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# FINAL ENVIRONMENTAL IMPACT REPORT

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## *CARLI EXPANSION MINING USE PERMIT AMENDMENT*



*Control Number: PLNP2017-00243  
State Clearinghouse Number: 2018112048  
Date: July 2020*

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*COUNTY OF SACRAMENTO  
OFFICE OF PLANNING AND ENVIRONMENTAL  
REVIEW  
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SACRAMENTO, CALIFORNIA 95814*



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Nav Gill, County Executive

**PREPARED BY**

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County of Sacramento  
Office of Planning and Environmental Review

**WITH ASSISTANCE BY**

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7/30/20

TO: All Interested Parties

**SUBJECT: FINAL ENVIRONMENTAL IMPACT REPORT FOR CARLI EXPANSION MINE USE  
PERMIT**

The subject Final Environmental Impact Report (FEIR) is attached for your review. The FEIR can also be reviewed at: <https://planningdocuments.saccounty.net/>

The Sacramento County Board of Supervisors will consider the FEIR and the proposed project in a public hearing to be held at 700 H Street, Room 1450 (Board Chambers). The hearing is scheduled for August 11, 2020. A notice of the date and time of the public hearing will be provided to all property owners within 500 feet of the Project site by the hearing body authorized to conduct the public hearing for the proposed project. Interested individuals not within this radius should contact the Clerk of the Board at 916-874-5451 to be placed on the hearing notice mailing list. Interested individuals may check the materials for upcoming hearings on the website of the Board of Supervisors at: <http://www.sccob.saccounty.net/Pages/BOSPublicMeetings.aspx>

For questions and comments on this environmental document, please contact Kurtis Steinert of this office at 916-874-6929 or [steinertk@saccounty.net](mailto:steinertk@saccounty.net).

Sincerely,

**[Original Signature on File]**

Tim Hawkins  
Environmental Coordinator

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## PREFACE

A Notice of Preparation (NOP) for the Project was published on November 16, 2018. An agency and public scoping meeting was held on December 6, 2018 at the County of Sacramento offices located at 9616 Micron Ave, Sacramento.

Along with a Notice of Completion (NOC), the Draft EIR was released to the Governor's Office of Planning and Research to begin the public review period (Public Resources Code, Section 21161) on April 1, 2020. Concurrent with the NOC, the County also provided public notice of the availability of the Draft EIR for public review through publication in a local newspaper and with notices which were sent to individuals who had requested such notification. The written comment period began on April 1, 2020 and closed on May 15, 2020 at 5 p.m.

After the close of the public comment period, County staff prepared a Final EIR, which addresses any comments received in response to the Draft EIR. The Board of Supervisors will use the Final EIR as one of the informational sources used to determine whether to approve or deny the Project **at a hearing scheduled for August 11, 2020**.

Changes to text within the EIR follow two conventions to highlight them for the reader: text which is **bold and underlined** is new, and text which is shown in ~~striketrough~~ is deleted. Corrections to errors in pagination or format, spelling corrections, grammatical corrections, and other such editorial changes that are unrelated to the substantive content of the EIR are not highlighted.

The Draft EIR, Final EIR and all appended materials are available electronically at <https://planningdocuments.sacounty.net/>; within the Application No. search field type PLNP2017-00243 and click "search".

# 1 EXECUTIVE SUMMARY AND MITIGATION MEASURES

The subject of this Environmental Impact Report (EIR) is a project known as Carli Expansion Mining Use Permit. The Carli Expansion project site is located in the Vineyard community of unincorporated Sacramento County. The project site is located approximately one-half mile east of Bradshaw Road and south of Jackson Road (Hwy-16) with Elder Creek bisecting the project area.

The following environmental impact and mitigation summary table (*Table ES-1: Executive Summary of Impacts and Mitigation on page 1-5*) 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 in the remainder of this report.

**This report has identified project-related impacts associated** with aesthetics, air quality, noise, hydrology/water quality, geology and soils, biology, cultural resources and hazardous materials, and traffic/transportation 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 regarding an irreversible change to the landform.

Impacts associated with agricultural resources, land use/population and housing, public services, and greenhouse emissions **are considered less than significant**.

## CHANGE IN CIRCUMSTANCES

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During the Comment Period for the Draft EIR, there was a change in conditions of environmental setting of Carli project. The residence identified as sensitive receptor N-1 located at 6800 Eagles Nest Road was removed from the property. Demolition completed by May 5, 2020. Photographs documenting the change are shown in Plate ES-1. Currently no permit applications have been received by the County to construct a new/replacement structure. The analyses for Noise and Air Quality identified potentially significant impacts to this receptor and mitigation measures were required to reduce the potential impacts.

With the removal of this sensitive receptor these mitigation measures would not be required. However, there remains the possibility that during the project a new residence could be constructed. The mitigation measures have been retained, but have been modified to reflect the existing condition (i.e. no house) and their implementation if a replacement is constructed. The revised Mitigation Measure for Noise will read:

### ***Mitigation Measure NO-2:***

**The sensitive receptor N-1 has been removed from the property. Without a receptor at this location the proposed mitigation is not required. However, if prior to ground preparation (overburden removal) activities, or during ground preparation or prior to mining activities a residence is constructed on or near the location of the previous N-1 receptor a** 12-foot tall earthen berm with a minimum length of 300-feet extending from the northwest corner of the expansion boundary shall be constructed along the Project's western property line adjacent to Receptor N1.

Although the potential health affect to a sensitive receptor would be less than significant without the receptor being in place, the following changes are proposed to the Air Quality Mitigation Measure AQ-4A, to address the potential construction of a new residence at the N-1 location. Mitigation Measure AQ4-B, shown below would be implemented whether the N-1 location is constructed or not. Mitigation Measure AQ-4A will read as follows:

**With the demolition of the receptor N-1 the potential impacts of diesel particulate would be less than significant. However if a new residence is constructed at the N-1 location** the following mitigation measure (AQ-4A) is recommended to reduce diesel particulate.

**Mitigation Measure AQ-4A** – Maintain offroad vehicle fleet engines at EPA certified Tier 4 interim or cleaner.

Mitigation Measure AQ-4B would continue to read as:

**Mitigation Measure AQ-4B** – Implement Enhanced Dust Control Methods to increase overall control efficiency from 68 percent to 80 percent.

By combining these mitigation measures, health risk attributed to engine emissions and TACs in fugitive dust can be reduced. Mitigation measure AQ-4A would decrease health risk impacts related to cancer by limiting the diesel particulate matter emissions of engines in the fleet. The EPA Nonroad Compression Ignition Engines: Exhaust Emission Standards details the requirements for Tier 4 certification. MM AQ-4B would involve implementing a series of practices to control emissions of fugitive dust, resulting in lower potential for both cancer and acute hazard exposure.

Because of the changes in information, an analysis was done whether the EIR needed to be recirculated in accordance of Section 15088.5 of the CEQA Guidelines. Subsections (a) and (b) of 15088.5 read:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a

substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
  - (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
  - (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
  - (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (*Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App.3d 1043)
- (b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

The resulting change in information does not reduce the public's opportunity to comment on a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect. Nor would the modification of the Mitigation Measure NO-2 and AQ-4A would result in a new significant impact. Therefore, there is no need to recirculate the Draft EIR

**Plate ES-1: Photographs of Demolished Residence Formerly Located on Eagles Nest Road**



Table ES-1: Executive Summary of Impacts and Mitigation

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<b>LAND USE/POPULATION AND HOUSING</b>			
<p>Does the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?</p> <p>The project conforms to all applicable land use plans with the rezone approval, the use permit approval and the reclamation plan approval.</p>	LS	None Recommended	LS
<p>Does the project induce substantial unplanned population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of infrastructure)?</p> <p>The project site contains an office building and two out buildings, which will be removed. Implementation of the project will not remove any homes nor build any. Project does not induce substantial unplanned population growth either directly or indirectly.</p>	LS	None Recommended	LS

<sup>1</sup> PS = Potentially Significant    S = Significant    SU = Significant and Unavoidable    LS = Less Than Significant

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<b>AGRICULTURAL RESOURCES</b>			
<p>Does the project convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance or areas containing prime soils to uses not conducive to agricultural production?</p> <p>The project would result in the temporary conversion of less than 50 acres of farmland of local importance to non-agricultural use. General Plan Policy AG-5 requires mitigation for conversions of over 50 acres. Therefore, no mitigation has been proposed to reduce the farmland.</p>	LS	None Recommended	LS
<p>Does the project conflict with any existing Williamson Act contract?</p> <p>The project site is under Williamson Act Contract. According to the contract the removal of gravel, clay, and sand and other materials are considered compatible uses with the Williamson Act Contract. Thus, the mining of the site would not conflict with the existing Williamson Act Contract.</p>	LS	None Recommended	LS
<p>Does the project introduce incompatible uses in the vicinity of existing agricultural uses?</p> <p>The project as proposed will introduce mining uses to agriculturally zoned property. The mining facility upon completion of mining will be reclaimed to open</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
space grassland; open space grassland uses would not conflict with the surrounding agricultural uses.			
<b>AESTHETICS</b>			
<p>Does the project substantially degrade the existing visual character or quality of public views of the site and its surroundings?</p> <p>The project will degrade the visual character of the project site. The project when implemented will irreversibly change the landform of the project area. The mining pits will be approximately 141 acres in size and will be excavated down to 75 feet below grade. Therefore, the aesthetic impacts are significant.</p>	S	<p>AE-1: Viewsheds Mitigation Measure</p> <p>Direct views of the site shall be screened from public view through the use of landscaping. Landscaping will include the following large trees; valley oak (<i>Quercus lobata</i>) and interior live oak (<i>Quercus wislizenii</i>); and the following shrubs; western redbud (<i>Cercis occidentalis</i>), toyon (<i>Heteromeles arbutifolia</i>), hoary coffeeberry (<i>Rhamnus tomentella</i>), snowdrop bush (<i>Styrax officinalis</i>), and Howard McMinn' manzanita (<i>Arctostaphylos densiflora</i>). The placement of landscaping shall be as show in Plate AE-6.</p>	SU
<p>Does the project create a new source of substantial light, glare, or shadow that would result in safety hazards or adversely affect day or nighttime views in the area?</p> <p>The project when implemented could potentially include lighting facilities for after sunset operations. The mine will have only limited after sunset operations based on the operating hours from the Zoning Code. But nonetheless the project has the</p>	PS	<p>AE-2: Reducing Impacts Associated with Lighting Mitigation Measure</p> <p>Any lighting shall be arranged and controlled so as not to illuminate public right of-ways or adjacent properties. In order to reduce direct and reflected light pollution, lighting at the project site shall be equipped with shields that concentrate the illumination downward such that no direct light is cast off the site. Energy</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
potential to impact neighboring properties.		efficient lights shall be used. The candle power of the illumination at ground level shall not exceed what is required by any safety or security regulations of any government agency with regulatory oversight of the mining operation.	
<b>PUBLIC SERVICES</b>			
<p>Does the project have an adequate water supply for full buildout of the project?</p> <p>The project will not result in an increased demand for water supply at build out because the end use of the mine is open space grassland. The proposed project will utilize water from the on-site wells for the water needs.</p>	LS	None Recommended	LS
<p>Does the project have adequate wastewater treatment and disposal facilities for full buildout of the project?</p> <p>The project will not construct any permanent structures that require disposal through the wastewater system. Instead, wastewater will be handled by use of existing restroom facilities present. The existing composting operation and its permitted septic system will be removed during</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
mining. Removal of the system will be required to comply with Sacramento Environmental Management Department's (EMD) permitting and inspection program requirements.			
<p>Does the project result in substantial adverse physical impacts associated with the construction of new water supply or wastewater treatment and disposal facilities or expansion of existing facilities?</p> <p>The project will not require construction or expansion of new water supply, wastewater treatment, or wastewater disposal facilities. Furthermore, Sacramento County Department of Water Resources reviewed the proposed project and determined the project does not impact future water supply projects. Additionally, the Sacramento Area Sewer District has reviewed the proposed project and determined the project does not impact future sewer projects.</p>	LS	None Recommended	LS
<p>Does the project result in substantial adverse physical impacts associated with the provision of storm water drainage facilities?</p> <p>The implementation of the proposed project will add new stormwater facilities to the project site. The</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>applicant is proposing to construct stormwater detention ponds to serve as on-site stormwater detention basins for the mining pits. The stormwater detention basins will be approximately 14.2 acres in size and at least one stormwater detention basin will be at each of the proposed mine pits. The facilities are expected to adequately handle the drainage needs of the project without resulting in substantial adverse physical impacts.</p>			
<p>Does the project result in substantial adverse physical impacts associated with the provision of electric or natural gas service?</p> <p>Currently the project site does not have Pacific Gas and Electrical (PG&amp;E) service. Electric power is provided via Sacramento Municipal Utility District (SMUD). The applicant is not proposing to use any natural gas service as part of the project. Electric service is already at the site and there may be a minor extension of the infrastructure to connect the conveyor system.</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>Does the project result in substantial adverse physical impacts associated with the provision of emergency services?</p> <p>The project will not substantially increase demand for emergency services, and would not cause substantial adverse physical impacts (such as require construction of a new fire station) as a result of providing adequate service.</p>	LS	None Recommended	LS
<p>Does the project result in substantial adverse physical impacts associated with the provision of public school services?</p> <p>The project will not require the use of public school services.</p>	LS	None Recommended	LS
<p>Does the project result in substantial adverse physical impacts associated with the provision of park and recreation services?</p> <p>The project will not require the use of recreation services.</p>	LS	None Recommended	LS
<b>TRANSPORTATION/TRAFFIC</b>			
Does the project conflict with adopted policies, plans, or programs supporting alternative	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>transportation (e.g., bus turnouts, bicycle racks)?</p> <p>There are no conflicts with adopted policies, plans, or programs supporting alternative transportation that have been identified.</p>			
<p>Does the project result in a substantial adverse impact to public safety on area roadways?</p> <p>The project will not substantially impact public safety on the roadway. The existing processing facility and mining area currently operates as an aggregate processing facility. The Carli Expansion site will provide additional area to excavate. The same equipment and personnel currently at the site will be utilized to excavate the Carli Expansion site. There will be the same number of employees who will continue to commute to the site for employment.</p> <p>The traffic generated from the existing processing facility has not posed a safety threat on the public roads. The excavating of the Carli Expansion site includes the same heavy equipment and employees that currently work at the existing processing facility and mining area. The heavy equipment will not operate on the public roadways. The aggregate materials will be removed from the Carli Expansion site via an electric conveyor system and transported to the adjacent processing facility for processing. The aggregate materials will not be transported for</p>	PS	<p>TR-1: The project proponent shall agree to repair damages to structural paving material along sections of the study area roadway segments (as defined in the Traffic Analysis in the Appendix B of the October 1996 Revised Final EIR) upon which loaded trucks are routed, to the extent such damage is caused by project traffic which occurs during the period of hauling operations. Such agreement with the County Department of Transportation of the Public Works Agency shall be formalized prior to issuance of the work authorization permit.</p> <p>TR-2: Provide a minimum 30-foot setback consisting entirely of unmined land from the right of way of Florin Road.</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>processing on the public roadway system.</p> <p>Although traffic is not expected to increase over what was previously analyzed, it is appropriate to consider the effects of the haul trucks on the roadway surface so that the applicant's responsibility to repair damages is not reduced through the permitting of the expansion site. Therefore, mitigation is included below to require the project proponent to agree to repair damages caused by haul trucks on the roadway segments that were analyzed in the previous traffic study. This mitigation will assure impacts to the roadway remain less than significant.</p>			
<p>Does the project result in a substantial increase in vehicle trips that would exceed, either individually or cumulatively, a level of service standard established by the County?</p> <p>SacDOT staff has reviewed the project and provided comments and recommended conditions of approval for the staff report. The applicant anticipates no increase in haul trucks or employees reporting to the project site. The peak hour trips generated from the import of 100,000 tons asphalt and concrete and 50,000 tons import aggregate are considered baseline as the impacts of the haul trucks arriving at the processing plant has been</p>	PS	Mitigation Measures TR-1 and TR-2.	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>mitigated for in the prior EIR.</p> <p>Current approval for existing processing plant:</p> <ul style="list-style-type: none"> <li>1.5 million tons per year of aggregate materials processed/produced from the site. The maximum number of haul trucks are 60,000 per year.</li> </ul> <p>The proposed request:</p> <ul style="list-style-type: none"> <li>756,000 tons per year of aggregate material processed/produced from the site. The maximum number of haul trucks are 30,244 per year.</li> <li>200,000 cubic yards of RMC Plan Export from the site. The maximum number of haul trucks are 20,000 per year.</li> <li>150,000 tons per year of imported/exported asphalt/concrete and aggregate. The maximum number of haul trucks are 7,500 per year.</li> <li>56,400 tons per year of Supplements (cement/flyash) imported to the site. The maximum number of haul trucks are 2,256 per year.</li> </ul> <p>Therefore, the maximum number of haul trucks for the proposed project is approximately 60,000 haul trucks per year, which is the same amount of haul</p>			

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
trucks as the prior approval of the existing processing plant. However, the prior approval was based on the impact being mitigated. Therefore, the project's impacts would remain potentially significant without mitigation.			
<p>Does the project result in a substantial adverse impact to access and/or circulation?</p> <p><b>Access</b></p> <p>The existing processing facility and mining area is accessed from Florin Road via an entrance driveway. This existing driveway was evaluated during the prior Use Permit process that allows the processing plant and mining area to be utilized. The driveway was also evaluated for impacts in the prior approved environmental document; which remains in effect.</p> <p>Access to the Carli Expansion site would be from the existing processing facilities entrance driveway. Because the production and processing rates would not change from the existing rates, the amount of haul trucks entering and exiting the site would not change from what was evaluated during the prior environmental review.</p>	LS		LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p><b>Circulation</b></p> <p>The Circulation Element of the Sacramento County General Plan includes a Transportation Plan – a planned network of major roadways to serve the County’s needs throughout the General Plan planning period. The Transportation Plan currently shows Florin Road, Eagles Nest Road, and Sunrise Boulevard as local streets and indicates that Florin Road and Sunrise Boulevard in post 2030 are to be classified as thoroughfares. There are no roadways scheduled to go through the project site.</p>			
<b>AIR QUALITY</b>			
<p>Does the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?</p> <p>Sacramento Metropolitan Air Quality Management District has established thresholds of significance for criteria pollutant emissions. Projects with emissions below the thresholds of significance for criteria pollutants would be determined not to conflict or obstruct implementation of the SMAQMD’s air quality plans. Table AQ-13 presents the operation phase emissions, the Baseline emissions and calculates the change in emissions that may occur if the Project were approved.</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>Does the project expose sensitive receptors to pollutant concentrations in excess of standards? DUST</p> <p>The change in emissions is the impact of the Project and those values are compared to the SMAQMD significance thresholds. It is important to note that Table AQ-13 includes mitigation measures that were present in the 2008 FEIR, such as 68% control on fugitive dust sources. None of the criteria pollutant emissions will exceed the SMAQMD thresholds.</p>			
<p>Does the project expose sensitive receptors to pollutant concentrations in excess of standards? COMBUSTION</p> <p>The Project does not propose to increase excavation or processing rate from what has occurred in the past on annual, daily and hourly bases. The combustion pollutant emissions decrease from the Baseline levels because of the phasing in of diesel engine rules and natural turnover as demonstrated in Impact AQ-3 (see Chapter 17). The PM10 in fugitive dust would not change from the amounts already approved in the certified 2008 FEIR and thus no new significant impact would result. AAQs are evaluated at the property boundary. Because the Project activities are the same as those evaluated in the 2008 FEIR, the impacts at the site boundaries would not be significantly different than those evaluated during Phase E.</p>	LS	None Recommended	LS
Does the project expose sensitive receptors to pollutant	PS	<u>With the demolition of the receptor N-1 the potential impacts of diesel particulate would</u>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>concentrations in excess of standards? TOXICS</p> <p>Analysis of the project's toxic air contaminants (diesel particulate and fugitive dust emissions) determined that the Excess Cancer Cases per Million People Exposed for the 16 Year and 30 Year timelines would exceed the Significance Threshold of 10 cases per million (17 cases and 20 cases respectively). In addition, the Acute Hazard Index at the project fenceline of 1.2 exceeded the Significance Threshold of 1.</p> <p>By combining these mitigation measures, health risk attributed to engine emissions and TACs in fugitive dust can be reduced to less than significance. Mitigation measure MM AQ-4A would decrease health risk impacts related to cancer by limiting the diesel particulate matter emissions of engines in the fleet. The EPA Nonroad Compression Ignition Engines: Exhaust Emission Standards details the requirements for Tier 4I certification. MM AQ-4B would require implementing a series of practices to control emissions of fugitive dust, resulting in lower potential for both cancer and acute hazard exposure.</p>		<p><b><u>be less than significant. However if a new residence is constructed at the N-1 location</u></b> the following mitigation measure (AQ-4A) is recommended to reduce diesel particulate.</p> <p><b>Mitigation Measure AQ-4A</b> – Maintain offroad vehicle fleet engines at EPA certified Tier 4 interim or cleaner.</p> <p>Mitigation Measure AQ-4B would continue to read as:</p> <p><b>Mitigation Measure AQ-4B</b> – Implement Enhanced Dust Control Methods to increase overall control efficiency from 68 percent to 80 percent.</p>	
<p>Does the project create objectionable odors affecting a substantial number of people?</p> <p>Mining activities could result in odorous diesel exhaust emissions. These types of odorous emissions, however, would be temporary and would not be generated at any one location for an extended period. Diesel exhaust</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
would also dissipate rapidly from the source with an increase in distance. Mining activities utilizing off-road equipment will not result in the frequent exposure of objectionable odorous emissions.			
<b>NOISE</b>			
<p>Does the project result in generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established by the local general plan, noise ordinance or applicable standards of other agencies?</p> <p>Noise levels during initial ground preparation activities exceed the applicable Sacramento County energy average noise level (Leq) outdoor daytime and indoor daytime/nighttime noise threshold (65 dB/45 dB) at Receptor N1 (72.9 dB and 52.9 dB). Noise levels during mining operations do not exceed the applicable Sacramento County noise thresholds at any receptors. Unmitigated impacts to Receptor N1 during ground preparation activities are considered potentially significant.</p>	PS	<p><b>Mitigation Measure NO-2:</b></p> <p><u><i>The sensitive receptor N-1 has been removed from the property. Without a receptor at this location the proposed mitigation is not required. However, if prior to ground preparation (overburden removal) activities, or during ground preparation or prior to mining activities a residence is constructed on or near the location of the previous N-1 receptor a 12-foot tall earthen berm with a minimum length of 300-feet extending from the northwest corner of the expansion boundary shall be constructed along the Project's western property line adjacent to Receptor N1.</i></u></p> <p><b>Mitigation Measure NO-3:</b></p> <p>Upon beginning Project operation, the predicted noise impacts associated with onsite excavation equipment and the portable concrete/asphalt processing plant and Ready Mix Concrete Plant shall be verified with noise measurements. In the event that actual noise levels exceed the assumptions contained within this analysis,</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
		additional noise reduction measures (i.e. blankets, curtains, or walls) shall be implemented to reduce the impacts and the monitoring will be repeated. This process will continue until sufficient mitigation is provided and the impact is determined to be less than significant.	
<p>Does the project generate excessive groundborne vibration or groundborne noise levels?</p> <p>Predicted vibration impacts to nearby receptors were well below the applicable CalTrans significance thresholds for human response.</p>	LS	None Recommended	LS
<p>Does the project result in generation increase in ambient noise levels in the vicinity of the project in excess of standards established by the local general plan, noise ordinance or applicable standards of other agencies?</p> <p>Noise level increase at Receptor N1 resulting from the Project is less than significant after mitigation is incorporated. With implementation of Mitigation Measure, NO-2, total Project noise level increases at Receptor N1 would be less than significant.</p>	PS	Mitigation Measure NO-2	LS
<p>Does the project result in a substantial temporary increase in ambient noise levels in the project vicinity?</p> <p>The greatest source of “temporary” noise impacts will result from overburden removal activities. However, this Project phase is only expected to last approximately one</p>	PS	<p>Mitigation Measure NO-2</p> <p>Mitigation Measure NO-3</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
(1) month.			
<b>HYDROLOGY AND WATER QUALITY</b>			
<p>Does the project substantially alter the existing drainage pattern of the project area and/or increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?</p> <p>Based on analysis, the proposed project will not substantially alter the existing drainage patterns of the project area and/or increase the rate of amount of surface runoff in a manner that would result in flooding on- or off-site.</p>	LS	None Recommended	LS
<p>Does the project develop within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map or within a local flood hazard area?</p> <p>The project does not propose any development within the floodplain.</p>	LS	None Recommended	LS
<p>Does the project create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems?</p> <p>Surface runoff is not anticipated as the project site will be a self-contained basin. During mining activities, direct precipitation and drainage will be controlled through a combination of berms, silt fences, revegetation, hay</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
bales and other erosion control measures, as needed, to ensure that land and water resources are protected from erosion, gully, sedimentation, and potential contamination.			
<p>Does the project substantially deplete groundwater supplies or substantially interfere with groundwater recharge?</p> <p>The mining operation will not excavate to a depth that will interfere with groundwater recharge. The proposed project will not substantially interfere with groundwater recharge. The project does not construct or propose any impervious surfaces that would limit water percolation.</p>	LS	None Recommended	LS
<p>Does the project place structures that would impede or redirect flood flows within a 100-year floodplain?</p> <p>The project is not proposing any type of structures that impede or redirect flood flows within the floodplain.</p>	LS	None Recommended	LS
<p>Does the project expose people or structures to a substantial risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</p> <p>The mining operation will have only limited structures at the site. These structures are not used as dwellings and are temporary in nature; therefore, there is no substantial risk to structures in regards to flooding. The mine employees will not be exposed to a substantial risk of</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
flooding. This is due to the fact the mine operations are not conducted during the winter and especially in rainy weather.			
<p>Does the project create substantial sources of polluted runoff or otherwise substantially degrade ground or surface water quality?</p> <p>The project during the initial phases of the mining plan (overburden removal), the ground disturbance activities have the potential contribute sediment to surface water flows from the site.</p>	PS	<p><b>Mitigation Measure HW-1:</b></p> <p>Prior to ground preparation (overburden removal) activities, a minimum 3-foot tall temporary earthen berm shall be constructed along the western and southern border of the expansion boundary. The temporary berm shall remain in place until (1) the mining pit is large enough to hold 9.8 acre-feet of water and (2) areas disturbed as part of the mining expansion are graded to drain to the pit bottom.</p>	LS
<b>GEOLOGY AND SOILS</b>			
<p>Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, soil expansion, liquefaction or collapse?</p> <p>The project's impacts to unstable soil and off-site landslides, lateral spreading, subsidence, liquefaction or collapse are potentially significant but with mitigation the impacts are less than significant.</p>	PS	<p>GS-1: Slope Safety Mitigation Measure</p> <p>The Project shall comply with the following.</p> <ul style="list-style-type: none"> <li>Accumulated water should be removed from active excavation sites during mining and prior to backfilling the pit.</li> <li>Prior to replacing soils, the exposed subgrades should be compacted with at least a 10-ton roller. Following compaction, subgrade should be proof-rolled with a fully-loaded tandem-axle</li> </ul>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
		<p>dump truck or water truck. Areas identified as being soft or yielding may require additional compaction or over-excavation.</p> <ul style="list-style-type: none"> <li>• The buttress fill should be placed in such a manner as to meet the modeled strength obtained from a sample compacted to 85 percent relative compaction.</li> <li>• Soils used for engineered fill to raise the bottom of the pit to the reclaimed elevation should be uniformly moisture-conditioned to between 2 and 5 percent above the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 90 percent relative compaction. The upper twelve inches of subgrades should be compacted to at least 95 percent relative compaction. Fills exceeding 5 feet in thickness should be compacted to at least 95 percent relative compaction for their full depth.</li> <li>• Engineered fill to be placed as a buttress at the base of the excavated pit slopes should be placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 85 percent relative compaction. No disking and/or blending will likely be required to uniformly</li> </ul>	

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
		moisture-condition soils used for engineered fill.	
<p>Does the project result in substantial soil erosion, siltation or loss of topsoil?</p> <p>The proposed reclamation plan includes measures to insure there is not a loss of topsoil through erosion or improper handling; compliance with the topsoil handling measures in that plan.</p>	LS	Comply with the topsoil handling and stockpiling measures contained in the Reclamation Plan.	LS
<p>Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p> <p>The area is not known to contain paleontological resources (fossil remains). However the project excavation creates the possibility for unanticipated discoveries. The mitigation for unanticipated cultural discoveries includes provisions for paleontological resources and will prevent the direct or indirect destruction of a unique paleontological resource or site.</p>	PS	Comply with Mitigation Measure CR-2.	LS
<p>Does the project directly or indirectly cause potential substantial adverse effects, including risk of loss, injury or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>evidence of a known fault?</p> <p>There are no Alquist-Priolo Zones (Earthquake faults) or Seismic Hazards Zones mapped within the project site thus the exposure to know earthquake faults and seismic hazards are minimal.</p>			
<p>Would the project result in a substantial loss of an important mineral resource?</p> <p>The proposed project is a surface mine that will extract mineral resources from the site and will not result in a loss of mineral resources.</p>	LS	None Recommended	LS
<p>Does the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available?</p> <p>The proposed project has soils capable of supporting septic tanks and wastewater disposal systems and the proposed project will not construct any septic tanks or wastewater disposal systems.</p>	LS	None Recommended	LS
<b>BIOLOGICAL RESOURCES</b>			
<p>Does the project conflict with the provisions of an adopted Habitat Conservation Plan or other approved local, regional, state or federal plan for the conservation of habitat?</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>The applicant will be required to obtain a signed SSHCP authorization form from the Environmental Coordinator for potential impacts to terrestrial and aquatic habitats. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO), as well as payment of fees to support the overall SSHCP Conservation Strategy. Thus, the project is consistent with, and aids in the goals set forth in the proposed SSHCP. Impacts with regards to consistency with the proposed SSHCP are less than significant.</p>			
<p>Does the project have a substantial adverse effect on streams, wetlands, or other surface waters that are protected by federal, state, or local regulations and policies?</p> <p>Mining will result in permanent impacts to aquatic resources, consisting of 0.842 acre of wetlands and 1.154 acres of non-wetland waters. At this time it is unclear if these acreages have been verified by the ACOE. If not they will need to be verified prior to submission of an application under the SSHCP.</p>	PS	<p>BR-2.1: Wetlands Mitigation Measure</p> <p>As a covered activity under the SSHCP, the Project would be subject to the mitigation and permitting procedures as outlined in the SSHCP. Approximately 0.842 acres of waters would be permanently impacted along with 1.152 acres of non-wetland waters. Exact acreages will be determined through the permit process, and acreages of onsite wetlands presented in this document represent approximations based on the best information available at this time.</p>	LS
<p>Does the project have a substantial adverse effect on any special status plant species, or threaten to eliminate a plant community?</p> <p>The implementation of the proposed project would not</p>	<del>LS</del> <b>SPS</b>	<p><del>None Recommended</del></p> <p><b><u>Mitigation Measure BR-3.1:Special Status Plants</u></b></p> <p><b><u>The applicant will be required to obtain</u></b></p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>result in temporary, direct, and/or indirect impacts to special status plant species.</p> <p><u>The Avoidance and Minimization PLANT-1 of the SSHCP states that if Covered Activities occur within modeled habitat for Covered Plant Species, rare plant surveys should be conducted in accordance with CDFW's most recent rare plant survey protocol. As the Project area includes modeled habitat for Covered Plant Species such as Sanford's arrowhead (<i>Sagittaria sanfordii</i>), the Project would be subject to the survey requirement in the SSHCP.</u></p>		<p><u>authorization through the SSHCP for potential impacts to Special Status Plants. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</u></p>	
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>Wetland and water features on and off-site may provide potential habitat for vernal pool fairy species, and known records for vernal pool species occur in the project vicinity. The protocol under the SSHCP assumes that the delineated onsite and offsite wetlands may be vernal pool habitat and potentially contain special status vernal pool crustaceans, even if there are no documented occurrences in the waters.</p>	PS	<p>Mitigation Measure BR-3.1<u>3.2</u>: Vernal Pool Crustaceans</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to Vernal Pool Crustaceans. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</p>	LS
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>Two elderberry shrubs with stems greater than 1 inch in diameter will be removed as a result of mining operations.</p> <p>No beetle exit holes were observed in the shrub stems during the surveys, and the shrubs are located over 2,800 feet from riparian habitat and more than 2 miles from the nearest CNDDDB occurrence of VELB. Based on the USFWS guidelines for assessing impacts to VELB, no mitigation is proposed for removal of these elderberry shrubs. As the proposed removal of the elderberry shrubs would not affect VELB,</p>			
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>Mining activities could directly affect western pond turtle if this species is present when mining begins. The project will result in permanent impacts to the ponded ditch feature in the center of the BSA, totaling 0.751 acre, which is suitable aquatic habitat for this species.</p>	PS	<p>BR-3.2 <del>3.2</del> <b>3.3</b>: Western Pond Turtle Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to Western Pond Turtle. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</p>	LS
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the</p>	PS	<p>BR-3.3 <del>3.3</del> <b>3.4</b>: Tricolored Blackbird Mitigation</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting tricolored blackbird</p>		<p>Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to Tricolored Blackbird. Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy</p>	
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting western burrowing owl.</p>	PS	<p>BR <del>3.4</del><u>3.5</u>: Western Burrowing Owl Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to Western Burrowing Owl. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</p>	LS
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting</p>	PS	<p>BR-<del>3.5</del><u>3.6</u>: Swainson's Hawk Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to Swainson's Hawk. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
Swainson's hawk.		payment of fees to support the overall SSHCP Conservation Strategy.	
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting white-tailed kite.</p>	PS	<p>BR-3.6<u>3.7</u>: White-tailed Kite Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to covered raptor species such as white-tailed kite. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</p> <p><b><u>If it is determined during surveys or project implementation that project activities may impact white-tailed kite, project personnel shall fully avoid any impacts that may result in take if white-tailed kite is observed to be utilizing the project area or adjacent area.</u></b></p>	LS
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting</p>	PS	<p>BR-3.7<u>3.8</u>: Loggerhead Shrike Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to covered raptor species such as loggerhead shrike. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
loggerhead shrike.		fees to support the overall SSHCP Conservation Strategy.	
<p>Does the project have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting yellow-headed blackbird.</p>	PS	<p><b>BR-3.83.9:</b> Yellow-headed Blackbird Mitigation Measure</p> <p>The yellow-headed blackbird is a California Species of Special Concern. The CDFW has regulatory oversight of this species; however, yellow-headed blackbird is not a covered species under the SSHCP and there is no requirement to issue a ITP for impacts to this species.</p> <p>Although not a covered species in the SSHCP the yellow-headed blackbird were observed on the project site foraging mixed in with tricolored, red-winged, and Brewer's blackbirds. As such, AMMs for tricolored blackbird include species surveys, pre-construction surveys, and construction monitoring. These AMMs along with payments for impacts to grasslands would be equivalent to the measures presented in the BRS.</p> <p>Therefore, as the applicant proceeds in obtaining authorization through the SSHCP for potential impacts to tricolored blackbird the scope for required surveys will include the requirement to survey for yellow-headed blackbird. Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
		fees to support the overall SSHCP Conservation Strategy	

