blueprint and the Sacramento County General Plan identify the project area for future urbanization. The proposed Project meets their general intent. Thus, the project is consistent with the Blueprint.

VINEYARD COMMUNITY PLAN

The proposed Project is requesting an amendment to the Vineyard Community Plan. The Project is consistent with the Community Plan goals and policies regarding logical growth and preservation of open space. The Project is located adjacent to the UPA and the City of Rancho Cordova and development is proposed to the east, west and north. The Project is designed to preserve all land located within the Mather Core Area for species recovery and additional lands surrounding Frye Creek. The Project would reduce the amount of agricultural land within the Plan boundaries; however, the surrounding communities are rapidly developing increasing future conflicts with urban/agricultural interface.

As noted in the regulatory discussion, the Plan makes allowance for future urbanization. The Project includes amending the land use designation for the Project area in the Vineyard Community Plan. The proposed amendment is consistent with the overall County policies related to urban development. Therefore, the proposed Project would have a *less than significant* impact related to consistency with the Vineyard Community Plan.

PROPOSAL OF NEW GENERAL PLAN LAND USE DESIGNATION

The Project is requesting a General Plan Amendment to include a mixed use land use designation. The Land Use Element contains a section titled Mixed Use and Transit Oriented Development. Within this land use category, there are three designations broken down based on the characteristics of the development. The closest designation in the General Plan is Transit Oriented Development (TOD). However, this has a focus on the proximity to transit. The mixed use corridor designation details specific corridors identified during the development of the General Plan.

In order to accommodate a broader mixed use designation consistent with the Zoning Code and Zoning Consistency Matrix in the General Plan, the County is proposing a new mixed use designation to be inserted between the TOD designation and the Mixed Use Corridor designation. The proposed language of the new designation is:

Mixed Use. The Mixed Use designation allows for the delineation of specific areas on the General Plan Land Use Diagram within new growth areas through the development of a Master Plan or Specific Plan. However, the Mixed Use designation is also appropriate in areas where retail, employment, public/civic and residential uses are compact and where a "pedestrian friendly" design is desired such as larger infill sites or redevelopment of underutilized commercial sites. The mix of uses may occur in a variety of ways and should be connected through walkways with multiple connection points.

Mixing residential, commercial, office and other non-residential uses helps to develop a sense of community; balance land uses; encourage pedestrian and non-motorized activity; reduce regional vehicular traffic and vehicle miles traveled; support local commerce; and, promote social interaction. Mixed Use development can vary from a horizontal mixture of single-use structures within the same area ("horizontal mixed use") to vertical structure(s) containing a variety of different uses ("vertical mixed use"). The defining characteristic of mixed use development is functional integration of uses through horizontal or vertical mixing or through site design. An integrated mix of uses coupled with a pedestrian friendly design promotes pedestrian and bicycle use throughout the surrounding areas, even into areas that are not necessarily developed as mixed use.

Mixed Use developments shall be designed to be consistent with the concepts of the Countywide Design Guidelines and Zoning Code. The Zoning Code provides standards for Neighborhood Mixed Use Centers (NMC), Community Regional Mixed Use Centers (CMC), and Corridor Mixed Use that address minimum acreages, residential densities, and floor area ratios (FAR) for non-residential mixed use components. Developments that are in close proximity to Trunk or Feeder Line public transit are classified as Transit Oriented Developments.

The addition of the mixed use designation is consistent with the Zoning Code and does not introduce a new land use type. The General Plan contains "mixed use" designations and in Strategy III: Growth Management and Design, mixed use is further described. No new environmental impacts are identified with the proposed Mixed Use Land Use Designation.

MITIGATION MEASURES:

None recommended.

IMPACT: DIVISION OR DISRUPTION OF ESTABLISHED COMMUNITY

The division or disruption of an established community is an impact considered by CEQA. Case law has established that a project must create physical barriers within the established community in order to be considered under this impact category. The only residential development within the Project is the agricultural-residential properties west of Eagles Nest Road and will not be divided or disrupted by the Project. There are no existing developments surrounding the Project that could be divided or disrupted by the

Project. The Project will not disrupt or divide an established community; impacts are *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: DISPLACEMENT OF HOUSING

The only residential development within the Project is the agricultural-residential properties west of Eagles Nest Road. The Project does not propose changes to these properties, nor would the project uses cause the displacement of nearby housing. The site is not included in the affordable housing inventory as part of implementation of the Sacramento County General Plan Housing Element. The Project does include an affordable housing plan. Impacts are *less than significant*.

MITIGATION MEASURES:

None recommended.

IMPACT: CREATE AN AIRPORT SAFETY HAZARD FOR PEOPLE WORKING OR RESIDING IN THE PROJECT AREA

The proposed Project includes the creation of flood detention and stormwater retention basins. According to the FAA Advisory Circular 150/5200-33B, these facilities should either drain within 48 hours or should be designed with steep non-vegetated slopes to detract wildlife if they are within 10,000 feet of an airport. The advisory also discourages the placement of wildlife attractants within five miles of approach/departure zones and suggests similar design measures. The Project is not within 10,000 feet of Mather Airport, but it is within five miles. The Project will require the construction of 16 new, small stormwater quality/detention basins. The basins are designed to accommodate the 100-year storm event and retain stormwater run-off. Each basin is designed to hold water for periods longer than 48 hours to meet stormwater quality requirements. The wet portion of the proposed basins have a combined area of approximately 5.2 acres.

There are three large water quality ponds associated with the existing rendering plant. These ponds have a combined surface area of approximately 15.4 acres. The proposed Project will reduce the water surface area by approximately 10 acres; thereby, reducing potential attractants to wildlife within five miles of Mather Airport. The Project is not located within 10,000 feet of Mather Airport and it will reduce the existing airport safety hazard for people working or residing in the Project area and impacts are *less than significant*.

MITIGATION MEASURES:

None recommended.

13 NOISE

INTRODUCTION

This chapter describes the regulatory and environmental settings for noise in the project area and vicinity of the project site, identifies and analyzes the noise impacts of traffic, aircraft, and stationary sources to components of the Project, analyzes the Project's contribution to off-site traffic noise and recommends mitigation measures to reduce or eliminate significant impacts.

NOISE FUNDAMENTALS AND TERMINOLOGY

Noise is often described as unwanted sound, and thus is a subjective reaction to the physical phenomenon of sound. Sound is variations in air pressure that the ear can detect. Sound levels are measured and expressed in decibels (dB), which is the unit for describing the amplitude of sound¹. Because sound pressure levels are defined as logarithmic numbers, the values cannot be directly added or subtracted. For example, two sound sources, each producing 50 dB, will produce 53 dB when combined, not 100 dB. This is because two sources have two times the energy (not volume) of one source, which results in a 3 dB increase in noise levels.

Most environmental sounds consist of several frequencies, with each frequency differing in sound level. The intensities of each frequency combine to generate sound. Acoustical professionals quantify sounds by “weighting” frequencies based on how sensitive humans are to that particular frequency. Using this method, low and extremely high frequency sounds are given less weight, or importance, while mid-range frequencies are given more weight, because humans can hear mid-range frequencies much better than low and very high frequencies. This method is called “A” weighting, and the units of measurement are called dBA (A-weighted decibel level). In practice, noise is usually measured with a meter that includes an electrical “filter” that converts the sound to dBA. The threshold at which one hears sounds is considered to be zero (0) dBA. The range of sound in normal human experience is 0 to 140 dBA. Decibels and other technical terms are defined in Table NO-1.

The ambient noise level is defined as the noise from all sources near and far, and refers to the noise levels that are present before a noise source being studied is introduced. A synonymous term is pre-project noise level.

¹ Equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals.

Table NO-1: Acoustical Terminology

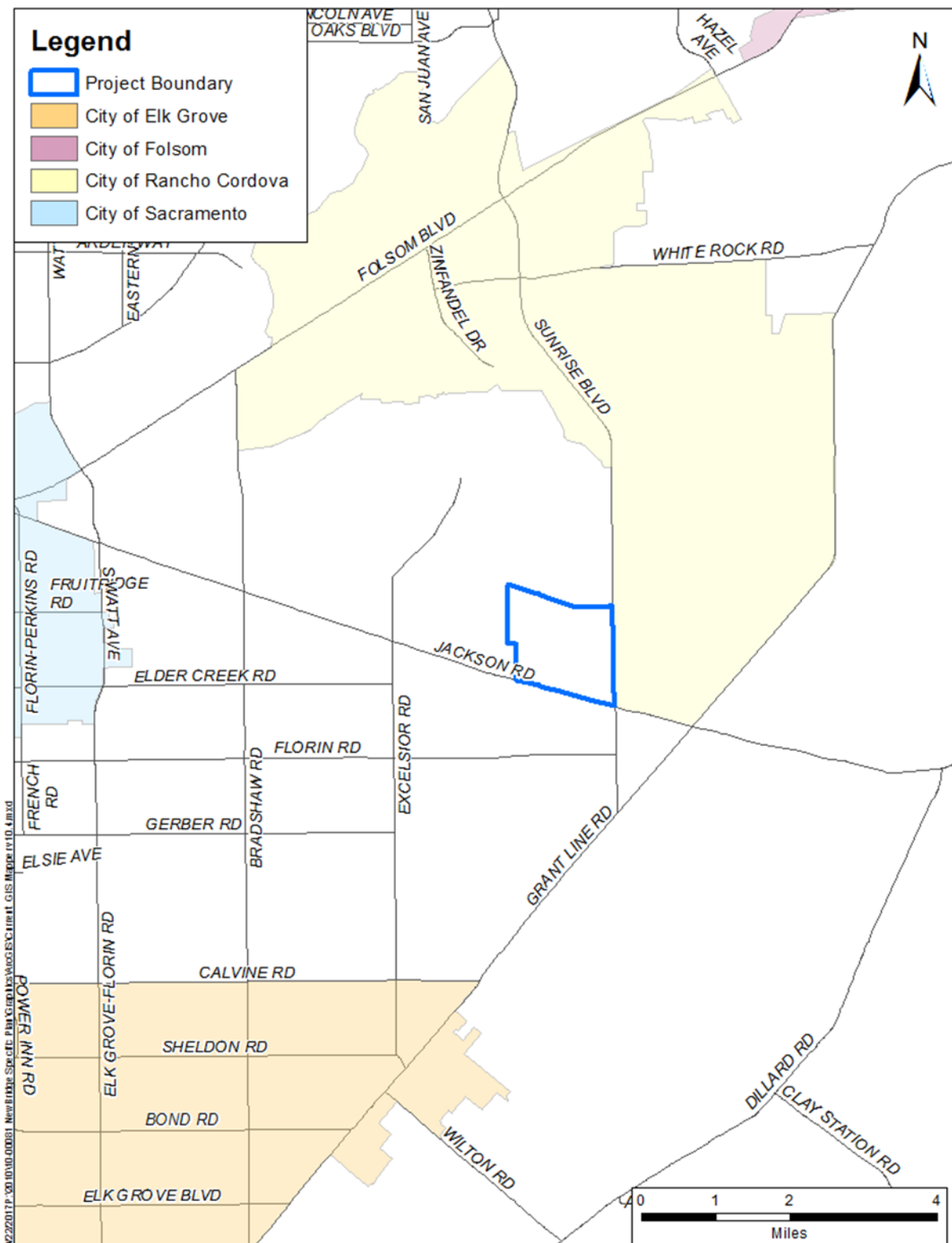
TERM	DEFINITION
Ambient Noise Level:	The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
Intrusive Noise:	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Decibel, dB:	A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
Community Noise Equivalent Level, CNEL*:	The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. And ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.
Day/Night Noise Level, L_{dn}*:	The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. And before 7:00 a.m.
Equivalent Noise Level, L_{eq}:	The average noise level during the measurement or sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.
L_{max}, L_{min}:	The maximum or minimum sound level recorded during a noise event.
L_n :	The sound level exceeded “n” per percent of the time during a sample interval. L_{10} equals the level exceeded 10 percent of the time (L_{90} , L_{50} , etc.)
Noise Exposure Contours:	Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and L_{dn} contours are frequently utilized to describe community exposure to noise.
Sound Exposure Level, SEL; or Single Event Noise Exposure Level, SENEL:	The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time integrated A-weighted squared sound pressure level for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.
Sound Level, dBA:	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

NOISE SETTING

The project site is located on the north side of Jackson Highway and west of Sunrise Boulevard. Jackson Highway (State Route 16) is a two-lane highway that extends from the City of Sacramento to the town of Jackson, and carries 9,976 daily trips. Sunrise Boulevard is a two-lane thoroughfare which carries approximately 16,894 daily trips in the Project vicinity (refer to the Traffic and Circulation chapter). Plate NO-1 depicts the location of the project site. The project site is zoned light industrial and agricultural uses and there are seven houses within the West Planning Area.

Existing potential noise sources in the Project vicinity include: traffic on Jackson Highway, Sunrise Boulevard and Kiefer Boulevard; Mather Airport; and mining. Mather Airport is located approximately 3.6 miles to the northwest. At the nearest point, the Project site is located approximately 2.25 miles outside the 60 CNEL contour for Mather Airport. Active mining by Triangle Rock Aggregates is directly south of the Project site.

The boundaries of the City of Rancho Cordova lie to the east of the project site, across Sunrise Boulevard. The Rancho Cordova General Plan Land Use Policy Map (adopted June 26, 2006) designates the area along Sunrise Boulevard, between Chrysanthy Boulevard and Kiefer Boulevard, as open space preserve with pockets of low density residential, high density residential, and commercial, north of the site. The development to take place along Sunrise Boulevard is part of the Sunridge Specific Plan, which encompasses 2,606 acres and is primarily residential, consisting of mostly single-family residential units, some multi-family garden apartments, townhomes and condominiums. There is also the Suncreek Specific Plan, which lies south of the approved Sunridge Specific Plan and Kiefer Boulevard and will contain similar uses. The Arboretum Specific Plan is a pending project with the City of Rancho Cordova. Similar to the Sunridge and Suncreek Specific Plans the Arboretum Specific Plan would introduce a mixture of residential and commercial land uses.