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>Does the project have a substantial adverse effect on the movement of any native resident or migratory fish or wildlife species?</p> <p>The implementation of the proposed project would result in temporary, direct, and/or indirect impacts to nesting birds protected under the Migratory Bird Treaty Act.</p>	PS	<p>BR-4.1: Nesting Birds Protected Under the Migratory Bird Treaty Act Mitigation Measure</p> <p>A. If mining activity or construction activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, a survey for active migratory bird nests shall be conducted no more than 14 days prior to construction by a qualified biologist. <b><u>The minimum survey radii surrounding the work area shall be the following: i) 250 feet for passerines; ii) 500 feet for small raptors such as accipiters; iii) 1,000 feet for larger raptors such as buteos.</u></b></p> <p>B. Trees slated for removal shall be removed during the period of September through January, in order to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, shall be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found.</p> <p>C. If active nest(s) are found in the survey area, a non-disturbance buffer, the size of which has been determined by a qualified biologist, shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1.</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>Does the project have a substantial adverse effect on riparian habitat or other sensitive natural communities?</p> <p>The loss of 97.88 acres of grassland/irrigated pasture habitat to mining activities.</p>	S	<p>Mitigation Measure BR 5: Grassland Mitigation Measure</p> <p>The applicant will be required to obtain authorization through the SSHCP for potential impacts to grassland land cover type (valley grassland or irrigated pasture grassland). Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.</p>	LS
<b>CULTURAL RESOURCES</b>			
<p>Does the project cause a substantial adverse change in the significance of a historical resource?</p> <p>There are no sites eligible for the National Register of Historic Places or for the California Register of Historical Resources within the project area.</p>	LS	None Recommended	LS
<p>Does the project have a substantial adverse effect on an archaeological resource?</p> <p>Field surveys were conducted on the site and a record search was conducted for the project area through the North Central Information Center of the California Historical Resources Information System. The Information Center indicated no additional work in the</p>	PS	<p>CR-2: Cultural Resources Unanticipated Discoveries Mitigation Measure</p> <p>If subsurface deposits believed to be cultural, paleontological 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</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>area since the original survey for the project. The historical sites in the project area are not eligible for the National Register of Historic Places or for the California Register.</p>		<p>of the Interior's Professional Qualification Standards for prehistoric and history 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 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 of California Register of Historical Resources.</p> <p>If a potentially eligible resource is encountered, then the archaeologist and project proponent shall coordinate with Planning and Environmental Review and 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 Planning and Environmental Review as verification that the provisions of CEQA for managing unanticipated</p>	

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
		<p>discoveries have been met.</p> <p>In addition, pursuant to Section 5097.98 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>Would the project disturb any human remains, including those interred outside of formal cemeteries?</p> <p>The site was surveyed and no evidence of graves were found in the project area. But as a precaution for unintended discoveries, mitigation measures have been added in the event such a discovery is made.</p>	PS	<p>CR-3: Unintended Discovery Mitigation Measure</p> <p>Comply with Mitigation Measure CR-2</p>	LS
<b>HAZARDOUS MATERIALS</b>			
<p>Does the project create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p> <p>The applicant has stated that hazardous materials will not be stored or disposed of at the site. Although the applicant has indicated no storage or disposal of hazardous materials will occur at the project site, mitigation measure are still recommended to ensure no</p>	PS	<p>HM-1: Transport, Use, or Disposal of Hazardous Materials Mitigation Measure</p> <p>A. Non-functional equipment, scrap metal, construction debris, used batteries and tires, and similar objects shall be removed from the site on a regular basis and disposed of at appropriately licensed facilities.</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
storage occurs at the site or that if storage does occur it meets all applicable standards.		<p>B. Spare equipment such as heavy equipment parts, conveyor belts, tires and other replacement or extra equipment pieces, shall be stored indoors or on impermeable surfaces that do not drain off-site whenever possible to avoid surface water contamination. Spare parts containing petroleum products (i.e., lubricants, hydraulic oil, etc.) shall be stored using Best Management Practices (BMP's) to prevent contamination of soil or storm water runoff.</p> <p>C. All delivery, maintenance, and repair trucks containing petroleum products or other hazardous materials shall comply with the State of California, Department of Transportation's regulations for transport of hazardous materials. All trucks carrying petroleum products shall be equipped with quick connect couplings and automatic shut-off valves to prevent spills, and shall carry appropriate absorbent materials to contain and recover spillage.</p>	
<p>Does the project create a substantial hazard to the public or the environment through the routine storage of hazardous materials?</p> <p>The applicant is not anticipating any storage of hazardous materials at the site. Furthermore, the mobile fleet that services the heavy equipment has to comply with safety standards and vehicle regulations that will</p>	PS	<p>HM-2: Releasing of Hazardous Materials Mitigation Measure</p> <p>Comply with Mitigation Measure HM-1</p>	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
<p>help insure no impact from hazardous materials. Although the applicant has indicated that no storage or disposal of hazardous materials will occur at the project site mitigation is still recommended to ensure the project does not expose the public or the environment to hazards involving the release of hazardous materials.</p>			
<p>Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?</p> <p>The project site is not located within ¼ mile of an existing or proposed school.</p>	LS	None Recommended	LS
<p>Is the project located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, resulting in a substantial hazard to the public or the environment?</p> <p>The project is not located on a known hazardous materials site.</p>	LS	None Recommended	LS
<p>Would the project impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan?</p> <p>The proposed project does not impair the implementation of or physically interfere with an adopted emergency response or emergency evacuation plan. There is no known adopted emergency response or</p>	LS	None Recommended	LS

Impacts	Level of Significance Before Mitigation <sup>1</sup>	Mitigation Measure	Level of Significance After Mitigation
emergency evacuation plan near the project site.			
<b>GREENHOUSE GAS EMISSIONS</b>			
<p>Does the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</p> <p>The project would result in the emission of approximately 1,799 metric tons of CO<sub>2</sub>e per year. The annual GHG emissions for the project are below the 10,000 metric ton of CO<sub>2</sub>e per year screening threshold.</p>	LS	None Recommended	LS

## TERMINOLOGY USED IN THIS EIR

This Draft 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.

## 2 PROJECT DESCRIPTION

### INTRODUCTION

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The applicant is requesting to expand surface mining (Project) on the 160.98-acre Carli expansion site (Project Site) adjacent to the applicant's approximately 394 acre existing Sacramento Aggregates mine and processing plant located at 11501 Florin Road in Sacramento County, California. The Carli expansion site (APN 067-0120-073) is located immediately west of the existing Sacramento Aggregates mine site and currently has a compost facility and cell-tower on-site (Plates PD-1 and PD-2).

The mining and processing operation at the Sacramento Aggregates facility was originally approved in 1997 with the approval of Use Permit 1994-CZB-UPB-0715 (ZMA 5296). In addition to the surface mining, the use permit included a materials processing facility that is centrally located. The approved mining operation is located on approximately 394 acres (the mining area is approximately 338 acres) to the north, east and southeast of the proposed Carli Expansion Site. The mining operation is approved to extract approximately 10.3 million tons of sand and gravel at a rate of 1 to 1.5 million tons per year. As shown on the mining plan (Plate PD-3), the Sacramento Aggregates mining operation involves Phases I–X and Expansion Phase E (phased as E-1, E-2, and E-3). The proposed Project will be Phase T. Nine phases (Phases I–IX) of the existing operations are completed. The final extraction of aggregate material in Phase E (2009 Expansion – south of Florin Road) would overlap for several months with initiating the extraction of mining material in the Project (Phase T). This is necessary to allow for overburden removal and blending to assure that the aggregate supply is not disrupted. The 2009 expansion area was approved by Use Permit PLNP2007-CZB-UPB-REB-00397 by the Board of Supervisors on February 25, 2009. Phase X, which contains the existing aggregate processing plant, will be conducted after Phase T.

The Project is also proposing to add a portable recycling plant to crush broken concrete and asphalt, and also add a Ready Mix Concrete (RMC) plant within the existing processing plant area. While there are proposed additions of processing equipment to the processing operation there are no proposed changes to the approved production rate or processing rate for the existing mining operation or processing plant. The conditions of approval state that the Sacramento Aggregate mining activities will cease on February 5, 2033 and reclamation shall be completed by February 5, 2035 with monitoring continuing until February 5, 2040. As proposed, the Carli Expansion Site is expected to have the same closeout dates as the previously approved use permits.

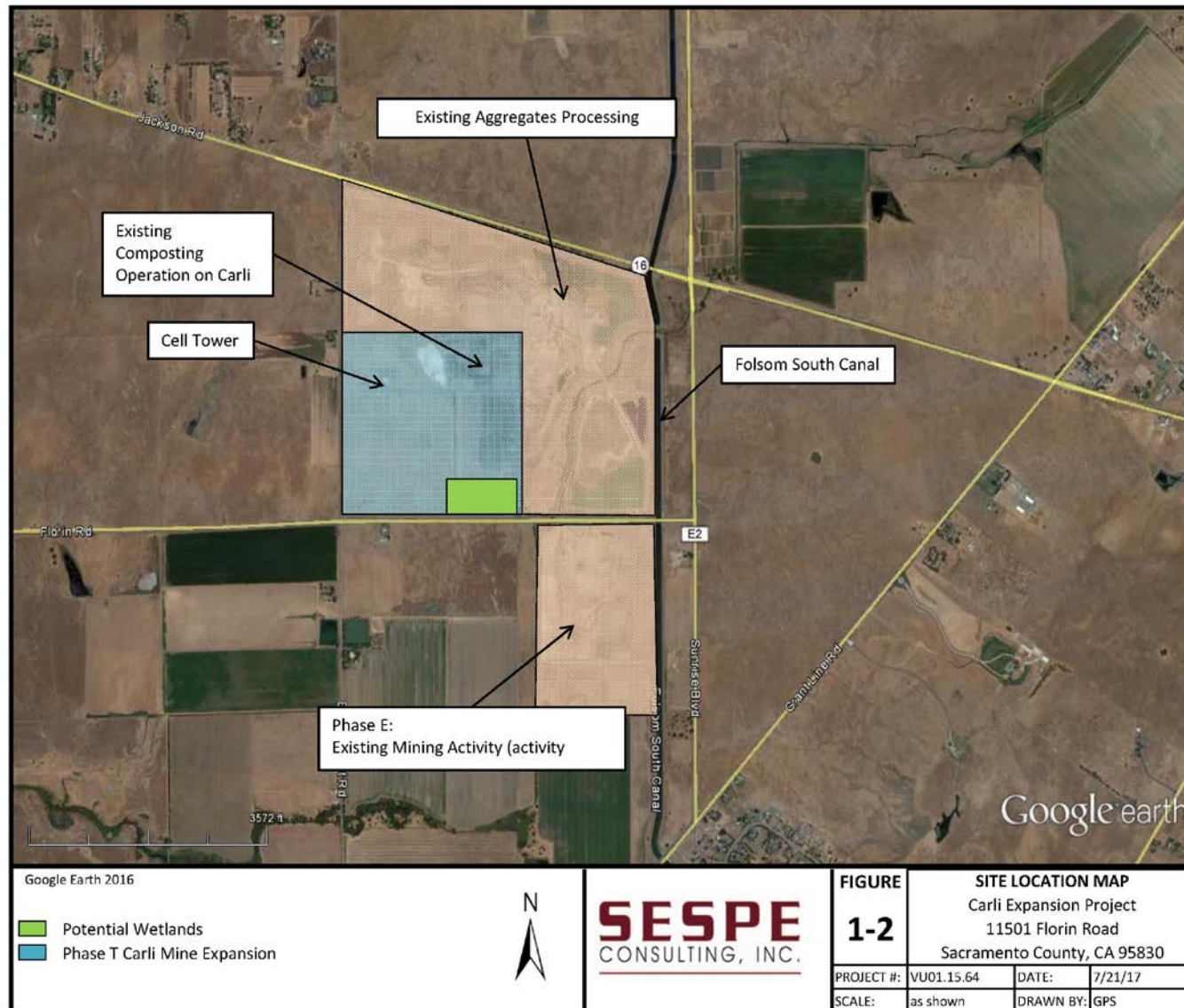
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**Plate PD-1: Project Location Map**

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Miles

Plate PD-2: Site Location Map



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Plate PD-3: Mining Plan



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The proposed Carli mining pit is approximately 141 acres and is located within the 161 acre Carli Expansion parcel. Approximately 11 acres of the Carli Expansion parcel is a potential wetland area in the southeast corner of the Carli Site that will not be directly disturbed by implementation of the project. The remaining approximately 9 acres consists of Florin Road right-of-way (6 acres) and setback area (3 acres). The 141 acres of the project site would provide an estimated 10 million tons of reserves. The aggregate materials will be transported to the existing processing plant located adjacent to the project site via electric powered conveyors or haul trucks.

The environmental analysis for the proposed Project includes, as described in each chapter in this Environmental Impact Report, an analysis of the following project components: (1) surface mining of sand and gravel on 141 acres of a 161 acre parcel, with the aggregate transported to the processing via a conveyor system or haul trucks; (2) the operation of a portable recycle plant to crush broken concrete and asphalt on the existing processing plant site, (3) the installation of a Ready Mix Concrete (RMC) plant on the existing processing plant site, and (4) the proposed amended reclamation plan.

## PROJECT LOCATION

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The Project Site is located within unincorporated Sacramento County. The Project Site is located at 11509 Florin Road, at Latitude N 38° 30' 7.2" and Longitude W 121° 15' 18" (Plate PD-1). The Project is on the south side of Jackson Road (HWY 16) between Eagles Nest Road and Sunrise Blvd., in the Vineyard Community.

### ASSESSOR'S PARCEL NUMBERS

Carli Expansion Mine: 067-0120-073.

Existing Processing Plant: 067-0120-069.

## PROJECT PROPOSAL

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Project Site is currently zoned AG-160 (Permanent Agricultural) zone (Plate PD-4).

The proposal includes:

- A use permit to allow mining and transport of aggregate materials (sand and gravel) from the Project Site to an adjacent processing plant,
- A request to rezone the subject parcel to add the Surface Mining Combining zone (SM),
- The rezone to add the SM zone will include the entire 161 acres of the Project Site (Plate PD-5).

Plate PD-4: Project Site Zoning

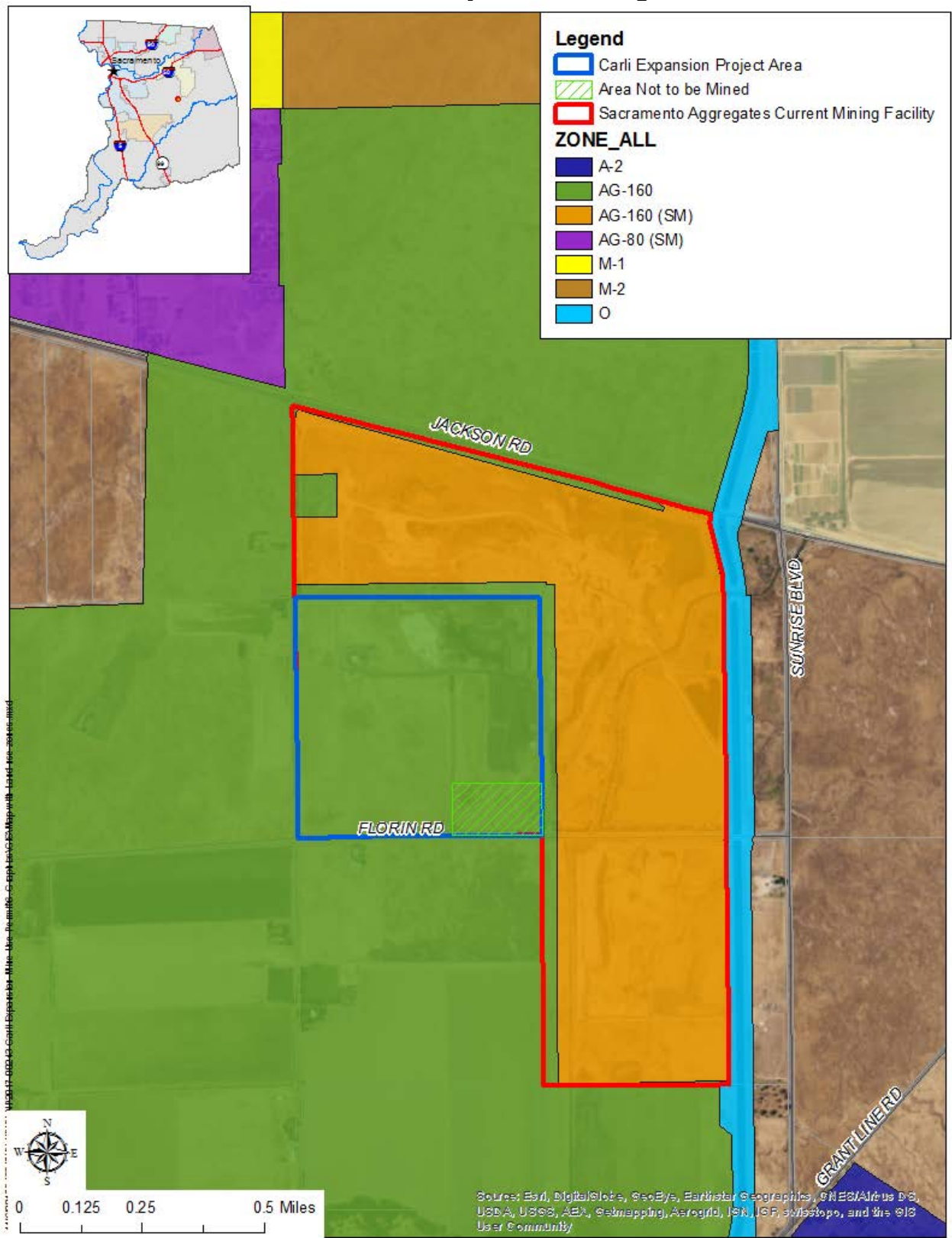
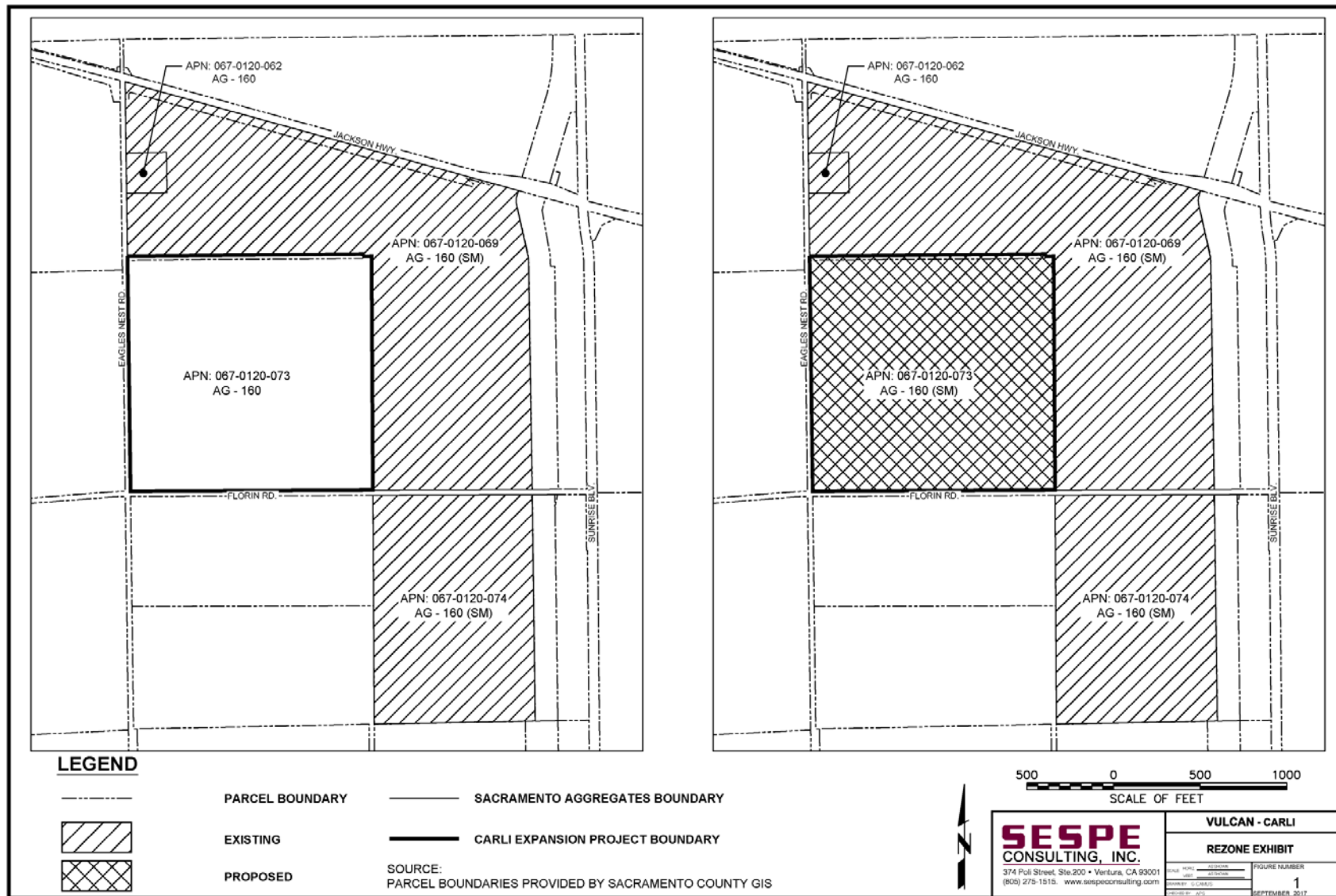


Plate PD-5: Rezone Map



The approximately 141 acres portion of the Project Site proposed to be mined will occur in one mining pit developed in two different phases. The actual area excavated would be less than 141 acres due to setbacks and landscaping areas. The depth of the mine is proposed to be mined to a depth of approximately 50 to 75 feet below original grade or stated another way, approximately 70 feet to 50 feet above mean sea level (amsl) (Table PD-1).

**Table PD 1: Depth of Mining Pit**

0 feet at original grade	120 feet above mean sea level
10 feet below original grade	110 feet amsl
20 feet below original grade	100 feet amsl
30 feet below original grade	90 feet amsl
40 feet below original grade	80 feet amsl
50 feet below original grade	70 feet amsl
60 feet below original grade	60 feet amsl
70 feet below original grade	50 feet amsl
75 feet below original grade	45 feet amsl

The Project Site would be mined in two phases; T-1 and T-2 (see Plate PD-3). The mining is scheduled to begin at the northwest portion of the site and is anticipated to proceed to the south towards Florin Road. Then the mining will go east and around a composting facility currently operating on the site. The composting facility will be removed during the T-2 phase of Project implementation.

Phase T-1 is an 74.58-acre area that could yield 6.136 million tons of aggregate and 3.785 million cubic yards of overburden. Mining activities would proceed to Phase T-2 after removal of the existing composting facility. During Phase T-2, mining on the Project Site would connect with the previously mined areas to the north and east of Florin Road and adjacent to the Sacramento Aggregate mining and processing site with no setbacks. Phase T-2 covers 66.64 acres and could yield 4.194 million tons of aggregate and 2.587 million cubic yards of overburden.

Topsoil and overburden from the Project Site will be removed using the existing equipment from the adjacent mining facility. Excavated aggregate will be transported by an electric conveyor system or existing haul trucks northeast to the existing processing plant. The aggregate is crushed and sorted at the processing plant for transport off-site to customers. Other existing mobile equipment will include bulldozer, motor-grader,

water truck and service truck. No sand and gravel processing will occur on the Carli Expansion Site. Once mining has been completed the site will be reclaimed to open space and dry-grazing uses. During the reclamation the stockpiled overburden and topsoil will be re-applied to the mining pit floor. This will raise the pit floor level from approximately 75 feet below grade (50 feet amsl) to 35 feet below grade (85 feet amsl).

The applicant is also proposing to place a portable recycling plant to crush broken concrete and asphalt on the existing processing plant site and a Ready Mix Concrete (RMC) plant as shown on Plate PD-3 above. This would allow the applicant to import 100,000 tons per year of broken concrete and asphalt from nearby demolition projects such that the material can be reprocessed and used in future construction projects. In addition, the applicant is requesting the ability to import 50,000 tons of outside aggregate products per year to mix with existing products to provide to customers. Even though outside aggregate products would be brought on-site, the operation of the portable processing plant to crush broken concrete and asphalt would not result in an increase of the overall permitted annual output of 1.5 million tons of sold material.

The applicant's proposal for placing the portable processing plant to crush broken concrete and asphalt is because the areas previously and currently mined were found to contain a higher content of clay and silt material; thus the amount of aggregate was much less than originally estimated. Thus, the additional imported aggregate and the aggregate from the Project Site area would not extend the duration of mining or increase the total production of aggregate from the entire operation. The importation of material may result in haul trucks bringing material to be crushed and also being used to leave the project site loaded with processed materials.

The Project also includes a request to allow the extension and continued use of an electric conveyor system to transport mined materials to the existing processing plant located adjacent to the Project Site to the northeast.

The approved Reclamation Plan for the existing Sacramento Aggregates operation was approved in 1997 and amended in 2003 and 2008. The proposed end use of the current Reclamation Plan is open space and dry-land grazing with the exception that Phase E will include some seasonal wetlands (i.e. the Laguna Creek Corridor Preserve). SMARA requires that when a mining operator has a current approved reclamation plan and proposes to utilize a new surface area not included within the existing reclamation plan, the operator must amend the existing plan to include the new area. Therefore, the proposed project includes an amended Reclamation Plan for the Project. The end use of the Project Site is proposed to be open space and dry-land grazing which is the same as the rest of the mining facility along with the 11 acre portion that is set aside for the wetlands area. The 11 acres of wetlands set aside on the Project Site is separate from the Laguna Creek Corridor Preserve.

The operating hours of the original use permit (94-0715) are conditioned to be Monday through Friday 6 am to 9 pm; Saturday 6 am to 3 pm; and no mining or processing is permitted on Sunday and labor union holidays. The subsequent use permits did not modify those hours and remain in effect. The proposed use permit for the Project would not alter the operating hours.

As part of the use permit to allow surface mining, the applicant will install fencing prior to the start of mining activities. The Project Site will be secured by a chain-link fence along Florin Road and Eagle Nest Road. The new fencing will augment existing fencing to ensure the security of the site. Gates would be installed and will be the same height as the fencing. The fence will be kept in good repair and warning and trespass signs will be posted advising of the mining operation on the fences at intervals of not less than 500 feet.

The proposed mining facility will be setback the same distance as the existing mining facility from adjacent roads. The mining face or excavation area shall be setback 30 feet from Florin Road and Eagles Nest Road. The setback areas shall be landscaped in accordance with the landscaping plan (Plate PD-6). The landscaping area is 15 feet wide and will match the existing landscaping on the northeast and southeast sides of Florin Road. The landscaping will create a visual barrier between the roads and the mining activities. The landscaping would include the same native and/or non-native landscape varieties of plants within a 15 feet wide planting area. The mining area will have no setbacks on the north and east boundaries, which are adjacent to the applicant's existing mine operations.

The overburden will be used as backfill and topsoil used as the final growth medium for reclamation. Topsoil and overburden will be stored separately and revegetated for such use in later reclamation. The topsoil stockpile will be labeled as required by the Surface Mining and Reclamation Act (SMARA). The Project's phases T-1 and T-2 will be backfilled with overburden topped by topsoil, graded and reclaimed back to rolling grazing lands at an elevation approximately 35 feet below original grade with final undulating side slopes of 1.75 units of horizontal to 1 unit of vertical (Plate PD-7).

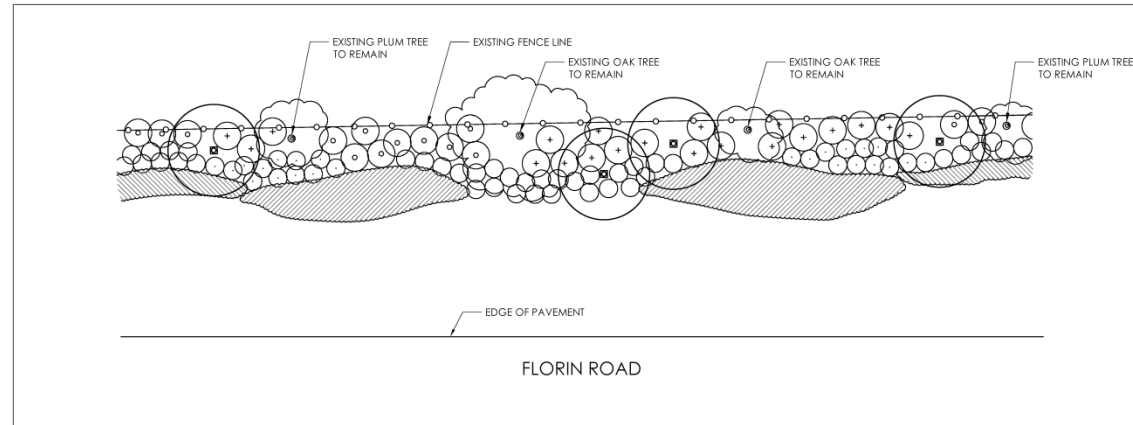
Lastly, the proposed Project includes a request for a Development Agreement (DA) between the County of Sacramento and the applicant. A DA is a formal agreement between a developer and a local jurisdiction, and is intended as a planning tool utilized for large complex projects to provide security for the developer. The DA's for all the new mines located in the area of the Construction Material Market Equalizer (the southeast portion of unincorporated Sacramento County) have a Cents per Ton Funding Section. The Cents per Ton Funding Section states that the mining operators pay a cent per ton fee pursuant to the DA. These funds must be paid for each ton of aggregate material sold by the mining operator. The DA's are designed to have each of the mines' comparable cents per ton fees to be at the same rate.

## Plate PD-6: Landscaping Plan

### LIMITS OF LANDSCAPE



### CONCEPTUAL PLANTING PLAN



### PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE
	QUERCUS LOBATA	VALLEY OAK	24" BOX	AS SHOWN	L/M
	LEPTOSPERMUM SCORPIARIUM 'PINK PEARL'	NEW ZEALAND TEA TREE	5 GAL	AS SHOWN	L
	CELANOTHUS 'JULIA PHELPS'	WILD LEAC	5 GAL	AS SHOWN	L/M
	PHORMIUM 'GUARDMAN'	FLAX	1 GAL	AS SHOWN	L
	CALLISTEMON 'LITTLE JOHN'	DWARF BOTTLEBRUSH	1 GAL	AS SHOWN	L/M
	MYOPORUM PARVIFOLIUM	MYOPORIUM	1 GAL	5'-0" O.C.	L
	ACACIA REPENS	CREEPING ACACIA	1 GAL	8'-0" O.C.	L

### IRRIGATION NOTES

IRRIGATION SYSTEM TO BE INSTALLED SHALL MEET ALL COUNTY CODES AND ORDINANCES AND SHALL BE DESIGNED UTILIZING OVERHEAD ROTARY HEADS AND SHRUB BUBBLES IN COMPLIANCE WITH THE STATE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE.

NOT FOR CONSTRUCTION

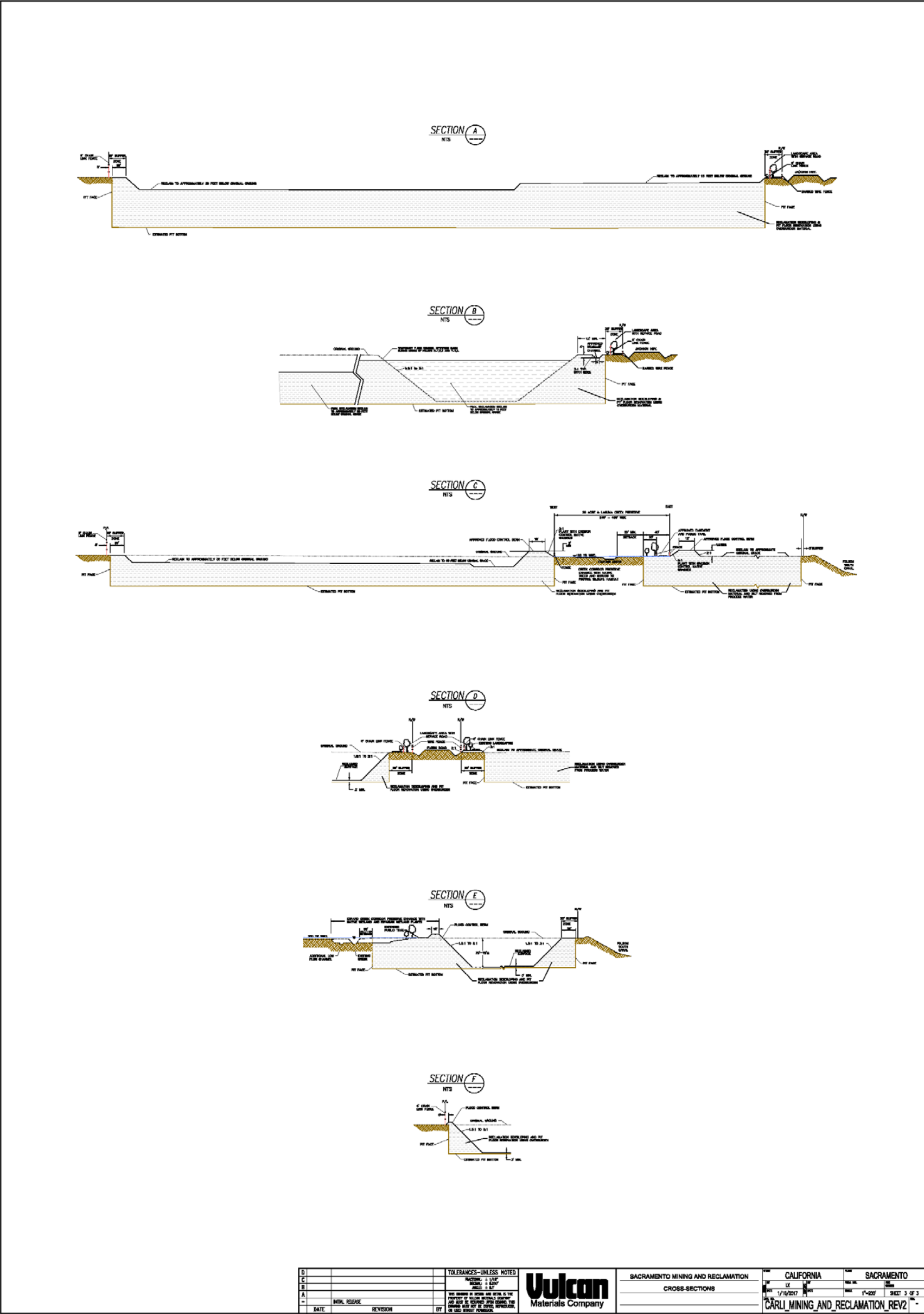
### CONCEPTUAL PLANTING PLAN

PREPARED FOR VULCAN MATERIALS  
6/20/2017



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Plate PD-7: Mining Slopes



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## REQUESTED ENTITLEMENTS

1. A Use Permit to allow surface mining on one parcel totaling 161 acres. The mining activities will disturb approximately 141 acres.
2. A Community Plan Amendment and Rezone to change the community plan land designation and corresponding zoning for 161 acres from Permanent Agriculture-Extensive (AG-160) to Permanent Agriculture-Extensive with Surface Mining Combining Zone (SM).
3. Amendments to Reclamation Plan to include open space and dry grazing as the end use of the mine including the Carli Expansion.
4. A Development Agreement between the applicant and the County of Sacramento.

## PROJECT PROPONENTS

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### APPLICANT AND OWNER

CalMat Co. dba Vulcan Materials Company, West Region  
4101 Dublin Boulevard PMB # 144, Suite F  
Dublin, CA 94568  
Attention: Kevin Torell

### OPERATOR

Triangle Rock Products, LLC  
4101 Dublin Boulevard PMB # 144, Suite F  
Dublin, CA 94568

## PROJECT OBJECTIVES

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The applicant has provided the following project objectives:

1. To mine an alluvial sand and gravel deposit suitable for the production of a full-range of construction materials congruent with Vulcan's existing aggregate mining and processing facility.
2. To develop a mine site that can efficiently provide a minimum 10 year supply of saleable sand and gravel reserves, within the lifespan of the existing conditional use permit.

3. To provide for an environmentally responsible beneficial use of mined and reclaimed land, and minimize environmental effects so that mined lands are reclaimed to a condition that is readily adaptable for alternative land uses, as codified by the legislature in the Surface Mining and Reclamation Act (PRC 2710, et seq.).
4. To continue to supply an economic and reliable source of construction materials to the Sacramento County market, leveraging Vulcan's existing permitted aggregate mining and processing operations.
5. To allow Vulcan to extract the originally permitted 27.5 million tons of aggregates from the Sacramento Aggregates mining area.
6. To continue employment for 25 on-site employees.

## ENVIRONMENTAL SETTING

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The 160.98-acre Project Site currently consists of a commercial composting operation, cell tower and non-native grassland. There are no residences located on the Project Site. The composting operation is located on the northern and northeastern portion of the Project Site. The composting operation commenced in 2000 and it is anticipated that the composting operation will continue until the final phase (T-2) of the mining of the Project Site. The cell tower is currently in operation and there are three use permits (1996-0014, 1999-0507, and 2006-0317) for the cell tower approved by the Zoning Administrator on May 8, 1996, February 9, 2000, and September 20, 2006 respectively. The cell tower will remain in operation until phase T-2. The implementation of the Project will remove the cell tower and the applicant has no plans of reconstructing the cell tower.

The Project Site is 160.98 acres of which 9.07 acres are associated with the Florin Road ROW and setbacks; the Biological Resources Evaluation prepared for the Project surveyed (i.e., Biological Study Area) 154.82 acres (Plate PD-8). The Biological Study Area includes 43.62 acres of development area (composting facility); 107.88 acres of non-native grassland; 1.25 acres of open water (farm stock pond); and 2.49 acres of seasonal wetlands. There are trees located along Florin Road; however, these would be part of the proposed landscaping of the project (see Plate PD-6) and outside of the proposed mining area. Special status plant and wildlife species have been observed or have the potential to occur in the Biological Study Area.

The Project Site is about 120 feet above mean sea level. The topography of the site is gentle with the site sloping primarily north to south-southeast, except for the western portion of the site that slopes to the southwest. There is an area of potential wetlands located in the southeast corner of the Carli parcel adjacent to Florin Road. While this area would be rezoned, it would not be disturbed.

Plate PD-8 Biological Study Area Map



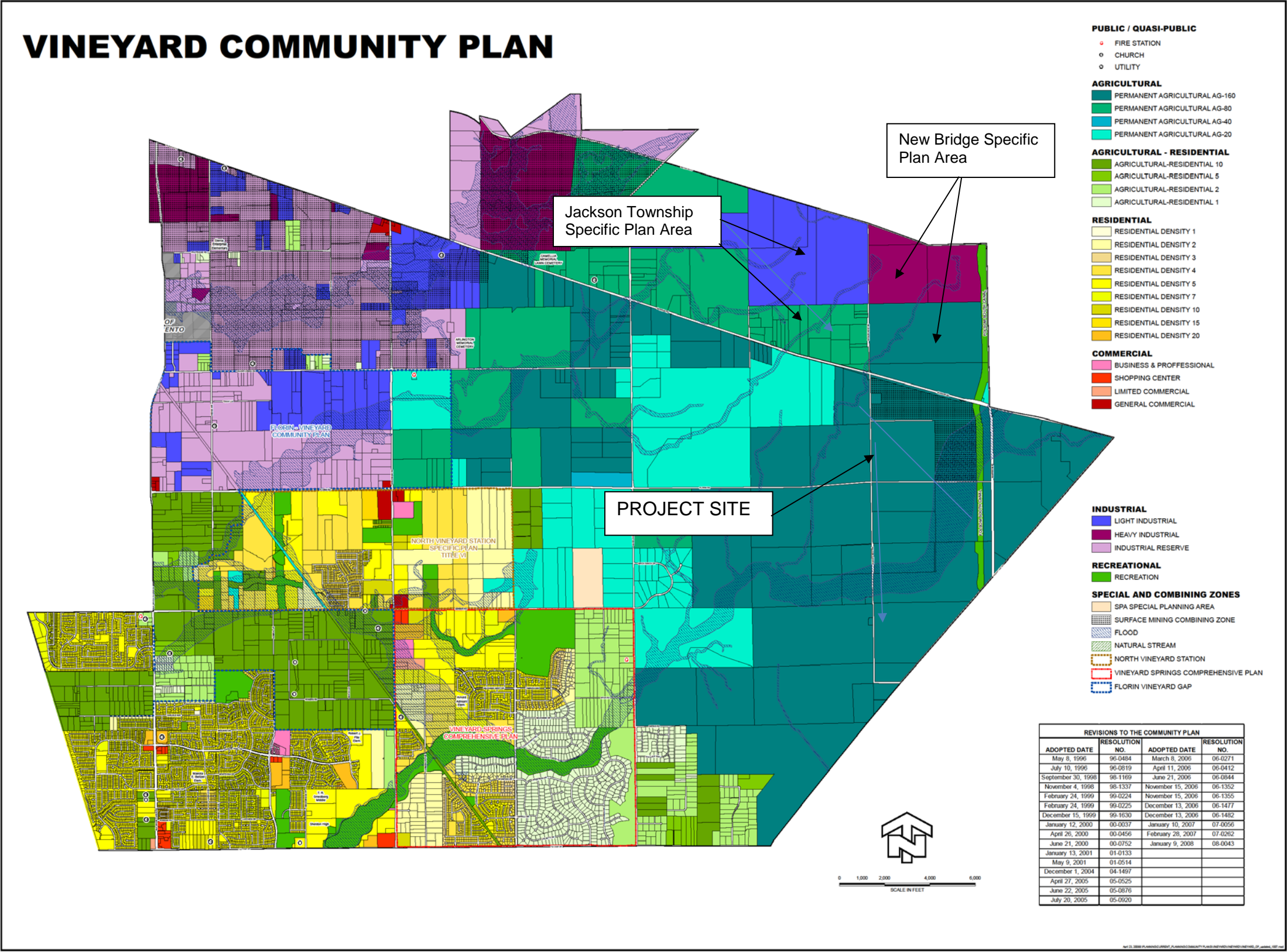
As shown on Plates PD-2 and PD-3 above, the surrounding land uses consist of Sacramento Aggregates' current mining operations located to the north and east of the Project Site. North of the Sacramento Aggregates' operation is Jackson Road. To the east and south of the Project Site beyond Florin Road is the Phase E mining operation. East of the Sacramento Aggregates' operation is the Folsom South Canal with Sunrise Boulevard beyond. Also to the east of the Project Site the Laguna Creek Corridor Preserve (previously granted by Vulcan) crosses the Sacramento Aggregates' operation (see Plate PD-3). The Corridor Preserve is separated from the project site by the existing entrance road. Located to the west and south of the project site are agricultural uses including, cattle, horse and sheep grazing, and several farm residences. While the areas to the west are agricultural land, the parcels located immediately to the west of Eagles Nest Road and to the South of Florin Road and additional properties more distance to the west are designated as Resource Conservation lands. A habitat preserve, granted by Vulcan for the original project, is also located west of the Project Site.

The Project Site is located in the Vineyard Community Plan area (Plate PD-9). The community plan was adopted by the County Board of Supervisors on June 12, 1985. The Vineyard Community Plan designation for the Project Site is Permanent Agricultural Extensive 160. As surface mining is a permitted use in the community plan, surface mining is a major land use in the Vineyard Community. The majority of the northwestern quadrant of the Vineyard Community is covered by the surface mining combining land use category and the project is located directly south of this surface mining designated area.

In the vicinity of the Project area are two proposed specific plans; New Bridge Specific Plan and Jackson Township Specific Plan. North across Jackson Road is the New Bridge Specific Plan and to the west of this plan is the Jackson Township Specific Plan. The New Bridge Specific Plan encompasses approximately 1,095 acres. The New Bridge Specific Plan proposes a variety of urban land uses, including residential and commercial uses. The Jackson Township Specific Plan is a proposed master planned community approximately 1,391 acres in size. The proposed uses for the Jackson Township Specific Plan include 6,143 housing units; 2 million square feet of commercial, office and mixed use development; schools; a fire station/community center; parks; wetland preserve; open space and agriculture.

In addition to being within the Vineyard Community Plan area the Project Site is located within the Urban Development Area of the South Sacramento Habitat Conservation Plan (SSHCP) adopted by Sacramento County in 2018. The proposed Project is located within Preserve Planning Unit 3 of the SSHCP. As discussed above, a large area to the west of the Project Site contains Resource Conservation easements and are identified within the SSHCP as preserve lands. Within the SSHCP mining is identified as a Covered Activity. Mining includes the surface extraction of rock or mineral resources and construction of associated infrastructure, buildings, and facilities. Facilities may include surface mining pits, processing sites, and aggregate transfer systems such as conveyors and access roads and similar facilities. This Covered Activity includes construction and operation of detention basins to capture and reuse

Plate PD-9 Vineyard Community Plan with Project and Specific Plan Areas



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water on site. In addition, the SSHCP also includes Covered Activities as follows: reclamation of previously mined land in accordance with the federal Surface Mining and Reclamation Act of 1977 and the California Surface Mining and Reclamation Act of 1975. Reclamation may include restoration of original topography, revegetation of mined areas, and other measures as would be included in a reclamation plan approved by the California Geological Survey.

As such, mining within the SSHCP would be subject to the policies and the Avoidance and Minimization Measures (AMMs) of the SSHCP.

## AREAS OF KNOWN CONTROVERSY

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A Notice of Preparation (NOP) described the proposed project and requested comments from responsible agencies and the public. The NOP comment period was from November 18, 2018 to December 18, 2018. In addition, a public scoping meeting was held on December 6, 2018. During the scoping meeting the project applicant answered questions about the project but no specific comments were received. Six written comments were received by the close of the comment period (See Appendix A). Comments included requests for analysis of electric utilities, energy use/efficiency, climate change, sensitive habitats and species of concern, water quality including groundwater, noise and the hours of operation, and cultural resources. While there were requests for analysis of specific topics, there are no known areas of controversy associated with environmental impacts for the proposed Project.

## INTENDED USES OF THE EIR

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The EIR will be used by the Sacramento County Planning Commission and Board of Supervisors in evaluating the proposed Project and rendering a recommendation or decision to approve or deny the proposed Project. In addition, the EIR will be used as an informational document by the public and by other responsible agencies including, but not limited to: the California Department of Fish and Wildlife, Regional Water Quality Control Board, U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service.

Table PD-2 below includes information required by Section 15124 of the CEQA Guidelines and summarizes the following intended used of the EIR:

- A list of agencies that are expected to use the EIR in their decision making.
- A list of permits and other approvals required to implement the project.
- A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or polices.

**Table PD-2: Subsequent Permits, Approvals, Review, and Consultation Requirements**

<b>Agency</b>	<b>Approval</b>
Sacramento County Board of Supervisors	Final Environmental Impact Report Certification
Sacramento County Board of Supervisors	Rezone, Use Permit, Reclamation Plan Amendment, Development Agreement
Sacramento County Planning Commission	Recommendation to the Board of Supervisors regarding Rezone, Use Permit, Reclamation Plan Amendment, Development Agreement
Sacramento County Environmental Management Department	On-site Wastewater Disposal Permit
Sacramento Metropolitan Air Quality Management District	Fugitive Dust Prevention and Control Plan
Regional Water Quality Control Board – Central Valley Region	Section 402 National Pollutant Discharge Elimination System Permit Compliance
Regional Water Quality Control Board – Central Valley Region	Waste Discharge Permit
Regional Water Quality Control Board – Central Valley Region	Section 401 Certification
California Department of Fish and Wildlife	Streambed Alteration Agreement
U.S. Army Corps of Engineers	Section 404 Permit

## 3 ALTERNATIVES

### CEQA REQUIREMENTS

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The California Environmental Quality Act (CEQA) Guidelines Section 15126.6 requires alternatives to the proposed project to be considered and discussed in the EIR. According to the 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” (§15126.6a).

### ALTERNATIVES ANALYSIS

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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 or zoning remained in effect.

The CEQA Guidelines require that a “No Project” alternative be evaluated. (Guidelines § 15126.6(e)(1)). The “no project” alternative analysis is not the baseline for determining whether the proposed project’s environmental impacts may be significant unless it is identical to the existing environmental setting analysis which does establish the baseline. The EIR must also identify the environmentally superior alternative. If the “no project” alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (Guidelines § 15126.6(e)(2)). An EIR need not evaluate an alternative that is considered speculative, theoretical, or unreasonable (Guidelines § 15126.6(f)(3)). Not every potentially feasible alternative need be considered; rather, the relevant test is whether a “reasonable range” of feasible alternatives is considered for that particular project (Guidelines § 15126.6(a)).

This chapter focuses on those alternative impacts, which are substantively different than the impacts that would result from implementation of the proposed Project. Where impacts are similar, the reader is referred to the appropriate topical chapter for further detail and discussion. The discussion of each alternative describes the fundamental differences between the alternative and the proposed Project and the effect of the alternative in avoiding or lessening any of the significant environmental impacts associated with the proposed Project. Through this evaluation of alternatives, the environmentally superior alternative is identified.

A range of alternatives that could possibly reduce or eliminate some of the project's significant impacts were considered. Some of the alternatives considered were infeasible and rejected without detailed analysis, for the reasons explained below. Other feasible alternatives are discussed with further detail below. Alternatives were considered to address the Project's significant impacts (below), as well as impacts that are less than significant with mitigation that could be reduced to less than significant (including biological resources and hydrology).

#### *SIGNIFICANT AND UNAVOIDABLE IMPACTS*

The proposed Project would result in significant impacts that cannot be mitigated (i.e., impacts that are significant and unavoidable) related to aesthetics:

#### **AESTHETICS**

The Project will substantially change the existing viewshed due to the introduction of changes in project area topography associated with the mining pits. Aesthetic impacts of the proposed Project were determined to be significant and unavoidable. See Chapter 6, Aesthetics, for more detail.

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### DESCRIPTION OF ALTERNATIVES CONSIDERED BUT REJECTED

#### REDUCED MINING DEPTH

A reduced mining depth alternative is sometimes considered for mining projects as a method of lessening impacts to aesthetic or hydrologic impacts. This proposed Project does not have significant hydrologic impacts related to mine depth and is not expected to encounter ground water. The significant aesthetic impacts come from the resulting large hole in the ground left from open pit mining. While a reduced depth may be perceived as less of an impact, due to the overall, irreversible change to the landform it would not substantially lessen the impact.

Additionally, reducing the mining depth would leave existing aggregate resources in place and not utilized. This would not support the logical and orderly extraction of mineral resources. Furthermore, reducing the mining depth could result in expansion of the mine footprint in order to extract sufficient aggregate materials, thus impacts associated with aesthetics, agricultural resources, noise, air quality and biological resources may be greater under this alternative because to compensate for the lack of depth, the operator may have to mine a larger area in order to achieve their project objectives and/or supply aggregate to the local market. This alternative does not lessen the significant impacts and may even result in additional significant impacts beyond the proposed Project. It is for these reasons that this alternative is not further analyzed.

#### ALTERNATIVE LOCATION

Many factors are considered in the selection of an aggregate mine, including quality and quantity of the resource, its location and distance to the market consumption area, roadway accessibility, availability of the land, a willing lessor or seller, mining economics

(such as the amount of overburden that must be removed), proximity to existing conveyor facilities and processing plants, and other factors. In fact, the CEQA Guidelines (Section 15126.6(f)(2)(b)) recognize mining projects to be an example of why evaluation of an alternative location may not be feasible, due to the fact that location of the mineral resource is fixed to the site.

Furthermore, if the mining site was changed to another location, the significant and unavoidable impacts associated with the mine would most likely remain the same or potentially increase. This is because wherever an open-pit alluvial aggregate mine is located, it will result in a large hole in the ground which has been determined to be a significant impact due to the irreversible change to the landform. Similarly, regardless of location, heavy equipment is needed to mine and will usually result in a significant impact. Furthermore, a mine located farther away from either the existing conveyor system, the existing processing plant or market area would result in increased air quality (and possibly traffic) impact due to aggregate hauling. The current location is near the market area and allows extension of the existing electric conveyor to send raw aggregate material to the existing permitted processing plant. Thus, an alternative location would not reduce significant impacts and could even result in some additional impacts. Therefore, this alternative was not further analyzed.

#### RECLAIM TO ZERO FEET BELOW GRADE

To reduce the aesthetic impact to less than significance this alternative would fill the hole to restore the original grade of the site. While this alternative would address the aesthetic impact, a number of other impacts would be generated. Impacts would be from the replacement of the material that was removed for aggregate. The removal of the material from one location to the Project site would entail the use of equipment to dig out soils, hauling the soil to the reclamation area and placement into the excavation. Likely impacts would include geology and soils, traffic and circulation, noise, and air quality.

#### DESCRIPTION OF ALTERNATIVES CONSIDERED

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The alternatives considered for further evaluation include the following:

##### NO PROJECT

In the No Project Alternative, no mining would occur at the site. The No Project Alternative assumes that the General Plan designation and zoning for the site would not change, and uses consistent with the current designation Agricultural 160 could develop and operate in accordance with adopted County Codes and Plans.

The Project site is currently occupied by a composting facility, which would continue to operate.

## REDUCED SALES ALTERNATIVE

This alternative would limit annual aggregate sales to one million tons as compared to continuation of the average annual sales rate of 1.5 million tons. The principal issues affected by reducing the production limits could potentially be air quality and traffic. There would be no change in the following impacts between the Reduced Sales Alternative and the proposed Project except for the duration of the mining and processing activities: Aesthetics, Biological Resources, Cultural Resources, Geology, Hazardous Materials, Hydrology, Land Use/Agriculture and Noise.

Annual air quality impacts would be reduced from excavation, processing, and diesel equipment. Current truck traffic would be reduced. However, if adopted the Project's permits would need to be extended by several years thereby extending air quality impacts and traffic over a longer Project life. The Reduced Sales Alternative could reduce air quality and climate change impacts but not to a substantial degree considering cumulative impacts from the extension of the mining timeline. This alternative would not change the general aesthetic impact to the landform.

## IMPACT ANALYSIS

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The following section analyzes the impacts identified for the topical section of the EIR for the proposed Project and how each alternative compares to the proposed Project.

### NO PROJECT ALTERNATIVE

For purposes of the no project alternative, a worst case scenario is assumed in terms of potential environmental impacts. For purposes of this project site, the AR-160 zone allows for agricultural and associated uses, which would represent the land use that has the greatest potential to result in adverse environmental impacts.

#### *LAND USE*

Any future development or operations on the site would be consistent with all adopted land use plans and County codes. Therefore, there would be no impacts with regards to land use.

#### *AGRICULTURAL RESOURCES*

The no project alternative could result in continuation of the composting operation on portions that are currently designated as farmland of local importance. As required by its permit the existing composting operations would have to reclaim the site if the operation were to close; therefore, the impacts would be similar to the proposed Project. However, continued operation of the composting operation there is the potent result of a loss of farmland that is greater than the impact of the proposed Project.

### *AESTHETICS*

Development of the site with agricultural uses would not result in a permanent change to the existing landscape on the site. The topography would remain essentially unchanged, and the environment that would be similar to the properties that already surround the Project site. Therefore, impacts related to aesthetics would be less significant than those of the proposed Project.

### *PUBLIC SERVICES*

Impacts to public services under the no project alternative would be similar to the proposed Project. Public services are available in the vicinity to serve the Project area, and the site is large enough that any future agricultural use could be designed around the existing utilities and easements that exist on the property.

### *TRANSPORTATION AND TRAFFIC*

The no project alternative would result in fewer impacts related to transportation and traffic. There would be fewer truck trips as compared to the proposed Project. Any permitted use that were to develop on the Project site would develop in accordance with adopted County standards as it relates to circulation, so no additional impacts would be anticipated.

### *AIR QUALITY*

The no project alternative has the potential to result in lesser than, or similar to impacts than the proposed project with relation to criteria air pollutants, particularly operational emissions. The proposed project would generate emissions associated with the operation of construction equipment during the 13 year permit period. If the Project site were to continue as the composting facility, then there would be some level of operational impacts associated with the day-to-day activities on the Project site. Exact levels of emissions are not quantifiable at this point, but because the Project has a 13-year timeframe, and either the composting facility, or other future use could operate indefinitely, then it would be expected that the emissions associated with the no project condition would be greater than the proposed Project in a long term timeframe. In addition, the existing facility can generate odors through the composting process, which would be greater than the proposed Project.

### *NOISE*

The exact noise levels of a future, permitted use other than the existing operation are not known at this time. However, given the permitted uses within the A-160 zone including the existing composting operation it is likely that there would be the continued use of some haul trucks. These truck operations are the existing conditions, and do not result a significant increase in ambient noise levels around sensitive uses. The number of trucks currently operating is less than the number that would be used in the proposed Project. Therefore, the impacts of the no project alternative would be less than that of the proposed Project. Any future development of the site would be required to adhere to adopted County standards and policies with regards to noise levels, so impacts associated with noise would be less than the proposed Project.

### *HYDROLOGY*

The no project alternative could develop a portion of the Project site, but would not result in the significant terrain changes that are proposed by the Project. Like the proposed Project the no project alternative would not develop in the floodplain, but would also not significantly change the drainage pattern of the project site. Any future development on the Project Site would be required to comply with all County standards and regulations as it relates to pollution, runoff and best management practices. Impacts related to drainage and hydrology for the no project alternative would be similar to the proposed Project.

### *GEOLOGY AND SOILS*

The no project alternative would have fewer impacts as it relates to geology and soils than the proposed Project. A non-discretionary, permitted use on the site would result in minimal grading activities. Therefore, the no project alternative would not result in the large earthmoving activities associated with mining, or permanent alterations to the existing terrain on site.

### *BIOLOGICAL RESOURCES*

#### **IMPACTS RELATED TO GRASSLANDS AND SPECIAL STATUS SPECIES FORAGING HABITAT**

The no project alternative could result in the conversion of some foraging and/or grassland habitat on the project site. However, as required by the composting operation's permit would be subject to restoration of the grassland habitat. Therefore, potential impacts associated with grasslands, foraging habitat would be similar to the proposed Project, as both the no project and the proposed Project would restore impacted grasslands habitat.

#### **IMPACTS TO TRICOLORED BLACKBIRD, SWAINSON'S HAWK, BURROWING OWL, RAPTORS AND REPTILE SPECIAL STATUS SPECIES**

Future development would result in potential impacts to tricolored blackbird, Swainson's hawk, burrowing owl, raptors and western pond turtle habitat along the southern portion of the Project area. This portion of the Project area is accessible and could be developed as the northern/central area of the property that is currently developed as the composting facility. Therefore, the northern end would be more likely continue as developed under the no project alternative, which presents a lesser impact than the proposed Project.

#### **IMPACTS TO WETLANDS**

Future design of potential development on the Project site could have the ability to avoid all impacts to wetlands and waters on the Project site. If these areas are avoided, impacts would be less than the impacts of the proposed Project.

**SSHCP CONSISTENCY<sup>1</sup>**

Whether the composting operation were to close in the future or not, any future development on the site would be subject to the SSHCP. The current composting operation as an existing permitted operation is not subject to the SSHCP, so consistency would not be an impact. As grazing would be the likely replacement of the composting operation, potential biological impacts would be consistent with the SSHCP. The impacts of the no project alternative would be less than the impacts from the proposed Project.

*CULTURAL RESOURCES*

No significant historical, archaeological or tribal resources have been documented on the Project site. However, potential impacts to cultural resources under the no project alternative would likely be less than the proposed Project. No documented resources occur onsite, but inadvertent discoveries of cultural resources can occur during excavation activities. Any future development of the Project site would likely involve less grading and earthmoving activities than the Project, leading to less potential for disturbance of undiscovered cultural resources.

*HAZARDS AND HAZARDOUS MATERIALS*

Impacts related to hazardous materials under this alternative would be similar to what was analyzed in the Hazards and Hazardous Materials chapter (Chapter 15) of this EIR. There are no hazardous facilities in the vicinity of the Project site. Any use of hazardous materials onsite would be subject to Federal, State and/or County standards and policies.

*GREENHOUSE GAS*

The no project alternative would result in impacts similar to, or less than the proposed Project with relation to greenhouse gas emissions. The proposed project would generate greenhouse gas emissions associated with the operation of construction equipment during the 13 year permit period. If the Project site remains as a composting facility then there would be the existing level of operational impacts associated with the day to day activities on the Project site. If the site were to revert to agricultural use such as grazing, the emissions would be lower. Exact levels of emissions are not quantifiable at this point, but because the Project has a 13 year timeframe, and a future use could operate indefinitely, then it could be expected that the greenhouse gas emissions associated with the no project condition could be similar to the proposed Project in a long term timeframe.

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<sup>1</sup> The Board of Supervisors adopted the SSHCP on September 11, 2018. Other jurisdictions that are participating in the SSCHP have also adopted the SSHCP. In light of the adoption of the policy document by the Board of Supervisors, the analysis herein considers consistency with the SSHCP, as adopted by the Board of Supervisors.

## REDUCED PRODUCTION RATE ALTERNATIVE

### *LAND USE*

The reduced production rate alternative does not change the environmental setting under which land use impacts are analyzed. Impacts to land use under this alternative would be the same as what was analyzed in the Land Use chapter (Chapter 4) of this EIR.

### *AGRICULTURAL RESOURCES*

Impacts to agricultural resources under this alternative would be similar to the Project under what was analyzed in the Agricultural Resources chapter (Chapter 5) of this EIR. Implementation of the reclamation plan upon the conclusion of mining activities would return the site to potential agricultural land and not preclude future agricultural activities.

### *AESTHETICS*

Similar to the proposed Project, under the Reduced Production Rate Alternative, there would still be a mining pit that would alter the land form. This alternative would only slow the rate of excavation and not eliminate the aesthetic impacts because the mining pit would still be excavated.

### *PUBLIC SERVICES*

Impacts to public services under this alternative would be similar to the proposed Project under what was analyzed in the Public Services chapter (Chapter 7) of this EIR. The Project would not preclude the provision of services to development in the Project vicinity.

### *TRANSPORTATION AND TRAFFIC*

Impacts related to transportation and traffic under this alternative would be similar to or potentially greater than the impacts analyzed in the Transportation and Traffic chapter (Chapter 8) of this EIR because the time frame for mining activity would be extended. The resulting terrain changes upon reclamation would potentially impact the ability to develop the Florin-Vineyard Community Plan circulation system as adopted. The mitigation applied to the proposed Project to allow for implementation of roadways and trails as currently adopted in the Community plan also applies to this alternative.

### *AIR QUALITY*

The Reduced Production Rate Alternative is designed to reduce the air quality impacts (No<sub>x</sub>) of the Project. This alternative limits the number of pieces of heavy-equipment used at the site and by using less equipment the air quality impacts are expected to be reduced. However, the mining operation requires the use of certain machinery regardless of the amount of material extracted. Thresholds of significance for air quality are designed around daily maximum emissions, not total emissions. Therefore, if restrictions on the working hours are observed, it does not necessarily impact the

minimum equipment required or the maximum daily emissions. Therefore, impacts related to air quality are expected to be similar to the proposed Project.

#### *NOISE*

The Reduced Production Rate Alternative may reduce some noise originating from the haul trucks operating on the roadways. This is due to reduced production, and therefore fewer trucks. Impacts related to the increase of ambient noise on sensitive receptors would be less than the proposed Project.

#### *HYDROLOGY*

The Reduced Production Rate Alternative would result in similar impacts to hydrology and drainage as the proposed Project. The life of the mine would be extended, but the ultimate footprint and terrain changes would be similar. The mitigation proposed in the Hydrology and Drainage chapter (Chapter 11) of this EIR would apply to this alternative as well.

#### *GEOLOGY AND SOILS*

Impacts to geology and soils under this alternative would be similar to the impacts of the proposed Project as analyzed in the Geology and Soils chapter (Chapter 12) of this EIR. Geotechnical analyses indicate that the proposed mining pit slopes will be appropriate for the proposed end use of the site from a static and seismic standpoint provided the consultant's recommendations are incorporated into the design and construction of the Project. The Project plan includes measures to insure there is not a loss of topsoil through erosion or improper handling that are applicable to this alternative. Compliance with the topsoil handling and slope stability measures contained in the reclamation plan would still be applicable to this project alternative.

#### *BIOLOGICAL RESOURCES*

The Reduced Production Rate Alternative will slow the rate of production but not stop the site from being excavated. Although the timeframe would be extended, ultimately the impacts to biological resources would impact the same footprint as the proposed Project, and therefore, impacts to biological resources would be similar to those as impacts for proposed Project as discussed in the Biological Resources chapter (Chapter 13) of this EIR. Potential or significant impacts exist to special status species and sensitive habitats, but the same mitigation for the proposed Project would be applicable to this alternative to reduce impacts.

#### **SSHCP CONSISTENCY**

Impacts with regards to SSHCP and policy consistency under this alternative would be similar to what was analyzed in the Biological Resources chapter (Chapter 13) of this EIR. With the adoption of the SSHCP, the acreages of wetlands and waters, agricultural and grassland habitat requiring mitigation would be the same as the proposed Project because the overall footprint of the Project is the same under this alternative.

### *CULTURAL RESOURCES*

No significant historical, archaeological or tribal resources have been documented on the Project site. Therefore, impacts to cultural resources under this alternative would be similar to the proposed Project as was analyzed in the Cultural Resources chapter (Chapter 14) of this EIR. There still remains the potential that undiscovered cultural resources could be uncovered during project implementation, so mitigation addressing the possibility of undiscovered resources is applicable to this alternative.

### *HAZARDS AND HAZARDOUS MATERIALS*

Impacts under this alternative would be the same as what was analyzed in the Hazards and Hazardous Materials chapter (Chapter 15) of this EIR. There are no hazardous facilities in the vicinity of the Project Site, and it is not anticipated that hazardous materials would be stored at the Project Site. If materials storage is necessary, then the mitigation included for the proposed Project is applicable to this alternative.

### *GREENHOUSE GAS*

The Greenhouse Gas chapter (Chapter 16) concluded that the Project would generate approximately 268 metric tons of CO<sub>2</sub>e per year under the worst case scenario. The annual GHG emissions for the Project are below the 10,000 metric ton of CO<sub>2</sub>e per year screening threshold. A reduced production rate would not result in higher annual CO<sub>2</sub>e emissions. However, it should be noted that while annual emissions remain below the significance threshold, this alternative may stretch the life of the Project, so it may result in higher emissions than the proposed Project over the life of the mine.

## SUMMARY OF COMPARISON OF ALTERNATIVES

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For comparison purposes, Table ALT-1 provides the impacts of the proposed project, the No Project Alternative and the Reduced Production Rate Alternative.

- LS Indicates the project's impact is Less than Significant
- PS Indicates the project's impact is Potentially Significant
- S Indicates the project's impact is Significant
- Greater: Indicates the impact is greater than the proposed Project.
- Less: Indicates the impact is less than the proposed Project.
- Similar: Indicates the impact is equal or similar to the proposed Project.