REGULATORY SETTING

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California and Sacramento County have established standards and ordinances to control noise.

STATE OF CALIFORNIA

The California Department of Health Services (DHS) office of Noise Control has studied the relationship between noise levels and different land uses. As a result, the DHS has established four categories for judging the severity of noise intrusion on specified land use. Noise in the “normally acceptable” category places no undue burden on affected receptors and would need no mitigation. As noise rises into the “conditionally acceptable” range, some mitigation of exposure (as established by an acoustical study) would be warranted. At the next level, noise intrusion is so severe that it is classified “normally unacceptable” and would require extraordinary noise reduction measures to avoid disruption. Finally, noise in the “clearly unacceptable” category is so severe that it cannot be mitigated.

Title 24 of the California Administrative Code establishes standards governing interior noise levels that apply to all new multifamily residential units in California. The standards require that acoustical studies be performed prior to construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} noise levels to 45 dBA in any inhabitable room. The U.S. Department of Housing and Urban Development (HUD) has set an L_{dn} of 45 as its goal for interior noise in residential units built with HUD funding.

SACRAMENTO COUNTY GENERAL PLAN NOISE ELEMENT

The goals of the Sacramento County General Plan Noise Element are to: (1) protect the citizens of Sacramento County from exposure to excess noise and (2) protect the economic base of Sacramento County by preventing incompatible land uses from encroaching upon existing planned noise-producing uses. The General Plan defines a noise sensitive outdoor area as the primary activity area associated with any given land use at which noise sensitivity exists. Noise sensitivity generally occurs in locations where there is an expectation of relative quiet, or where noise could interfere with the activity which takes place in the outdoor area. An example is a backyard, where loud noise could interfere with the ability to engage in normal conversation.

The Noise Element of the Sacramento County General Plan establishes noise exposure criteria to aid in determining land use compatibility by defining the limits of noise exposure for sensitive land uses. There are policies for noise receptors or sources, transportation or non-transportation noise, and interior and exterior noise.

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 1. Where

the noise level standards of Table 1 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 1 standards.

**Table NO-2: Noise Element Table 1
Noise Standards for New Uses Affected by Traffic and Railroad Noise**

New Land Use	Sensitive Outdoor Area – L_{dn}	Sensitive Interior Area – L_{dn}
All Residential ⁵	65	45
Transient lodging ^{3,5}	65	45
Hospitals and nursing homes ^{3,4,5}	65	45
Theaters and auditoriums ³	None	35
Churches, meeting halls, schools, libraries, etc. ³	65	40
Office buildings ³	65	45
Commercial buildings ³	None	50
Playgrounds, parks, etc	70	None
Industry ³	65	50
<ol style="list-style-type: none"> 1. Sensitive areas are defined in acoustical 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 either by 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. 		

NO-4. New residential development within adopted Airport Policy Area boundaries, but outside the 60 CNEL, shall be subject to the following conditions:

- A. Provide minimum noise insulation to 45 dB CNEL within new residential dwellings, including detached single family dwellings, with windows closed in any habitable room.

- B. Notification in the Public Report prepared by the California Department of Real Estate disclosing the fact to prospective buyers that the parcel is located within an Airport Policy Area.
- C. An Avigation Easement prepared by the Sacramento County Counsel's Office granted to the County of Sacramento, recorded with the Sacramento County Recorder, and filed with Department of Airports. Such Avigation Easement shall acknowledge the property location within an Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the subject Airport.

Exceptions: New accessory residential dwellings on parcels zoned Agricultural, Agricultural-Residential, Interim Agricultural, Interim General Agricultural, or Interim Limited Agricultural and between the 60 and 65 CNEL contours, shall be permitted within adopted Airport Policy Area boundaries, but would be subject to the conditions listed above.

- 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 2. Where the noise level standards of Table 2 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 2 standards within sensitive areas.

Table NO-3: Noise Element Table 2
Non-Transportation Noise Standards Median (L₅₀)/Maximum (L_{max})

New Land Use	Outdoor Area		Interior
	Daytime	Nighttime	Day and Night
All Residential	55 / 75	50 / 70	35 / 55
Transient lodging ⁴	55 / 75	---	35 / 55
Hospitals and nursing homes ^{5,6}	55 / 75	---	35 / 55
Theaters and auditoriums ⁶	---	---	30 / 50
Churches, meeting halls, schools, libraries, etc. ⁶	55 / 75	---	35 / 60
Office buildings ⁶	60 / 75	---	45 / 65
Commercial buildings ⁶	---	---	45 / 65
Playgrounds, parks, etc ⁶	65 / 75	---	---
Industry ⁶	60 / 80	---	50 / 70
<ol style="list-style-type: none"> 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 2, then the noise level standards shall be increased at 5 dB increments to encompass the ambient. 2. Sensitive areas are defined in the 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 (Leq) 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. 			

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 2 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 2 standards at the property line of the generating use in anticipation of the future neighboring development.
- 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 requirements. If projected post-project traffic noise levels at existing uses exceed the noise standards of Table 1, then feasible methods of reducing noise to levels consistent with the Table 1 standards shall be analyzed as part of the noise analysis. In the case of existing residential uses, sensitive outdoor areas shall be mitigated to 60 dB, when possible, through the application of feasible methods to reduce noise. If 60 dB cannot be achieved after the application of all feasible methods of reducing noise, then noise levels up to 65 dB are allowed.

If pre-project traffic noise levels for existing uses already exceed the noise standards of Table 1 and the increase is significant as defined below, feasible methods of reducing noise to levels consistent with the Table 1 standards should be applied. In no case shall the long-term noise exposure for non-industrial uses be greater than 75 dB; long-term noise exposure above this level has the potential to result in hearing loss.

A significant increase is defined as follows:

<u>Pre-Project Noise Environment (Ldn)</u>	<u>Significant Increase</u>
Less than 60 dB	5+ dB
60 – 65 dB	3+ dB
Greater than 65 dB	1.5+ dB

- 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.

The requirements as listed in Table 3 of the Noise Element are that an acoustical analysis shall:

1. Be the responsibility of the applicant.

2. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
4. 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.
5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
6. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

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.

SACRAMENTO COUNTY NOISE CONTROL ORDINANCE

The County's Noise Control Ordinance sets limits for exterior noise levels on some designated agricultural-residential and all residential properties. The Noise Ordinance does not apply to noise levels at agriculturally zoned properties. Many of the properties surrounding the Project site are zoned agricultural and Special Planning Area. The residential land uses along the east side of Sunrise Boulevard are located within the City of Rancho Cordova. Rancho Cordova's Noise Ordinance is based on the County's Noise Ordinance.

The standards found in the County's Noise Control Ordinance are based on the duration of noise on private property over one-hour periods. The ordinance is primarily concerned with regulating noise other than noise generated by transportation noise sources (e.g., passing cars or aircraft flyovers). The ordinance limits the duration of noise based on many factors, including the type of source, tonal characteristics of the source, ambient noise levels, time of day, etc., by utilizing a system of noise criteria not to be exceeded based on the duration of noise over any given hour. Table NO-4 summarizes the Noise Ordinance standards.

In recognition of ambient noise, the ordinance allows the standards set forth in Table NO-4 to be adjusted in 5 dBA increments to encompass the ambient noise level. For example, if the ambient noise level for a given hour was 57 dBA, the daytime L_{50} noise standard would be increased to 60 dBA. The Noise Control Ordinance also states that

each of the standards identified in Table NO-4 should be reduced by 5 dBA for impulsive or simple tone noises², or for noises consisting of speech or music.

Table NO-4: Sacramento County Noise Ordinance

Cumulative Duration of the Intrusive Sound	Descriptor	Exterior Noise Standard, dB	
		Daytime (7am – 10pm)	Nighttime (10pm – 7am)
30 – 60 minutes per hour	L ₅₀	55	50
15 – 30 minutes per hour	L ₂₅	60	55
5 – 15 minutes per hour	L ₀₈	65	60
1 – 5 minutes per hour	L ₀₂	70	65
Level not to be exceeded at any time	L _{max}	75	70
Source: Sacramento County, Noise Control Ordinance. Chapter 6.68.070			

MATHER COMPREHENSIVE LAND USE PLAN

The State of California regulates airports under the authority of the Airport Land Use Commission Law, Chapter 4, Article 3.5, California Public Utilities Code. The purpose of the Airport Land Use Commission Law is to:

1. Protect public health, safety and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise; and
2. Prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future.

The Sacramento Area Council of Governments (SACOG) has been designated the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo and Yuba counties. The ALUC is an autonomous agency and does not have jurisdiction over the operation of any airport. Under the provisions of the law, the ALUC is required to prepare an Airport Land Use Compatibility Plan (ALUPC), formerly called a Comprehensive Land Use Plan (CLUP) for each public airport within its jurisdiction.

An ALUPC/CLUP designates planning boundaries (zones) around the airport and provides guidelines that define compatible types and patterns of future land use. These

² "Impulsive noise" means a noise characterized by brief excursions of sound pressures whose peak levels are very much greater than the ambient noise level, such as might be produced by the impact of a pile driver, punch press or a drop hammer, typically with duration of one second or less. "Simple tone noise" or "pure tone noise" means a noise characterized by the presence of a predominant frequency or frequencies such as might be produced by a whistle or hum.

guidelines fall into three categories: (1) provide height restrictions that aim to protect the navigable airspace around airports for aircraft safety, (2) provide noise compatibility by minimizing the number of people exposed to noise from aircraft operations, and (3) provide for the safety of people on the ground by minimizing the number of people exposed to hazards related to aircraft operations and accidents.

In May 1996, the ALUC prepared a draft Mather Airport CLUP Update to establish new height, noise and safety zones for Mather Airport based on its projected buildout use as a County-operated aviation facility (and not a military airfield). An amended version of the CLUP was adopted by the ALUC Board on May 15, 1997. On June 24, 1998, the Sacramento County Board of Supervisors approved a package of amendments to the General Plan that included this amended version of the Mather Field CLUP.

The Mather Airport Master Plan and updated aviation forecasts may be used by SACOG for a future update to the Mather CLUP. If the Mather CLUP is revised to reflect the noise contours in the Mather Airport Master Plan, land use restrictions surrounding Mather Airport could be reduced because the model of the updated forecast show a reduction in the size of the 60 CNEL and 65 CNEL noise contours. The noise contours and land use restrictions in the currently adopted CLUP would remain in effect until such a time that a revised CLUP/ALUCP is approved by the SACOG Board. A revised CLUP/ALUCP would require adequate CEQA documentation prior to approval.

Land uses are restricted within airport safety zones to minimize the number of people exposed to aircraft crash hazards. The safety zones established by the CLUP consist of the clear zone, the approach-departure zone and the overflight zone. The clear zone is the area located immediately at the end of the runway and is the most restrictive safety area. The approach-departure zone is located beyond the clear zone and the end of each runway along the primary flight paths and is less restrictive. The least restrictive of the three safety areas is the overflight zone, which generally coincides with the area overflowed by local traffic patterns.

The following information is from the noise section of the 1997 Mather CLUP. Airport noise is of concern since most complaints are related to noises generated by aircraft operations. The noise exposure has the potential to interfere with sleep, conversation, school, business, and recreational activities. The effect of noise interference on normal activities is most often described in terms of annoyance. Annoyance is a measure of the general adverse reaction people have to noise that causes interference to their normal lives. Currently, the best measure of this response to noise is the percentage of the affected population that can be characterized as “highly annoyed” by long term exposure to noise at a specified level. Community response is a term used to describe annoyance of groups of people exposed to noise sources in residential settings.

There is variability in the way individuals react to noise that makes it impossible to accurately predict how an individual will react to a given noise. However, when an impacted area is considered as a whole, trends start to emerge that relate noise to annoyance on a community level. The studies of community reaction to noise have

shown that the community response to aircraft noise is affected not only by how loud the noise is, but also how often the noise occurs. It is noted in the Mather CLUP that complaints are not an accurate measure of impact. Annoyance can exist without complaints and complaints can occur without annoyance; thus, complaints are an inadequate indicator of the full extent of noise effects on a community or group of people.

The CLUP makes the finding that based on studies of noise the State of California has established noise standards in the California Code of Regulations, Title 21, Subchapter 6. These standards designate the Community Noise Equivalency Level (CNEL) as the noise rating method to be used at airports in California. Most commercial, industrial, and recreational uses are compatible with noise levels up to 70 dB CNEL. The State has deemed the following land uses to be incompatible in the 65 dB CNEL:

- residential dwellings
- public and private schools
- hospitals and convalescent homes
- churches, synagogues, temples and other places of worship

MATHER AIRFIELD AIRPORT PLANNING POLICY AREA (APPA)

The Mather Airfield Airport Planning Policy Area (APPA) (Plate NO-3) was adopted on April 19, 2006, by the Sacramento County Board of Supervisors by resolution 2006-1378. In the resolution it noted that the ALUCP/CLUP for Mather Airport is outdated and that it needs to be updated to reflect current forecast operations and master plans. The APPA utilizes the theoretic airport capacity to determine the noise exposure contours for the airport. Further, the resolution directed the Planning Department to incorporate the proposed 60 CNEL noise contour and the Mather APPA into the General Plan.

The APPA boundary is the area around Mather Airport that contains the 55 CNEL aircraft noise contour and most of the lower altitude portions of flight tracks for large aircraft flying below 3,000 feet above ground level. The APPA places limitations and conditions on new residential development within a certain proximity to Mather Airport. Specifically, new residential development is prohibited within the current Board approved 60 CNEL noise contour. For new residential uses within the APPA, but outside of the 60 CNEL noise contour, minimum noise insulation to protect persons from excessive noise within new dwellings that limits noise to 45 dB CNEL, with windows closed in and habitable room; and, a disclosure notice to potential homebuyers that addresses aircraft overflight and related noise beyond the normally mapped noise exposure contours would be required. This disclosure notice includes: seller's real estate disclosure statement, subdivision white paper disclosure, recorded deed notices, and grant of avigation easement. Thus, development within the APPA is not restricted, but there would be conditions that residential development would be contingent upon the requirement of a disclosure notice to prospective buyers. The disclosure would identify the property as located within the APPA and that aircraft can be expected to

regularly fly at varying altitudes below 3,000 feet above ground level in that area. A granting of an Avigation Easement would also be required to further ensure that all future home buyers are aware of potential aircraft overflights.