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
Land Use / Population and Housing			
Conflicts 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.	LS	Similar	Similar
Displaces substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.	LS	Similar	Similar
Physically divides an established community.	LS	Similar	Similar
Induces substantial unplanned population growth in an area either directly or indirectly.	LS	Similar	Similar
Agricultural Resources			
Converts Prime Farmland, Unique Farmland, Farmland of Statewide Importance or areas containing prime soils to uses not conducive to agricultural production.	LS	Greater	Similar
Conflicts with any existing Williamson Act contract.	LS	Similar	Similar
Introduces incompatible uses in the vicinity of existing agricultural uses	LS	Similar	Similar
Aesthetics			

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
Substantially degrades the existing visual character or quality of the site and its surrounding.	S	Less	Similar
Creates a new source of substantial light, glare or shadow that would result in safety hazards or adversely affect day or nighttime views in the area.	LS	Less	Similar
Substantially alters existing viewsheds such as scenic highways, corridors or vistas.	LS	Less	Similar
Airports			
Exposes people residing or working in the project area to aircraft noise levels in excess of applicable standards.	LS	Similar	Similar
Results in a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft.	LS	Similar	Similar
Results in a safety hazard for people residing or working in the vicinity of an airport/airstrip.	LS	Similar	Similar
Results in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	LS	Similar	Similar
Public Services			
Has an adequate water supply for	LS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
full buildout of the project.			
Have adequate wastewater treatment and disposal facilities for full buildout of the project.	LS	Similar	Similar
Is served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	LS	Similar	Similar
Results in substantial adverse physical impacts associated with the construction of new water supply or wastewater treatment and disposal facilities or expansion of existing facilities.	LS	Similar	Similar
Results in substantial adverse physical impacts associated with the provision of storm water drainage facilities.	LS	Similar	Similar
Results in substantial adverse physical impacts associated with the provisions of electric or natural gas service.	LS	Similar	Similar
Results in substantial adverse physical impacts associated with the provision of emergency services.	LS	Similar	Similar
Results in substantial adverse physical impacts associated with the provisions of public school services.	LS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
Interferes with adopted plans or results in substantial adverse physical impacts associated with the provision of park and recreation services.	LS	Similar	Similar
Transportation/Traffic			
Results in substantial adverse impact due to inadequate parking capacity.	LS	Similar	Similar
Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks).	LS	Similar	Similar
Results in a substantial adverse impact to public safety on area roadways.	PS	Similar	Similar
Results in a substantial increase in peak hour vehicle trip-ends that could exceed, either individually or cumulatively, a level of service standard establish by the County.	LS	Less	Similar
Results in a substantial adverse impact to access and/or circulation.	LS	Similar	Similar
Air Quality			
Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	LS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
Exposes sensitive receptors to pollutant concentrations in excess of standards.	LS	Less	Similar
Creates objectionable odors affecting a substantial number of people.	LS	Greater	Similar
Noise			
Results in exposure of persons to, or generation of, noise levels in excess of standards established by the local general plan, noise ordinance or applicable standards of other agencies.	LS	Less	Less
Results in a substantial temporary increase in ambient noise levels in the project vicinity.	PS	Less	Similar
Hydrology and Water Quality			
Substantially alters the existing drainage pattern of the project area and/or increases the rate of or amount of surface runoff in a manner that would result in flooding on- or off-site.	LS	Similar	Similar
Develops within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map or within a local flood hazard.	LS	Similar	Similar
Creates substantial sources of polluted runoff or otherwise substantially degrades ground or	PS	Less	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
surface water quality.			
Substantially depletes groundwater supplies or substantially interferes with groundwater recharge.	LS	Similar	Similar
Places structures that would impede or redirect flood flows within a 100-year floodplain.	LS	Similar	Similar
Exposes people or structures to a substantial risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.	LS	Similar	Similar
Creates or contributes runoff that would exceed the capacity of existing or planned stormwater systems.	LS	Similar	Similar
Geology and Soils			
Is 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.	PS	Less	Similar
Results in substantial soil erosion or the loss of topsoil.	PS	Less	Similar
Directly or indirectly destroy a unique paleontological resource or site.	PS	Less	Similar
Exposes people or structures to	LS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
substantial risk of loss, injury or death involving ruptured of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.			
Results in a substantial loss of an important mineral resource.	LS	Similar	Similar
Has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available.	LS	Similar	Similar
Biological Resources			
Has a substantial adverse effect on any special status species. Invertebrates	PS	Less	Similar
Has a substantial adverse effect on any special status species. Western Pond Turtle	PS	Less	Similar
Has a substantial adverse effect on any special status species. Nesting White-Tailed Kite or Swainson's Hawk	PS	Less	Similar
Has a substantial adverse effect on any special status species.	PS	Less	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
Nesting Raptors			
Has a substantial adverse effect on any special status species. Nesting or Roosting Burrowing Owl	PS	Less	Similar
Has a substantial adverse effect on any special status species. Nesting birds protected under the Migratory Bird Treaty Act	PS	Less	Similar
Has a substantial adverse effect on any special status species. Loss of foraging habitat for White-Tailed Kite and Swainson's Hawk	PS	Less	Similar
Has a substantial adverse effect on any special status species. Disturbance to nesting Loggerhead Shrike	PS	Less	Similar
Has a substantial adverse effect on any special status species. Disturbance to nesting or roosting Tricolored Blackbird	PS	Less	Similar
Has a substantial adverse effect on any special status species. Disturbance to nesting Yellow-Headed Blackbird	PS	Less	Similar
Has a substantial adverse effect on any riparian habitat or other	PS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
sensitive natural community.			
Has a substantial adverse effect on wetlands designated as jurisdictional waters of the United States as defined by Section 404 of the Clean Water Act.	PS	Less	Similar
Conflicts with any local policies or ordinances protecting biological resources.	LS	Similar	Similar
Has a substantial adverse effect on the movement of any native resident of migratory fish or wildlife species.	LS	Similar	Similar
Conflicts with the provisions of an adopted Habitat Conservation Plan or other approved local, regional, state or federal plan for the conservation of habitat.	LS	Less	Similar
Cultural Resources			
Causes a substantial adverse change in the significance of a historical resource.	LS	Similar	Similar
Has a substantial adverse effect on an archaeological resource.	PS	Less	Similar
Disturbs any human remains, including those interred outside of formal cemeteries.	PS	Less	Similar
Hazards and Hazardous Materials			
Creates a substantial hazard to the public or the environment through	LS	Similar	Similar

**Table ALT 1: Comparison of Alternatives to the Proposed Project**

Impact Category	Proposed Project Before Mitigation	Alternative 1: No Project	Alternative 2: Reduced Processing Rate
the routine transport, use, or disposal of hazardous materials.			
Exposes the public or the environment to a substantial hazard through reasonably foreseeable upset conditions involving the release of hazardous materials.	LS	Similar	Similar
Emits hazardous emissions or handles hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.	LS	Similar	Similar
Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 resulting in a substantial hazard to the public or the environment.	LS	Similar	Similar
Impairs the implementation of or physically interferes with an adopted emergency response or emergency evacuation plan.	LS	Similar	Similar
<b>Greenhouse Gas Emissions</b>			
Generates greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LS	Similar	Similar

**Table ALT-2: Summary of Impact Comparison**

<b>Alternative</b>	<b>Lesser Impacts</b>	<b>Similar Impacts</b>	<b>Greater Impacts</b>
No Project Alternative	25	42	2
Reduced Production Rate Alternative	1	68	0

## ENVIRONMENTALLY SUPERIOR ALTERNATIVE

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The “No Project” alternative has the fewest environmental impacts but does not meet the project objectives. The project also is consistent with the State Legislature and Sacramento County’s recognition that the extraction of minerals is essential to the continued economic well-being of the State, County and to the needs of society (as codified in PRC §2711(a) and County Code §20.04.010), which is another justification for rejection of the “No Project” alternative. As published in the California Department of Conservation’s “Map Sheet 52, Aggregate Sustainability in California” (DOC 2018), aggregate construction materials are essential to modern society, both to maintain the existing infrastructure and to provide for new construction. A new source of aggregate materials is particularly important to the economy of Sacramento County, where the State has found that only 45 percent of the anticipated 50-year demand is currently permitted.

The CEQA Guidelines require that a “No Project” alternative be evaluated and although the “No Project” alternative could be considered the environmentally superior alternative, when the “No Project” alternative is the environmentally superior alternative, another environmentally superior alternative must also be identified (CEQA Guidelines §15126.6(d)).

The reduced processing rate alternative appears to result in lessened impacts to local roads compared to the proposed Project and it meets the stated project objectives. However, the objectives do not specify a minimum extraction rate or mining time-frame, therefore what is not captured is that a restriction on the amount of mining equipment may not meet the applicant’s needs to provide a steady supply of aggregate to the market at a rate commensurate with their existing processing plant. Additionally, because aggregate is an inflexible commodity, meaning it will be supplied to the market regardless of price and because there are other permitted mines in the market area, if the reduced production rate alternative were imposed, the market would adapt by supplying more aggregate from other mines in the area or even by importing aggregate from outside the area.

Because the other mines are in the same air basin, the average cumulative air quality impacts would be about the same if other mines ramped up production to make up for artificial restrictions on the proposed Project’s production. Similarly, if other mines ramp up production, their noise impacts would increase. If aggregate was imported, noise and air quality impacts would increase as well as traffic impacts from the extra on-road

heavy truck hauling needed to bring the material in from other areas such as the Yuba Goldfields. There could also be additional impacts if other mines built new processing plants and/or capacity to serve the market. Since the proposed Project would be served by an existing, permitted processing plant with an existing conveyor system and existing capacity, it is environmentally superior to a reduced processing rate alternative that could restrict the applicant's ability to capture as much market share and thus result in additional impacts from other mines ramping up, building additional capacity or from aggregate import outside the area.

Although the Reduced Production Alternative would have reductions in impacts related to local roadways, when considering the air basin as a whole and the inherent cumulative nature of air quality analysis, and that increased mining elsewhere or the import of aggregate for outside the areas would add additional air quality, noise and possible regional traffic impacts, the alternative would be no better than the proposed Project. It may even result in greater impacts if other mines built additional processing capacity or aggregate was imported from other markets. For these reasons, the proposed Project is considered the environmentally superior alternative. It results in the fewest impacts while still meeting the full objectives of the applicant.

## 4 LAND USE/POPULATION AND HOUSING

### INTRODUCTION

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This chapter presents the potential impacts of the Project on existing and planned land use conditions, consistency with applicable planning documents, and compatibility with existing and planned land uses.

### ENVIRONMENTAL SETTING

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The Project Site is located in unincorporated Sacramento County (Plate LU-1); at 11509 Florin Road, on the south side of Jackson Road (HWY 16) between Eagles Nest Road and Sunrise Boulevard (Plate LU-2). The Project Site is in the Vineyard Community.

The Project Site includes two parcels; the approximately 161-acre Carli Expansion site and the approximately 273-acre existing processing plant and mining area (Plate LU-2). The existing processing plant and mining area was approved with Use Permit 1994-CZB-UPB-0715 by the Board of Supervisors on January 8, 1997. The Carli Expansion site is located on APN: 067-0120-073 (11509 Florin Road) and the existing processing plant and mining area are located on APN 067-0120-069 (11501 Florin Road). The existing mining facility includes the existing processing plant and mining area on APN 067-0120-069 and the approximately 121-acre 2009 expansion area south of Florin Road on APN 067-0120-074 (11600 Florin Road). The 2009 expansion area was approved by Use Permit PLNP2007-CZB-UPB-REB-00397 at the Board of Supervisors on February 25, 2009. The 2009 expansion area is part of the existing mining operation but is not part of this project.

The Project Site currently has a commercial composting operation located in the north and northeastern portion of the site (see Plate PD-3). The composting operation is doing business as Lopez's AG Service, INC (Business License Number GNB32005-22361). The composting operation was started in 2000 and it is anticipated that the composting operation will continue operating until the final phase of mining on the Project Site. The Project Site also has a cell tower located near the composting operation. The cell tower is currently in operation and there are three use permits (1996-0014, 1999-0507, and 2006-0317) for the cell tower approved by the Zoning Administrator on May 8, 1996, February 9, 2000, and September 20, 2006 respectively. The cell tower will remain in operation until the final mining phase, T-2. The implementation of the Project will remove the cell tower and the applicant has no plans of reconstructing the cell tower at the Project Site. There are no other significant structures or residence located on the Project Site.

**Plate LU-1: Regional Location Map**

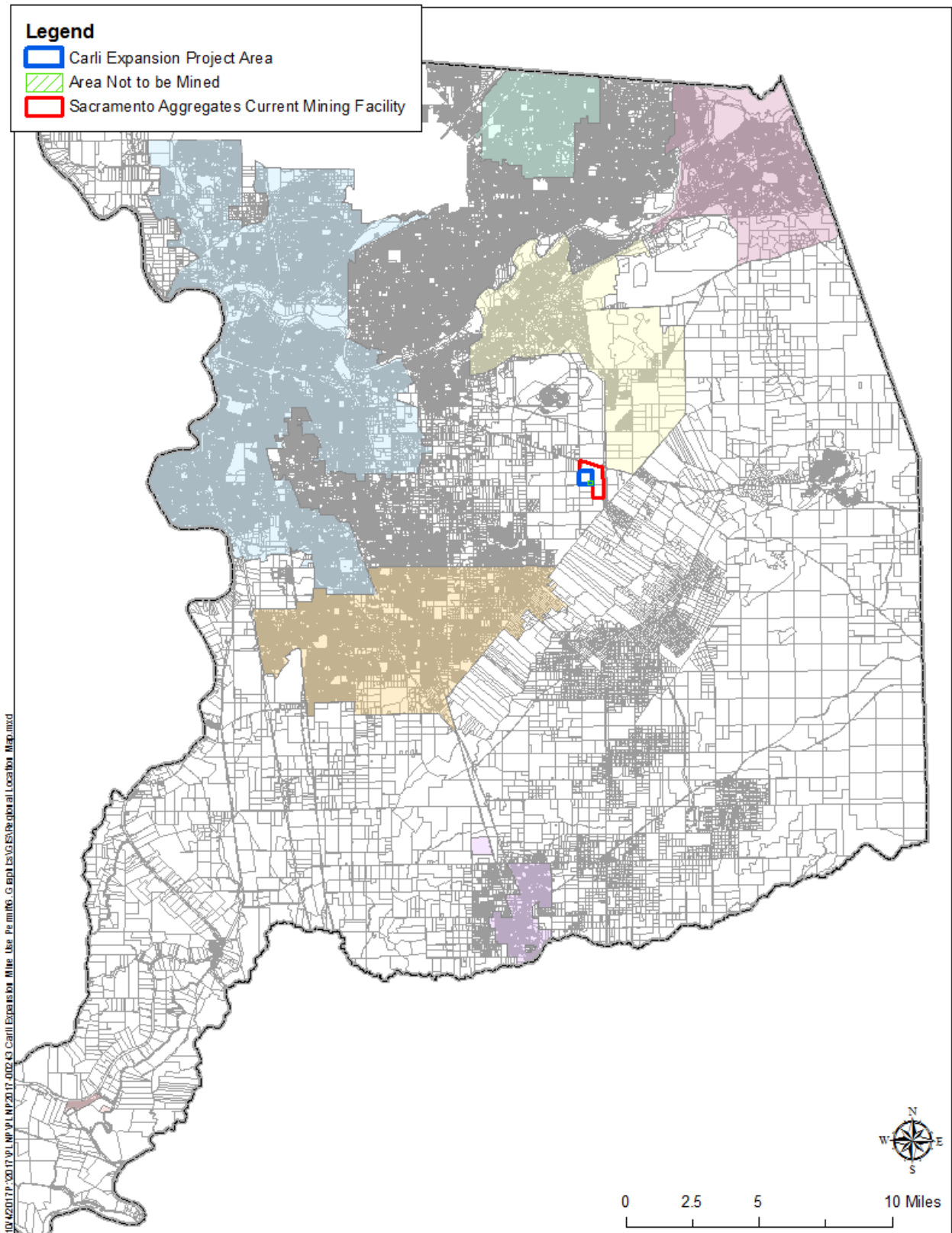
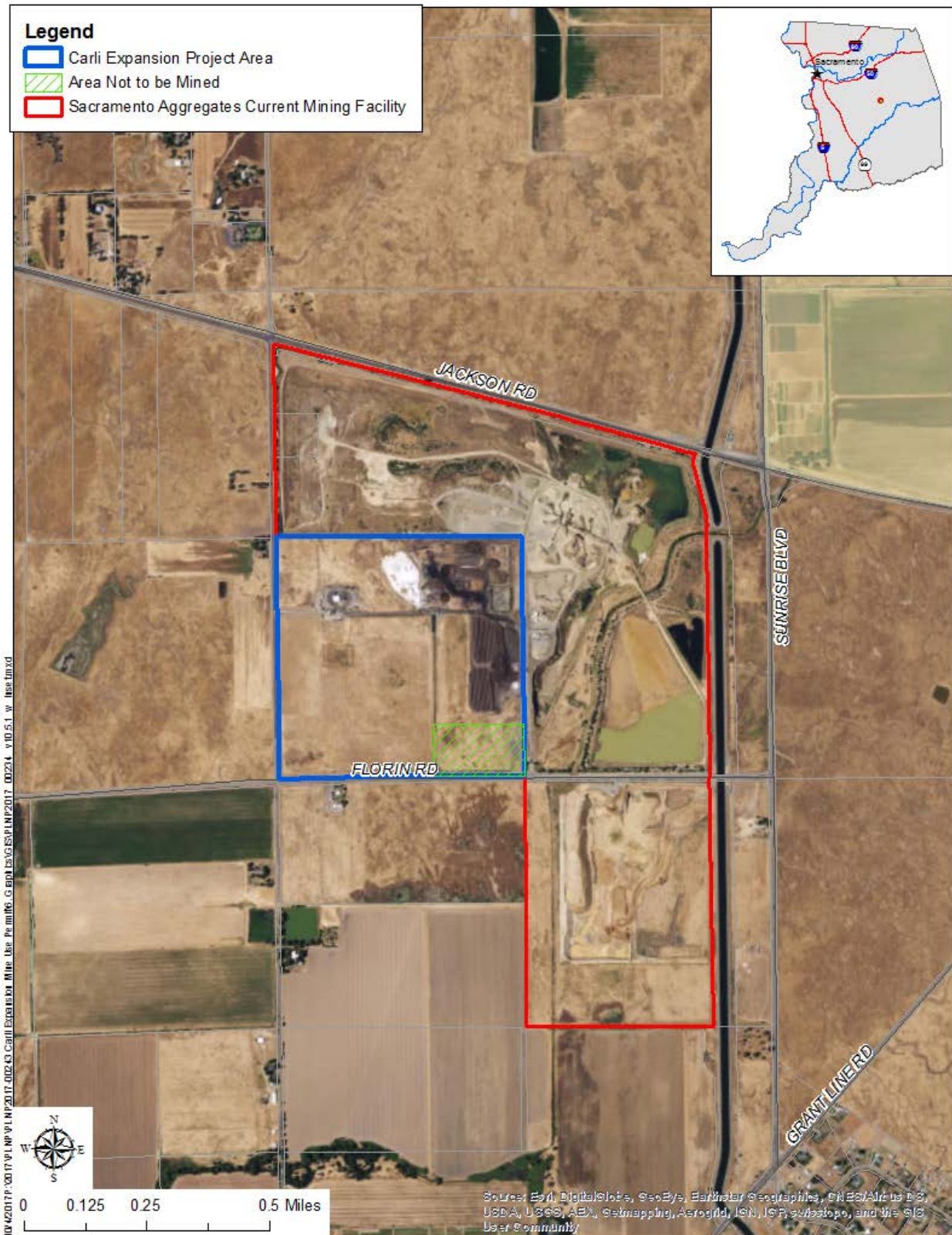


Plate LU-2: Project Location Map



The undeveloped area of the Carli site is primarily non-native grasslands. The topography of the site is gentle with the site sloping north to south-southwest, except for the western portion of the site that slopes to the southwest. There is an approximate 11-acre area of potential wetlands located on the southwest corner of the Carli site. This area will be rezoned, but the applicant is not including this portion of the site in the area that will be excavated.

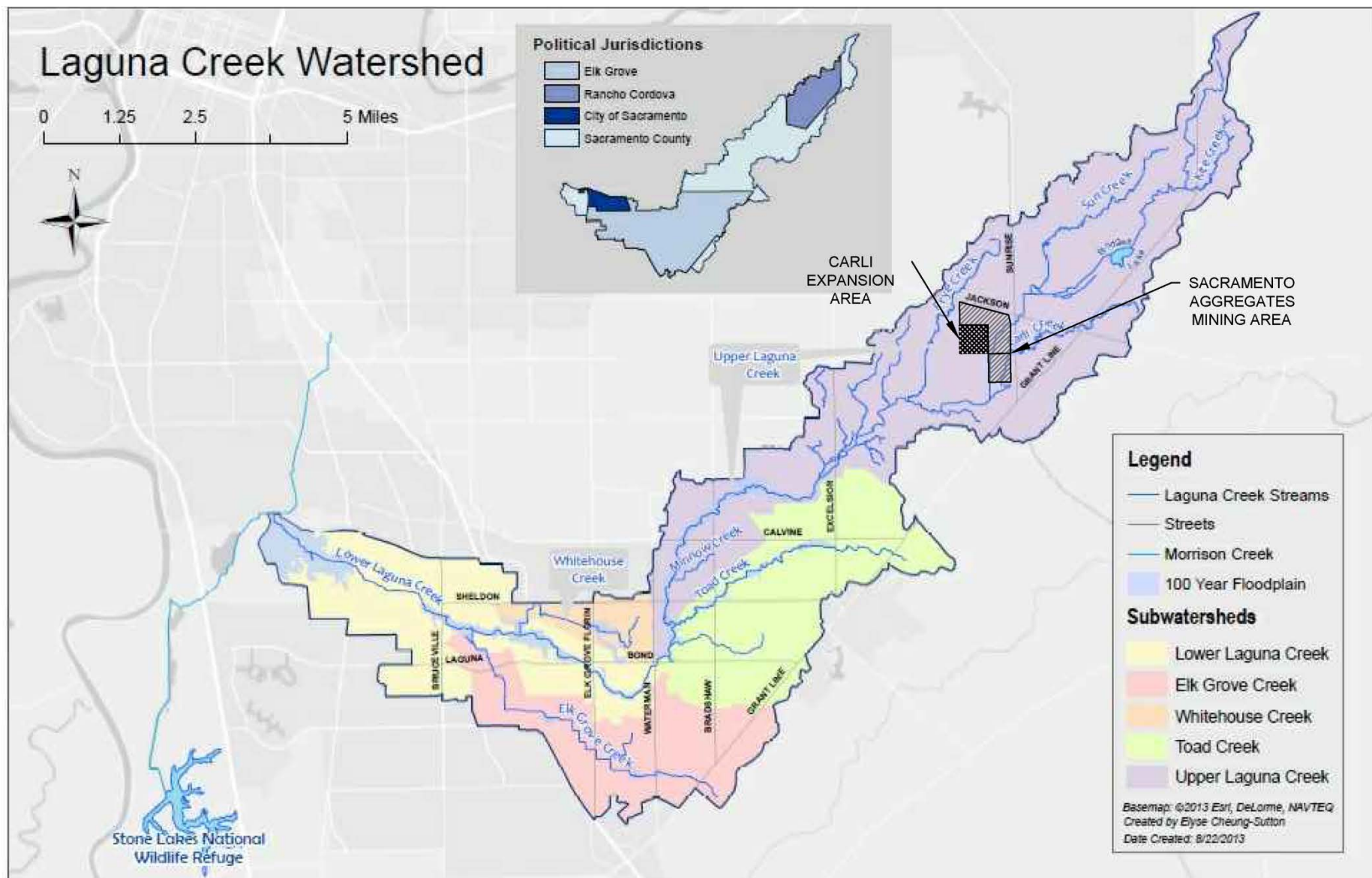
The surrounding land uses consist of the applicant's mining facility, cattle, horse and sheep grazing, farmland and several farm residences. The Project Site is located in the Vineyard Community Plan area. The Carli site has a General Plan designation of Permanent Agricultural Extensive 160. The current processing plant and mining area has a General Plan designation of Permanent Agricultural Extensive 160 with Surface Mining Land Use Overlay.

The Project Area lies within the Laguna Creek watershed(Plate LU-3). Laguna Creek flows on the existing processing plant and mining area; however, the creek does not flow onto the Carli Expansion site parcel. Laguna Creek is an intermittent stream, which is usually dry in the summer and fall months. Laguna Creek eventually joins the Morrison Creek approximately 12 miles southwest of the Project Site.

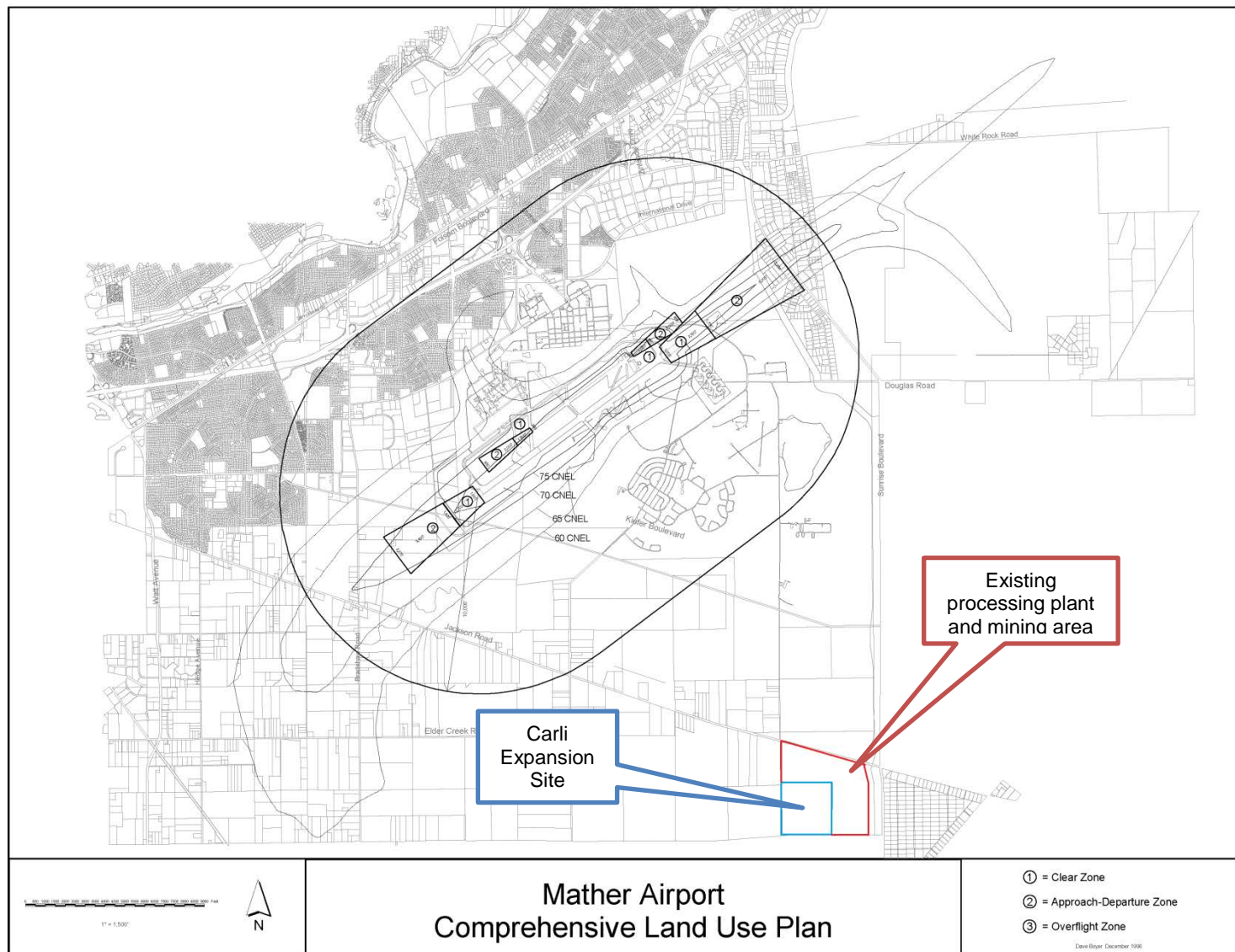
The Folsom South Canal parallels the eastern boundary of the existing processing and mining area but it is not hydrologically connected to the mining operation. The Folsom South Canal is a man-made water conveyance facility operated by the U.S. Bureau of Reclamation. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the Project Site is not within a federally designated floodplain.

The Project Site is located near the Mather Airport Comprehensive Land Use Plan (CLUP) (Plate LU-4). The CLUP provides the land use compatibility guidelines for uses near the airport on which compatibility of land uses are determined. The Project is located beyond the 60 dB Community Noise Equivalent Level (CNEL) noise contours of the Mather CLUP. As the Project Site is located outside of the CLUP and the CLUP 60 dB noise contours the Project is not subject to the CLUP land use compatibility guidelines and will not be discussed further.

Plate LU-3: Laguna Creek Watershed



**Plate LU-4: Mather Airport CLUP**



## PROPOSED LAND USES

The proposed Project is to develop a surface mining operation that extracts sand and gravel aggregate material. The Carli Expansion will add phase T to the approved operations and will be implemented in two mining phases, Phase T-1 and T-2 (Plate LU-5). The site will be mined starting in the northwestern portion of the site then the mining will extend south towards Florin Road and around the existing composting facility. Next the mining will proceed to the east then finish with the excavation of the existing composting facility.

Plate LU-5: Mining Plan



During the T-2 Phase, the mining of the Carli site would connect both to the previous phase (T-1) and the existing mining area at the existing processing plant and mining area.

The applicant is also proposing to place a portable asphalt and concrete processing plant to crush broken concrete and asphalt on the existing processing plant site as shown in Plate LU-5. This would allow the applicant to import up to 100,000 tons per year of broken concrete and asphalt from nearby demolition projects. In addition, the applicant is requesting the ability to import up to 50,000 tons of outside aggregate products per year to mix with existing products. Even though outside aggregate products would be brought on-site, the operation of the portable processing plant to crush broken concrete and asphalt would not result in an increase of the overall permitted annual output of 1.5 million tons of material.

The Project also includes the extension and continued use of an electric conveyor system to transport mined materials to the existing processing plant located adjacent to the Project Site to the northeast.

The approved Reclamation Plan for the existing processing plant and mining operation was approved in 1997 and amended in 2003 and 2008. The proposed end use of the approved Reclamation Plan is open space and dry-land grazing with the exception that Phase E which will include some seasonal wetlands. The Project includes an amended Reclamation Plan.

The proposed excavation setbacks are 30 feet from Florin and Eagles Nest Road and will be the same as the existing permitted operation. The setbacks will be landscaped to match the existing landscaping around the permitted operations and will create a visual barrier between the roadways and the mining activities. The landscaping includes the same native and/or landscape varieties of plants within a 15-foot wide planter. The Project Site will be reclaimed to open space and dry-grazing consistent with the other approved mining phases. The Project is proposed to terminate mining, complete reclamation, and monitoring at the same time as the existing processing plant and expansion area south of Florin Road. Table LU-2 provides mining operation information for the mine.

**Table LU 1: Operational Information**

<b>Component</b>	<b>Proposed Plan</b>
Mineral Commodity	Sand and Gravel
Estimated Total Production of Carli Expansion Site	10.3 Million tons
Estimated Total Annual Production	1.5 Million tons
Number of Acres Currently Permitted for Sand and Gravel Extraction (Existing processing plant and mine area and the expansion area south of Florin Road)	357 acres
Number of Acres of Carli Expansion Site	160.98 acres
Number of Acres of Carli Expansion Site to be excavated	141.22 acres
Anticipated Depth of Mining above mean sea level (amsl) <b>Below Original Grade</b>	50 feet to 70 feet amsl <b>50 feet to 75 feet below original grade</b>
Anticipated Depth of Pit at Reclamation above mean sea level (amsl) <b>Below Original Grade</b>	80 feet to 85 feet amsl <b>35 feet to 40 feet below original grade</b>
Mining Termination Date for Existing Processing and Mining and for Carli Expansion Site	February 5, 2033
Reclamation Completion Date for Existing Processing and Mining and for Carli Expansion Site	February 5, 2035
Monitoring Completion Date for Existing Processing and Mining and for Carli Expansion Site	February 5, 2040

#### EXISTING LAND USE AND ZONING DESIGNATIONS

The land use diagram of the General Plan designates the both the existing mining facility and the Projec Site as General Agricultural 20 acres (Plate LU-6). The zoning of the existing processing plant and mining area is AG-160(SM) (Permanent Agricultural 160 acres with Surface Mining Combining Zone) and the zoning of the Carli Expansion site is AG-160 (Permanent Agricultural 160 acres)(Plate LU-7).