Plate NO-2: Mather CNEL Contour Map

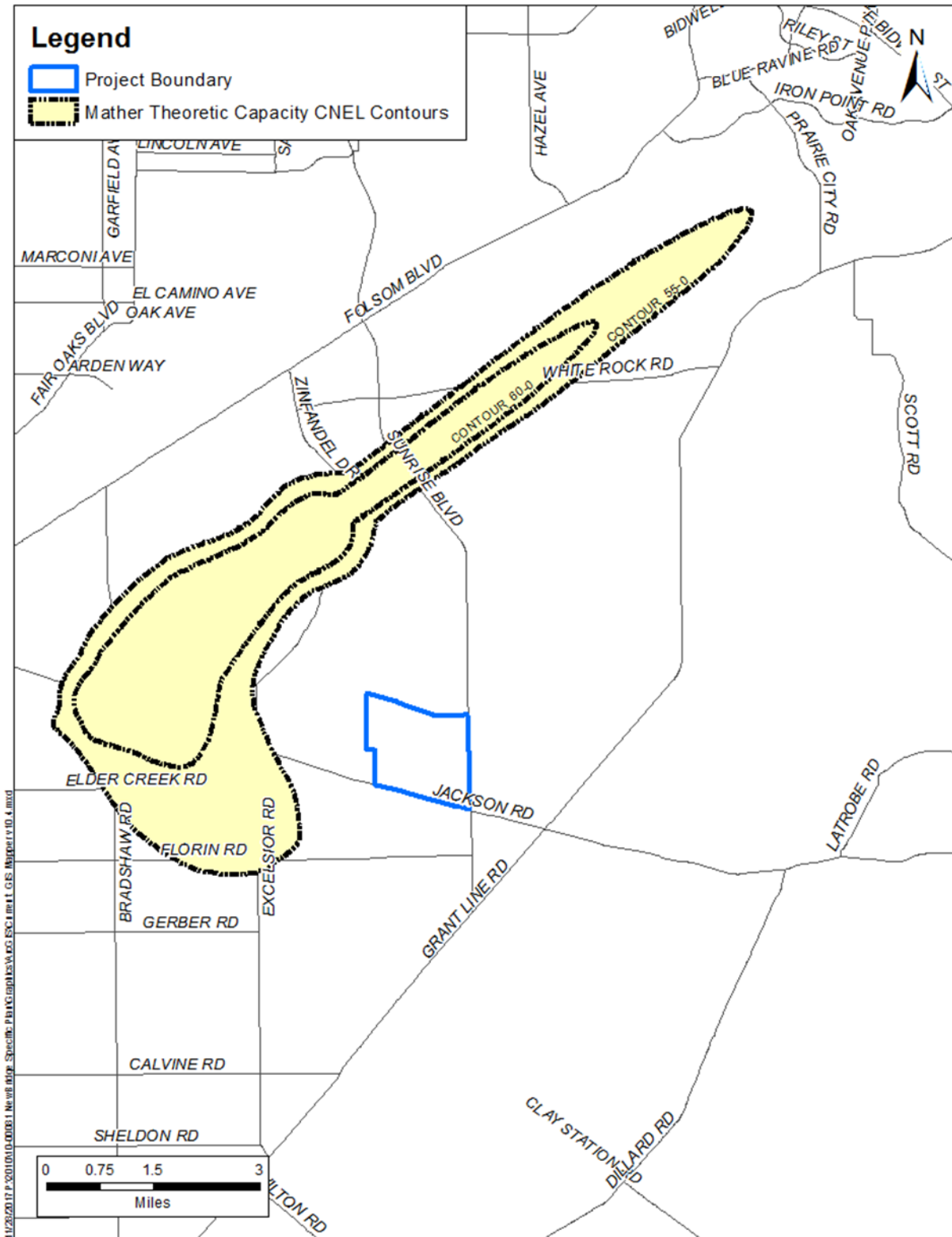
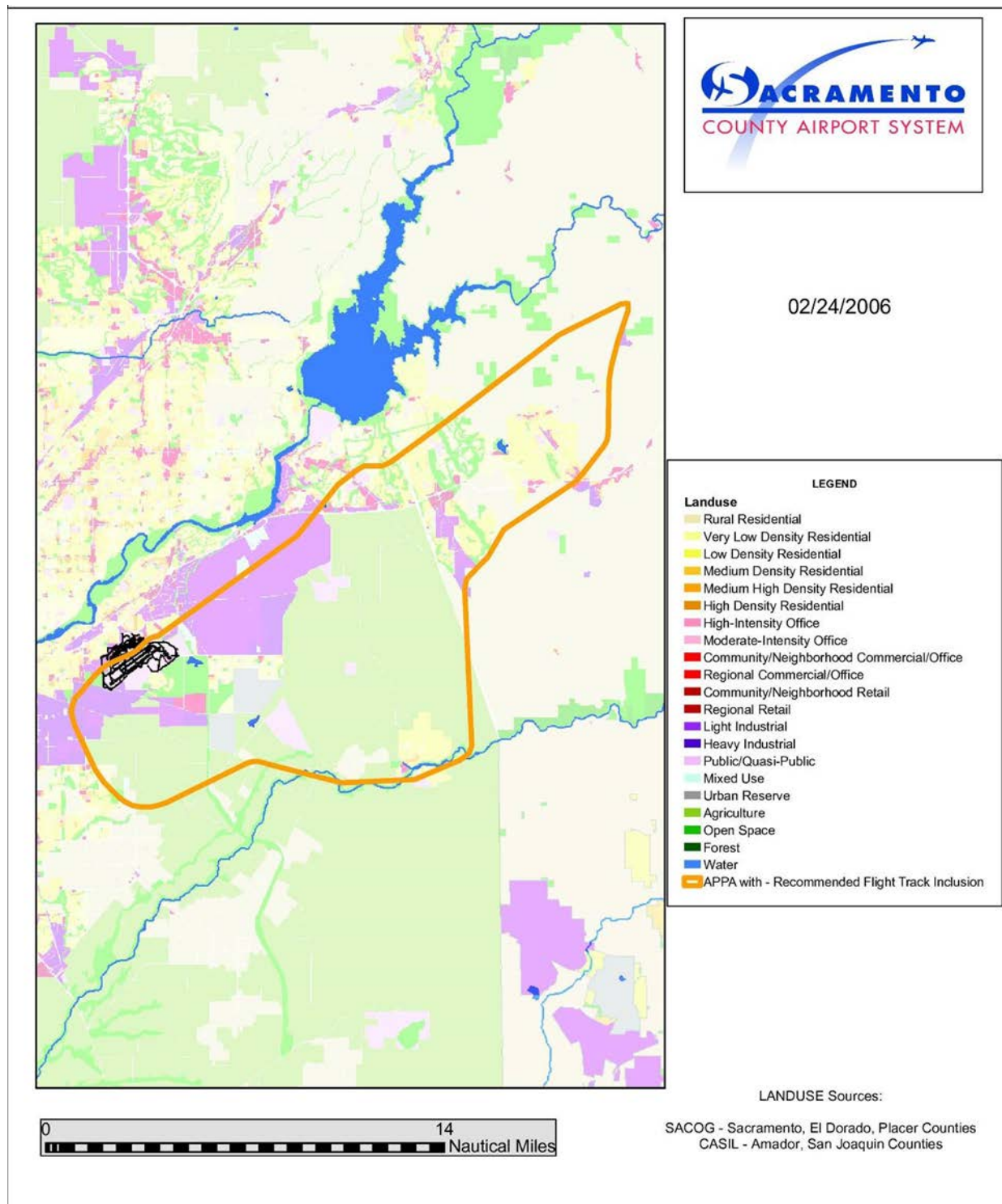


Plate NO-3: Mather Airport Planning Policy Area



CITY OF RANCHO CORDOVA GENERAL PLAN NOISE ELEMENT

There are roadway segments located within the City of Rancho Cordova that were studied in the Traffic Impact Study and traffic associated with the proposed Project has the potential to increase noise levels to sensitive receptors.

The following Policy of the City of Rancho Cordova's General Plan Noise Element apply:

Policy N.2.3 Emphasize mitigation methods other than soundwall installation to reduce noise acceptable levels in residential areas originally constructed without soundwalls.

Table N-2 of the Rancho Cordova General Plan Noise Element outlines the maximum transportation noise exposure for various land uses. According to Table N-2, residential land uses shall not have an outdoor activity area (where the location of the outdoor activity area is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use) greater than 60 dB and interior noise levels shall not exceed 45 dB. However, a footnote to the table indicates that 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.

Also note that the Noise Element contains interior noise limitations for several classes of non-residential uses, such as churches and offices, but there are no standards for industrial, retail, or other non-residential uses. The interior noise standard for churches is listed as 40 dB L_{eq} , for offices is 45 dB L_{eq} , and for transient lodging is 45 dB L_{dn} .

NON-REGULATORY SETTING

SUBJECTIVE REACTIONS TO CHANGES IN NOISE LEVELS

Another means of assessing noise impacts is to estimate public reaction to the change in noise levels which result from a given project; this is, in fact, how the General Plan has established significance for roadway projects (refer to Policy NO-9). Expected human reactions to changes in ambient noise levels have been quantified by metrics that define short-term exposure (e.g., hourly L_{eq} , L_{max} and L_n). These metrics are usually used to describe noise impacts due to industrial operations, machinery and other sources that are not associated with transportation. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable.

Table NO-5 is used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in

the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source.

Some additional guidance as to the significance of changes in ambient noise levels is provided by the 1992 findings of the Federal Interagency Committee of Noise (FICON), which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON findings are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

The rationale for the FICON findings is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} or CNEL. The changes in noise exposure that are shown in Table NO-6 are expected to result in equal changes in annoyance at sensitive land uses. The rationale for the criteria shown in Table NO-6 is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant annoyance. Although the FICON findings were specifically developed to address aircraft noise impacts, they are considered as measures of potential noise impacts in the analysis of traffic noise.

Table NO-5: Subjective Reaction to Changes in Noise Levels

Change in Level	Subjective Reaction	Factor Change in Acoustical Energy
1 dB	Imperceptible (Except for tones)	1.3
3 dB	Just Barely Perceptible	2.0
5 dB	Clearly Noticeable	3.2
10 dB	About Twice (or Half) as loud	10.0
<i>Source: Architectural Acoustics, M David Egan, 1988.</i>		

Table NO-6: Significance of Changes in Noise Exposure

Ambient Noise Level Without the Project, L_{dn}	Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more
<i>Source: Federal Interagency Committee on Noise (FICON)</i>	

METHODOLOGY

The Federal Highway Administration Traffic Noise Prediction Model (FHWA-RD-77-108) was used to model roadway noise. The roadways analyzed were the same as those

analyzed in the Traffic and Circulation chapter. The average daily traffic (ADT) volumes were provided by DKS Transportation Solutions. Results are reported as the distance from the centerline of the roadway to the 75 dB L_{dn}, 70 dB L_{dn}, 65 dB L_{dn}, and 60 dB L_{dn} noise contours. The model does not include the noise shielding effects of any existing sound walls or other noise barriers along roadways outside the proposed project area. Within the project area, noise levels were determined and then analyzed based on the land use plan.

To analyze the impact of aircraft overflights from Mather Airport, a flight track analysis was requested from the Sacramento County Airport System. The flight track analysis gathers overflight data by placing a “penetration gate” over the center of the project site (in this case, the penetration gate spans two miles over the center of the project site) and reports the number, type and altitude of the aircraft that passed through the gate during a specified one month time period. The analysis also recorded flight track information within a one mile radius of the penetration gate.

The Federal Aviation Administration (FAA) Order 1050.1E, Section 311 provides a list of categorical exclusions for FAA actions involving establishment, modification, or application of airspace and air traffic procedures. Section 311i addresses changes over noise sensitive land uses and states that new or revised air traffic control procedures conducted at 3,000 feet or more above ground level would be categorically excluded. In addition, overflights for general aviation and most U.S. airspace in general, may be as low as 3,000 feet. The minimum 3,000 feet altitude is used by most pilots of general aviation aircraft since the federal requirement establishes general aviation’s minimum cruise elevation to be 3,000 feet. Based on this information, it would be reasonable to generally assume that aircraft over altitudes of 3,000 feet above ground level are not increasing noise and creating an annoyance to people below the flight path. Therefore, the analysis of the flight track data focused on aircraft passing over the site at or below 3,000 feet above ground level.

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, an impact may be significant if the project results in any one of the following:

1. Exposure of persons to or generation of noise levels in excess of standards established in the Sacramento County General Plan, Zoning Code and Noise Ordinance, or applicable standards of other agencies;
2. Expose people residing or working in the project area to excessive airport noise levels;
3. Expose people to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The definition of what is “excessive” or “substantial” noise is generally defined in the General Plan and Noise Ordinance, as described in the Regulatory Setting section. For airports, significance is based on the Comprehensive Land Use Plan (or similar). The existing Sacramento County General Plan includes policies that establish compatibility-related noise thresholds but does not include any policies that deal with the significant changes in ambient noise described in criterion three. In this case, the thresholds described in the Non-Regulatory Setting regarding subjective responses to changes in noise are used (Table NO-6).

EXISTING NOISE LEVELS

EXISTING TRAFFIC NOISE LEVELS

Existing traffic noise levels were determined using the existing average daily traffic (ADT) from the traffic impact study (TIS) prepared by DKS Associates Transportation Solutions. The existing ADT was entered into the Federal Highway Administration (FHWA) Noise Model. Based on the ADT, the 75 dB, 70 dB, 65 dB and 60 dB noise contours were generated along the various roadway segments. The results have been included in tables Table NO-7 and Table NO-9.

The traffic study impact area is so large that many land uses are represented. There are existing residences and businesses located near studied roadway segments. For example, there are existing agricultural-residential properties along Eagles Nest Road, from Kiefer Boulevard to Jackson Road. The nearest house is 180 feet from the center line of Eagles Nest Road. The 60 dB noise contour is located at 46 feet from the center line. The existing residences are located well beyond this distance.