Plate LU-6: General Plan Designation

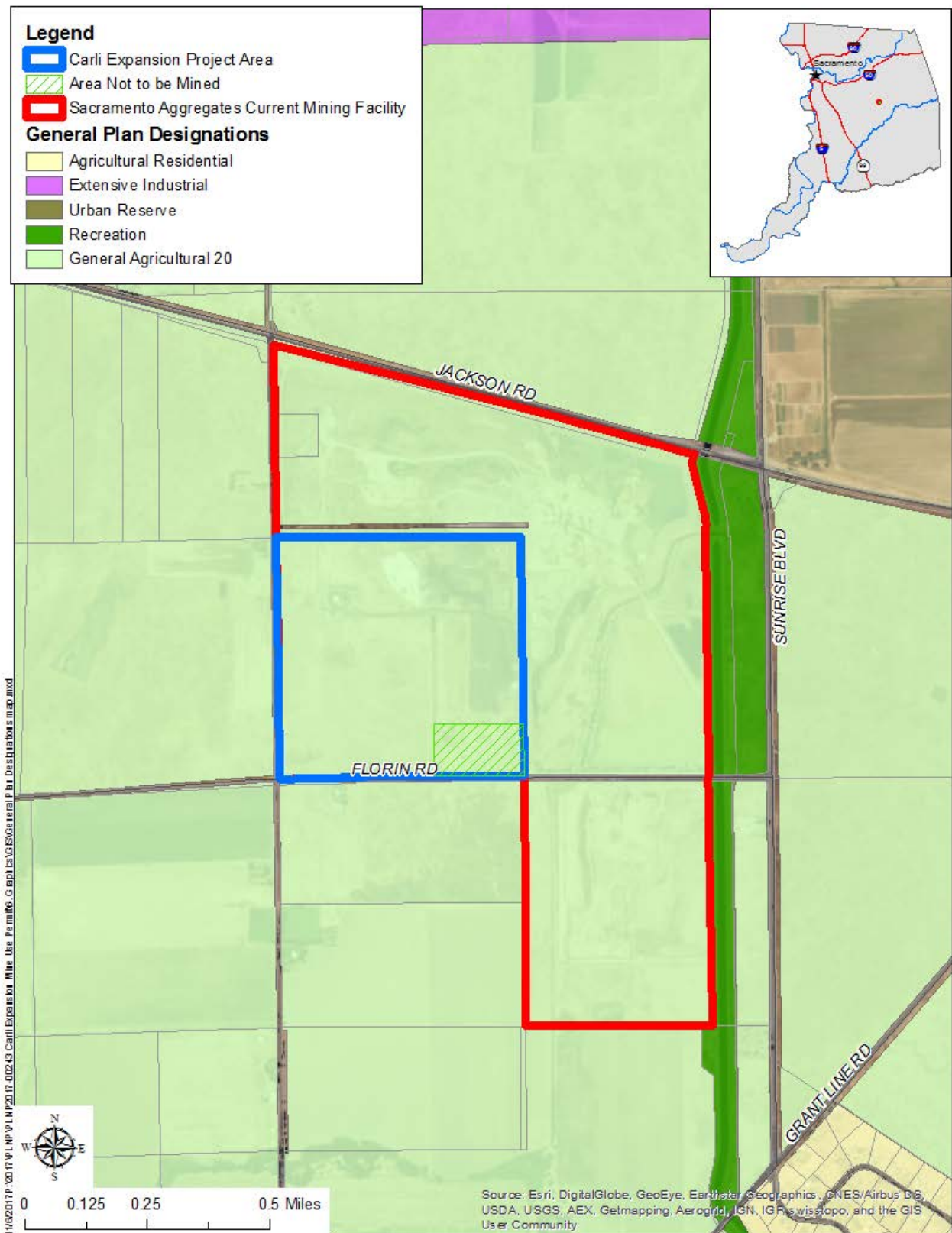
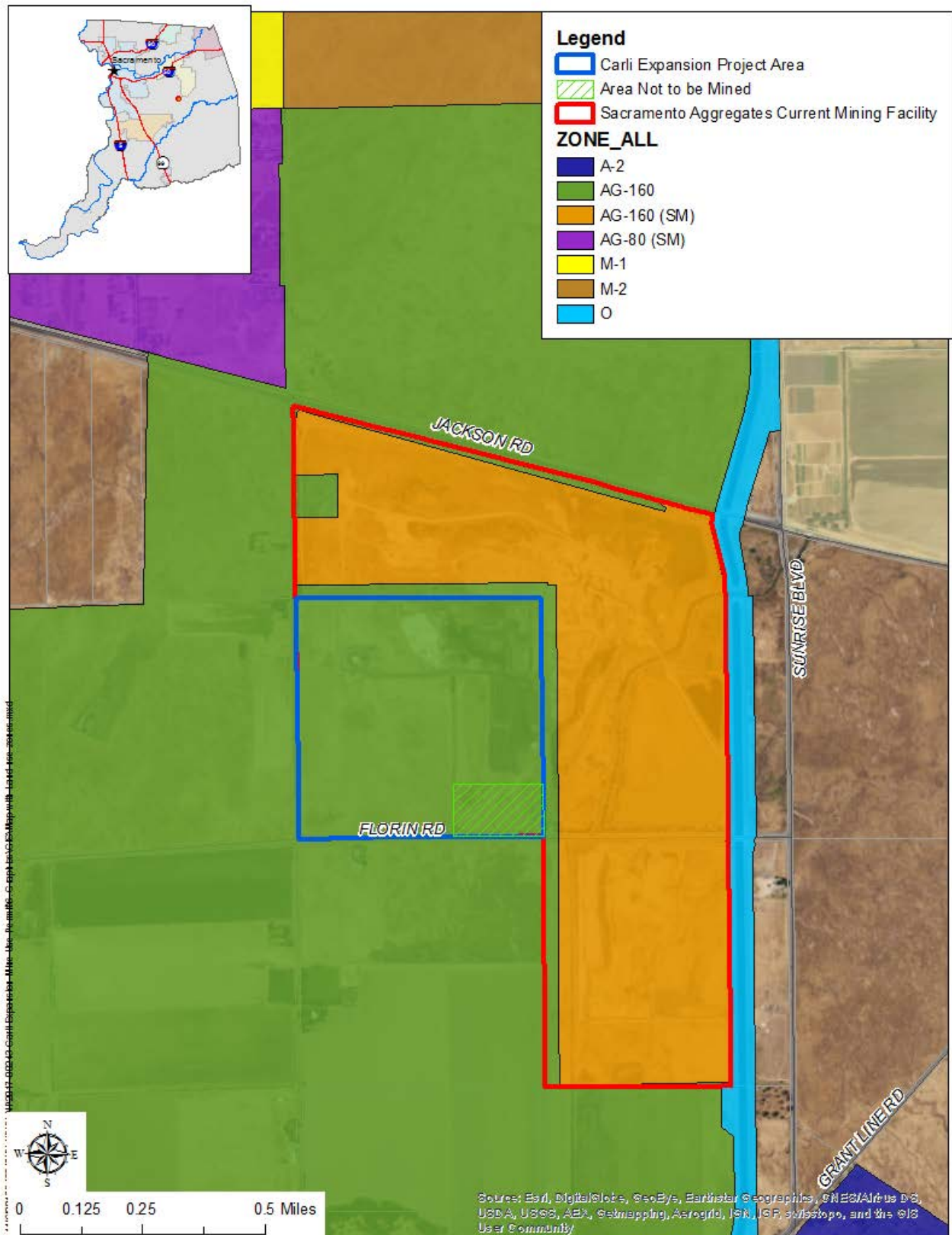


Plate LU-7: Zoning Map



The AG-160 land use zone has a minimum lot size of 160 acres; the zoning permits one single-family residence per parcel. All agricultural uses, accessory dwellings for agricultural employees are allowed; institutional uses such as mining are allowed with a use permit. The purpose of the AG-160 zoning is to promote long-term agricultural use and discourage premature and unnecessary conversion of agricultural land to urban uses.

## REGULATORY SETTING

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### STATE

#### *SURFACE MINING AND RECLAMATION ACT (SMARA)*

The Surface Mining and Reclamation Act of 1975 (SMARA) is administered by the State of California, Department of Conservation, Office of Mining and Reclamation. SMARA provides a comprehensive surface mining and reclamation policy to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The reclamation plans required by SMARA and County Code define the basis for achieving safe and useable end land uses for mines. Furthermore, SMARA encourages the production, conservation, and protection of the State's mineral resources, Public Resources Code Section 2207 provides an annual reporting requirement for all mines in the State, under which the State Mining and Geology Board is also granted authority and obligations.

Sacramento County is the SMARA Lead Agency on all mines that operate in the unincorporated County of Sacramento. The County of Sacramento, Department of Community Development is charged with regulating mines in accordance with SMARA, County Code, General Plan, and Zoning Code regulations. Mine operators are required to post a financial assurance (e.g. performance bond, certificate of deposit, or letter of credit) in an amount that will reclaim the mine in accordance with the approved reclamation plan in the event that the operator fails to do so. The County of Sacramento, as the Lead Agency conducts annual reviews to assure financial assurances remain adequate based on the condition of the mine in relation to the approved reclamation plan. In addition, the Department of Community Development conducts annual inspections of all mines within the unincorporated county to insure compliance with SMARA and use permit conditions.

### LOCAL

#### *SACRAMENTO COUNTY CODE*

The Sacramento County Code (SCC) is the codification and compilation of general ordinances adopted by the Board of Supervisors. For surface mining projects, SCC Title 20 regulates surface mining and reclamation.

Sacramento County recognizes that the extraction of minerals is essential to the continued economic well-being of the County and to the needs of society and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. Sacramento County also recognizes that surface mining takes place in diverse areas where the geologic, topographic, climatic, biological, and social conditions are substantially different and that final reclamation and the specifications therefore may vary accordingly.

The purpose and intent of the surface mining and reclamation chapter of the County Code is to ensure the continued availability of important mineral resources, while regulating surface mining operations as required by SMARA to ensure that:

- Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.
- The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
- Residual hazards to the public health and safety are eliminated.

#### *SACRAMENTO COUNTY GENERAL PLAN*

Under California law, cities and counties must adopt a comprehensive, long-term general plan for physical development related to their planning boundaries. The Sacramento County General Plan (General Plan) was adopted November 9, 2011 with a planning horizon to 2030. The General Plan serves as the principal land use planning and policy document for Sacramento County and establishes broad goals, objectives and policies that guide county-wide land use. The General Plan consists of 15 elements and five policy plans. Each element provides goals, objectives, and policies to guide land use decisions related to the subject matter of that element.

The following are the most pertinent General Plan policies related to conservation and extraction of mineral resources, land use/population and housing that pertain to the project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

#### Policy CO-37:

Apply the aggregate resources combining land use category to additional areas as subsequent studies determine them to contain mineral resources which are feasible and appropriate for mining. The aggregate resources combining land use category shall not be a prerequisite to (SM) surface mining combining zoning or regulation through the procedures of an existing special planning area zoning designation in conjunction with proposed surface mining.

Policy CO-39:

Surface mining operations shall be subject to appropriate mitigation measures and shall avoid creating any significant nuisances, hazards, and adverse environmental impacts, unless the Board of Supervisors makes the findings to override as required by CEQA Guidelines Section 15091.

Policy CO-40:

Extractive uses and associated processing uses and facilities shall maintain adequate minimum setbacks to protect adjoining land uses.

Policy CO-41:

Surface mining shall not be allowed without adequate plans for reclamation of mined areas. Reclamation plans should be based on a plan for post-mining land use that is consistent with the land use strategies of the General Plan.

Policy CO-44:

Due to the predicted shortages of aggregates in Sacramento County, mining of mineral resources within the Urban Services Boundary (USB) is encouraged, where consistent with Habitat Conservation Plans or other County initiated conservation programs and where such mining does not preclude successful completion of these plans, to avoid the potential loss of these mineral resources as a result of potential urban development. This policy is not intended to preclude mining outside the USB.

Policy CO-57:

In areas where topsoil mining is permitted, it shall be done so as to maintain the long-term productivity of the soil.

*SACRAMENTO COUNTY ZONING CODE*

The Sacramento County Zoning Code (Zoning Code) implements the land use policies of the County. The Zoning Code ensures all development conforms to these policies by regulating land use and providing development standards. The County also has adopted special policies related to surface mining as part of Chapter 4 of the Zoning Code, known as the "Surface Mining (SM) Combining Zone."

**SURFACE MINING (SM) COMBINING ZONE**

The existing processing plant and mining area as well as the expansion area south of Florin Road are currently zoned AG-160 with the Surface Mining Combining Zone (A-160(SM)). The applicant is requesting that the 153 acre Carli Expansion site be

rezoned to add the Surface Mining Combining Zone. In order to mine a site in unincorporated Sacramento County the site must have the SM combining zoning and an approved Use Permit from the Board of Supervisors.

The Surface Mining Combining (SM) Zoning District is designed to protect the mineral resources of the county from incompatible land use; to manage the mineral resources; to assure the county of an adequate supply of these resources with due consideration for the environment; and to provide for the restoration of mined lands for future use. The goals to be pursued by establishing this zoning district include that:

- Mineral resources areas be protected from preclusive and incompatible land uses.
- Surface mining be controlled to provide for protection of the environment.
- Surface mining be controlled to protect the public health, safety, welfare, and property values of residents living near surface mining operation.

Provisions be made for the reclamation of mined lands in compliance with the Sacramento County Code Chapter 20.04, Surface Mining and Reclamation.

In addition to the general information required for use permit applications as set forth in Zoning Code Chapter 6, section 6.4.1, an application for a mining use permit is also subject to Zoning Code section 4.8.11. This section requires the following additional information: a mining plan; a reclamation plan; soil, geologic and hydrologic data; a traffic and parking plan; air pollution control measures; noise data; waste data; a drainage plan; a hazardous materials plan; a landscaping plan; a lighting plan and a regional analysis of ancillary uses.

All aggregate mining operations, including sand and gravel mines, are also subject to Zoning Code section 4.8.12, operating standards for aggregate mining operations. This section includes requirements for the following: operating and haul-out hours, fences, warning and complaint information signs, visual screening, mining setbacks, noise minimization, backfilling, slope stability, recontouring, and roadways.

The operating standards for aggregate mining operations are codified in the Zoning Code Section 4.8.12.A. Operating Hours which is provided below:

Unless otherwise provided as a condition of use permit the hours of operation of mining, processing, maintenance, and related activities shall be as set forth in Sections 4.8.12.A.1 and 4.8.12.A.2.

1. When mining, processing, and related activities occur within 1,000 feet of a habitable structure and/or potentially incompatible use on land zoned Agricultural or Agricultural-Residential, or within 500 feet from a habitable structure and/or potentially incompatible uses in all other zones, or are otherwise provided as a condition of use permit, then the hours of operation of mining, processing and related activities, including haul out, shall be:

- a. Monday through Friday, inclusive: 6:00 a.m. until 9:00 p.m.; maintenance operations beyond mining hours to occur from 9:00 p.m. to midnight.
- b. Saturday: 7:00 a.m. through 3:00 p.m.; maintenance operations beyond mining hours to occur from 3:00 p.m. to 4:00 p.m.
- c. Sunday and any Federal/State holidays: no mining, processing, hauling or maintenance permitted.

**2.** For all parcels not subject to Section 4.8.12.A.1, the hours of operation of mining, processing, maintenance, and related activities, including haul out, shall be:

- a. Monday through Friday, inclusive: 6:00 a.m. until 10:00 p.m.; maintenance operations beyond mining hours to occur from 10:00 p.m. to 6:00 a.m.
- b. Saturday: 6:00 a.m. through 3:00 p.m.; maintenance operations beyond mining hours to occur from 3:00 p.m. to 10:00 p.m.
- c. Sunday and any Federal/State holidays: no mining, processing, hauling or maintenance permitted.

**3.** Extensions of Operating and Haul Out Hours. The use permit may specify hours of operation and haul out exceeding the hours set forth in Sections 4.8.12.A.1 and 4.8.12.A.2 for specified activities including haul out, basic uses, and ancillary uses, but not including mining. Any extension of hours through the use permit shall specify the use(s) and the hours, and may specify the circumstances required for using the extended hours and/or the number of days annually that the extended hours may be used.

The applicant has not requested an extension of operating and haul out hours. The operating hours of the original use permit (1994-0715) are conditioned to be Monday through Friday 6 am to 9 pm; Saturday 6 am to 3 pm; and Sunday and labor union holiday no mining or processing is permitted. Review of the subsequent use permits indicated that hours have not been modified and remain in effect. After discussion with the applicant, the Project Site will have the same operating hours as the existing processing plant and expansion area south of Florin Road.

#### *VINEYARD COMMUNITY PLAN*

Sacramento County is divided into distinct community areas for planning purposes. These community planning areas encompass socially and economically similar areas with an established sense of community identity.

The Project Site is located in the Vineyard Community Plan area. The community plan was adopted by the County Board of Supervisors on June 12, 1985. The Vineyard Community Plan designation for the project site is Permanent Agricultural Extensive 160. Surface mining is a major land use in the Vineyard Community. The majority of the northwestern quadrant of the Vineyard Community is indicated with the surface mining combining land use category and the Project is located directly south of this surface mining designated area. Surface mining does not conflict with the community plan.

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Land Use/Population and Housing the proposed Project would have a significant impact if it:

- LU/PH-1: Conflicts 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; or
- LU/PH-2: Induces substantial unplanned population growth in an area either directly or indirectly; or
- LU/PH-3: Displaces substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere; or
- LU/PH-4: Physically divides an established community.

The Project Site does not have any housing or residences located on it; nor does the Project propose to displace or eliminate any existing housing. There are some rural residences near the Project Site; however, there are no established communities on or near the Project Site. The nearest established residential neighborhood is located approximately one mile away to the southeast. There are two Specific Plans proposed within a mile of the proposed Project; however both of these plans are to the north and west of the Project Site across Jackson Road. The Project does not displace exiting housing nor will it remove any barrier to growth. Therefore, LU/PH-3 and LU/PH-4 will not be further analyzed.

## IMPACTS AND ANALYSIS

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**Impact Evaluation LU/PH-1: Does the project conflict with any 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?**

Through the application process, the County has reviewed the Project's reclamation plan and financial assurance cost estimate (FACE) and required all necessary changes for SMARA compliance. The County has determined that the Project as proposed complies with SMARA. The proposed Project does not conflict with the Surface Mining chapter of the County Code (Title 20, Chapter 20.04) which regulates surface mining in unincorporated Sacramento County.

The proposed Project is consistent with General Plan Policy CO-37 as the Vineyard Community Plan has applied the Community Plan's aggregate resources combining land use category to portions of the Community Plan Area. These portions have been studied and have been determined to contain mineral resources which are appropriate for mining. Surface mining is a major land use in the Vineyard Community. The majority of the northwestern quadrant of the Vineyard Community is indicated with the surface mining combining land use category and the Project is located directly south of this surface mining designated area. Surface mining does not conflict with the community plan.

The proposed Project is consistent with General Plan Policy CO-39 in that mitigation measures are included as appropriate in this Environmental Impact Report (EIR), which has been prepared in accordance with California Environmental Quality Act (CEQA). Additionally, pursuant to CEQA the Board of Supervisors, should they choose to approve the Project, will adopt appropriate findings and overrides for any impact determined to be significant and unavoidable.

The proposed Project is consistent with General Plan Policy CO-40. The Project's mining pit is proposed to be set back 30 feet from property lines in accordance with Zoning Code Section 4.8.12.F.2. Furthermore, the Project complies with the Zoning Code requirement for at least a 25-foot setback from the public right-of-way. Included in this setback along Florin Road and Eagles Nest Road, the applicant is proposing to install landscaping. The setbacks required by the Zoning Code are designed to be adequate to protect the adjoining land uses.

The proposed Project is consistent with General Plan Policy CO-41. The Project includes a proposed Reclamation Plan, which the County has reviewed and found consistent with County ordinances and SMARA requirements. The County also has determined that the post-mining land uses are consistent with the land use strategies of the General Plan. The proposed Reclamation Plan is based on the mine being reclaimed to open space and dry-land grazing.

The Reclamation Plan will be further reviewed by the California State Department of Conservation, Division of Mine Reclamation. The State's review will confirm that the Reclamation Plan is adequate for the mined areas. The proposed Project is consistent with General Plan Policy CO-44. The Project is located within the Urban Service Boundary (USB) and the Project does not conflict or preclude completion of County initiated conservation programs such as the South Sacramento Habitat Conservation Plan (SSHCP). Furthermore, the Project will extract mineral resources prior to urban development in the area. This prevents the loss of mineral resources due to urban development because the minerals resources will have been excavated before urban development occurs.

The proposed Project is consistent with General Plan Policy CO-57. The Project's topsoil will be salvaged in accordance with SMARA's Performance Standards for topsoil salvage, maintenance, and redistribution (SMARA Regulation 3711). According to SMARA Regulation 3711 all salvageable topsoil suitable for revegetation shall be removed as a separate layer; topsoil resources or stockpiles shall be mapped prior to stripping; soil salvage operations and phases shall be carried out in accordance with the schedule; topsoil shall be used to phase reclamation; and topsoil shall be redistributed in a manner that results in a stable, uniform thickness consistent with the approved end use. The topsoil will be used for reclamation of the mined area to open space and dry-land grazing.

The Project also includes a request for a rezone to add the SM combining zone to the Carli Expansion parcel. In order to perform surface mining in unincorporated Sacramento County the site must have the SM combining zone added to the zoning and obtain an approved use permit from the Board of Supervisors. Zoning Code Section 4.8.4.A, Surface Mining Operations, states that aggregate mining uses are permitted in the SM combining zone, subject to approval of a conditional use permit by the Board of Supervisors, and upon approval of a reclamation plan and financial assurance pursuant to the Sacramento County Code, Chapter 20.04, *Surface Mining and Reclamation*.

The Project application conforms to Zoning Code section 4.8.11 which specifies the required data to be included in the Project application' such as the mining plan, the reclamation plan, the soil data, traffic plan, air pollution control measures, noise data, waste data, drainage plan, hazardous materials, landscape plan, lighting plan, and analysis of ancillary use. Furthermore, the proposed Project conforms to the operating standards of Zoning Code Section 4.8.12. This section includes requirements for the following: operating and haul out hours, fences, warning and complaint information signs, visual screening, mining setbacks, noise minimization, backfilling, slope stability, recontouring, and roadways.

Upon approval of the requested Rezone, Use Permit, and Reclamation Plan, the Project will be consistent with SMARA regulations, the General Plan, the Vineyard Community Plan, and the Zoning Code.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation LU/PH-2: Does the project induce substantial unplanned population growth in an area either directly or indirectly?**

The proposed Project is a surface mining facility that will excavate for aggregate materials (sand and gravel). The aggregate materials from the Project Site will be used for the production of a full range of construction materials and will continue to supply construction materials to the Sacramento market. Aggregate materials are one of the basic construction commodities used in the construction industry. Aggregate materials are an inflexible commodity; in other words, there is no substitute to aggregate materials and if a construction project requires aggregate materials the project managers will have to obtain the aggregate materials, even if it means shipping it in at higher cost and environmental impact, in order to complete the construction.

The Project is intended to supply aggregate materials to numerous construction projects in the Sacramento area. A vast majority of the projects will involve the planned growth of the area. The Project as proposed does not have growth inducing impacts beyond the fact that the material mined at the site will be used in some way on many local construction projects. The Project does not propose to expand water or waste water services or remove any barrier to growth. Furthermore, the project does not create a demand for additional housing or public services. Therefore, the Project impacts to induce substantial unplanned population growth are less than significant.

**Level of Significance: Less than Significant – No Mitigation Required**

## 5 AGRICULTURAL RESOURCES

### INTRODUCTION

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This chapter examines the impacts associated with agricultural resources at the Project Site and identifies applicable regulations and policies affecting the Project Site. This section evaluates potential impacts of the proposed project associated with prime farmland, farmland of statewide importance, farmland of local importance and unique farmland, and also evaluates potential impacts to properties with Williamson Act designation.

### ENVIRONMENTAL SETTING

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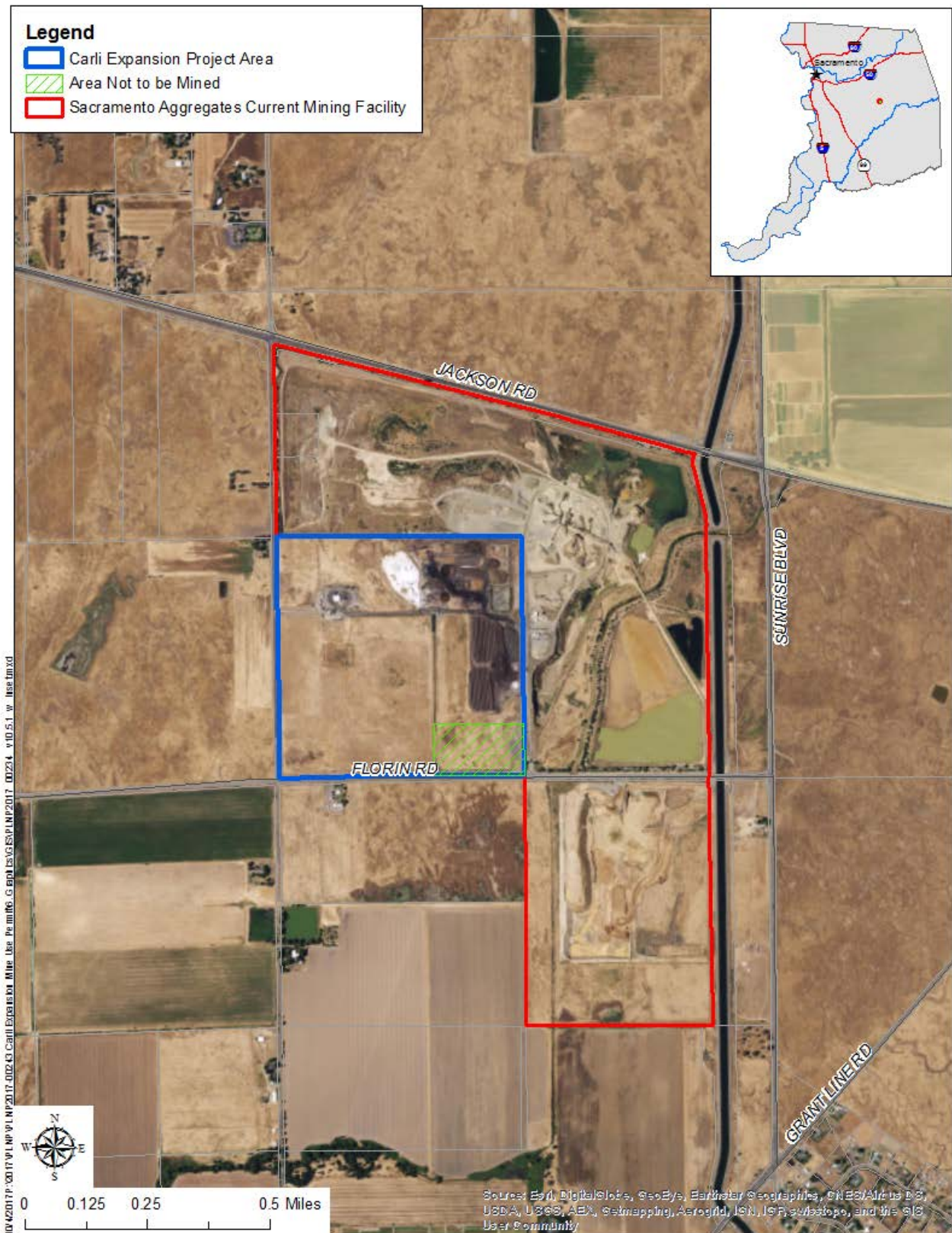
The Project Site (10509 Florin Road APN 067-0120-073) totals approximately 161 acres and is currently the site of a commercial compost operation (Plate AR-1). The site also has a cell tower located near the composting operation. The northeast portion of the site is used for compost and manure processing. The majority of the remaining site is vacant and is not currently farmed.

The existing processing and mining area (10501 Florin Road APN 067-0120-073) is being used as a mining facility. The site contains the office trailer complex as well as the processing machinery. There are also large stockpiles of sand and different sized aggregate materials.

The Project is located in the Central Valley of California. The topography in the region varies from lowlands of the valley floor to the rolling terrain of the foothills. The predominate habitats in the region are grasslands and oak woodland/savanna interspersed with various wetland and riparian habitats. The lands surrounding the project site consist of rural residences, small farms, grazing land, open space and aggregate mining.

The Project Site land types consists of farmland of local importance, grazing land and other (i.e., developed).

Plate AR-1: Location Map



## REGULATORY SETTING

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### STATE

#### *SURFACE MINING AND RECLAMATION ACT (SMARA)*

The Surface Mining and Reclamation Act of 1975 (SMARA) is administered by the State of California, Department of Conservation, Division of Mine and Reclamation. SMARA provides a comprehensive surface mining and reclamation policy to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The reclamation plans required by SMARA and County Code define the basis for achieving safe and usable end land uses for mines.

For prime agricultural land there are the following SMARA regulations: SMARA regulation section 3707 (a), Performance Standards for Prime Agricultural Land Reclamation states, “mining operations which will operate on prime agricultural lands, as defined by the U.S. Soil Conservation Service, shall return all disturbed areas to a fertility level as specified in the approved reclamation plan”. Furthermore section 3707 (c) states, “Reclamation shall be deemed complete when productive capability of the affected land is equivalent to or exceeds, for two consecutive crop years, that of the premining conditions or similar crop production in the area. Productivity rates, based on reference areas described in the approved reclamation plan, shall be specified in the approved reclamation plan.” As described below, the Project is not located on prime agricultural land, therefore these performance standards do not apply.

For land that is not prime agricultural land there is the following SMARA regulation. SMARA regulation 3708, Performance Standards for Other Agricultural Land states, “The following standards shall apply to agricultural lands, other than prime agricultural lands, when the approved end use is agricultural. In addition to the standards of topsoil salvage, maintenance, and redistribution, non-prime agricultural lands shall be reclaimed so as to be capable of sustaining economically viable projection of crops commonly grown in the surrounding areas.”

#### *WILLIAMSON ACT*

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) serves to preserve open spaces and agricultural land. It discourages urban sprawl and prevents landowners from developing their property to commercial and/or subdivided residential use.

The Williamson Act is a State program that allows agricultural landowners to pay reduced property taxes in return for their contractual agreement to retain the land in agricultural and open space uses for a period of 10 years. The term of the contract automatically renews each year, so that the contract always has a 10-year period left to run. The renewing process can be stopped by either the landowner or the County, at which point the contract would run out and, after 9 years, expire. The legal contract is between the landowner and the County. The specific land uses allowed on agricultural

lands under Williamson Act contract are regulated by the contract itself and by State law (Government Code Section 51200 *et seq.*). Government Code Section 51238.2 specifically addresses surface mining of Williamson Act contracted lands. The requirements of Section 51238.1 and Section 51238.2 restrict the types of uses that may be allowed on Williamson Act lands. Generally the uses are those related to the production of food and fiber; however, each Williamson Act contract can be different and individual contracts spell out permitted and prohibited uses.

#### *IMPORTANT FARMLAND MAPPING CLASSIFICATIONS*

In 1982, under Legislative mandate (Government Code §65570), the Department of Conservation was required to collect and/or acquire data on lands converted to/from agricultural use. The purpose for collecting such information was to provide decision makers maps and statistical data on the conversion of farmland and grazing land to assist in the land use planning process. Important Farmland maps are prepared biannually based on information from the Natural Resources Conservation Service and State Department of Water Resources. Based on this information, land is classified into one of eight categories (five relating to farmlands and three associated with nonagricultural purposes). The five farmland classifications are as follow:

1. Prime Farmland: Lands with the combination of physical and chemical features best able to sustain long-term production of agricultural crops. The land must be supported by a developed irrigation water supply that is dependable and of adequate quality during the growing season. It also must have been used for the production of irrigated crops at some time during the 4 years before mapping data were collected.
2. Farmland of Statewide Importance: Lands with agricultural land use characteristics, irrigation water supplies, and physical characteristics similar to those of Prime Farmland but with minor shortcomings, such as steeper slopes or less ability to retain moisture.
3. Unique Farmland: Lands with lesser-quality soils used for the production of California's leading agricultural cash crops. These lands usually are irrigated but may include non-irrigated orchards or vineyards, as found in some of the state's climatic zones.
4. Farmland of Local Importance: Lands of importance to the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee.
5. Grazing Land: Lands in which the existing vegetation is suited to the grazing of livestock.

## LOCAL

### *SACRAMENTO COUNTY GENERAL PLAN*

The Sacramento County General Plan includes goals and policies that protect and guide development on surrounding Agricultural Lands. The two general goals of the Agricultural Element are (1) maintenance of the County's agricultural lands, their agricultural productivity and natural resource benefits they provide and (2) support farming and related industries as a strong and viable sector of the economy of a rapidly urbanizing county. The Agricultural Element provides the following introduction:

Farmland is the fundamental agricultural resource. County farmlands are being encroached upon by urban developments, wildlife preserves, and outdoor recreation facilities. 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, 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, and government regulation.

The following are the most pertinent General Plan policies related to agricultural resources that pertain to the Project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

#### 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 entitlements request to provide in-kind or similar resources value protection (such as easement for agricultural purposes).

- Prime, statewide importance, unique, local importance and grazing farmlands located outside the USB (Urban Service Boundary);
- 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.

AG-28:

The County shall actively encourage conservation of soil resources.

AG-30

Provide a plan focused on noxious weed control in agricultural areas.

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.

#### *SACRAMENTO COUNTY ZONING CODE*

The Sacramento County Zoning Code (Zoning Code) implements the land use policies of the County. The Zoning Code ensures all development conforms to these policies by regulating land use and providing development standards.

The Project Site contains AG-160 zoning which is an agricultural zoning district that allows general agricultural uses as a permitted use. The Agricultural Zoning Districts are established to promote the public health, safety, and general welfare. Each of the six agricultural zoning districts is distinguished by minimum lot size and is adopted for the following purposes:

- To eliminate the encroachment of incompatible land uses incompatible with long term agricultural use of land;
- To preserve the maximum amount of the limited supply of agricultural land in order to conserve the County's economic resources that are vital for a healthy agricultural economy within the County;

- To discourage the premature and unnecessary conversion of agricultural land to urban uses and resulting increase in the costs of providing community services;
- To assure the preservation and sustainability of agricultural lands that have a definite value as open space and for the production of agricultural products, so as to preserve an important physical, social, aesthetic, and economic asset of the residents of the County;
- To encourage the retention of sufficiently large agricultural lots to assure maintenance of viable agricultural units;
- These purposes shall be liberally construed insofar as they apply to agricultural pursuits and services to the end that conflicting uses shall not be permitted.

Surface mining is permitted within the Agricultural zoning districts and the industrial zoning districts subject to the following conditions (Zoning Code section 3.2.5, Table 3.1 Industrial Uses, A.3; Use Standard 3.8.1.C):

- Permitted for short duration, small scale borrow sites of 200,000 cubic yards or less over a year after obtaining a conditional use permit from the appropriate County authority.

For surface mining operations that exceed the 200,000 cubic yard a year limit, an applicant must rezone the subject parcels to add a Surface Mining Combining land use zone. The Surface Mining Combining land use zone allows operations that produce amounts of material larger than 200,000 cubic yards a year subject to additional permitting and regulatory requirements enumerated in Zoning Code section 3.8.1.A. Parcel 067-0120-069 (10501 Florin Road) already has the Surface Mining Combining zoning designation, while the Project proposes to add this zoning designation to the Carli Expansion site 10509 Florin Road (APN 067-0120-073).