There are commercial and institutional land uses, ranging from offices to warehouses, along most studied roadway segments: White Rock Road, Sunrise Boulevard from US Highway 50 to Douglas Road, Bradshaw Road from US Highway 50 to Jackson Road, Florin Road, and Elder Creek Road. Mostly the buildings along these roadways are located outside of the 70 dB contour (into the 65 or 60 dB contours).

There are properties along all studied roadway segments that are large agricultural parcels, zoned AG-20, AG-80 or AG-120. In Figure II-1 of the Noise Element, agricultural and industrial land uses are acceptable up to 70 dB $L_{dn}/CNEL$ and conditionally acceptable between 70 and 80 dB $L_{dn}/CNEL$. The homes on these agricultural properties are located within the 65 dB contour.

EXISTING MINING NOISE LEVELS

The Triangle Rock aggregate mine and processing facility is located directly south of the Project, across Jackson Road. Prior environmental analysis prepared for the mining use permit (County Control Numbers: 94-0715 and 01-0107) evaluated noise impacts associated with the mining operation and processing of materials. Currently, the processing facility is located 900 feet south of Jackson Road. The 55 dB L_{eq} noise

contour presented in the prior environmental analyses extends north of Jackson Road within the South Planning Area. However, the noise from the mining operation is less than the noise associated with the existing traffic noise along Jackson Road; therefore, the traffic noise is the dominant source of noise affecting the proposed Project.

EXISTING AIRCRAFT NOISE LEVELS

The nearest airport to the project site is Mather Airport, which is located approximately 3.6 miles to the northwest of the site. As shown in Plate NO-2, the Project site is located outside the 60 CNEL contour of Mather Airport; however, the project site is located within the Mather APPA where the flight path of aircraft that regularly fly at varying altitudes below 3,000 feet above ground level. The Sacramento County Airport System provided information regarding existing flight operations over the project site. Aircraft operations at Mather include cargo, general and military aviation. The majority of cargo operations occur during the evening and early morning hours at low-level overflights. Military operations consist of touch and go (take-off and landing operations), in which Air Force T-38 jet fighters aircraft are used. These aircraft are small, single engine supersonic aircraft, which are quite loud. Touch and go operations occur at low level flight decks generally between 1,500 and 3,500 feet.

FUTURE NO PROJECT NOISE LEVELS

FUTURE TRAFFIC NOISE LEVELS

Future off-site traffic noise will be generated from various reasonably foreseeable projects. This includes traffic generated by projects in the City of Rancho Cordova (such as the Sunridge and Arboretum Specific Plans) and development of the surrounding Jackson Highway master plans.

Aggregate haul trucks associated with Vulcan Materials Triangle Rock mining operation south of the project site and hard rock quarries in the east county will also contribute to future traffic noise levels in the project vicinity.

Future No Project ADT was entered into the FHWA Noise Model. Based on the ADT, the 75 dB, 70 dB, 65 dB and 60 dB noise contours were generated along the various roadway segments. The results have been included in Table NO-10.

NOISE REDUCING DESIGNS

There are a variety of site designs which may be used to reduce noise volumes that are applicable to most of the impact topics described later in this chapter. For ease of reference these designs are described rather than embedded throughout the later discussions.

USE OF SETBACKS

Noise exposure may be reduced by increasing the distance between the noise source and receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, storage yards, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4 to 6 dB per doubling of distance from the source.

USE OF BARRIERS

Shielding from noise can be achieved by placing walls, berms, or other structures, such as buildings, between the noise source and the receiver. The effectiveness of a barrier depends upon blocking line-of-sight between the source and receiver, and is improved with increasing the distance the sound must travel to pass over the barrier as compared to a straight line from source to 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.

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 in the frequency range of concern. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept line of sight to all significant noise sources. Masonry walls make an effective barrier, whereas wood materials typically do not. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

Note that noise barrier walls have fallen into disfavor in the neighborhood planning and public health communities, because they create barriers to walkability and may decrease the desire of people to walk and bike by making the streetscape less attractive. They may also create the impression of walling off segments of the community.

SITE DESIGN

Buildings can be placed on a project site to shield other structures housing more noise sensitive uses, or to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise. As an example, carports or garages can be used to form or complement a barrier shielding adjacent dwellings or an outdoor activity area. Similarly, one residential unit can be placed to shield another so that noise reduction measures are needed for only the building closest to the noise source. Placement of outdoor activity areas within the shielded portion of a building complex, such as a central courtyard, can be an effective method of providing a quiet retreat in an otherwise noisy environment; this method is often used in multiple-family developments. Patios or balconies can be placed on the side of a building

opposite the noise source, and "wing walls" can be added to buildings or patios to help shield noise sensitive areas.

Another option in site design is the placement of relatively less sensitive land uses, such as commercial or storage areas, between the noise source and a more sensitive portion of the project. Examples include developing a commercial strip along a busy arterial to block noise affecting a residential area, or parking areas along the noise-impacted edge of a multifamily residential complex. Sensitive structures or activity areas may then be placed behind these buildings to reduce noise control costs.

BUILDING CONSTRUCTION TECHNIQUES

When structures have been located to provide maximum noise reduction by implementing barriers or through site design, noise reduction measures may still be required to achieve acceptable interior noise levels. One option is to place sensitive portions of a dwelling, such as bedrooms, living rooms, or family rooms on the side of the unit farthest from the noise source. Bathrooms, closets, stairwells and kitchens are relatively insensitive to exterior noise sources and can be placed on the noisy side of a dwelling unit. When such techniques are employed, noise reduction requirements for the building façade can be significantly reduced, although the architect must take care to isolate the noise impacted areas by the use of partitions or doors.

Interior noise reduction may be obtained through acoustical design of building facades. Standard residential construction practices provide 10 – 15 dB noise reduction for building facades with open windows, and approximately a 25 dB noise reduction when windows are closed. Thus, a 25 dB exterior-to-interior noise reduction can be obtained by the inclusion of adequate ventilation systems, allowing windows on a noise-impacted façade to remain closed under any weather condition.

Where greater noise reduction is required, acoustical treatment of the building façade is necessary. Reduction of relative window area is the most effective control technique, followed by providing acoustical glazing (thicker glass or increased air space between panes) in low air infiltration rate frames, use of fixed (non-movable) acoustical glazing or the elimination of 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 the use of 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.

Whichever noise control techniques are employed, it is essential that attention be given to installation of weather-stripping and caulking of joints. Openings for attic or subfloor ventilation may also require acoustical treatment.

Design of acoustical treatment for building facades should be based upon analysis of the level and frequency content of the noise source. The transmission loss of each

building component should be defined, and the composite noise reduction for the complete façade calculated, accounting for absorption in the receiving room. A one-third octave band analysis is a definitive method of calculating the A-weighted noise reduction of a façade. A common measure of transmission loss is the Sound Transmission Class (STC). STC ratings are not directly comparable to A-weighted noise reduction, and must be corrected for the spectral content of the noise source. Requirements for transmission loss analyses are outlined by Title 24 of the California Code of Regulations.

USE OF 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 dB attenuation of traffic noise. 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 receiver, increasing ground absorption of sound and thus increasing the attenuation of sound with distance. Planting of trees and shrubs is also of aesthetic and psychological value, and may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels will be largely unaffected. However, it should be noted that trees planted on the top of a noise control berm can actually 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.

IMPACTS AND ANALYSIS

IMPACT: CONSTRUCTION WOULD TEMPORARILY INCREASE NOISE LEVELS

Initial site grading and road development would occur prior to occupancy. There are five residential dwellings located adjacent to the western boundary of the project site and there are two additional residential structures located further west. Once development starts to occur, construction over the course of the project would temporarily increase noise levels in the vicinity of various construction sites. Noise sensitive land uses located in the vicinity of construction could be subjected to noise from construction activities.

The Sacramento County Noise Ordinance specifically exempts construction-related noise from meeting noise limitations, subject to the following provisions:

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 eight p.m. through six a.m. on weekdays and Friday commencing at eight p.m. through and including seven a.m. on Saturday;

Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight 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 constructor or owner shall be allowed to continue work after eight 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. [Sacramento County Code, Section 6.68.090 (e)]

Construction noise impacts associated with buildout of the proposed project fall under this exemption. It is acknowledged that construction related noise could be a nuisance to sensitive receptors; however, this increase in noise is short-term, and noise standards within the General Plan are generally intended to address long-term sources of noise. Construction-related noise would not result in a permanent increase in ambient noise. Though noise volumes would undergo short-term increases, the existing construction ordinance is designed to avoid significant community effects through the restriction of nighttime and weekend disturbance, and thus impacts are *less than significant*.

IMPACT: ON-SITE TRAFFIC NOISE WOULD EXCEED NOISE STANDARDS

EXISTING PLUS PROJECT

The existing plus project noise contours for onsite roadway segments were determined using the FHWA model by entering the average daily traffic information from the Traffic Impact Study (Appendix TR-1). Detailed street sections have been provided by the applicant for the nine internal roadway segments. The type of road, the distance from the road centerline to the right-of-way, and landscape and public utility easements were provided for each type of roadway proposed. The type of land use proposed along the roadway segments were then compared to the noise contours.

RESIDENTIAL

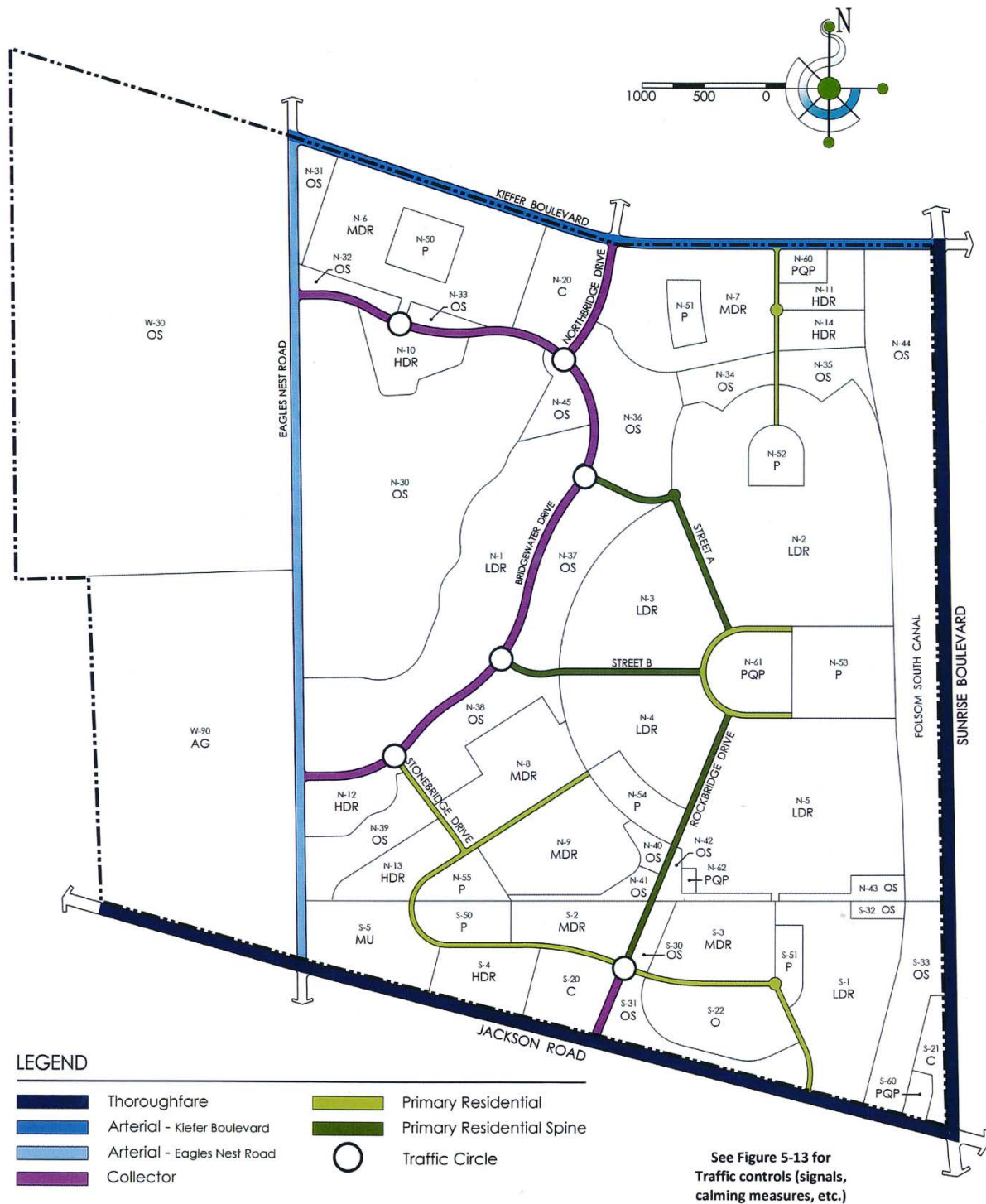
As shown in Table NO-7, the distance from the roadway centerline to the road right-of-way, plus landscape and public utility easements, would result in placement of residential property lines between the 58 and 64 dB contours. Given that the discussion references street names, an exhibit showing the roadways is also included (Plate NO-4). Therefore, if outdoor activity areas (i.e. backyards and play areas) are placed along the roadway frontage without any shielding, the noise volumes will not exceed the 65 dB standard. The Project is a land use master plan which does not include the detailed small-lot layouts and subdivision maps that would be needed in order to analyze noise volumes relative to individual lot design. These small-lot subdivision maps would be proposed as subsequent projects, also subject to the California Environmental Quality Act, and it would be at this time that the lot-level analysis would occur. This analysis focuses on community design issues.