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Agricultural Resources the proposed project would have a significant impact if it:

- AG-1: Converts Prime Farmland, Unique Farmland, Farmland of Statewide Importance to uses not conducive to agricultural production; or
- AG-2: Conflicts with any existing Williamson Act contract; or
- AG-3: Introduces incompatible uses in the vicinity of existing agricultural uses.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation AG-1: Does the project Convert Prime Farmland, Unique Farmland, Farmland of Statewide importance to uses not conducive to agricultural production?**

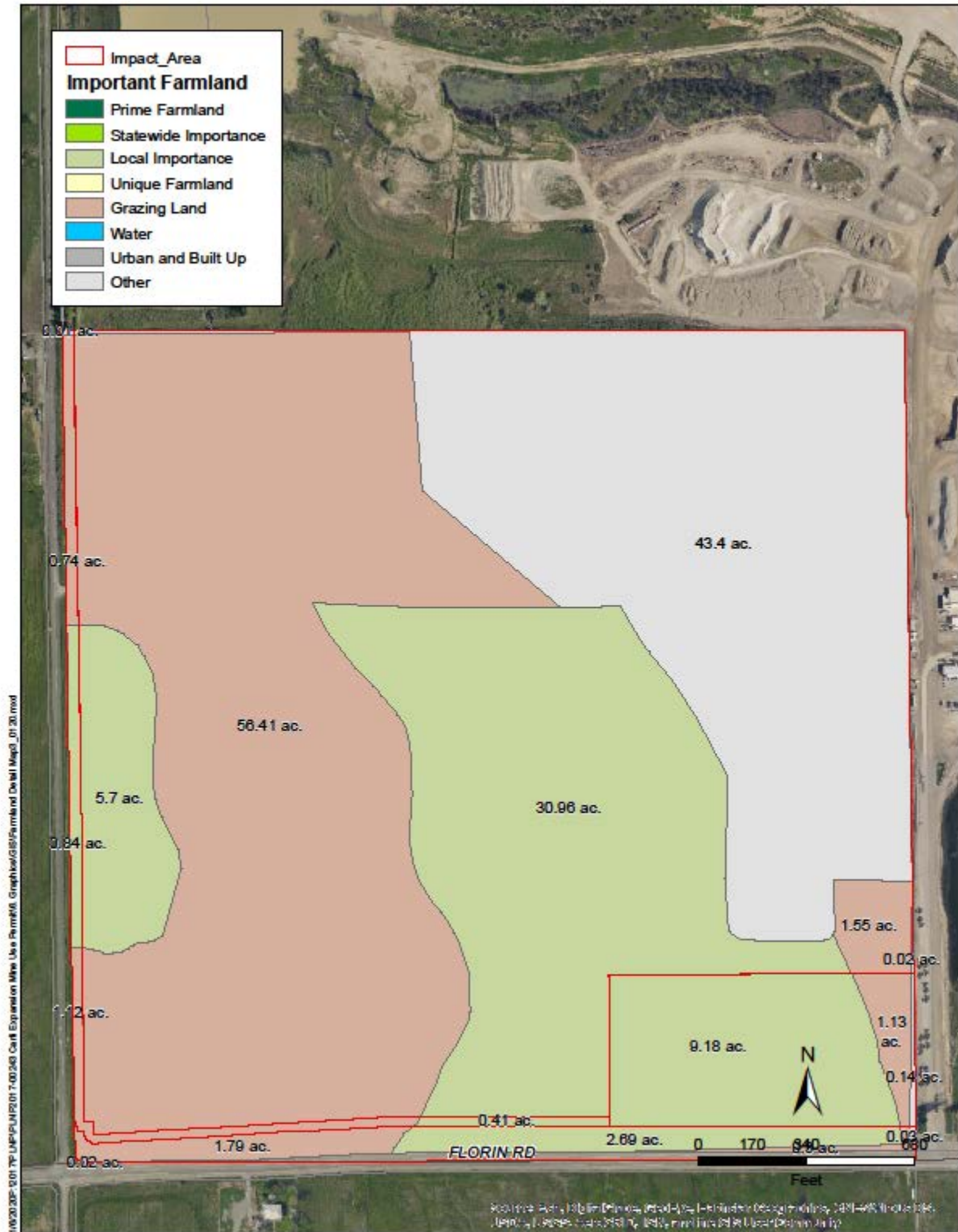
The existing processing plant and mining area does not contain any farmland.

The approximate 161-acre Project Site is zoned AG-160. 6.16 acres are part of the Florin Road right-of-way. Therefore that Project Area is 154.82 acres. The Project Site contains 49.78 acres of local importance farmland, 63.05 acres of grazing land, and 43.42 acres of land categorized as 'other'; which means these 'other' portions do not contain farmland (Plate AR-2).

The Project Site is within the Urban Service Boundary (USB). General Plan Policy AG-5 has a provision for grazing land located within the USB. If grazing land is located within the USB the grazing land is exempt for General Plan Policy AG-5; however the other farmland types are not exempt for the policy.

According to General Plan Policy AG-5, projects resulting in the conversion of more than 50 acres of important farmland shall be mitigated within Sacramento County at a ratio of 1:1. Policy AG-5 further states, that if the project is located in the Urban Service Boundary (USB) the project must mitigate for prime farmland, farmland of statewide importance and farmland of unique or local importance. The Project is located in the USB and should, therefore, have to mitigate at a ratio of 1:1 for the conversion of the farmland of local importance in excess of 50 acres.

Plate AR-2: Farmland Map



There are a total of approximately 141 acres out of the approximate 161 acres of land that are proposed to be mined as a result of the Project. The approximately 11 acre area located on the southeast corner of the Carli Expansion site is not proposed to be excavated. The Project Site has a total of 49.78 acres of farmland of local importance. Of this total approximately 9.18 acres are located in the approximately 11 acre area located on the southeast corner, along with areas within the set backs from Eagles Nest Road and Florin Road would not be impacted by the project. The resulting amount of farmland of local importance that would be impacted would be approximately 41 acres. Therefore, there are less than 50 acres of farmland of local importance that will be converted as part of the project implementation. General Plan Policy AG-5 states there is an impact if more than 50 acres of farmland are converted.

The Project would result in the temporary conversion of less than 50 acres of farmland of local importance to non-agricultural use. This temporary conversion of farmland is considered ***less than significant***.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation AG-2: Does the project conflict with any existing Williamson Act contract?**

The existing processing plant and mining area (10501 Florin Road; APN 067-0120-069) is under Williamson Act Contract, 72-AP-026. The existing processing plant and mining area is included in the Project description because of the mobile concrete and asphalt processing plant and Ready Mix plant would be utilized on this site. This portion of the Project Site is developed with the processing plant and a majority of the site has been mined through.

The Carli Expansion site (10509 Florin Road; APN 067-0120-073) is under Williamson Act Contract 69-AP-047. According to the contract the removal of gravel, clay, and sand and other materials are considered compatible uses with the Williamson Act Contract. Thus, the mining of the site would not conflict with the existing Williamson Act Contract. Therefore the impacts associated with existing Williamson Act contract are ***less than significant***.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation AG-3: Does the project introduce incompatible uses in the vicinity of existing agricultural uses?**

The applicant is requesting a use permit and rezone to mine the Project Site. The use is permitted on agricultural land (AG-160) with an approved use permit and SM rezone from the Board of Supervisors. The proposed mining operation will not be an incompatible use near agricultural uses. Currently there are numerous mines located near agricultural uses in the vicinity of the proposed Project. The uses in the vicinity of the mine operations normally don't interfere with the surrounding farm operations. Furthermore, the mines have to be reclaimed in accordance with their approved reclamation plans which usually

specify agricultural uses or open space uses and site-specific performance standards as the end result of reclamation.

In this case, the mine site will be reclaimed to open space and dry-land grazing. The end uses are compatible with the agricultural uses nearby. The Williamson Act Contract lists removal of gravel, clay and sand, and other minerals as compatible to the farming activities. Furthermore, the numerous other mines located near the Project Site have agricultural uses near mining operations and these mining uses have proved compatible with the surrounding agricultural uses. The Project is expected to result in similar agricultural uses after site reclamation. Therefore, the proposed Project is not expected to introduce incompatible uses in the vicinity of existing agricultural use and the impact is **less than significant**.

**Level of Significance: Less than Significant – No Mitigation Required**

## 6 AESTHETICS

### INTRODUCTION

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This chapter examines existing viewsheds, existing visual character, visual quality of the site and the surrounding area. It also examines if new sources of light, glare, or shadow would affect day or nighttime views in the area. Finally, this chapter evaluates potential aesthetics impacts of the proposed project to the site and surrounding area.

The proposed Project is a surface mining operation adjacent to an existing mining/processing operation on a separate parcel. The applicant is proposing to excavate the Carli property (Project Site). The Project Site is approximately 161 acres in size and the applicant proposes to excavate approximately 141 acres. The approximately 11 acre area of potential wetlands located on the southwest corner of the Carli site is not proposed to be excavated and would remain in its current condition.

### ENVIRONMENTAL SETTING

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#### *REGIONAL LANDSCAPE*

The regional character of Sacramento County is distinguished by three general regions; the Sierra Nevada-foothills (east), the Lower Sacramento Valley (west, south, and north), and the Sacramento-San Joaquin River Delta (south and west). Sacramento County is located at the southern portion of the Sacramento Valley providing for the vast agricultural lands that occupy much of the County. Sacramento County contains three major rivers, the Sacramento, American, and Cosumnes Rivers. The Sacramento River forms the western border of the county and flows north to south. The American and Cosumnes Rivers flow through the central portion of the County and they flow from east to west.

There is one creek near the Project Site, Laguna Creek that flows in a southwesterly direction. Laguna Creek flows on the processing and mining area parcel but is not located on the Carli Expansion site. To the east of the existing mining area is the Folsom South Canal, a man-made water conveyance, on the west side of the canal there is a 15.5 mile paved hiking / biking trail that connects Nimbus Dam with the community of Wilton and the Cosumnes River.

A majority of Sacramento County is at an elevation near sea level, with some portions of the County below sea level. The highest elevations in the County occur along its eastern border on the edge of the Sierra Nevada foothills, approximately 700 – 800 feet above mean sea level. Much of the County is flat alluvial plains until the eastern edge where the foothills of Sierra Nevada Mountains begin to emerge.

Urbanization has occurred primarily in the northern and central portions of Sacramento County near the cities of Sacramento, Elk Grove, Citrus Heights, Folsom, and Rancho

Cordova. The urbanized portion of the County exhibits the typical views of a combined urban and suburban area, distinguished by groups of commercial, industrial, office, and residential areas, with various infrastructure improvements (roads, bridges, etc.).

Agricultural, rural residences, and mining facilities presently occupy much of the area surrounding the project. Agricultural and pasture lands are the dominant visual landscape of the south and eastern portions of the County. These areas provide views of agricultural lands containing grains, orchards, and vegetables, while other lands remain open grassland utilized primarily for grazing of cattle.

### *PROJECT SITE CHARACTERISTICS*

The Project Site is approximately 161 acres in size and the proposed mining pit is approximately 141 acres. The remaining 11 acres of the Project Site is a potential wetland area and will not be disturbed by implementation of the project. The Project Site is in the central portion of unincorporated Sacramento County and consists of open grass fields used for agriculture, a composting operation, and a cellular tower.

The Project Site is about 120 feet above mean sea level. The topography of the site is gentle with the site sloping primarily north to south-southeast, except for the western portion of the site that slopes to the southwest. There is an area of potential wetlands located in the southeast corner of the Carli parcel adjacent to Florin Road. This area would not be disturbed.

The Project Site is 160.98 acres; however, 9.07 acres of the parcel contain the Florin Road ROW and undisturbed setbacks from Florin Road and Eagles Nest Road. The Biological Study Area (BSA) consists of 154.82 acres, which is essentially the portion of the Project Site that would be within the disturbance envelop. The BSA includes 42.96 acres of development area (compositing facility); 108.12 acres of non-native grassland; 1.25 acres of open water (farm stock pond); and 2.49 acres of seasonal wetlands. There are trees along Florin Road within the setback area, but there are no trees within the project area. Laguna Creek is located on the adjacent processing plant and mining area. Although the hiking/ biking trail adjacent to the Folsom South Canal would afford views of the general area there are no specific areas of the Project Site that can be viewed from the trail. There are no designated scenic highways, corridors or vistas near the project area.

## REGULATORY SETTING

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### *SACRAMENTO COUNTY GENERAL PLAN*

The Sacramento County General Plan includes goals and politics that protect and guide development. The following are the most pertinent General Plan policies related to aesthetics that pertain to the Project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

LU-31:

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

#### *SACRAMENTO COUNTY ZONING CODE*

The Sacramento County Zoning Code (Zoning Code) implements the land use policies of the County. The Zoning Code ensures all development conforms to these policies by regulating land use and providing development standards.

Zoning Code Section 4.8, Surface Mining (SM) Combining Land Use Zone, Mining Administration and Procedures contains regulations pertaining to surface mining (Zoning Code Sections 4.8 through 4.8.16.E). Many of these regulations address aesthetic impacts through the use of required setbacks. For example, the Zoning Code requires a 25-foot minimum setback from the property lines, the first five feet of which shall remain entirely undisturbed. Furthermore, along public streets a 25-foot setback of undisturbed land is required. Additionally, the Zoning Code provides that the Board of Supervisors may condition the Project to require visual screening in the form of berms, landscaping or other setbacks.

#### SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Aesthetics the proposed project would have a significant impact if it:

- AE-1: Substantially degrades the existing visual character or quality of the site and its surrounding; or
- AE-2: Creates a new source of substantial light, glare or shadow that would result in safety hazards or adversely affect day or nighttime views in the area; or
- AE-3: Substantially alters existing viewsheds such as scenic highways, corridors or vistas.

The project site does not occur in the vicinity of any scenic highway, corridors, or vistas. Therefore, impact AE-3 will not be further analyzed.

#### IMPACTS AND ANALYSIS

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**Impact Evaluation AE-1: Does the project substantially degrade the existing visual character or quality of the site and its surrounding?**

The proposed Project will irreversibly change the existing landform by excavating material from the site to a maximum depth of approximately 75 feet below original grade. The project includes a reclamation plan with the end use of open space and dry-land grazing. Once mining has been completed the site will be reclaimed. During the reclamation the overburden and topsoil will be re-applied to the mining pit floor. This will raise the pit floor level from approximately 75 feet below grade to 35 feet below grade. The reclamation plan involves creating slopes that are stable and safe and revegetating the slopes to prevent erosion among other requirements.

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 world.

Reasonable people can disagree as to whether alteration of visual character would be considered adverse or beneficial. The Project was therefore analyzed using the principals contained within the United States Department of Transportation Federal Highway Administration document “Visual Impact Assessment for Highway Projects”. Though this is not a highway project, the document provides a visual impact framework that is broadly applicable. The document defines visual quality by three key terms: vividness, intactness, and unity, which are defined as follows:

- 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.

The Project area is in a rural landscape, so there are a limited number of viewer groups that would possibly be impacted by the Project. These groups include people driving on Florin and Eagles Nest Road, individuals walking or biking along the Folsom South Canal trail, and the residents of homes in the Project vicinity. People driving on area roads are considered to have low sensitivity. Drivers have only transitory views of the site as they pass by. Those using the canal would have longer viewing opportunities of the area surrounding the proposed Project, but would not view the Project Site directly as the existing mining facility is located between the canal and the proposed Project. On the other hand, residents typically view the surrounding landscape as an integral part of their home environment, and are very sensitive to changes in that environment. Based on field visits, approximately two to four homes will have clear views of the proposed Project.

Photos were taken to supplement the following discussion, and were taken from locations intended to represent the various user groups or to illustrate a point made in

the discussion. Plate AE-1 is an aerial photo of the Project vicinity that has been annotated to show where the photos were taken, and in which direction the camera lens was pointed. The referenced photos are in Plate AE-2 through Plate AE-5. The discussion is divided into three sections focusing on each of the key terms (vividness, intactness, and unity) and a fourth section that summarizes the findings. In the beginning of each section, the current visual quality will be assessed using a scale of low, moderate, and high. Furthermore, near the end of the section the Project's impacts to visual quality will be assessed using a scale of low, moderate, and high.

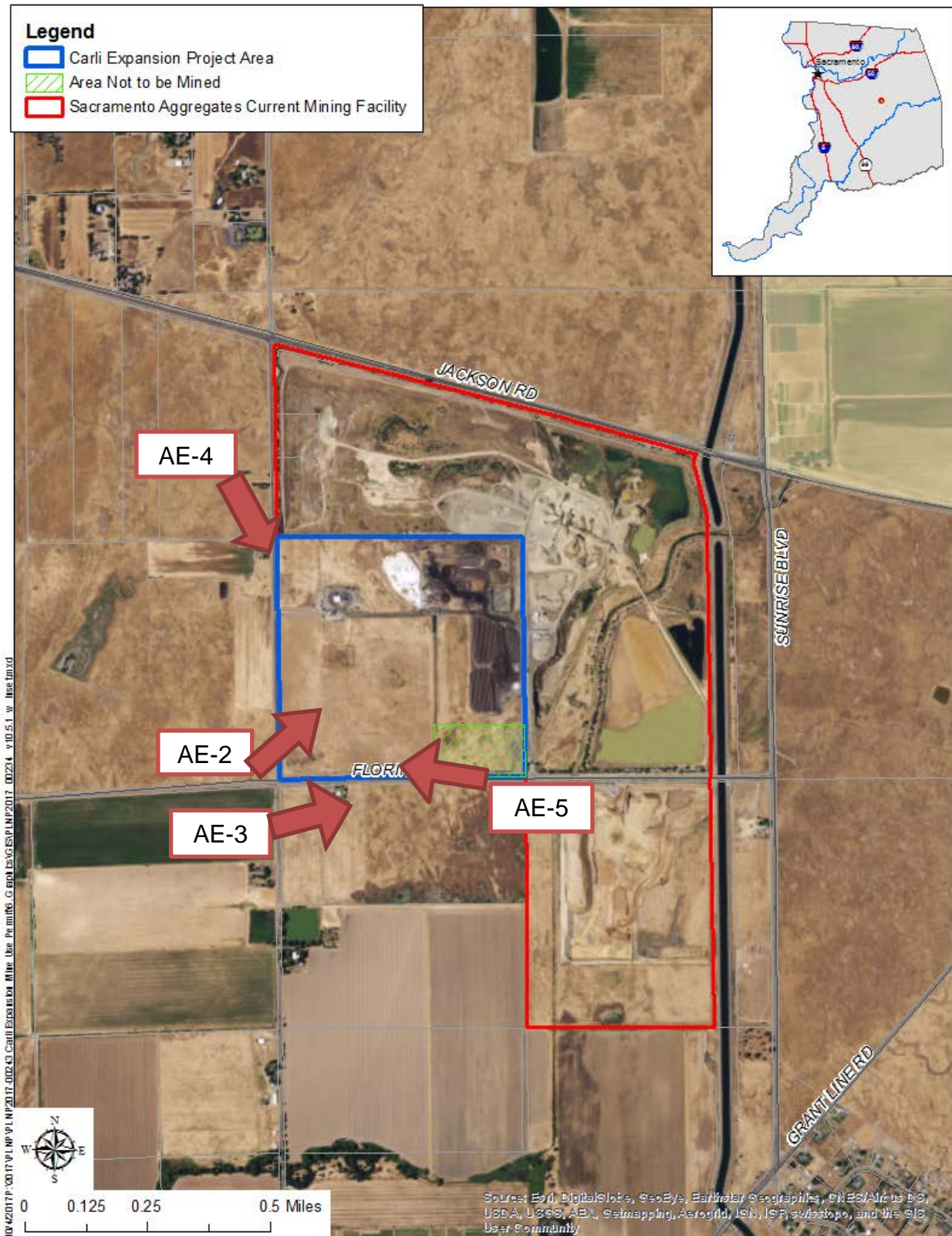
### *VIVIDNESS*

The Project Site's current (before project implementation) vividness is assessed as moderate. The existing mining facilities' processing plant conveyors and stockpiles can be seen in the background from views along Florin and Eagles Nest Roads. The existing mining facility helps to create a memory that adds to the vividness of the site. The existing composting facility is located on the Carli Expansion site and is also visible from Florin and Eagles Nest Roads. Because of its height, the existing cell tower located between the composting facility and Eagles Nest Road is also visible from both Eagles Nest and Florin Roads, however, the tower does not stand out because of the lack of mass.

The views of the Project Site are similar in visual character to much of the surrounding agricultural land. Viewers passing by on Florin and Eagles Nest Roads see a mostly flat landscape of agricultural lands, a composting facility and the existing mining facility. From more distant viewing locations one cannot visually identify the Project Site as being at all separate from the rest of the agricultural lands in the viewshed.

The vividness of the site will be increased by the Project; the surface mining facility will be a very distinctive feature in the landscape. Particularly from the perspective of people that live near the site. Furthermore, the mining pit will linger in the memory more post-project than it does currently for people that drive by the Project Site. Though the Project will make the site substantially more striking, raising the vividness to high, it is important to emphasize that this is not due to any increase in overall site attractiveness as a result of the project. A view can be vividly negative or vividly positive, as determined by the intactness and unity of the view. Therefore, after the Project is implemented the vividness will increase to high.

Plate AE-1: Location of Aesthetics Analysis Photos



**Plate AE-2: Looking Northwest from the Intersection of Eagles Nest Road and Florin Road**



**Plate AE-3: Looking Northwest from Florin Road**



**Plate AE-4: Looking South from Northwest Boundary of Carli Expansion Site**



**Plate AE-5: Looking West from Southeast Boundary of Carli Expansion Site**



### *INTACTNESS*

The Project Site's current (before project implementation) intactness is assessed as moderate. Viewers mostly see open agricultural land. The exceptions are the composting facility with associated out buildings located towards the middle of the Project Site. Near the Project Site viewers will notice the existing mining facility and the rural residences. The main visual benefit of the current site condition is that its undeveloped state gives the feeling of expansiveness or openness. The proposed Project would excavate the site to a depth of about 75 feet below the current grade; this will be a major new encroachment within the field of vision. As the Project progress, the depth of the excavation will help limit the view of the Project Site from the neighboring properties and roadways.

The Project will be setback a minimum of 30 feet for both Florin and Eagles Nest Roads. There is not an interior setback because the Project's mining pit will connect on the north and east sides with the current mining pit located on the existing processing plant and mining area. Furthermore, landscaping will be installed along Florin and Eagles Nest Roads to screen the project site. The Project Site is approximately 161 acres in size and the excavated mining pit is proposed to be 141 acres in size. Even the relative large size of the project site will not off-set the perceived loss of the intact view, this is because the viewshed is so much larger than the proposed mining operation. The result is expected to be a degradation of the openness of the current views, even in cases where viewers are still able to see beyond the project site. Therefore, after Project implementation the Intactness will be decrease to low.

### *UNITY*

The site's current (before Project implementation) unity is high. As previously described, from a distance it is difficult to determine where one agricultural property begins and another ends. Even from a closer vantage point, one sees expanses of open agricultural fields and rangeland. The Project will place into the area a new visual element that is not at all cohesive with the existing elements. The new element added to the view will be the proposed mining pit on the Project Site. The mining pit is proposed to be 140 acres in size. The excavation of which will turn the green or tan color into a darker brown of excavated earth because the site will be stripped of aggregates and vegetation during the mining phase of the Project. The mining pit will make the view less unified because people will see the excavated pit and the color change where before one saw farmland. The unity will be lessened further by the landscaping used to help screen the mine from view. Therefore, after Project implementation the unity will decrease to moderate levels.

### *SUMMARY*

The Project area's vividness before the project is implemented is assessed at a moderate level; with project implementation the vividness is assessed at a high level. Vividness is increased because the Project will excavate a large pit into the viewshed and the new mining pit is a vivid sight. Furthermore, the Project area's intactness before Project implementation is assessed at a moderate level and after Project implementation the intactness falls to a low level. This is due to the Project's mining pit

lessening the intactness of the rural landscape. The current view of the intact rural landscape will be altered by the proposed mining pit. Finally, the Project area's unity before the project is implemented is high and after the Project is implemented unity is assessed at a moderate level. Once again, the mining pit will lower the visual unity by lessening the connected rural landscape elements with the addition of the mining pit.

Neither unity nor intactness alone creates an attractive visual landscape. If the viewshed is highly unified and intact because it is not diverse, it creates a view that is uninteresting. The highest quality views are those that are intact, unified and contain sufficient visual diversity to make the site memorable. The Project will decrease the unity and intactness but the site will become highly vivid. In this case, this vividness is not a positive impact, as an unnatural excavation is what is making the site more memorable.

For non-residents on Florin and Eagles Nest Roads the impacts may be either neutral or negative, depending on one's perspective. Its negative visual impact will be more fleeting and may perhaps be balanced out by its becoming an interesting talking point. For residents of surrounding properties, the Project will have a negative effect. Residents are more sensitive to changes in their views.

Visual quality is intensely subjective, and as noted the nearby residents are likely to be more sensitive to any change, regardless of whether the analysis concludes the impact is not significant. With this in mind, an analysis of potential mitigation is included here for consideration. The landscaping installed along Florin and Eagles Nest Roads and the berms around the mine will help screen the project site.

In the past the County has screened aggregate mines from public view with landscaping and berms. This has resulted, some will argue, in trading one aesthetic impact for another because the landscaping and berms do screen the view of the mine but they also screen the views of the landscape that lies beyond. The landscaping and berms can lead to the tunnel or corridor effect as can be experienced along the Jackson Highway aggregate mining area.

The Project when implemented will irreversibly change the landform of the project area. The mining pit will be approximately 141 acres in size and will be excavated down to 75 feet below grade. This type of large landform change will not go unnoticed by the surrounding residences or even by the passing motorists and bicyclists. Screening will not totally hide or mitigate the visual impacts caused by Project implementation. Furthermore, screening of the site can create its own problems as described above. Therefore, the overall aesthetic impacts are significant.

### **Level of Significance Before Mitigation: Significant**

#### **AE-1: Viewsheds Mitigation Measure**

- A. Direct views of the site shall be screened from public view through the use of landscaping. Landscaping will include the following large trees; valley oak (*Quercus lobata*); the following shrubs; New Zealand tea tree (*Leptospermum*

*scorparium*); wild lilac (*Ceanothus 'julia helps'*); flax (*Phormium 'guardsman'*); dwarf bottlebrush (*Callistemon 'little john'*); and the following ground cover; myoporum (*Myoporum parvifolium*); creepink acacia (*Acacia repens*). The placement of landscaping shall be as show in Plate AE-6.

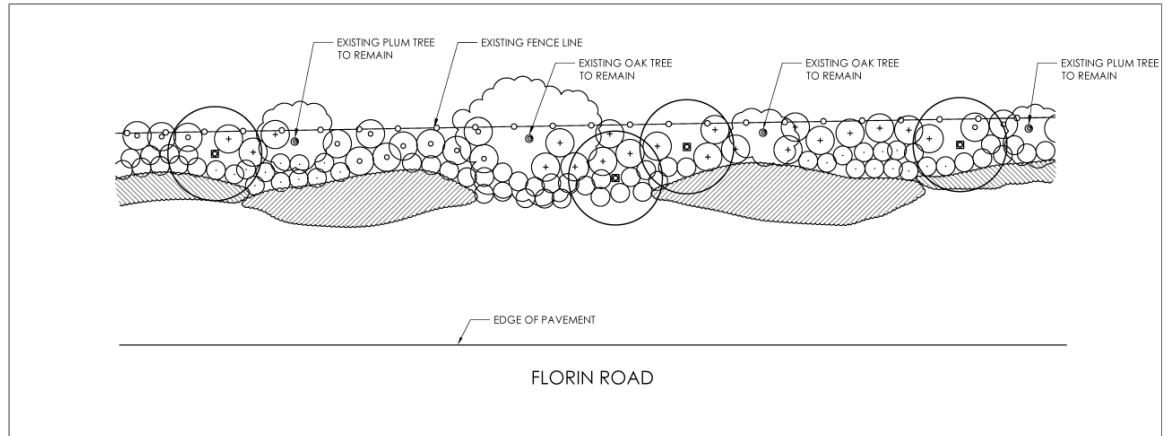
**Level of Significance After Mitigation: Significant and Unavoidable**

## Plate AE-6: Landscaping Plan

### LIMITS OF LANDSCAPE



### CONCEPTUAL PLANTING PLAN



### PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE
	QUERCUS IOBATA	VALLEY OAK	24" BOX	AS SHOWN	L/M
	LEPTOCARPUM SCORPARIUM (PINK PEARL)	NEW ZEALAND TEA TREE	5 GAL	AS SHOWN	L
	CELANOTHUS 'JULIA PHELPS'	WILD LILAC	5 GAL	AS SHOWN	L/M
	PHORUM 'GUARDSMAN'	FLAX	1 GAL	AS SHOWN	L
	CALLISTEMON 'LITTLE JOHN'	DWARF BOTTLEBRUSH	1 GAL	AS SHOWN	L/M
	MYOPORUM PARVIFOLIUM	MYOPORUM	1 GAL	5'-0" O.C.	L
	ACACIA REPENS	CREEPING ACACIA	1 GAL	8'-0" O.C.	L

### IRRIGATION NOTES

IRRIGATION SYSTEM TO BE INSTALLED SHALL MEET ALL COUNTY CODES AND ORDINANCES AND SHALL BE DESIGNED UTILIZING OVERHEAD ROTARY HEADS AND SHRUB BUBBLES IN COMPLIANCE WITH THE STATE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE.

NOT FOR CONSTRUCTION

### CONCEPTUAL PLANTING PLAN

PREPARED FOR VULCAN MATERIALS  
6/20/2017

**MARK  
THOMAS**



**Impact Evaluation AE-2: Does the project create a new source of substantial light, glare or shadow that would result in safety hazards or adversely affect day or nighttime views in the area?**

There is the potential for the mining operation lighting to bleed over to the neighboring properties and create negative impacts. The equipment used to prepare the mine will be lighted with safety lights and working lights. Normally the equipment preparing the mining facility does not operate during hours of darkness. Furthermore, the operating hours of the original use permit (94-0715) are conditioned to be Monday through Friday 6 am to 9 pm; Saturday 6 am to 3 pm; and on Sunday and labor union holidays no mining or processing is permitted. Review of the subsequent use permits indicated that hours have not been modified and remain in effect.

Once the site has been prepared for the mining of aggregate; electric conveyors, and mobile equipment will operate within the Project area. Typically, the head section of each electric conveyor is lighted.

The Project, when implemented, could potentially include lighting facilities for after sunset operations. The mine will have only limited after sunset operations based on the operating hours from the approved use permit (94-0715). Only during the fall and winter will there be an opportunity to mine after sunset. Furthermore, most mining facilities curtail their activities in winter because operating in inclement weather could create issues for the safety and efficiency of the mining operation. Moreover, most of the equipment and trailers will be located down in the mining pit and will be below grade. With the lights below grade the adverse effects from lighting will be lessened. There is the potential for the Project's lighting to impact negatively the adjacent homes and roadways. Therefore, the Project may create a new source of light that would result in safety hazards or adversely affect day or nighttime views in the area and these impacts are ***potentially significant***.

**Level of Significance Before Mitigation: Potentially Significant**

**AE-2: Reducing Impacts Associated with Lighting Mitigation Measure**

Any lighting shall be arranged and controlled so as not to illuminate public right of-ways or adjacent properties. In order to reduce direct and reflected light pollution, lighting at the project site shall be equipped with shields that concentrate the illumination downward such that no direct light is cast off the site. Energy efficient lights shall be used. The candle power of the illumination at ground level shall not exceed what is required by any safety or security regulations of any government agency with regulatory oversight of the mining operation.

**Level of Significance After Mitigation: Less than Significant**

## 7 PUBLIC SERVICES

### INTRODUCTION

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This chapter addresses potential impacts related to the provision of public services such as wastewater treatment, park, school, and emergency services. It also examines the potential impacts to public utility infrastructure such as energy and water supply.

### ENVIRONMENTAL SETTING

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The Project Site is approximately 161- acre parcel located at 11509 Florin Road (APN 067-0120-073) located adjacent to an existing processing facility and mining area located at 11501 Florin Road (APN 067-0120-069). The existing processing facility and mining area has already been permitted and is actively processing and mining. The impacts from the existing processing facility and mining area have already been evaluated in a prior EIR and the mitigation measures are still in effect.

The Carli Expansion site has a composting facility and a cellular tower located on the site. The composting facility has approximately four buildings used for the business. The business has electric power through Sacramento Metropolitan Utility District (SMUD) but does not have gas service. The business utilizes septic tanks for their sewer wastewater and use on-site wells for their water service. Lastly, the Project Site is in the Southgate park district and in the Sacramento Metropolitan Fire district.

### REGULATORY SETTING

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#### FEDERAL REGULATIONS

##### **CLEAN WATER ACT**

The 1972 amendments to the federal Clean Water Act prohibit the discharge of pollutants to navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The Clean Water Act requires National Pollutant Discharge Elimination System permits for stormwater discharges caused by general construction activity. The purpose of the National Pollutant Discharge Elimination System program is to establish a comprehensive stormwater quality program to manage urban stormwater and reduce pollution of the environment as much as possible. The National Pollutant Discharge Elimination System program involves characterizing the quality of receiving water, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program. National Pollutant Discharge Elimination System permits are issued by the Regional Water Quality Control Board.

### **FEDERAL ENERGY REGULATORY COMMISSION**

The Federal Energy Regulatory Commission is an independent agency that regulates the transmission and sale of electricity, natural gas, and oil; licenses and inspects hydropower projects; reviews proposals to build liquefied natural gas (LNG) terminals; and oversees related environmental matters.

### **STATE OF CALIFORNIA REGULATIONS**

### **PORTER-COLOGNE WATER QUALITY CONTROL ACT**

The Porter-Cologne Act requires the California State Water Resources Control Board to adopt water quality control plans and set waste discharge requirements for dischargers into surface and groundwaters. The Central Valley Regional Water Quality Control Board (Regional Water Board) is responsible for administering and enforcing waste discharge requirements, permits, and water quality control plans.

### **CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT AND CALRECYCLE**

The Integrated Waste Management Act of 1989 is the result of two pieces of legislation, AB 939 and SB 1322, which created the California Integrated Waste Management Board (which has been renamed CalRecycle). The Integrated Waste Management Act mandated a goal of 25 percent diversion of each city's and county's waste from disposal by 1995 and 50 percent diversion in 2000, with a process to ensure environmentally safe disposal of waste that could not be diverted. CalRecycle plays a central role of promoting achievement of the waste diversion as mandated by the Act.