Chapter 3 of the NSP and the Development Standards include descriptions of the housing types associated with the varying residential densities. The Development Standards establish minimum setbacks, lot sizes, building sizes, and other standards. In addition to the standards, the NSP includes an illustrative plan various “typical plotting diagrams” which provide example layouts for future lots. All of these examples indicate that the homes would front onto the streets, which would place the backyards in a shielded position behind the house. In medium density residential land uses lot types may include alley-loaded, courtyard lots, green court lots, auto courts, alley clusters, zero-lot lines, and z-shaped lots. These alternative designs would provide noise shielding, with alley-loaded garage access and cluster developments where the outdoor activity areas would be between side yards and in a shared front greencourt onto which all the homes would face. In sum, the NSP has clearly included both requirements for and flexibility to use alternative designs that would allow for appropriate noise reduction without the use of soundwalls. Lot layouts are not included for apartment-style multiple-family developments, but outdoor common areas are usually placed within the residential complex where the buildings provide noise attenuation. Further, the NSP Design Guidelines and Development Standards identify fencing types and locations through the plan area. Soundwalls are shown along Jackson Road bordering low density residential, the boundary between commercial and residential land uses, and around the fire station, pump station and electrical sub-station.

Table NO-7: Existing Plus Project Condition for On-Site Roadways

Roadway	Segment		ADT	Roadway Width ¹ (in feet)	Adjacent Land Uses ²	Noise level at property line ³	65 dB contour (in feet)	60 dB contour (in feet)
	From	To						
South Bridgewater	Eagles Nest Rd	Northbridge	3780	65	LDR, HDR, OS	62	41	89
North Bridgewater	Northbridge	Eagles Nest Rd	1520	65	MDR, HDR, C, OS	58	23	49
Northbridge	Kiefer Blvd	Bridgewater	2970	65	MDR, C, OS	61	35	76
Street A	South Bridgewater	Street B	1560	54	LDR, PQP, OS	58	19	42
Street B	South Bridgewater	Street A	1500	54	LDR, PQP, OS	58	19	41
Rockbridge	Street B	Stonebridge	1790	54	LDR, PQP, C, P, OS	59	21	46
Rockbridge	Stonebridge	Jackson Hwy	5500	54	C, OS	64	45	97
Stonebridge	South Bridgewater	Rockbridge	2490	37	MDR, HDR, C, MU, P, OS	63	26	57
Stonebridge	Rockbridge	Jackson Hwy	2880	37	LDR, MDR, O, P, OS	63	29	63
<p>1. Roadway width is based on the ultimate roadway configuration, measured from road centerline to edge of right-of-way plus landscape and public utility easements for specified roadways (based on Street Section diagrams provided by Mackay & Somps)</p> <p>2. LDR = Low Density Residential, MDR = Medium Density Residential, HDR = High Density Residential, MU= Mixed Use, C = Commercial, O = Office, PQP = Public Quasi-Public (School), P = Park, OS = Open Space</p> <p>3. The noise level at the property line was determined from the following formula: $15(\log_{10}(d1/d2))$ and the edge of property line is assumed to be the distance specified in the Roadway width column</p>								

Plate NO-4: Circulation Diagram



The maximum interior noise level for residential uses is 45 dB. Standard residential construction generally provides interior noise reduction of 25 dB, which means that exterior noise volumes must exceed 70 dB before interior volumes will exceed the 45 dB standard. All internal roadway segments that will have adjacent residential land uses will not expose residential properties to traffic noise levels in excess of 70 dB, and thus standard construction will result in acceptable interior noise levels. There are residential uses proposed adjacent to the boundary roadways³ that experience higher levels of traffic. External roadway segments that will have property lines located within the 65 dB and 70 dB contours are:

- Jackson Highway, from Eagles Nest Road to Sunrise Boulevard (67 dB at property line);
- Eagles Nest Road, from South Bridgewater Drive to Jackson Highway (68 dB at property line); and
- Kiefer Boulevard, from Northbridge Drive to Sunrise Boulevard (65-66 dB at property line)

Along all external roadway segments listed above, interior noise levels of residential land uses can be met through standard construction methods. Low and medium density residential land uses along these segments will exceed acceptable exterior noise levels if the outdoor activity areas front these roadway segments. This is a *potentially significant* impact. Maximum allowable exterior noise levels for residential uses are 65 dB. With appropriate inclusion of features such as increased setbacks and alley-loaded garage design, noise volumes could easily be reduced to acceptable levels. If preferred, noise barriers could also be used. Though precise barrier heights cannot be determined until small-lot map stage, approximate barrier heights can be determined using typical setbacks and roadway cross-sections provided as part of the Project. Barrier analyses using the FHWA model were performed to determine the minimum barrier heights that would be necessary. The results of this analysis indicate that when the receiver is located ten feet from the barrier, a six-foot high sound barrier located at the property line (when backyards front roadways) would attenuate noise levels by 6 dB. The loudest roadway segment where low and medium density residential land uses are proposed adjacent to the roadway will have traffic noise levels as high as 67 dB at the residential property line. A six-foot high soundwall will attenuate the outdoor activity area to within the 65 dB standard.

Though subsequent residential projects will be subject to the California Environmental Quality Act, mitigation is nonetheless recommended to stipulate that all residential exterior activity areas exposed to noise environments of greater than 65 dB must incorporate noise-reducing designs. Mitigation is included to require such designs.

³ For the matter of this discussion, Eagles Nest Road is considered a boundary roadway since no development or change in land uses are proposed west of the roadway. Further, roadway improvements will be made to the east.

With the application of mitigation, the Project will not expose residents to noise levels in excess of standards, and impacts are reduced to *less than significant*.

NON-RESIDENTIAL

The compatibility standards for non-residential land uses affected by transportation noise sources are provided on Table NO-2. Commercial, office and mixed uses are generally located adjacent to the major roadways surrounding the Project area. Uses in this area would include office buildings, business/retail commercial and professional buildings. A public elementary school is proposed in the interior portion of the Project site. There are no exterior noise standards for commercial areas and theaters, but all other non-residential areas have a standard of 65 dB. The noise level along all onsite internal roadway segments is below 65 dB at the property line. The noise level along the boundary roadways is below 70 dB at the property line.

There are interior noise standards outlined in the Noise Element for non-residential rooms affected by transportation noise (refer to Table NO-2). The most restrictive interior noise level for these types of uses is 40 dB, and this is the standard applied to schools, churches, and libraries – places where there is an expectation of quiet throughout the building. For offices the standard is 45 dB, and for commercial businesses it is 50 dB. Standard construction affords up to a 25 dB reduction; therefore, an exterior noise environment greater than 65 dB would exceed the 40 dB interior standard, exterior noise greater than 70 dB would exceed the interior 45 dB standard, and exterior noise greater than 75 dB would exceed the interior 50 dB standard.

Only the non-residential uses adjacent to boundary (off-site) roadways will experience exterior noise levels above 65 dB. However, no interior noise levels will be exceeded in the Project area. There are no cases where the exterior noise environment at a non-residential property line exceeds 75 dB, and thus all commercial uses will be within thresholds in the existing plus Project condition. However, if sensitive non-residential uses, such as churches or libraries, are placed adjacent to boundary roadways larger setbacks, additional noise attenuation measures or a combination thereof may be necessary.

Traffic on internal roadways will not cause exposure of persons to noise levels in excess of standards established in the Sacramento County General Plan. This impact is *less than significant*.

CUMULATIVE PLUS PROJECT

The cumulative plus Project noise contours for on-site roadway segments were determined using the FHWA model by entering the average daily traffic (ADT) information from the Traffic Impact Study (Appendix TR-1).

Similar to the analysis for the existing plus Project condition, the expected noise level contours were compared to the street sections provided by the Applicant for the nine studied internal roadway segments. The type of adjacent land use proposed along the

roadway segments were compared to the noise contours from the FHWA model. Refer to Table NO-8.

The noise contours in the cumulative plus project condition are very similar to the existing plus project condition. The slight change in the cumulative condition noise environment does not change the conclusions of the analysis or require mitigation beyond that already proposed for existing plus project conditions. As concluded in the existing plus project analysis, mitigation will ensure that the Project does not expose people to noise levels in excess of existing standards; impacts are reduced to *less than significant*.

Table NO-8: Cumulative Plus Project Condition for On-Site Roadways

Roadway	Segment		ADT	Roadway Width ¹ (in feet)	Adjacent Land Uses ²	Noise level at property line ³	65 dB contour (in feet)	60 dB contour (in feet)
	From	To						
South Bridgewater	Eagles Nest Rd	Northbridge	4480	65	LDR, HDR, OS	63	46	100
North Bridgewater	Northbridge	Eagles Nest Rd	1170	65	MDR, HDR, C, OS	57	19	41
Northbridge	Kiefer Blvd	Bridgewater	3480	65	MDR, C, OS	62	39	85
Street A	South Bridgewater	Street B	1690	54	LDR, PQP, OS	59	20	44
Street B	South Bridgewater	Street A	1320	54	LDR, PQP, OS	58	17	37
Rockbridge	Street B	Stonebridge	1690	54	LDR, PQP, C, P, OS	59	20	44
Rockbridge	Stonebridge	Jackson Hwy	6600	54	C, OS	65	51	109
Stonebridge	South Bridgewater	Rockbridge	2660	37	MDR, HDR, C, MU, P, OS	63	28	60
Stonebridge	Rockbridge	Jackson Hwy	3830	37	LDR, MDR, O, P, OS	65	35	76
<p>1. Roadway width is based on the ultimate roadway configuration, measured from road centerline to edge of right-of-way plus landscape and public utility easements for specified roadways (based on Street Section diagrams provided by Mackay & Somps)</p> <p>2. LDR = Low Density Residential, MDR = Medium Density Residential, HDR = High Density Residential, MU= Mixed Use, C = Commercial, O = Office, PQP = Public Quasi-Public (School), P = Park, OS = Open Space</p> <p>3. The noise level at the property line was determined from the following formula: $15(\log_{10}(d1/d2))$ and the edge of property line is assumed to be the distance specified in the Roadway width column</p>								

MITIGATION MEASURES:

NO-1. All residential development projects exposed to greater than 65 dB L_{dn} at the property line adjacent to Jackson Road, Eagles Nest Road or Kiefer Boulevard, shall be designed and constructed to reduce noise levels to within General Plan Noise Element standards for exterior activity areas. Potential options for achieving compliance with noise standards include, but are not limited to, noise barriers, increased setbacks, and/or strategic placement of structures. An acoustical analysis substantiating the required noise level reduction, prepared by a qualified acoustical consultant shall be submitted to and verified by the Environmental Coordinator prior to the issuance of any building permits for affected sites.

IMPACT: RESULT IN ON-SITE COMMUNITY AND STATIONARY NOISE SOURCES THAT WILL EXCEED GENERAL PLAN NOISE STANDARDS

The Project includes eight parks located throughout the planning area that could include playing fields, as well as a school which will have outdoor play areas. The Noise Element of the Sacramento County General Plan provides examples of the noise level of existing fixed noise sources. Softball games were found to produce noise levels up to 70 dBA at 350 feet from the bleachers, as well as playing areas found in other Project parks.

Though parks and schools have the potential to generate noise in excess of standards, it is customary for parks and schools to be placed near or within residential subdivisions. Noise is typically addressed by locating the most noise-producing uses in the interior of the park, while placing more passive use areas on the boundaries. This results in an increased setback, reducing noise to nuisance levels. Furthermore, the Sacramento County Noise Ordinance exempts parks and schools from compliance with the Noise Ordinance (Sacramento County Code 6.68.090).

There are many non-residential uses which could be constructed within the Project area subsequent to Specific Plan approval that would not require any further CEQA review or discretionary entitlements. Though CEQA would not apply, all such developments would be required to comply with the Sacramento County Noise Ordinance. Uses with the potential to generate noise include retail stores (e.g. loading docks), auto repair services, and fire stations (to list a few). Additional noise sources include the sewage pump station. Development of these uses must comply with the Sacramento County Noise Ordinance Section 6.68.120 Machinery, Equipment, Fans and Air Conditioning which states:

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 installed after July 1, 1976 in any manner so as to create any noise which would cause the maximum noise level to exceed

- 1) Sixty dBA at any point at least one foot inside the property line of the affected residential property and three to five feet above ground level.

The above requirement will ensure that noise from machinery would not exceed acceptable levels.

Though it is likely that standard design practices and compliance with the Sacramento County Noise Ordinance will locate most of these uses in such a way that significant noise exposure is avoided, this result cannot be verified at this time due to the level of detail currently available. This is a *potentially significant* impact. Mitigation has been included to ensure that stationary Project uses will not expose people to noise in excess of standards; impacts are reduced to *less than significant*.

MITIGATION MEASURES:

NO-2. All non-residential development projects located adjacent to residentially designated properties shall be designed and constructed to ensure that noise levels generated by the uses do not result in General Plan Noise Element standards being exceeded on adjacent properties. An acoustical analysis substantiating the required noise level reduction, prepared by a qualified acoustical consultant shall be submitted to and verified by the Environmental Coordinator prior to the issuance of any building permits for the non-residential projects with the potential to generate substantial noise (e.g. car wash, auto repair, or buildings with heavy-duty truck loading docks) if those uses are adjacent to residentially designated properties. The acoustical analysis shall include, but not be limited to, consideration of potential noise conflicts due to operation of the following items:

- Mechanical building equipment, including HVAC systems;
- Loading docks and associated truck routes;
- Refuse pick up locations; and
- Refuse or recycling compactor units.

IMPACT: SUBSTANTIAL INCREASE IN THE EXISTING AMBIENT NOISE LEVEL

While there are General Plan noise standards applicable to *new* development affected by transportation noise, and for existing development affected by *new* transportation projects (new roadways, or roadway widening), there are no General Plan standards which apply to existing development affected by increases in traffic associated with new land uses. That impact is assessed not through General Plan standards, but the general CEQA guidelines criteria that an increase in noise which is substantial is significant. For this analysis, a substantial increase in noise is defined by the FICON noise study – which is the same basis on which new roadway project impacts are assessed.