CalRecycle is the State agency designated to oversee, manage, and track California's 92 million tons of waste generated each year. They provide grants and loans to help California cities, counties, businesses and organizations meet the State's waste reduction, reuse and recycling goals. CalRecycle promotes a sustainable environment where these resources are not wasted, but can be reused or recycled. In addition to many programs and incentives, the CalRecycle promotes the use of new technologies for the practice of diverting California's resources away from landfills. CalRecycle is responsible for ensuring that State waste management programs are carried out and oversees enforcement, primarily through local enforcement agencies (LEAs). The California Water Resources Control Board and the Central Valley Regional Water Quality Control Board also regulate waste disposal.

### **CALIFORNIA PUBLIC UTILITIES COMMISSION**

The California Public Utilities Commission regulates the design, installation, and management of California's public utilities, including electric, natural gas, water, transportation, and telecommunications. The California Public Utilities Commission also provides consumer programs and information, such as energy efficiency, low income programs, demand response, and California solar initiative for California's energy consumers.

## SACRAMENTO COUNTY REGULATION

### *SACRAMENTO COUNTY DEPARTMENT OF WASTE MANAGEMENT AND RECYCLING (DWMR)*

The Sacramento County Department of Waste Management and Recycling (DWMR) is responsible for maintaining a waste management system for residents and businesses in the unincorporated areas of the County. DWMR has responsibility for residential refuse, recyclable material, and green waste collection, transfer, disposal, and recycling programs. DWMR also operates Kiefer landfill, the North Area Recovery Station, and the South Area Transfer Station.

### *SACRAMENTO REGIONAL SOLID WASTE AUTHORITY (SWA)*

The Sacramento Regional Solid Waste Authority is a joint powers authority of Sacramento County and the City of Sacramento. SWA was formed in December 1992 to assume the responsibility for solid waste, recycling, and disposal needs for businesses and apartment complexes in the Sacramento area. The SWA regulates commercial solid waste collection by franchised haulers and offers recycling services to multi-family dwelling units. SWA is governed by a Board of Directors consisting of elected officials from the City of Sacramento and the unincorporated area of Sacramento County.

### **SWA ORDINANCES**

The SWA has adopted three recycling ordinances that target three distinct waste streams: (1) The Business Recycling Ordinance, adopted in 2007 for commercial generators who subscribe to 4 cubic yards or more of refuse service per week; (2) The Certification of C&D [Construction and Demolition] Debris Sorting Facilities Ordinance, adopted in 2008, that creates a program for mixed C&D facilities that dovetails with both City and County C&D Ordinances for builders; and (3) The Multifamily Recycling Ordinance, adopted in 2009, that requires owners of multifamily properties with over 5 units to subscribe to a recycling service for their tenants.

### *LOCAL ENFORCEMENT AGENCY (LEA)*

Local enforcement agencies (LEAs) have the primary responsibility for ensuring the correct operation and closure of solid waste facilities in the state. They also have responsibilities for guaranteeing the proper storage and transportation of solid wastes. The Sacramento County Environmental Management Department (EMD) is authorized as the LEA under Division 30 of the Public Resources Code and Title 14 of the California Code of Regulations (CCR).

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Public Services the proposed Project would have a significant impact if it:

- PS-1: Results in an inadequate water supply for full buildout of the project; or
- PS-2: Results in inadequate wastewater treatment and disposal facilities for full buildout of the project; or
- PS-3: Is served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- PS-4: Results in substantial adverse physical impacts associated with the construction of new water supply or wastewater treatment and disposal facilities or expansion of existing facilities; or
- PS-5: Results in substantial adverse physical impacts associated with the provision of storm water drainage facilities; or
- PS-6 Results in substantial adverse physical impacts associated with the provisions of electric or natural gas service; or
- PS-7 Results in substantial adverse physical impacts associated with the provision of emergency services; or
- PS-8 Results in substantial adverse physical impacts associated with the provisions of public school services; or
- PS-9 Interferes with adopted plans or results in substantial adverse physical impacts associated with the provision of park and recreation services.

The Project will not require the following public services and/or will not have an impact on or require expansion of the following existing facilities:

- Water supply or wastewater treatment facilities;
- Stormwater drainage facilities;
- Provision of emergency services;
- Public school facilities or services;
- Park and recreation services

Because the Project does not require or will not have an impact on the facilities referenced above, impacts PS-3, PS-4, PS-5, PS-7, PS-8, and PS-9 are not discussed further in this chapter.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation PS-1: Does the project have an adequate water supply for full buildout of the project?**

The Project would not require expansion of existing water supply facilities. Existing wells would be utilized to supply water for the expansion portion of the Project. Furthermore, the existing processing facility utilizes the vast majority of water for the Project as a whole. The Project should only need water for dust suppression as the processing of the aggregate material is conducted at the existing processing facility and the Project Site's well should be sufficient for the water needs at the Project Site. Therefore, the proposed project would have an adequate water supply.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation PS-2: Does the project result in inadequate wastewater treatment and disposal facilities for full buildout of the project?**

The existing composting operation has a permitted septic system. The system is located on the property approximately 200 ft. west of the composting site's office building. As mining proceeds, the on-site structures including the septic system will be removed. Removal of the system will be required to comply with Sacramento Environmental Management Department's (EMD) liquid waste permitting and inspection program requirements. The proposed project would not change the number of employees that use the existing septic system located on the existing mining operation so there would be no change in the wastewater treatment facilities with project implementation. With compliance with the EMD requirements impacts to wastewater disposal facilities would be ***less than significant***.

The composting operation is a solid waste facility subject to regulation by EMD, which is the LEA for Sacramento County. Regardless whether the composting operation relocates or closes there are LEA requirements that will need to be met. If the operation was to move the LEA requires that a new permit for the new location be applied for and approved. If the operation closes then a restoration plan needs to be submitted and approved by the LEA. Because the site is to be mined the restoration plan would identify the transition to a mine. With the approval of the restoration plan the oversight of the operation by LEA would conclude, the subsequent restoration of the mine site would not be subject to LEA. With compliance with the LEA requirements for the composting operation to move or close the impacts to disposal facilities would be ***less than significant***.

The project will include an asphalt and concrete recycle plant adjacent to the existing processing facility. The recycle plant will be required to comply with the requirements of 14 CCR 17381.1 for Construction and Demolition (C&D) and Inert Debris Recycling Centers. With compliance with these requirements the impacts of the proposed asphalt and concrete recycle plant to disposal facilities would be ***less than significant***.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation PS-6: Does the project result in substantial adverse physical impacts associated with the provisions of electric or natural gas service?**

The Project will not require the provision of natural gas. The Project includes the use of an electric conveyor system. Electric service is available at the site and the electricity required to power a conveyor system would not result in an extraordinary demand such that it would create an adverse physical impact to the provision of electrical services.

Currently the project site does not have Pacific Gas and Electrical (PG&E) service. Electric power is provided via Sacramento Municipal Utility District (SMUD) to the composting business. The applicant is proposing to use an electric conveyor system. The applicant is not proposing to use any natural gas service as part of the Project. Electric service is already at the site and there may be a minor extension of the infrastructure to connect the conveyor system. This will not result in an adverse physical impact because the project will not require the addition of substantial electrical power infrastructure at the site. In other words, the project does not require any new construction to the public electrical or natural gas infrastructure but instead may construct a minor extension to serve the mine's electrical needs. Therefore, there are no substantial adverse physical impacts associated with the electric or natural gas service.

**Level of Significance: Less than Significant – No Mitigation Required**

## 8 TRANSPORTATION/TRAFFIC

### INTRODUCTION

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This chapter describes the transportation of aggregate materials from the proposed mining site to an existing processing plant and the potential impacts associated with the project implementation.

### ENVIRONMENTAL SETTING

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The Project Site is located at 11509 Florin Road, in unincorporated Sacramento County, between Jackson Road (HWY 16) and Florin Road to the north and south and between Eagles Nest Road and Sunrise Boulevard to the east and west. The proposed project is the expansion of a surface mining operation. The Project Site is adjacent to the parcel that contains the existing processing facility and mining operation. The other parcel, the Carli Expansion site the applicant is proposing to excavate. The existing processing plant and mining area is included in the project because a portable asphalt and concrete processing plant and a Ready Mix Concrete (RMC) plant are proposed at the existing processing facility. There are no proposed changes to the approved production rate or processing rate for the approved facility.

The Project Site is approximately 161 acres and the applicant proposes to excavate approximately 140 acres. An approximate 11-acre area of potential wetlands located on the southwest corner of the Project Site is not proposed to be excavated.

The current production of the existing mining operation is 1,500,000 tons annual, or 4,800 tons per day based on an operating schedule of 312 days per year. These production levels were established under the existing CUP.

The Project would include the use of a portable asphalt and concrete processing plant to process approximately 100,000 tons of concrete and asphalt that would be imported to the site on an annual basis as well as the importation of 50,000 tons of outside aggregate products per year. Even though aggregate would be brought on-site, the operation of the portable asphalt and concrete processing plant would not increase in the overall permitted annual output of 1.5 million tons of material per year. Output from the RMC the applicant has proposed would be included in the permitted annual output.

With no change in the annual output, the haul trucks bringing in the materials for the portable asphalt and concrete processing plant and the RMC are considered baseline for the existing processing facility. Currently the haul trucks arrive empty at the processing plant; they are then loaded with processed aggregate materials destined for customers use. Under the proposed Project, materials would arrive to be processed and trucks would then be filled with processed materials. Again, there would be no change in the amount of materials output.

## REGULATORY SETTING

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### STATE PLANS, POLICIES, REGULATIONS AND LAWS

The *Guide for the Preparation of Traffic Impact Studies* from the California Department of Transportation (Caltrans) identifies circumstances under which Caltrans believes that a traffic impact study would be required, information that Caltrans believes should be included in the study, analysis, scenarios, and guidance on acceptable analysis methodologies.

If a traffic study is warranted then the roadway operating conditions are needed for the traffic study. Determination of the roadway operating conditions is based on comparison of traffic volumes to roadway capacity. Levels of service (LOS) describe roadway operation conditions. LOS is a qualitative measure of traffic operating conditions, whereby a letter grade from A to F is assigned with A being the best and F being the worst. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions, and LOS F represents severe delay under stop-and-go conditions.

### REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS AND LAWS

#### *METROPOLITAN TRANSPORTATION PLAN FOR 2036*

The Metropolitan Transportation Plan (MTP) is a long range planning document for identifying and programming roadway improvements throughout the Sacramento region. The current MTP is the 2016 Metropolitan Transportation Plan/Sustainable Communities-Strategy (MTP/SCS) which was adopted by the Sacramento Area Council of Governments (SACOG) in February 2016. The 2016 MTP/SCS, prepared in coordination with cities, counties, and other public agencies in the SACOG region, is a long-range transportation plan and sustainable communities strategy to serve existing and projected residents and workers within the Sacramento region through the year 2036. The 2016 MTP/SCS accommodates another 811,000 residents, 439,000 new jobs, and 285,000 new homes with a transportation investment strategy of \$35 billion. SACOG is required under federal and state law to update the MTP/SCS every four years. The 2016 MTP/SCS is an update to the first MTP/SCS adopted by SACOG in 2012, and focuses on the refinement and implementation of the 2012 plan. The 2016 MTP/SCS and the associated EIR cover the area within the counties of Sacramento, Yolo, Yuba, Sutter, Placer and El Dorado (excluding the Lake Tahoe basin).

#### *SACRAMENTO COUNTY DEPARTMENT OF TRANSPORTATION*

The Sacramento County Department of Transportation's (SacDOT) Traffic Impact Guidelines (July 2004) define the significance thresholds for traffic and circulation impacts in the County. Sacramento County defines the minimum acceptable operation level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. The urban areas are those areas within the Urban Service Boundary (USB) as shown in the Land Use Element of the County General Plan. The areas outside the

USB are considered rural. The project site is located within the USB; therefore, LOS E for urban areas will be used for the significance threshold.

*SACRAMENTO COUNTY GENERAL PLAN*

The following are the most pertinent General Plan policies related to Traffic/Transportation that pertain to the project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

- CI-8: Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.
- CI-9: Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.
- CI-10: Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.
- CI-32: Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.
- CI-33: Adopt, implement and periodically update the Sacramento County Bicycle Master Plan for unincorporated Sacramento County that sets forth the goals, policies, guidelines, programs and improvements necessary to accomplish the goals of this section.
- CI-34: Construct and maintain bikeways and multi-use trails to minimize conflicts between bicyclists, pedestrians, and motorists.
- CI-35: The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.

CI-36: Collaborate with neighboring jurisdictions and regional agencies to coordinate planning and development of the County's bikeways, pedestrian facilities and multi-use trails with those of neighboring jurisdictions, and to support a regional bicycle and pedestrian network.

CI-37: Pursue all available sources of funding for the development, improvement, and maintenance of bikeways, pedestrian facilities and multi-use trails, and to support bicycle and pedestrian safety, education, encouragement and enforcement programs.

CI-38: Design and construct pedestrian facilities to ensure that such facilities are accessible to all users.

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Transportation/Traffic the proposed project would have a significant impact if it:

- TT-1: Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks) or;
- TT-2: Results in a substantial adverse impact to public safety on area roadways or;
- TT-3 Results in a substantial increase in peak hour vehicle trip-ends that could exceed, either individually or cumulatively, a level of service standard establish by the County or;
- TT-4 Results in a substantial adverse impact to access and/or circulation.

## EXISTING TRAFFIC CONDITIONS

The existing mining operations have an aggregate production limit of 4,800 tons daily and 1,500,000 annually, assuming 312 operating days per year. These existing rates were analyzed within the Final Environmental Impact Report – Sacramento Aggregates Expansion: Community Plan Amendment, Rezone, Use Permit and Reclamation Plan Amendment (2008 FEIR). Assuming 25 tons per aggregate haul truck, this equates to an

existing daily rate of 385 one-way haul truck trips<sup>1</sup> associated with the existing Sacramento Aggregates processing facility.

Trucks use the Project entrance located on Florin Road. Trucks are not permitted on Eagles Nest Road. Entering and exiting trucks use Florin Road and proceed west on Florin Road or east to Sunrise to go either north or south.

The previous EIRs found that the concentration of heavy haul trucks using the existing mining operation would impact nearby structural paving materials and reduce pavement life and serviceability. Damage to the roadway by aggregate haul trucks was considered a significant impact. The mitigation measure below was instituted to mitigate potential significant impacts identified in the previous EIRs.

TR-1: The project proponent shall agree to repair damages to structural paving material along sections of the study area roadway segments (as defined in the Traffic Analysis in the Appendix B of the October 1996 Revised Final EIR) upon which loaded trucks are routed, to the extent such damage is caused by project traffic which occurs during the period of hauling operations. Such agreement with the County Department of Transportation of the Public Works Agency shall be formalized prior to issuance of the work authorization permit.

The previous EIR also found that if mining occurred too close to a roadway, slope failures have the potential to reduce the structural integrity of the roadway or cause roadway failures. To reduce the potential impacts to the roadway a 30 foot setback is considered sufficient to minimize the risk of slope failure to surrounding uses. Therefore, mitigation was included recommending a 30-foot setback from Florin Road to avoid potentially significant impacts to the structural integrity of the road from slope failures.

TR-2: Provide a minimum 30-foot setback consisting entirely of unmined land from the right of way of Florin Road.

## PROJECT TRAFFIC TRIPS

Installation of the Recycle Plant would allow Vulcan to import 150,000 tons/year of recyclable material. The RMC plant would produce and export an average of 450,000 cubic yards of finished concrete annually. To achieve this desired annual throughput for the RMC plant, 126,900 tons of supplements (i.e. cement and flyash) would also need to be imported to the Project site annually. Additionally, approximately 745,964 tons of aggregate produced at Vulcan's extraction sites would need to be diverted to the RMC plant to achieve the desired annual throughput of 450,000 cubic yards.

The applicant has stated that some of the recycle material haul trucks will arrive loaded with asphalt and concrete. These haul trucks will be unloaded and then loaded again with processed aggregate material for delivery off-site. An electric conveyor system is expected

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<sup>1</sup> Traffic analysis measures "trips" as one-way segments. A round trip would consist of two trips.

to transport the aggregate materials from the Carli Expansion Site to the existing processing facility.

## IMPACTS AND ANALYSIS

### TRAFFIC ANALYSIS

Utilizing the data described above, Table TR-1 shows the estimated average daily haul truck trips for both the existing operations and proposed Project, which assumes the Recycle Plant and RMC plant are operating at full capacity. See Carli Mine Expansion Project – Traffic Memo (Appendix TR ) for more details regarding the traffic calculations and underlying assumptions.

**Table TT-1: Existing and Project Traffic**

Commodity	Annual Throughput	Average One-Way Truck Trip/Day	Total Aggregates Sold	Reference
<b>Existing Operations</b>				
Aggregate Export (tons)	1,500,000	385	1,500,000	2008 FEIR, Historical production data
<b>Proposed Project</b>				
RMC Plant Export (cubic yards)	200,000	128	331,540	Project design feature
Supplements (cement/flyash) Import (tons)	56,400	14	---	Project design feature
Recycle Plant Import (tons)	150,000	48	---	Project design feature
Aggregate Export (tons)	756,100	194	756,100	Remaining aggregate
Total Truck Trips & Aggregates Sold (assuming Recycle & RMC Plants operating)		385	1,087,640	

Truck Capacities = 25 tons/truck (aggregate and supplements), 10 cubic yards/truck (RMC). Recycle trucks assumed 20 tons/truck, as incoming deliveries are not uniformly 25 tons/truck.

Annual throughput of 200,000 cubic yards/year for the RMC plant provided by Vulcan.

Annual throughputs of supplements (cement/flyash) imported and aggregates diverted to the RMC plant based on EPA AP-42 ratios for concrete batching. Specifically, for every unit of finished concrete produced, approximately 81% of the raw materials input are sand and gravel (i.e. aggregate) and 14% are supplements (cement/flyash). See Attachment 1 for more details.

**Impact Evaluation TT-1: Does the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?**

There are no conflicts with adopted policies, plans, or programs supporting alternative transportation that have been identified. The project is not a development that attracts large numbers of customers to the site. Only a limited number of employees will access the site on a daily basis. The proposed Project does not need additional bus turnouts or bicycle racks. Furthermore, there are no conflicts with adopted policies supporting alternative transportation. Therefore, the Project's impacts to adopted policies and plans supporting alternative transportation are less than significant.

**Level of Significance: Less than Significant – No Mitigation Required**

**Impact Evaluation TT-2: Does the project result in a substantial adverse impact to public safety on area roadways?**

The Project will not substantially impact public safety on the roadway. The existing processing facility and mining area currently operates as an aggregate processing facility. The Carli Expansion site will provide additional area to excavate. The same equipment and personnel currently at the site will be utilized to excavate the Carli Expansion site. There will be the same number of employees who will continue to commute to the site for employment.

The traffic generated from the existing processing facility has not posed a safety threat on the public roads. The excavating of the Carli Expansion site includes the same heavy equipment and employees that currently work at the existing processing facility and mining area. The heavy equipment will not operate on the public roadways. The aggregate materials will be removed from the Carli Expansion site via an electric conveyor system and transported to the adjacent processing facility for processing. The aggregate materials will not be transported for processing on the public roadway system.

Although traffic is not expected to increase over what was previously analyzed, it is appropriate to consider the effects of the haul trucks on the roadway surface so that the applicant's responsibility to repair damages is not reduced through the permitting of the expansion site. Therefore, mitigation is included below to require the Project proponent to agree to repair damages caused by haul trucks on the roadway segments that were analyzed in the previous traffic study. This mitigation will assure impacts to the roadway remain less than significant.

**Level of Significance Before Mitigation: Potentially Significant**

To reduce the potential impacts to the surrounding roadways the following mitigation measures would be maintained.

TR-1: The project proponent shall agree to repair damages to structural paving material along sections of the study area roadway segments (as defined in the Traffic Analysis in the Appendix B of the October 1996 Revised Final EIR) upon

which loaded trucks are routed, to the extent such damage is caused by project traffic which occurs during the period of hauling operations. Such agreement with the County Department of Transportation of the Public Works Agency shall be formalized prior to issuance of the work authorization permit.

TR-2: Provide a minimum 30-foot setback consisting entirely of unmined land from the right of way of Florin Road.

### **Level of Significance After Mitigation: Less than Significant**

#### **Impact Evaluation TT-3: Does the project result in a substantial increase in peak hour or daily vehicle trip-ends that could exceed, either individually or cumulatively, a level of service standard establish by the County?**

In Sacramento County, the Level of Service standards are defined by Sacramento County General Plan Circulation Element Policy CI-9. According to this policy, an acceptable Level of Service is E on urban roadways. Level of Service (LOS) is a term that describes the operating performance of an intersection or roadway segment. LOS is reported on a scale from A to F, with A representing the best and F representing the worst performance. If a proposed project would cause a roadway currently operating at an acceptable LOS to decline to an unacceptable LOS, impacts are significant. If a roadway is already operating at an unacceptable LOS and a project increases traffic by more than 5% (referred to as a volume-to-capacity increase of 0.05), then the impact is also significant.

Sacramento County Department of Transportation (SacDOT) has developed a screening methodology to help determine whether it is likely that a project will exceed these significance thresholds. The potential traffic generated by the proposed project is compared with the existing (developed or undeveloped) use and/or existing zoning. Zoning is typically used in this screening to approximate ultimate build-out in accordance with the General Plan, because ultimate roadway configurations are based on full build-out of the County in accordance with the existing General Plan. If a project would produce more traffic than existing zoning, ultimate General Plan roadway configurations may not be designed to accommodate the traffic.

The screening methodology indicates that if a proposed project is expected to increase PM peak hour vehicle trips by 100 or more or daily trips by 1,000 or more, over existing use or existing zoning of the subject property, a detailed traffic study is required to further analyze impacts. Even if a project does not meet the screening thresholds, SacDOT may request a traffic study if there are localized traffic hazards or other system constraints. The existing haul trucks and employees will be less than 100 new daily trips, and therefore would not necessitate a traffic study.

SacDOT staff has reviewed the Project and provided comments and recommended conditions of approval for the staff report. The applicant anticipates no increase in haul trucks or employees reporting to the Project Site. The peak hour trips generated from the import of 100,000 tons asphalt and concrete and 50,000 tons import aggregate are

considered baseline as the impacts of the haul trucks arriving at the processing plant has been mitigated for in the prior EIR.

Current approval for existing processing plant:

- 1.5 million tons per year of aggregate materials processed/produced from the site. The maximum number of haul trucks are 60,000 per year.

The proposed request:

- 756,000 tons per year of aggregate material processed/produced from the site. The maximum number of haul trucks are 30,244 per year.
- 200,000 cubic yards of RMC Plant Export from the site. The maximum number of haul trucks are 20,000 per year.
- 150,000 tons per year of imported/exported asphalt/concrete and aggregate. The maximum number of haul trucks are 7,500 per year.
- 56,400 tons per year of Supplements (cement/flyash) imported to the site. The maximum number of haul trucks are 2,256 per year.

Therefore, the maximum number of haul trucks for the proposed Project is approximately 60,000 haul trucks per year, which is the same amount of haul trucks as the prior approval of the existing processing plant. However, the prior approval was based on the impact being mitigated. Therefore, the Project's impacts would remain significant without mitigation.

#### **Level of Significance Without Existing Mitigation: Significant**

Level of Service Mitigation Measure: See Mitigation Measures TR-1 and TR-2.

#### **Level of Significance Maintaining Mitigation: Less than Significant**

#### **Impact Evaluation TT-4: Does the project result in a substantial adverse impact to access and/or circulation?**

##### **Access**

The existing processing facility and mining area is accessed from Florin Road via an entrance driveway. This existing driveway was evaluated during the prior Use Permit process that allows the processing plant and mining area to be utilized. The driveway was also evaluated for impacts in the prior approved environmental document; which remains in effect.

Access to the Carli Expansion site would be from the existing processing facilities entrance driveway. Because the production and processing rates would not change from the existing rates, the amount of haul trucks entering and exiting the site would not change from what was evaluated during the prior environmental review. Therefore, access to the site would not have an adverse impact. Thus the impacts are ***less than significant***.

## Circulation

The Circulation Element of the Sacramento County General Plan includes a Transportation Plan – a planned network of major roadways to serve the County's needs throughout the General Plan planning period. The Transportation Plan currently shows Florin Road, Eagles Nest Road, and Sunrise Boulevard as local streets and indicates that Florin Road and Sunrise Boulevard in post 2030 are to be classified as thoroughfares. There are no roadways scheduled to go through the project site. Therefore, implementation of the project would not have an adverse impact on the nearby circulation; the impacts are ***less than significant***.

**Level of Significance: Less than Significant – No Mitigation Required**

## 9 AIR QUALITY

### INTRODUCTION

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This section assesses the potential air quality effects caused by the Project. This section also describes the climate in the Project area; existing air quality conditions in the Project area for criteria air pollutants and toxic air contaminants; odors; and applicable federal, state, and regional air quality standards. It also recommends implementation of feasible mitigating measures, where available, to reduce or avoid the Project's air quality impacts. Discussion of the existing mine operation emissions were taken from the 2008 Final Environmental Impact Report (FEIR) prepared for the Sacramento Aggregates Expansion, Community Plan Amendment, Use Permit and Reclamation Plan Amendment. Emissions data for the proposed project are from *Air Quality and Climate Change Impact Assessment* prepared by Sespe Consulting, Inc.

### ENVIRONMENTAL SETTING

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The Project Site is located within the Sacramento Valley Air Basin (SVAB). The Sacramento Valley Air Basin also includes all of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties as well as the western portion of Placer County and the eastern portion of Solano County. The ambient concentrations of air pollutant emission are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight.

The Sacramento metropolitan area is a federal non-attainment area. In Sacramento County the pollutants of greatest concern are ozone precursors (hydrocarbons and nitrogen oxides), carbon monoxide (CO), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and other visibility-reducing material.

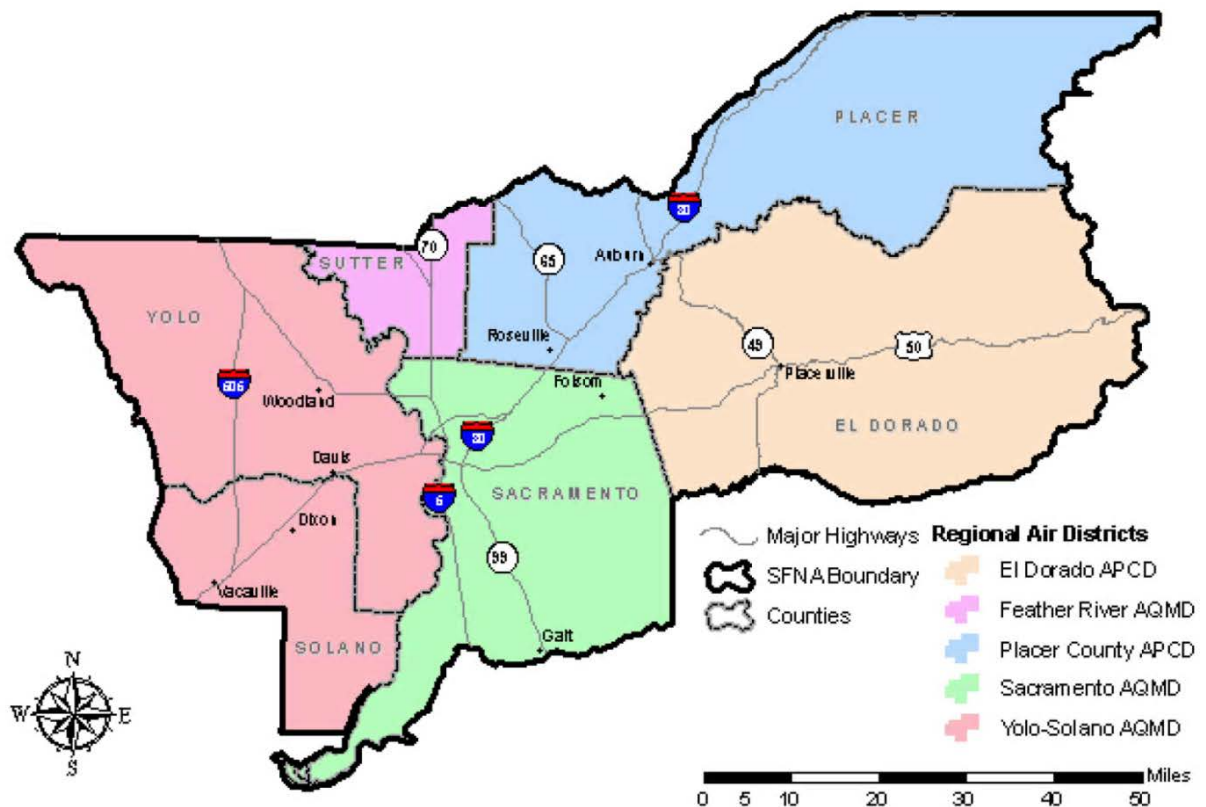
### ATMOSPHERIC CONDITIONS

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.

## 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 and are shown on 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. 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.

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



Source: Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, December 19, 2008 (revised in 2011 and 2013). The map in the adopted plan and the proposed revision are identical.

With respect to particulate matter, Sacramento County is designated as nonattainment for the state PM<sub>10</sub> 24 hour standard and annual mean, the state PM<sub>2.5</sub> annual standard and the federal PM<sub>2.5</sub> 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.

#### *LOCAL SETTING*

The closest air monitoring stations to the Project are Del Paso Manor (9.3 miles WNW) and Sloughhouse (2 miles ESE) stations. The Del Paso Manor Station monitors a variety of pollutants and generally observes the highest pollutant concentrations in the region. Sloughhouse Station monitors PM<sub>2.5</sub> by a non-standard method (e-BAM). Table AQ-1 shows the number of days that Air Quality Standards were exceeded. Carbon monoxide and sulfur dioxide are not presented in the table because the pollutants are not currently monitored within Sacramento County and concentrations measured at all monitoring stations within SVAB have been less than state or Federal standards over the past five years.

**Table AQ-1 Number of Days Exceeding Air Quality Standards**

<b>AAQS</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
State 1-Hour O <sub>3</sub>	1	6	2	2	2	5
State 8-Hour O <sub>3</sub>	9	21	7	18	8	11
Federal 8-Hour O <sub>3</sub>	8	21	6	16	8	10
State 24-Hour PM <sub>10</sub> <sup>a</sup>	12.2	0	12.3	0	0	0
Federal 24-Hour PM <sub>2.5</sub> <sup>a</sup>	9.5	0	13	0	8.7	3.3

Source: SESPE, Air Quality and Climate Change Impact Assessment for Carli Mine Expansion Project, July, 2018.

<sup>a</sup> Measurements of PM<sub>10</sub> and PM<sub>2.5</sub> are usually collected every 6 days and 3 days, respectively. “Numbers of days exceeding the standards” are mathematical estimates.

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.

## AIR POLLUTANTS AND EMISSION SOURCES

In Sacramento, air pollutants of greatest concern are ozone precursors [reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>)], carbon monoxide (CO), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). The largest single source of air pollutants in the Sacramento area is automobile exhaust; ozone and carbon monoxide pollution are largely attributable to automobile use. Other sources, such as agriculture and construction/demolition activities, also contribute to high levels of suspended particulates.

### *CARBON MONOXIDE*

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Individuals with cardiovascular limitations are sensitive to CO at low levels. At higher concentration levels anyone can experience visual problems, dizziness, and difficulty learning or performing complex tasks.

In the Sacramento area, high CO levels develop primarily during winter when winds are calm and a ground level temperature inversion is in place, resulting in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. CO is a directly emitted pollutant, with concentrations typically highest near major thoroughfares and heavily congested urban streets.

### *PARTICULATE MATTER*

Health concerns associated with suspended particulate matter focus on particulate matter that is less than 10 microns in diameter (PM<sub>10</sub>), since those particulates are small enough to reach the lungs when inhaled. Scientific studies have linked these particles with aggravated asthma, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, decreased lung function, and premature death.

Particulate matter conditions in Sacramento County are a result of a mix of urban and rural sources, including vehicle exhaust emissions, dust suspended by vehicle traffic and construction activities, wood burning fireplaces, agricultural activities, industrial emissions, and secondary aerosols formed by reactions in the atmosphere.

### *OZONE (O<sub>3</sub>)*

Ozone is not usually emitted directly into the air, but is created at ground level by a chemical reaction between oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of sunlight. The United States Environmental Protection Agency (EPA) formerly called VOC 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.

#### *RESPIRABLE CRYSTALLINE SILICA*

Respirable crystalline silica (RCS) refers to crystalline silicon dioxide with aerodynamic diameter less than four (4) microns (i.e., 0.0004 cm). Crystalline silica or quartz is ubiquitous in nature. Most dust generated by construction and mining activities including blasting produces dust particles larger than 4 microns. These particles are too large to reach the alveoli of the lungs which are the target organ. Thus, RCS constitutes a tiny fraction of the dust from these sources and does not represent a significant health risk to neighbors of these types of projects. In order to result in toxic effects the silica needs to be crystalline, smaller than 4 microns, inhaled, and not exhaled.

Inhalation of RCS initially causes respiratory irritation and an inflammatory reaction in the lungs. Silicosis results from chronic exposure; it is characterized by the presence of histologically unique silicotic nodules and by fibrotic scarring of the lung. Lung diseases other than cancer associated with silica exposure include silicosis, tuberculosis/silicotuberculosis, chronic bronchitis, small airways disease, and emphysema. Ambient air exposures do not cause concern but levels to which workers (e.g., miners, sandblasters) may be exposed have been shown to cause cancer.

#### *DIESEL PARTICULATE MATTER*

Diesel particulate matter (DPM) is used as a surrogate for the mixture of compounds in diesel exhaust that have the potential to contribute to mutations in cells that can lead to cancer. These compounds include, but are not limited to, arsenic, benzene, formaldehyde, and nickel.

Long-term exposure to diesel exhaust particles poses the highest cancer risk of any toxic air contaminants (TAC) evaluated by the Office of Environmental Health Hazard Assessment (OEHHA). CARB has estimated that about 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles. In a comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely than workers who were not exposed to diesel emissions to develop lung cancer. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health (NIOSH), have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. People with allergies, existing cardiovascular disease, the elderly, and children considered sensitive populations for DPM exposure. Exposure

to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

## SENSITIVE RECEPTORS

Some individuals are considered sensitive to air pollutants. The reasons for greater than average sensitivity include health problems, proximity to emission sources, or duration of exposure to air pollutants. Sensitive receptors are typically defined as locations where human populations, especially children, seniors, or sick persons, are found, and there is reasonable expectation of continuous human exposure. Examples of land uses considered sensitive receptors are residences, hospitals, day cares, and schools. The closest existing sensitive receptors to the proposed Project are residences adjacent to the Project.