According to the FICON noise study (refer to Table NO-6), an increase in the ambient noise level by 5 dB or more is substantial when existing ambient noise levels are less

than 60 dB, a change in 3 dB or more is substantial when existing noise levels are between 60 and 65 dB, and a change of 1.5 dB or more is substantial when existing ambient noise levels are above 65 dB. Table NO-9 shows the roadways that would experience a substantial increase in the existing ambient noise levels as a result of Project traffic. Segments that would not have a substantial increase were not included. Most of these segments are located adjacent to agricultural properties. Table NO-10 is also included to disclose probable future conditions, but note that the threshold only applies to development subject to substantial increases in *existing* ambient noise. In any case, the table shows that in the majority of cases the Project contribution to cumulative noise is negligible.

There are sections of Eagles Nest Road, Kiefer Boulevard, and Jackson Road which will be subject to substantial noise increases. Agricultural residences are adjacent to these roadway segments. The nearest residence on Eagles Nest Road north of Jackson Road is 180 feet. The nearest residence on Eagles Nest Road south of Jackson Road and north of Florin Road is 90 feet, and south of Florin Road north of Grant Line Road is 52 feet. The façade of these residences are located within the 60 to 65 dB contour. While there will be a noticeable change in traffic noise, typical house construction would still reduce the interior noise level to acceptable General Plan noise standards. The exterior noise levels may be exceeded depending on where the outdoor activity area is designated, which is difficult to discern on residential-agricultural parcels.

There are no existing sensitive receptors located north of Kiefer Boulevard and the existing land use is designated as a future urban development area. The area north of Kiefer Boulevard will not be affected by increases in traffic noise.

South of Jackson Road is largely aggregate mining, with truck and processing equipment noise. West of the mining operation, there are five agricultural-residential parcels with the nearest house façade 320 feet from the centerline of the road which is between the 60 and 65 dB contour. These areas will not be affected by increases in roadway noise. North of Jackson Road there are several agricultural-residential parcels in which the nearest house façade is 125 feet. These houses are within the 65 to 70 dB contour and even though sensitive receptors will perceive a noticeable change in traffic noise, typical house construction would still reduce the interior noise level to acceptable General Plan noise standards. Again, the exterior noise levels may be exceeded depending on where the outdoor activity area is designated, which is difficult to discern on residential-agricultural parcels.

The Project will expose people to a substantial increase in ambient noise. The most affected properties are those located west of Eagles Nest Road. Typical measures implemented to reduce noise are placement of soundwalls, improvements to building façades (windows, doors, etc.), or increased setbacks; however, these are not feasible measures to implement in off-site or non-participatory properties. **A feasible mitigation measure is the use of rubberized hot-mix asphalt (RHMA) for the future widening of Eagles Nest Road from Kiefer Boulevard to Jackson Road, as well as all off-site roadway improvements. The RHMA overlay shall be designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the**

total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt. RHMA has been found to achieve this level of noise reduction in other parts of California (Sacramento County 1999). Pavement will require more frequent than normal maintenance and repair to maintain its noise attenuation. Even with the recommended mitigation, the level of noise attenuation does not reduce all significant impacts. The Project impacts are *significant and unavoidable*.

Table NO-9: Existing and Existing Plus Project Off-Site Roadway Noise

Roadway Segment	Noise Level (dB) At Modeled Location ¹		
	Existing	Existing Plus Project	Change
Bradshaw Rd – Kiefer Blvd to Jackson Rd	68	69	1
Calvine Rd – Vineyard Rd to Excelsior Rd	63	64	1
Douglas Rd – Sunrise Blvd to Rancho Cordova Pkwy	63	64	1
Eagles Nest Rd – Kiefer Blvd to Jackson Rd	55	66	11
Eagles Nest Rd – Jackson Rd to Florin Rd	54	62	8
Eagles Nest Rd – Florin Rd to Grant Line Rd	50	58	8
Elder Creek Rd – Power Inn Rd to Florin-Perkins Rd	65	66	1
Elder Creek Rd – S. Watt Ave to Hedge Ave	62	63	1
Elder Creek Rd – Hedge Ave to Mayhew Rd	62	63	1
Elder Creek Rd – Mayhew Rd to Bradshaw Rd	62	63	1
Elder Creek Rd – Bradshaw Rd To Excelsior Rd	58	60	2
Excelsior Rd – Gerber Rd to Calvin Rd	60	59	-1
Florin Rd – S. Watt Ave to Hedge Ave	64	65	1
Florin Rd – Hedge Ave to Mayhew Rd	63	64	1
Florin Rd – Mayhew Rd to Bradshaw Rd	63	64	1
Florin Rd – Bradshaw Rd to Excelsior Rd	62	64	2
Florin Rd – Excelsior Rd to Sunrise Blvd	64	65	1
Fruitridge Rd – Power Inn Rd to Florin Perkins Rd	66	67	1
Grant Line Rd – White Rock Rd to Douglas Rd	64	65	1
Grant Line Rd – Kiefer Blvd to Jackson Rd	65	66	1
Happy Ln – Old Placerville Rd to Kiefer Blvd	57	59	2
Jackson Rd – S. Watt Ave to Hedge Ave	68	69	1
Jackson Rd – Hedge Ave to Mayhew Rd	67	68	1

Roadway Segment	Noise Level (dB) At Modeled Location ¹		
	Existing	Existing Plus Project	Change
Jackson Rd – Mayhew Rd to Bradshaw Rd	67	68	1
Jackson Rd – Bradshaw Rd to Excelsior Rd	68	69	1
Jackson Rd – Excelsior Rd to Eagles Nest Rd	67	69	2
Jackson Rd – Eagles Nest Rd to Sunrise Blvd	66	69	3
Kiefer Blvd – Mayhew Rd to Bradshaw Rd	63	64	1
Kiefer Blvd – Bradshaw Rd to Happy Ln	61	62	1
Kiefer Blvd – Eagles Nest Rd to Sunrise Blvd	55	65	10
Old Placerville Rd – Happy Ln to Routier Rd	62	63	1
Rockingham Dr – Old Placerville Rd to Mather field Rd	66	67	1
Sunrise Blvd – Folsom Blvd to Trade Center Dr	70	71	1
Sunrise Blvd – Douglas Rd to Kiefer Blvd	68	69	1
Sunrise Blvd – Florin Rd to Grant Line Rd	65	66	1
Vineyard Rd – Gerber Road to Calvine Rd	59	60	1
White Rock Rd – Fitzgerald Rd to Rancho Cordova Pkwy	59	60	1
White Rock Rd – Rancho Cordova Pkwy to Americanos Blvd	59	60	1
Zinfandel Dr – International Rd to Baroque Dr	62	63	1
Zinfandel Dr – Baroque Dr to City Limit	62	63	1
Zinfandel Dr – City Limit to Douglas Rd	62	63	1
NOTES: 1. Modeling location was 100 ft from the centerline. Bold indicates volume which exceeds standard Shading indicates significant impact			

Table NO-10: Cumulative and Cumulative Plus Project Off-Site Roadway Noise

Roadway Segment	Noise Level (dB) At Modeled Location ¹		
	Cumulative	Cumulative Plus Project	Change
Calvine Rd - Vineyard Rd to Excelsior Rd	65	66	1
Chrysanthy Blvd Rd – Sunrise Blvd to Rancho Cordova Pkwy	65	64	-1
Eagles Nest Rd – Kiefer Blvd to Jackson Rd (SR16)	66	68	2
Eagles Nest Rd - Jackson Rd (SR-16) to Florin Rd	66	67	1
Elder Creek Rd – Bradshaw Rd to vineyard Rd	69	70	1
Jackson Rd (SR-16) – Bradshaw Rd to Collector WJ-4	71	72	1
Jackson Rd (SR-16) – Collector WJ-4 to Happy Ln	71	72	1
Jackson Rd (SR-16) – Excelsior Rd to Collector JT-3	73	74	1
Jackson Rd (SR-16) – Collector JT-3 to Tree View Ln	72	73	1
Jackson Rd (SR-16) – Tree View Ln to Collector JT-4	71	72	1
Jackson Rd (SR-16) – Collector JT-4 to Eagles Nest Rd	71	72	1
Jackson Rd (SR 16) – Eagles Nest Rd to Sunrise Blvd	71	72	1
Jackson Rd (SR 16) – Sunrise Blvd to Grant Line Rd	74	75	1
Kiefer Blvd – E Collector MS-1 to Sunrise Blvd	70	71	1
Zinfandel Dr – Douglas Rd to Collector MS-2	68	69	1
14th Ave – Power Inn Rd to Florin Perkins Rd	68	69	1
International Dr – Sunrise Blvd to Rancho Cordova Pkwy	68	69	1
Kiefer Blvd – Tree View Ln to Eagles Nest Rd	70	71	1
Kiefer Blvd – Collector WJ-15 to Douglas Rd	72	73	1
Mayhew – Happy Ln to Bradshaw Rd	71	70	-1
Rock Creek Pkwy – S. Watt Ave to Hedge Ave	63	62	-1
Collector JT-3 – Collector JT-1 to Collector JT-6	54	55	1
Collector JT-3 – Collector JT-6 to Collector JT-5	55	56	1
Collector JT-4 – Jackson Rd (SR 16) to Bridgewater Dr	51	57	6
Collector JT-6 – Excelsior Rd to Collector JT-3	59	57	-2
E Collector MS-1 – Collector MS-5 to Kiefer Blvd	62	61	-1
Collector MS-4 – Eagles Nest Rd to Collector MS-5	63	62	-1
Collector MS-5 – Collector MS-1 to Collector MS-4	64	63	-1

Roadway Segment	Noise Level (dB) At Modeled Location ¹		
	Cumulative	Cumulative Plus Project	Change
Collector MS-5 – Collector MS-4 to Collector MS-3	59	58	-1
1. The modeling location is 100 feet from centerline. Bold indicates volume which exceeds standard Shading indicates significant impact			

Roadway Segment	Noise Level (dB) At Modeled Location ¹				
	Cumulative	Cumulative Plus Project	Cumulative Plus Project (2018)	Change	
Bradshaw Rd – Mayhew Rd to Jackson Rd (SR16)	70	70	71	1	
Calvine Rd - Vineyard Rd to Excelsior Rd	65	66	65	1	0
Chrysanthy Blvd Rd – Sunrise Blvd to Rancho Cordova Pkwy	65	64	63	-1	-2
Douglas Rd – Zinfandel Dr to Sunrise Blvd	70	70	71	1	
Douglas Rd – Sunrise Blvd to Rancho Cordova Pkwy	72	72	73	1	
Douglas Rd. - Rancho Cordova Pkwy to Americanos Blvd	72	72	73	1	
Eagles Nest Rd – Kiefer Blvd to Jackson Rd (SR16)	66	68	67	2	1
Eagles Nest Rd - Jackson Rd (SR-16) to Florin Rd	66	67	67	1	1
Elder Creek Rd – Mayhew Rd to Bradshaw Rd	69	69	71	2	
Elder Creek Rd – Bradshaw Rd to Vineyard Rd	69	70	69	1	0
Grant Line Rd – White Rock Rd to Douglas Rd	73	73	74	1	
Grant Line Road – Douglas Rd to Chrysanthy Blvd	75	75	76	1	
Jackson Rd (SR-16) – Bradshaw Rd to Collector WJ-4	71	72	72	1	1
Jackson Rd (SR-16) – Collector WJ-4 to Happy Ln	71	72	72	1	1
Jackson Rd (SR-16) – Excelsior Rd to Collector JT-3	73	74	74	1	1
Jackson Rd (SR-16) – Collector JT-3 to Tree View Ln	72	73	72	1	0
Jackson Rd (SR-16) – Tree View Ln to Collector JT-4	71	72	72	1	1
Jackson Rd (SR-16) – Collector JT-4 to Eagles Nest Rd	71	72	72	1	1
Jackson Rd (SR 16) – Eagles Nest Rd to Sunrise Blvd	71	72	71	1	0
Jackson Rd (SR 16) – Sunrise Blvd to Grant Line Rd	74	75	74	1	0
Kiefer Blvd – W Collector MS-1 to Northbridge Dr	70	70	71	1	
Kiefer Blvd – E Collector MS-1 to Sunrise Blvd	70	71	72	1	2
Sunrise Blvd – White Rock Rd to Douglas Rd	72	72	73	1	
Sunrise Blvd – Douglas Rd to Kiefer Blvd	70	70	71	1	
Zinfandel Dr – Douglas Rd to Collector MS-2	68	69	67	1	-1
14th Ave – Power Inn Rd to Florin Perkins Rd	68	69	68	1	0
Douglas Rd Ext – Mather Blvd to Kiefer Blvd	67	67	68	1	
International Dr – Sunrise Blvd to Rancho Cordova Pkwy	68	69	68	1	0
Kiefer Blvd – Tree View Ln to Eagles Nest Rd	70	71	70	1	0

Roadway Segment	Noise Level (dB) At Modeled Location ¹				
	Cumulative	Cumulative Plus Project	Cumulative Plus Project (2018)	Change	
Douglas Rd – Excelsior Rd to Rock Creek Pkwy	67	67	68	1	
Douglas Rd – Rock Creek Pkwy to Kiefer Blvd	68	68	69	1	
Kiefer Blvd – Collector WJ-15 to Douglas Rd	72	73	72	1	0
Mayhew Rd – Collector WJ-13 to Elder Creek Rd	68	68	69	1	
Mayhew Rd – Happy Ln to Bradshaw Rd	71	70	N/A	-1	
Rock Creek Pkwy – S. Watt Ave to Hedge Ave	63	62	62	-1	-1
Collector JT-3 – Collector JT-1 to Collector JT-6	54	55	52	1	-2
Collector JT-3 – Collector JT-6 to Collector JT-5	55	56	55	1	0
Collector JT-3 – Collector JT-5 to Jackson Rd (SR16)	63	63	64	1	
Collector JT-4 – Jackson Rd (SR 16) to Bridgewater Dr	51	57	57	6	6
Collector JT-5 – Collector JT-3 to Tree View Ln	60	60	61	1	1
Collector JT-6 – Excelsior Rd to Collector JT-3	59	5760	61	-2 1	2
W Collector MS-1 – Kiefer Blvd to Collector MS-5	60	59	60	0	
E Collector MS-1 – Collector MS-5 to Kiefer Blvd	62	61	62	-1	0
Collector MS-4 – Eagles Nest Rd to Collector MS-5	63	62	59	-1	-4
Collector MS-5 – Collector MS-1 to Collector MS-4	64	63	N/A	-1	
Collector MS-5 – Collector MS-4 to Collector MS-3	59	58	N/A	-1	
<p>1. The modeling location is 100 feet from centerline.</p> <p>Red indicates changed values based on the Traffic Analysis for Mather South Master Plan.</p> <p>Bold indicates volume which exceeds standard</p> <p>Shading indicates significant impact</p>					

MITIGATION MEASURES:

None recommended.

- NO-3. Use rubberized hot-mix asphalt for the road widening project along Eagles Nest Road. The RHMA overlay shall be designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt.**

NO-4. Use rubberized hot-mix asphalt for all off-site road widening projects implemented as part of the Mather South, NewBridge, Jackson Township or West Jackson plans. The RHMA overlay shall be designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt.

IMPACT: AIRCRAFT NOISE FROM MATHER AIRPORT

The center of the project site is located approximately 3.6 miles southeast of Mather Airport. The Mather Airport Master Plan outlines future aviation growth for the airport through 2035. With growth, there are increases to noise. A complete noise analysis is presented in the certified Environmental Impact Report for the Mather Airport Master Plan (County Control No.: 02-0325) and analyzes noise impacts to surrounding land uses. The Mather Airport Master Plan noise analysis is hereby incorporated by reference, and can be reviewed during business hours of 8 a.m. to 4:45 p.m. at the Office of Planning and Environmental Review, 827 7th Street, Room 225, Sacramento, CA 95814.

According to the analysis presented in that document, the Project area is still outside of the 2035 projected 60 CNEL noise contour for Mather. Although the project site is located outside the 60 dB CNEL contour (as shown on) of Mather Airport, the project site is located within the overflight path of approaching and departing aircraft that fly below 3,000 feet above ground level. A flight track analysis was provided by the Sacramento County Airports System for the month of August 2017. A penetration gate was oriented over the center of the project site and spanned two miles. The flight track data provides the altitude of flights through the penetration gate in feet above mean sea level; however it does not provide the type of aircraft at specified altitudes, nor does the data specify the time of day for the various flights. Mather Airport is an economic resource for the County thus there are air cargo night operations occurring. Cargo jets tend to be louder and during the quieter evening hours it is more likely that aircraft noise could interfere with sleeping patterns. The flight track report also classifies the flight patterns as arriving, departing, and touch-and-go flights.

The project site ranges in elevation from 130 feet to 150 feet above mean sea level. Flights passing over the site 3,000 feet above ground level would range in altitude of 3,130 feet to 3,150 feet above mean sea level.

Plate NO-5 shows the arrival flights recorded for Mather Airport. As shown on Plate NO-5, the majority of the flights arriving at Mather Airport are not passing over the project site, due to the orientation of the runway at Mather being in a southwest/northeast direction and that the site is located southeast of the runway. There were 1,263 arrival flight tracks recorded for Mather Airport, of which 132 flew within a one mile radius of the project site and 91 penetrated the gate spanning the project site. Only seven percent of the total arrivals flew over the project site. The

flights ranged in altitude from 700 to 5,000 feet above mean sea level. The report does not indicate the type of aircraft at the various elevations, but does provide the overall number and type of aircraft for the studied time frame. Of the arrivals that flew within one mile radius of the project site, there were 53 commercial, 53 general aviation and 26 undefined.

Plate NO-6 shows the departure flights recorded for Mather Airport. As shown on Plate NO-6, the majority of the flights departing Mather Airport are not passing over the project site. There were 1,380 departure flight tracks recorded at Mather Airport, of which 145 flew within a one mile radius of the project site and 113 penetrated the gate spanning the site. Eleven percent of the total departure flights for Mather Airport are passing over the project site. These departure flights ranged in altitudes from 500 to 6,000 feet above mean sea level. Of the aircraft departing Mather Airport that flew within a one mile radius of the project site, there were 71 commercial, 40 general, and 34 undefined.

The cargo departures were isolated out of the total departures because these flights use large aircraft and occur during very early morning hours (5am – 7am) or late night hours (7pm – 11pm) which may disturb sleeping patterns of nearby residents (Plate NO-7). There were a total of 170 cargo departures, of which 48 flew within a one mile radius southwest of the project area and 45 penetrated the gate. Therefore, in an average month 26 percent of the departing cargo flights fly over the project site.

Plate NO-8 shows the touch-and-go flights recorded for Mather Airport. As shown on the exhibit, touch-and-go flights were a little more erratic than arrivals or departures, but most are concentrated in a ring around Mather Airport. It should be noted that the number of flight tracks over the site may consist of one touch-and-go flight track with multiple operations. Of the total 424 touch-and-go flights, 51 were recorded within a one mile radius of the project site and 35 penetrated the gate, which is 12 percent of the total touch-and-go flights.

It should be noted that Mather Airport receives funding from the FAA and is therefore required to allow the military to use the airport; thus the nature of military operations at Mather Airport can change in the future. Mather Airport has also been used for testing Boeing's new superliners (787 and 747-800) and will likely continue to be used by Boeing. Although the new engines on these aircrafts are substantially quieter than the older B757 and B767 used currently for cargo flights, the sight of these planes flying at low elevations may be disconcerting for nearby residents. Furthermore, Mather Airport has been designated to be a substitute airport in the event that the Sacramento International Airport (SMF) is flooded due to levee failure. This would result in an increase in the number of overflights over the Project area, potentially creating a greater, albeit temporary, noise nuisance.

SINGLE EVENT NOISE

During the Mather Airport Master Plan analysis, concern was raised regarding single event noise impacts. Single event noise is the effects of aircraft noise on sleep and

learning. Again, the complete analysis is presented in the Mather Airport Master Plan EIR and a brief summary focusing on the Project area follows.

The Project is located within the flight track of Mather Airport and contains thousands of homes and one elementary school; therefore, new residences and students may be experience single event noise. The Mather Airport Master Plan EIR acknowledged that the communities around the airport will be subject to increases in the percent of population potentially awakened (assuming windows open at night); especially, those closer to the airport or the approach/departure zone. As for the school, the analysis did not find a substantial increase to classroom noise levels (assuming windows closed).

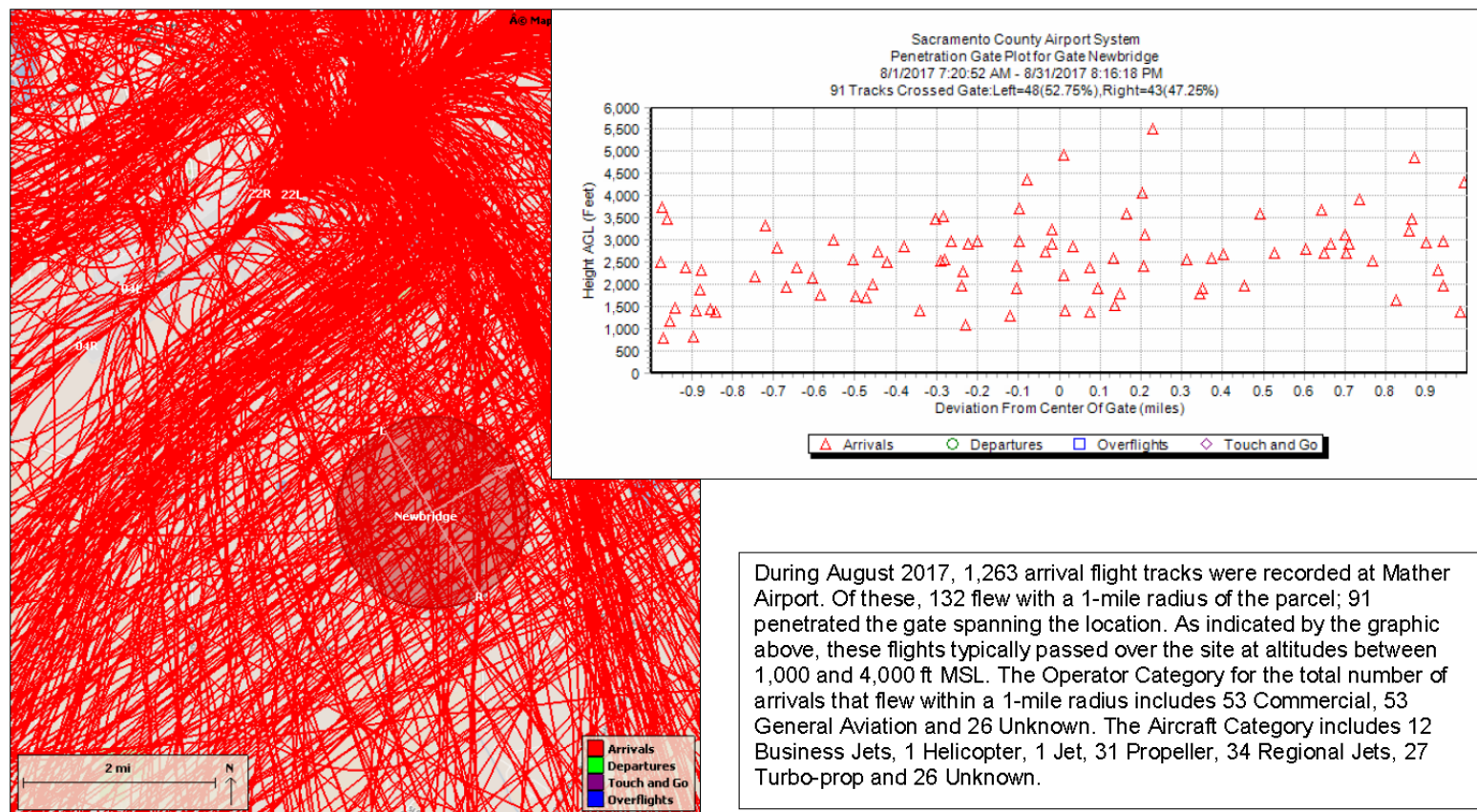
Specifically, the Project is located within an area identified to potentially awaken 4.1 to 7 percent of the population in the existing 2012 condition. This increases to 7.1 to 10 percent of the population in the 2035 modeling predictions.

Plate NO-5: Arrival Flight Tracks for Mather Airport

Sacramento County Airport System
Aircraft Noise Information Office
Mather Airport Flight Altitudes Near Newbridge Project Location
Flight Track Analysis



Arrival Analysis



During August 2017, 1,263 arrival flight tracks were recorded at Mather Airport. Of these, 132 flew within a 1-mile radius of the parcel; 91 penetrated the gate spanning the location. As indicated by the graphic above, these flights typically passed over the site at altitudes between 1,000 and 4,000 ft MSL. The Operator Category for the total number of arrivals that flew within a 1-mile radius includes 53 Commercial, 53 General Aviation and 26 Unknown. The Aircraft Category includes 12 Business Jets, 1 Helicopter, 1 Jet, 31 Propeller, 34 Regional Jets, 27 Turbo-prop and 26 Unknown.

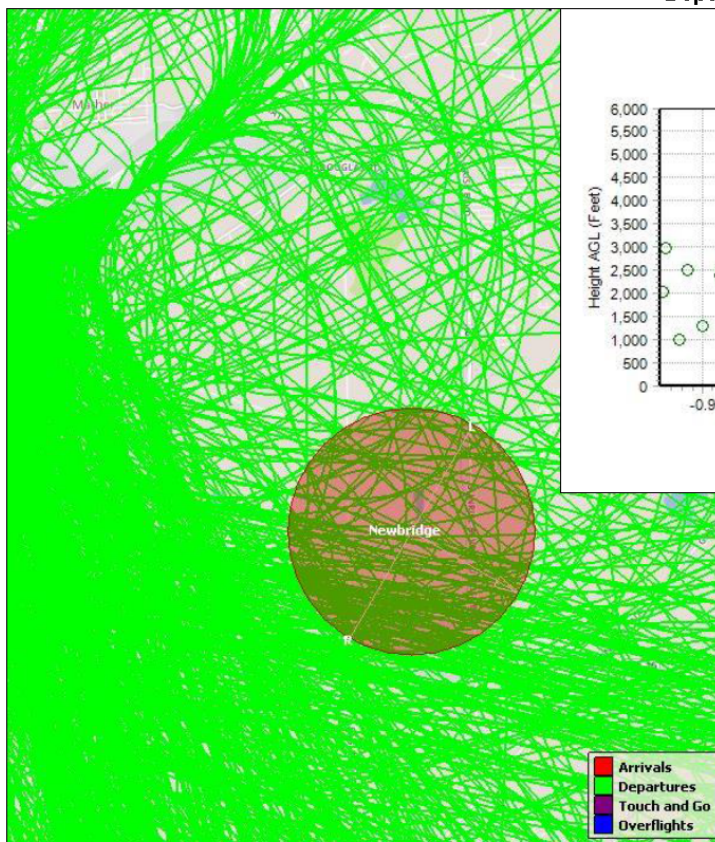
The center of the proposed project location is approximately 3.6 miles from Runway 04R/22L at MHR.

Plate NO-6: Departure Flight Tracks for Mather Airport

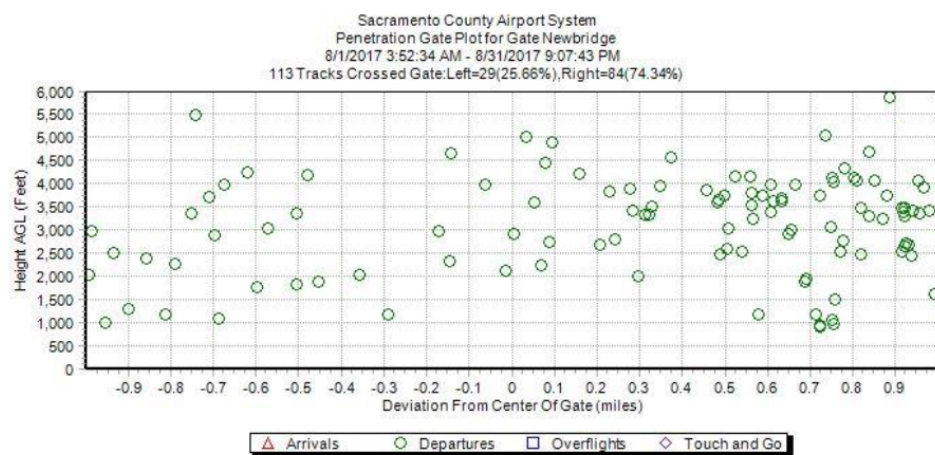
Sacramento County Airport System
Aircraft Noise Information Office
Mather Airport Flight Altitudes Near Newbridge Project Location
Flight Track Analysis



Departure Analysis



Operations departing to the east may pass over the location as they proceed on course to their destination. In order to capture the relative proximity of the flight tracks to the location center, the basic penetration gate direction was re-oriented.



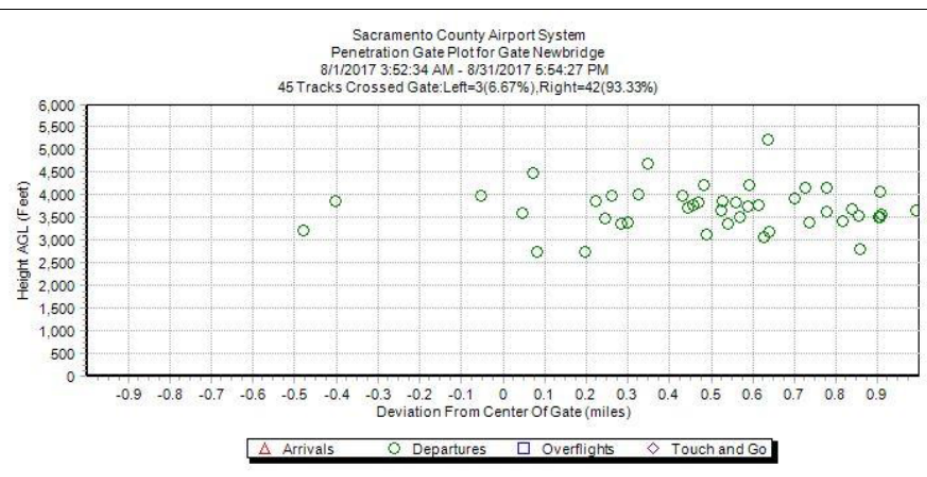
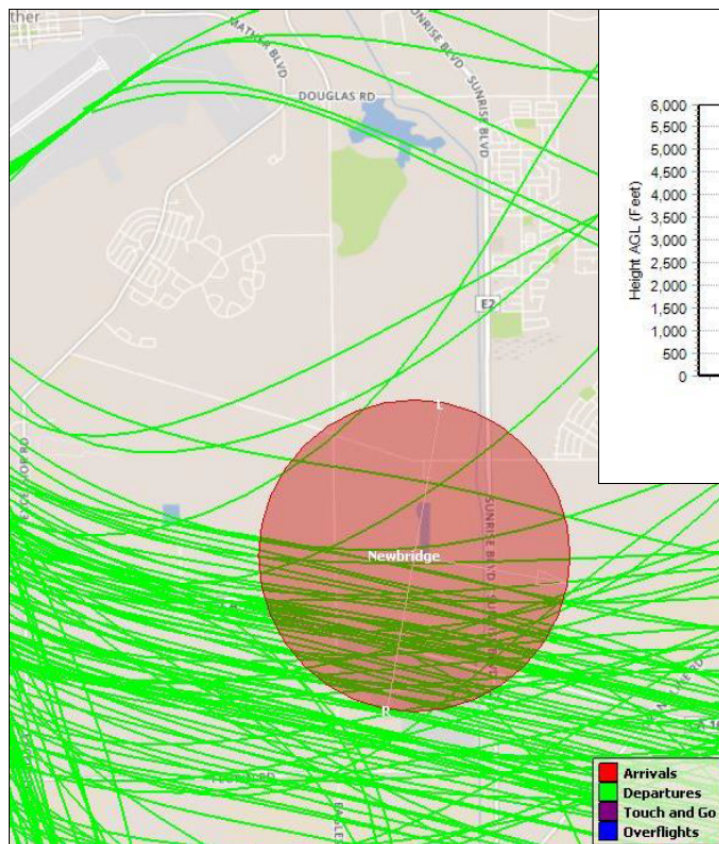
During August 2017, 1,380 departure flight tracks were recorded at Mather Airport. Of these, 145 flew within a 1-mile radius of the parcel; 113 penetrated the gate spanning the location. As indicated by the graphic above, these flights typically passed over the site at altitudes between 500 and 6,000 ft MSL. The Operator Category for the total number of departures that flew within a 1-mile radius includes 71 Commercial, 40 General Aviation, and 34 Unknown. The Aircraft Category includes 24 Business Jets, 48 Jets, 17 Propeller, 12 Regional Jets, 10 Turbo-prop and 34 Unknown.

Plate NO-7: Cargo Departure Flight Tracks for Mather Airport

Sacramento County Airport System
Aircraft Noise Information Office
Mather Airport Flight Altitudes Near Newbridge Project Location
Flight Track Analysis



Cargo Operations Analysis



During August 2017, 170 cargo departure flight tracks were recorded at Mather Airport. Of these, 48 flew within a 1-mile radius of the southwest area of the project location; 45 penetrated the gate spanning the location. As indicated by the graphic above, these flights typically passed over the site at altitudes between 2,000 and 6,000 ft MSL. These operations are conducted in Boeing 757-200, Boeing 767-300 and Airbus 300F4-600 and typically occur between the hours of 4:00 to 7:00 a.m. and 7:00 to 11:00 p.m.

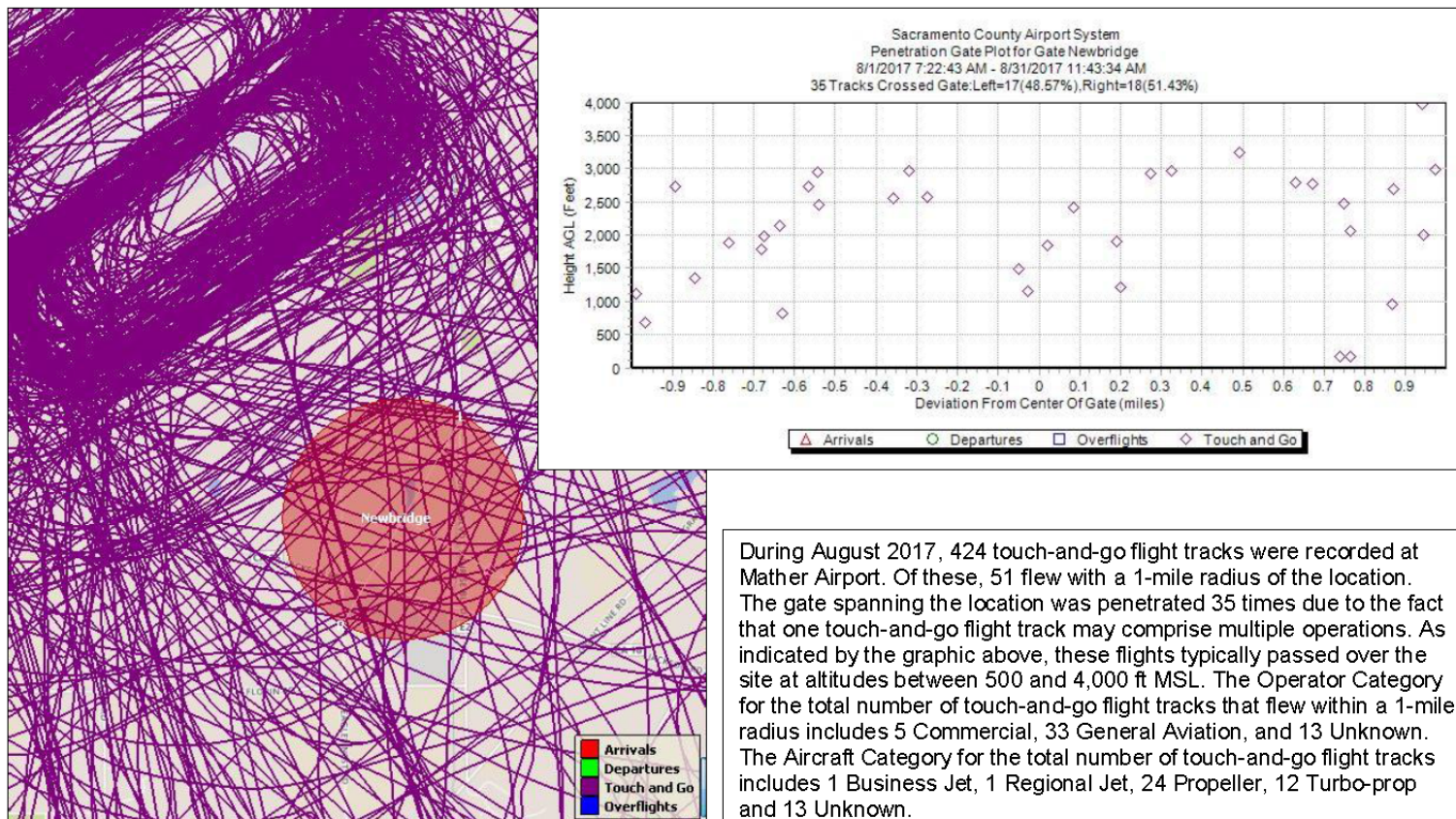
In order to demonstrate the proximity of heavy cargo operations in the vicinity of the project location, the penetration gate direction was re-oriented.

Plate NO-8: Touch-and-Go Flight Tracks for Mather Airport

Sacramento County Airport System
Aircraft Noise Information Office
Mather Airport Flight Altitudes Near Newbridge Project Location
Flight Track Analysis



Touch-and-Go Analysis



Proximity to the downwind leg of the left traffic pattern at MHR also affects the number of touch-and-go (training) operations near the location.

During August 2017, 424 touch-and-go flight tracks were recorded at Mather Airport. Of these, 51 flew within a 1-mile radius of the location. The gate spanning the location was penetrated 35 times due to the fact that one touch-and-go flight track may comprise multiple operations. As indicated by the graphic above, these flights typically passed over the site at altitudes between 500 and 4,000 ft MSL. The Operator Category for the total number of touch-and-go flight tracks that flew within a 1-mile radius includes 5 Commercial, 33 General Aviation, and 13 Unknown. The Aircraft Category for the total number of touch-and-go flight tracks includes 1 Business Jet, 1 Regional Jet, 24 Propeller, 12 Turbo-prop and 13 Unknown.

CONCLUSION

Staff of the Sacramento County Airport System (B. Taylor) reviewed the proposed Project and submitted conditions of approval consistent with the Mather Airfield Airport Planning Policy Area (APPA) requiring that new properties within the APPA boundary be subject to the following condition:

Execution and recordation with the Sacramento County Recorder of an Avigation Easement to Sacramento County and compliance with all other conditions as required by the Sacramento County Board of Supervisors adoption of the APPA for Mather Airfield.

The aircraft noise associated with Mather Airport within the project area will not exceed any federal or State thresholds of significance since the site is located outside the 60 dB CNEL contour. However, it is reasonable to conclude that although aircraft overflight noise is below thresholds of significance, aircraft noise as a result of the continued and future use of Mather Airport has the potential to be a nuisance and generate objections by residents and other sensitive receptors (such as schools, churches, theaters, etc.) throughout the Project area. For this reason, all residential units planned in the proposed Project area will be conditioned with all Mather Airfield APPA conditions in order to facilitate home buyer awareness and thereby minimize the impact of aircraft overflights which may be experienced by residents within the Project area.

Consistent with General Plan Policy NO-4, the following conditions outlined in the Mather Airfield APPA will be applicable for all planned residential units in the proposed Project area and have been incorporated into the NSP Development Standards:

1. Minimum noise insulation to protect persons from excessive noise within new residential dwellings, including single family dwellings, that limits noise to 45 dB CNEL, with windows closed, in any habitable room.
2. Notification in the Public Report prepared by the California Department of Real Estate disclosing to prospective buyers that the parcel is located within the applicable airport planning policy area and that aircraft operations can be expected to overfly that area at varying altitudes less than 3,000 feet above ground level.
3. Execution and recordation with the Sacramento County Recorder of an Avigation Easement prepared by the Sacramento County Counsel's Office on each individual residential parcel contemplated in the development in favor of the County of Sacramento. All Avigation Easements recorded pursuant to this policy shall, once recorded, be copied to the Director of Airports and shall acknowledge the property location within the appropriate Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the appropriate airport.

Note that first item above does not apply, as standard building design would result in interior noise volumes below 45 CNEL for any building constructed outside of the 60 CNEL contour. Sacramento County Airport System staff have indicated that Mather

Airport is an economic resource to the region whose operations can increase or decrease as operations continue, and that objections by future residents could affect future operations at Mather Airport. An Avigation Easement to inform future potential residential buyers will be required to help reduce the impact to Mather Airport from new complaints by future residents or other sensitive receptors of the proposed Project; these various conditions are included as mitigation. The Project will not expose people to excessive aircraft noise which exceeds standards, and for this reason impacts are *less than significant*, but it is acknowledged that people may experience nuisance conditions related to airport operations.

MITIGATION MEASURES:

NO-5. The following conditions will be required to ensure adequate disclosure of Mather Airport operations and have been included into the NewBridge Specific Plan Development Standards:

1. Notification in the Public Report prepared by the California Department of Real Estate shall be provided disclosing to prospective buyers that the parcel is located within the applicable Airport Planning Policy Area and that aircraft operations can be expected to overfly that area at varying altitudes less than 3,000 feet above ground level.
2. Avigation Easements prepared by the Sacramento County Counsel's Office shall be executed and recorded with the Sacramento County Recorder on each individual residential parcel contemplated in the development in favor of the County of Sacramento. All Avigation Easements recorded pursuant to this policy shall, once recorded, be copied to the director of Airports and shall acknowledge the property location within the appropriate Airport Planning Policy Area and shall grant the right of flight and obstructed passage of all aircraft into and out of the appropriate airport.