There are 5 homes near the Project Site that make up the sensitive receptors. The Project Site is located in a rural setting that is sparsely populated and is not near hospitals, day care centers, or schools. The closest non-residential sensitive receptor is Country Kids Daycare, which is located more than 2 miles east of the Project Site. Of the 5 sensitive receptors one is located along Eagles Nest Road across from the project area. The next nearest receptor is located along Florin Road across from the Project. The third receptor is located on Eagles Nest Road south of Florin Road approximately 1,900 feet from the Project area. The remaining sensitive receptors are located northwest and southeast of the Project. The northern receptor is located on Jackson Road approximately 1,600 feet west of Eagles Nest Road of Florin Road. The southeastern receptor is located on Sunrise Boulevard approximately 500 feet south of Florin Road.

## HEALTH EFFECTS SETTING

NAAQS/CAAQS and Reference Exposure Levels (REL) used for health risk assessment are designated for each pollutant at a level where no “adverse health effect” would occur to sensitive populations. OEHH) relies upon the definition of “adverse health effect” published by American Thoracic Society (ATS). ATS published a definition in 1985 and then amended the definition in 2000 to address issues not covered by the 1985 definition. From the 1985 definition, “adverse respiratory health effect” means:

Medically significant physiologic or pathologic changes generally evidenced by one or more of the following:

1. Interference with the normal activity of the affected person or persons;
2. Episodic respiratory illness;
3. Incapacitating illness;
4. Permanent respiratory injury; and/or

## 5. Progressive respiratory dysfunction. (OEHHA, 2004).

As discussed by OEHHA, the 2000 ATS publication recommended that the following “dimensions” of adverse effects be considered when determining an adverse health effect:

1. Biomarkers: These should be considered, however it must be kept in mind that few biomarkers have been validated sufficiently to establish their use for defining a point at which a response becomes adverse, consequently, not all changes in biomarkers should necessarily be considered adverse.
2. Quality of life: In recent years, decreased health-related quality of life has become widely accepted as an adverse health effect. The review committee concluded that reduction in quality of life, whether in healthy persons or persons with chronic respiratory disease, should be considered as an adverse effect.
3. Physiological impact: The committee recommended that small, transient reductions in pulmonary function should not necessarily be regarded as adverse, although permanent loss of lung function should be considered adverse. The committee also recommended that reversible loss of lung function in conjunction with symptoms should be considered adverse.
4. Symptoms: Air pollution-related symptoms associated with reduced quality of life or with a change in clinical status (i.e., requiring medical care or a change in medications) should be considered adverse at the individual level. At the population level, the committee suggested that any detectable increase in symptom frequency should be considered adverse.
5. Clinical outcomes: Detectable effects of air pollution on clinical measures should be considered adverse. More specifically, the ATS committee cited as examples increases in emergency department visits for asthma or hospitalizations for pneumonia, at the population level, or an increased need to use bronchodilator medication, at the individual level. The committee recommended that: “no level of effect of air pollution on population-level clinical indicators can be considered acceptable.”
6. Mortality: Increased mortality should clearly be judged as adverse.
7. Population health versus individual risk: The committee concluded that a shift in risk factor distribution, and hence the risk profile of an exposed population, should be considered adverse when the relationship between the risk factor and the disease is causal, even if there is no immediate occurrence of obvious illness.

Based on these recommendations, many health outcomes found to be associated with criteria pollutants could be considered adverse, including pulmonary function changes accompanied by symptoms, pulmonary function changes and respiratory symptoms that reduce quality of life, large changes in pulmonary function, clinical outcomes such as emergency department visits for asthma, hospitalization for respiratory and

cardiovascular disease, and mortality. In addition, outcomes such as increase in airway reactivity and inflammation may be considered adverse if they signify increases in the potential risk profile of the population.

*With regard to sensitivity, the 1970 Clean Air Act recognized that some persons were so ill as to need controlled environments, e.g., persons in intensive care units or newborn infants in nurseries; the act stated that the standards might not necessarily protect such individuals. It further stated, however, that the standards should protect “particularly sensitive citizens such as bronchial asthmatics and emphysematics who in the normal course of daily activity are exposed to the ambient environment. (ATS, 2000).*

Finally, according to ATS, research now shows that some highly susceptible individuals may respond to common exposures at or close to natural background pollutant levels that are often unavoidable. A copy of the relevant ATS document, “What Constitutes An Adverse Health Effect Of Air Pollution?” is provided in Appendix D for the Air Quality Impact Analysis prepared by SESPE (Appendix AQ of the EIR).

## REGULATORY SETTING

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Air quality in Sacramento County is regulated by several agencies, which include the U.S. Environmental Protection Agency (EPA), California Air Resources Board (ARB), 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 (APCD) or air quality management districts (AQMD) regulate stationary sources.

## POLLUTANTS AND AIR QUALITY STANDARDS

The criteria pollutants of greatest concern are due to construction activities and vehicle emissions. The pollutants from these activities include carbon monoxide (CO), ozone (O<sub>3</sub>), and respirable particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). A summary of state and federal ambient air quality standards for criteria pollutants is shown in Table AQ-2, below. Table AQ-3 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.

*RESPIRABLE PARTICULATE MATTER (PM<sub>10</sub> & PM<sub>2.5</sub>)*

There are federal and state air quality standards for particulate matter 10 microns or less in diameter (PM<sub>10</sub>) and for particulate matter 2.5 microns or less in diameter (PM<sub>2.5</sub>). The state PM<sub>10</sub> standards are 50 micrograms per cubic meter (µg/m<sup>3</sup>) as a 24-hour average and 20 µg/m<sup>3</sup> as an annual arithmetic mean. The federal PM<sub>10</sub> standard is 150 µg/m<sup>3</sup> as a 24-hour average. The PM<sub>2.5</sub> standard has been set by the state at a concentration of 12 µg/m<sup>3</sup> as an annual arithmetic mean, and the federal standards are 15 µg/m<sup>3</sup> as an annual arithmetic mean and 35 µg/m<sup>3</sup> in a 24-hour period.

*OZONE (O<sub>3</sub>)*

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 (the goal of the Compact Areas is to reduce ground-level ozone two years sooner than required by the Clean Air Act), and Sacramento County is not in such an area. The state 8-hour standard is 0.070 ppm (137 µg/m<sup>3</sup>) and the 1-hour standard is 0.09 ppm (180 µg/m<sup>3</sup>). The federal 8-hour standard is 0.075 ppm (147 180 µg/m<sup>3</sup>).

## FEDERAL, STATE AND LOCAL AGENCIES

Air quality in Sacramento County is regulated by several agencies, which include the EPA, California Air Resources Board (ARB), 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.

**Table AQ-2: 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 <sub>3</sub>	1 hour	0.09	--	180	--	If exceeded	If exceeded more than 3 days in 3 years
		8 hours	0.070	0.070	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 <sub>2</sub>	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 <sub>2</sub>	24 hours	0.04	--	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 <sub>2</sub> S	1 hour	0.03	--	42	--	If ≥	N/A
Vinyl chloride	C <sub>2</sub> H <sub>3</sub> Cl	24 hours	0.01	--	26	--	If ≥	N/A
Respirable particulate matter	PM <sub>10</sub>	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 <sub>2.5</sub>	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 <sub>4</sub>	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". June 4, 2013. Accessed: February 6, 2017. <http://www.arb.ca.gov/research/aaqs/aaqs2.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-3: Sacramento County Attainment Status**

<b>Pollutant</b>	<b>Attainment with State Standards</b>	<b>Attainment with Federal Standards</b>
Ozone	Non-Attainment Classification = Serious (1 hour Standard <sup>1</sup> )	Non-Attainment, Classification = Severe -15* (1 hour <sup>2</sup> and 8 hour <sup>3</sup> Standards)
Particulate Matter 10 Micron	Non-Attainment (24 hour Standard and Annual Mean)	Attainment (24 hour standard)
Particulate Matter 2.5 Micron	Non-Attainment (Annual Standard)	Non-Attainment (24 hour Standard) and Unclassified/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 <sup>4</sup>	Attainment (1 hour and 24 hour Standards)	Attainment (1 hour)
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

1. Per Health and Safety Code (HSC) § 40921.59(c), the classification is based on 1989-1001 data, and therefore does not change.

2. Air Quality meets Federal 1-hour Ozone standard (77 FR 64036). EPA revoked this standard, but some associated requirements still apply. The SMAQMD attained the standard in 2009. SMAQMD has requested EPA recognize attainment to fulfill the requirements.

3. For both that 1997 and the 2008 Standard.

4. Cannot be classified

\*Federal designations based on information from <https://www.epa.gov/criteria-air-pollutants/naaqs-table>: Accessed: August 14, 2017.

\*California Area Designations based on information from <http://www.arb.ca.gov/desig/changes.htm#reports>: Accessed: August 14, 2017.

Source: SMAQMD. "Air Quality Standards Attainment Status". *Air Quality Data*. <http://www.airquality.org/Air-Quality-Health/Air-Quality-Pollutants-and-Standards>: Accessed: August 14, 2017.

*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 PERMITS 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 SMAQMD 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 California Air Resources Board portable equipment registration.

**Rule 210: Synthetic Minor Source Status** The Project has no stationary sources that would require a permit but may be considered by the SMAQMD to be part of the existing aggregates processing facility stationary source and/or the portable Recycle Plant and associated portable diesel generator may be subject to SMAQMD permit requirements.

The purpose of Rule 210 is to allow owners or operators of specified stationary sources that would otherwise be major stationary sources to request and accept federally enforceable emissions limits sufficient to enable the sources to be considered synthetic minor stationary sources.

**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.

**RULE 902: ASBESTOS** The developer or contractor is required to notify SMAQMD of any regulated renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of material containing asbestos.

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, PM<sub>10</sub>, and PM<sub>2.5</sub>, 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.

The SMAQMD has also established significance thresholds to determine if a proposed project's emission contribution significantly contributes to regional air quality impacts Table AQ-4.

**Table AQ-4: SMAQMD Significance Threshold**

	ROG <sup>1</sup> (lbs/day)	NO <sub>x</sub> (lbs/day)	CO (µg/m <sup>3</sup> )	PM <sub>10</sub> (lbs/day)	PM <sub>2.5</sub> (lbs/day)
Construction (short-term)	None	85	CAAQS <sup>2</sup>	80 <sup>3*</sup>	82 <sup>3*</sup>
Operational (long-term)	65	65	CAAQS	80 <sup>3*</sup>	82 <sup>3*</sup>
1. Reactive Organic Gas 2. California Ambient Air Quality Standards: 20 ppm 1-hour standard (23mg/m <sup>3</sup> ); 9 ppm 8-hour standard (10mg/m <sup>3</sup> ) 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.					

SMAQMD requires projects to employ the following Best Management Practices (BMPs). It should be noted that the implementation of Best Available Control Technologies (BACT) are only required for stationary source operational emissions. BACT can be determined through consultation with SMAQMD permitting staff.

The following list from Chapter 4 of the SMAQMD “Guide to Air Quality Assessment in Sacramento County” (December 2009, as amended, hereinafter called the SMAQMD Guide) identifies the BMPs for operational PM emissions for land use development projects:

1. Compliance with District rules that control operational PM and NO<sub>x</sub> emissions. Reference rules regarding wood burning devices, boilers, water heaters, generators and other PM control rules that may apply to equipment to be located at the project. Current rules can be found on the District’s website: <http://www.airquality.org/Businesses/Rules-Regulations>.
2. Compliance with mandatory measures in the California Building Energy Efficiency Standards (Title 24, Part 6) that pertain to efficient use of natural gas for space and water heating and other uses at a residential or non-residential land use. The current standards can be found on the California Energy Commissions website: <http://www.energy.ca.gov/title24>.
3. Compliance with mandatory measures in the California Green Building Code (Title 24, Part 11). The California Building Standards Commission provides helpful checklists showing the required and voluntary measures for residential and non-residential projects on its website: <http://www.bsc.ca.gov/Home/CALGreen.aspx>.

Current mandatory measures related to operational PM include requirements for bicycle parking, parking for fuel efficient vehicles, electric vehicle charging, and fireplaces for non-residential projects. Residential project measures include requirements for electric vehicle charging and fireplaces.

4. Compliance with anti-idling regulations for diesel powered commercial motor vehicles (greater than 10,000 gross vehicular weight rating). This BMP focuses on non-residential land use projects (retail and industrial) that would attract these vehicles. The current requirements include limiting idling time to 5 minutes and installing technologies on the vehicles that support anti-idling. Information can be found on the California Air Resources Board’s website: <https://www.arb.ca.gov/msprog/truck-idling/factsheet.pdf>.

Additionally, the California Air Resources Board adopted a regulation that applies to transport refrigeration units (TRUs) that are found on many delivery trucks carrying food. Information on the TRU regulation can be found on the California Air Resources Board’s website: <https://www.arb.ca.gov/diesel/tru/tru.htm>.

Since retail and industrial land use projects may not have control over the anti-idling technologies installed on commercial vehicles coming to the project, the BMP is to

provide notice of the anti-idling regulations at the delivery/loading dock and to neighbors. The notice to the neighbors should also include who at the retail or industrial project can be contacted to file a complaint regarding idling and the California Air Resources Vehicle Complaint Hotline 1-800-363-7664.

#### *SACRAMENTO COUNTY GENERAL PLAN*

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 California Environmental Quality Act (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 that are relevant to 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-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-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.
- 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.
- HM-12. Continue the effort through the Sacramento Metropolitan Air Quality Management District (SMAQMD) to inventory and reduce toxic air contaminants as emission standards are developed.

### *SACRAMENTO COUNTY ZONING CODE*

The Sacramento County Zoning Code (Zoning Code) implements the land use policies of the County. The Zoning Code ensures all development conforms to these policies by regulating land use and providing development standards.

Zoning Code Section 4.8.11.E, Air Pollution Control Measures, states, the application for mining operations shall include dust control measures designed to comply with any relevant rules of the Sacramento Metropolitan Air Quality Management District (SMAQMD), including Rules 402 and 403. The air pollution control measures shall include signage and other notification that provides neighbors with information needed for reporting nuisance dust concerns to the operator and to SMAQMD. Such signage shall be placed at intervals of not more than 500 feet.

The Zoning Code gives further guidelines for suppressing dust in Section 4.8.14.H Guidelines for Suppressing Dust. This section states, the goal is to minimize the impacts of dust to surrounding residential and agricultural uses.

#### 1) Overburden Stockpiles

- a) Should be treated with appropriate dust suppressants, watered regularly, or otherwise treated to minimize wind erosion.
- b) Every effort should be made to remove overburden during the period of the year when surface soils are moist. If overburden is removed when surface soils are dry, water-spraying equipment should be used to cut dust emissions. Water-spraying equipment should likewise be used, as needed, when removing aggregate.
- c) Seeding of stockpile overburden and exposed soils is required at the next appropriate planting time unless the site is excavated within six months of overburden removal, or if site has been partially excavated, but is to remain dormant for a period of more than one year. Saleable aggregate products produced by the processing plant are exempt for this provision.

#### 2) Unpaved Haul Roads

- a) Unpaved haul roads should be regularly treated with appropriate dust suppressants (e.g. water or chemical dust palliative). The frequency of application should vary according to the water and moisture level of the soils on the site, but should be frequent enough to avoid visible dust plumes.

### METHODOLOGY

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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.

This air quality impact assessment considered potential emissions from both the mining operations, the portable Recycle Plant and the Ready Mix Concrete Plant. The Recycle Plant was conservatively assumed to be powered by a diesel generator (i.e., if grid power is used, then emissions would be less than the emissions considered in this assessment). Emissions for both processes (mining and Recycle Plant) are presented in this report for disclosure purposes. The maximum potential emissions from the combination producing approximately 1,000,000 tons/yr for offsite shipment was assessed in the prior EIR. It was assumed that addition of the Recycle Plant and the Ready Mix Concrete Plan would not affect the proposed annual production rate or on-road truck trips associated with the Sacramento Aggregates facility; regardless of individual process contribution the total amount of material produced will remain constant.

## PROJECT DESIGN FEATURES AND ASSUMPTIONS

### *PROJECT DESIGN FEATURES AND ASSUMPTIONS:*

The excavation and associated equipment would operate in compliance with applicable air quality regulations.

- Diesel engines would comply with applicable state regulations (i.e. Airborne Toxic Control Measures (ATCM)). This includes labeling of off-road equipment with registration numbers assigned by CARB, establishment of an idling policy, and limiting idle time to less than five minutes (13 CCR §2449).
- Fugitive dust emissions would be controlled through implementation of the Basic Construction Emissions Control Practices and Rule 403 that apply, where applicable. See 3.1.4.3 SMAQMD CEQA Guidelines.
- The Project is located in Sacramento County, which is among the counties listed as containing serpentine and ultramafic rock (OPR, 2000). However, no serpentine or ultramafic rock has been found on the Project site or in the vicinity of the Project. In addition, the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (17 CCR § 93105) allows the Air Pollution Control Officer from the local air district to exempt materials produced by facilities that mine alluvial deposits as would be the case for the Project. Therefore, asbestos was excluded from health risk assessment performed for the Project.
- The Project would not store hazardous substances or acutely hazardous substances in quantities that would be subject to chemical accident prevention provisions of the CAA or the implementing regulation (40 CFR Part 68).

*THE FOLLOWING ASSUMPTIONS ARE DESIGN FEATURES OF THE PROJECT:*

- Aggregate would be transported to the processing plant facility by a conveyor system originating at a feed hopper located on or adjacent to the Project site. Off-site truck travel would not increase.
- Production rates and equipment used would remain unchanged from existing conditions in Phase E which is currently being mined. Specifically, the daily excavation rate is unchanged from 6,300 tons/day and any change in emissions would be attributed to a difference in source characteristics rather than an increase in activity level of the source(s).
- Vehicle engine emissions characteristics reflect the statewide average characteristics which vary by calendar year, engine size and vehicle type as presented in Appendix D of the CalEEMod User Guide.
- Materials processed by the portable A&C and RMC plants would substitute for mined materials. Emissions from the diesel generator which powers the A&C Plant would meet Interim Tier 4 emissions standards as required by PERP for registration of new engines greater than 750 hp.

*THE FOLLOWING ASSUMPTIONS ARE MITIGATION MEASURES FROM THE 2008 FEIR AND ARE INCORPORATED AS DESIGN FEATURES OF THE PROJECT:*

- Every effort shall be made to remove overburden during the period of the year when surface soils are moist. If overburden is removed when surface soils are dry, water spraying equipment shall be used to reduce dust emissions. Water spraying equipment shall likewise be used, as needed, when removing aggregate. Cover loads of all haul/dump trucks securely and/or maintain 2 feet of freeboard clearance.
- Moisture content of the material being conveyed to the off-site processing plant is sufficient to avoid visible dust emissions from the conveyor loading and unloading points.
- Unpaved access/haul roads shall regularly be watered or treated with chemical dust suppressants, as needed, to control wind erosion and dust created by vehicle travel.
- Material stockpiles shall be watered or treated with chemical dust suppressants, as needed, to control wind erosion.

*EMISSIONS CALCULATIONS METHODOLOGIES*

Emissions from combustion sources associated with the Project primarily consist of non-road diesel engines in offroad vehicles. Exceptions may be the water truck and service truck which are assumed to have off-road engines for purposes of this analysis which is a conservative assumption because on-road engines generally emit less pollutants as compared to an offroad engine that was manufactured in the same calendar year (i.e., an on-road 2010 model year engine is cleaner than a 2010 offroad engine). Emissions from dust sources associated with Project include those previously

assessed for in the 2008 FEIR. Specifically, emissions from travel on unpaved surfaces and storage pile area activity emissions (e.g., loading and handling) are assessed. Emissions are calculated in Appendix D using the methods presented below.

Non-road engine emissions in offroad vehicles and dewatering pumps were calculated using the CalEEMod default method and emissions factors. Engine emissions rates decrease over time as the fleet is turned over and controls are implemented to comply with CARB regulations (i.e., In-Use Off-Road).

Aggregate storage and handling dust emissions were calculated using SMAQMD *Guide to Air Quality Assessment in Sacramento County* and emissions from mobile equipment were calculated using the emission factors from the ARB OFFROAD emissions inventory model. These were the same assumptions used in the preparation of the 2008 FEIR. In addition, the material moisture content of 6% and mean wind speed of 6.93 mph that were reported in the 2008 FEIR were retained.

Road dust emissions are calculated using the CalEEMod and AP-42 emissions factor equations (See Appendix AQ for emissions factor equations and modeling).

The control efficiency for watering unpaved roads was assumed to be 68 percent based on the control efficiency found in the CalEEMod User Manual (CAPCOA, 2013). The silt content of the unpaved roads was assumed to be 8.3 percent (EPA, 2006). Offroad truck weight (40 tons empty, 90 tons full) was obtained for a representative 50 ton capacity truck from the Caterpillar Performance Handbook. Onroad trucks were assumed to be 34 tons full and 15 tons empty with a mean weight of 25 tons. Annual emissions were adjusted for rainfall, assuming 51 days a year exceeding 0.01 inch of rainfall (CAPCOA, 2013).

Asphalt and Concrete Processing Plant Emissions are calculated using the AP-42 controlled factors presented in Table AQ-5.

**Table AQ-5: A&C Processing Plant Emissions Factors**

Source	PM <sub>10</sub> (lb/ton)	PM <sub>2.5</sub> (lb/ton)
Crushing (controlled)	0.00054	0.00010
Screening (controlled)	0.00074	0.000050
Conveyor Transport (controlled)	0.000046	0.000013

Ready Mix Concrete Plant emissions are calculated using the AP-42 Factors Presented in Table AQ-6. PM 2.5 is calculated as a function of PM10 emissions based on PM2.5 emission factor assumed to be 29.2% of PM10 for material drops based on SCAQMD's Updated CEIDARS.

**Table AQ-6: Ready Mix Concrete Plant Emissions Factors**

Source	PM <sub>10</sub> (lb/ton)	PM <sub>2.5</sub> (lb/ton)
Truck Unloading of Aggregates	0.00054	0.00016
Transfer Points	0.00074	0.00025
Cement Unloading (filtered)	0.00034	0.00010
Cement Supplement Unloading	0.0049	0.0014
Weigh Hopper Loading (filtered)	0.000028	0.0000082
Truck Loading	0.0263	0.0077

PM<sub>2.5</sub> emission factor assumed to be 29.2% of PM<sub>10</sub> for material drops based on SCAQMD's Updated CIEDARS

#### *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.

#### EXISTING CONDITIONS (BASELINE)

The Baseline for this Project would be the project described in the 2008 FEIR for the Phase E expansion (south of Florin Road) because those activities would be moving to this new location. The certified EIR assesses emissions from equipment operating in the pit that loads the conveyor feeding the off-site processing plant and site stockpile areas. Specifically, emissions from the following sources were assessed:

- Mobile equipment (i.e., heavy-heavy-duty trucks [HHDTs] and off-road equipment).
- Fugitive dust from trucks and off-road equipment traveling on unpaved surfaces.
- Loading operations onto trucks and conveyors.

Table AQ-7 presents the equipment and activity levels described in the certified 2008 FEIR which would remain unchanged with the Project. Table AQ-8 presents the emissions described in the certified EIR that constitute the Baseline and are subtracted from the operations emissions calculated for Phase T to determine the Project emissions (the difference between the Baseline and the operations emissions associated with the Project).

Project emissions are compared to the significance criteria later in this report. The 2008 FEIR did not assess PM<sub>2.5</sub> because the pollutant category did not exist at the time. PM<sub>2.5</sub> is a subset of PM<sub>10</sub> which was assessed in the 2008 FEIR. This report could derive baseline PM<sub>2.5</sub> emissions by applying the PM size profiles on the CARB website or from another resource (e.g., AP-42). However, as shown in Table AQ-4, the PM<sub>2.5</sub> significance criteria (82 lb/day and 15 tons/yr) is greater than the PM<sub>10</sub> significance criteria (80 lb/day and 14.6 tons/yr). Application of the PM<sub>10</sub> significance criteria would limit the PM<sub>2.5</sub> emissions to less than the PM<sub>2.5</sub> significance criteria. Project PM<sub>2.5</sub> emissions are calculated in this report for purposes of disclosure.

**Table AQ-7: Excavation Equipment Operating Hours**

Equipment	Horsepower	Operating Hours Per Day	Operating Hours Per Year
D9R CAT DOZER	450	4	1248

140H CAT MOTOR GRADER	165	2	312
EX1200 HITACHI EXCAVATOR	625	8	2496
988F CAT LOADER	425	8	2496
988F CAT LOADER	425	8	2496
R40-C EUCLID RIGID HAULER	525	8	2496
R40-C EUCLID RIGID HAULER	525	8	2496
357 PETERBILT WATER TRUCK	385	2	624
384 PETERBILT WATER TRUCK	190	1	312

Source: 2008 FEIR, Table AQ-3, p. 9-13.

**Table AQ-8: 2008 FEIR Baseline Emissions**

Source	ROG (lb/day)	ROG (lb/year)	NOX (lb/day)	NOX (lb/year)	PM10 (lb/day)	PM10 (lb/year)
Mobile Equipment	13.93	4,297	214.75	66,531	9.03	2,789
On-road Trucks	0.11	34.54	1.33	416.45	0.06	19.02
Unpaved Surfaces	--	--	--	--	273.41	81,864
Loading/ Handling	--	--	--	--	3.81	1,189
TOTAL	14.04	4,332	216.08	66,947	286.31	85,861

The 2008 FEIR determined that the project analyzed would have significant and unavoidable impacts on NOX and PM10 and summarized those impacts as follows:

- The project's particulate emissions would result in exceedance of CAAQS. Soil wetting, chemical dust suppressants and other management practices can help reduce particulate matter impacts; however, even with these practices impacts are significant and unavoidable.

- The project's NO<sub>x</sub> emissions would exceed thresholds established by SMAQMD. The SMAQMD has suggested mitigation to reduce impacts; however, not below significant levels.

Concentration of PM<sub>10</sub> was modeled for the 2008 FEIR and it was determined that the maximum 24-hour average concentration resulting from the project (93.4 µg/m<sup>3</sup>) would cause an exceedance of the most stringent AAQS (50 µg/m<sup>3</sup>) and when added to the background concentration (77.0 µg/m<sup>3</sup>) would contribute to an existing exceedance. This impact would not change with the Project.

However, PM<sub>10</sub> and PM<sub>2.5</sub> AAQS are established at concentrations chosen primarily to protect the health of individuals in urban areas where concentrations are greatest and the species of chemicals in the particulate is most toxic. Thus, in order to understand the true impact of the chemicals emitted by the Project on health of the surrounding residences and workers, PM<sub>10</sub> modeling was performed by way of HRA for toxic constituents present in fugitive dust and diesel exhaust that would be emitted by the Project (i.e., the 2008 FEIR HRA evaluated only diesel exhaust particulates and did not include toxic constituents in fugitive dust). Given that the primary purpose of the AAQS is to protect human health and the wide ranging health effects associated with the variety of chemicals that are emitted as particles (i.e., this only excludes chemicals that are gaseous, every other emission is a particle); HRA is considered a more precise methodology and is used to evaluate this Project.

NO<sub>x</sub> emissions were reported in the 2008 FEIR to exceed the mass-based threshold and yet the associated NO<sub>2</sub> concentrations were determined to be less than the corresponding AAQS. This impact has been reduced over time with the phase in of emissions controls on diesel engines. Impact evaluation is discussed further in the Cumulative Impacts section of Chapter 17 of this EIR based on values in Table AQ-10.

#### CONSTRUCTION PHASE EMISSIONS

The topsoil on-site would be excavated and placed in berms along the property line to be used later in reclaiming the site. This reclamation activity is considered part of mining and therefore a part of the operation phase. The Project would also landscape the berms during the operation phase. Accordingly, the only temporary construction phase type impacts of the Project and construction phase are those that result from the erection of the Ready Mix and Recycle Plants. The California Emissions Estimator Model (CalEEMod) was utilized to determine construction phase emissions and impacts. Table AQ-9 summarizes the impacts, and the full results can be found in Appendix F of the Air Quality and Climate Change Impact Assessment (Appendix AQ).

**Table AQ-9 Construction Phase Emissions**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Tons/Year	0.00609	0.0645	0.0440	0.00008	0.0835	0.0115
Maximum lbs/day	1.2253	12.8426	8.8802	0.0166	19.6895	2.5945

Threshold Tons/Year	-	-	-	-	14.6	15
Threshold lbs/day	-	85	-	-	80	82
Threshold Exceeded?	NO	No	No	No	No	No

## OPERATION PHASE EMISSIONS

Tables AQ-10, AQ-11 and AQ-12 show the operation phase emissions by the hour, the day and the year. Potential impacts to air quality and the significance of the operation phase emissions are discussed in Impacts and Analysis section below.

**Table AQ-10: Operation Phase Hourly Emissions**

Source	ROG (lb/hr)	NOx (lb/hr)	CO (lb/hr)	Sox (lb/hr)	PM <sub>10</sub> (lb/hr)	PM <sub>2.5</sub> (lb/hr)
<b>Mining</b>						
Engines	1.15	13.20	6.65	0.02	0.53	0.48
Travel on Unpaved Surfaces	-	-	-	-	15.11	1.51
Material Handling/ Stockpiles	-	-	-	-	0.48	0.07
<b>A&amp;C Processing</b>						
Engines	0.99	9.87	7.17	0.01	0.33	0.30
Travel on Unpaved Surfaces	-	-	-	-	3.23	0.40
Material Handling/ Stockpiles	-	-	-	-	0.04	0.01
Plant Equipment	-	-	-	-	0.79	0.23
<b>RMC</b>						
Ready Mix Plant	-	-	-	-	2.38	0.23
<b>Total</b>	2.14	23.08	13.81	0.03	22.88	3.71

**Table AQ-11: Operation Phase Daily Emissions**

Source	ROG (lb/day)	NOx (lb/day)	CO (lb/day)	Sox (lb/day)	PM <sub>10</sub> (lb/day)	PM <sub>2.5</sub> (lb/day)
<b>Mining</b>						
Engines	6.80	78.23	39.90	0.10	3.02	2.78
Travel on Unpaved Surfaces	-	-	-	-	48.1	9.12
Material Handling/ Stockpiles	-	-	-	-	5.7	0.87
<b>A&amp;C Processing</b>						
Engines	11.87	118.48	86.02	0.18	3.9	3.60
Travel on Unpaved Surfaces	-	-	-	-	48.1	9.12
Material Handling/ Stockpiles	-	-	-	-	0.5	1.1
Plant Equipment	-	-	-	-	9.5	1.23
<b>RMC</b>						
Ready Mix Plant	-	-	-	-	57.2	16.7
<b>Total</b>	18.67	196.71	125.92	0.28	305.32	53.1

**Table AQ-12: Operation Phase Annual Emissions**

Source	ROG (ton/yr)	NOx (ton/yr)	CO (ton/yr)	Sox (ton/yr)	PM <sub>10</sub> (ton/yr)	PM <sub>2.5</sub> (ton/yr)
<b>Mining</b>						
Engines	0.72	8.58	4.23	0.01	0.32	0.30
Travel on Unpaved Surfaces	-	-	-	-	15.24	1.52

Loading/ Handling	-	-	-	-	0.59	0.09
<b>A&amp;C Processing</b>						
Engines	0.72	8.58	4.23	0.01	0.32	0.30
Travel on Unpaved Surfaces	-	-	-	-	0.82	0.08
Material Handling/ Stockpiles	-	-	-	-	0.01	0.002
Plant Equipment	-	-	-	-	1.79	0.52
<b>RMC</b>						
Ready Mix Plant	-	-	-	-	1.79	0.52
<b>Total</b>	1.45	17.16	8.46	0.02	19.21	2.85

## HEALTH RISK ASSESSMENT

A HRA was performed using current best practices including methods from the HRA Guidelines (OEHHA, 2015). The four steps involved in the risk assessment process are: 1) hazard identification, 2) exposure assessment, 3) dose-response assessment, and 4) risk characterization. Specific information on the four steps used to assess health risk are located in the Air Quality Impact Analysis (Appendix AQ). Potential impacts to health and significance analysis are discussed in the Impacts and Analysis section below.

## ODORS

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Rather, projects must be assessed on a case-by case basis.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. SMAQMD has identified some common types of facilities that have been known to produce odors in the SVAB. These are discussed further in the impact analysis for odors.

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Related to Air Quality, the proposed project would have a significant impact if it:

- AQ-1: Conflict with or obstruct the implementation of the applicable air quality plan; or
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation; or
- AQ-3 Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard; or
- AQ-4: Exposes sensitive receptors to pollutant concentrations in excess of standards; or
- AQ-5: Creates objectionable odors affecting a substantial number of people.

Impact evaluation AQ-3 is discussed further in the Cumulative Impacts section of Chapter 17 of this EIR.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation AQ-1: Does the Project conflict with or obstruct the implementation of the applicable air quality plan?**

The SMAQMD is tasked with implementing programs and regulations required by the CAA and the CCAA. In that capacity, the SMAQMD has prepared plans to attain Federal and State ambient air quality standards. The SMAQMD has established thresholds of significance for criteria pollutant emissions. Projects with emissions below the thresholds of significance for criteria pollutants would be determined not to conflict or obstruct implementation of the SMAQMD's air quality plans. Table AQ-13 presents the operation phase emissions, the Baseline emissions and calculates the change in emissions that may occur if the Project were approved. The change in emissions is the impact of the Project and those values are compared to the SMAQMD significance thresholds. It is important to note that Table AQ-13 includes mitigation measures that were present in the 2008 FEIR, such as 68% control on fugitive dust sources. As none of the criteria pollutant emissions will exceed the SMAQMD thresholds the Project would not conflict or obstruct the implementation of the applicable air quality plan and impacts associated with potential obstruction of implementation of an air quality plan are ***less than significant***.

**Level of Significance: Less than Significant**

**Table AQ-13: Criteria Pollutant Emissions Impacts**

	<b>ROG (lb/day)</b>	<b>NO<sub>x</sub> (lb/day)</b>	<b>PM<sub>10</sub> (lb/day)</b>	<b>PM<sub>2.5</sub> (lb/day)</b>	<b>PM<sub>10</sub> (ton/yr)</b>	<b>PM<sub>2.5</sub> (ton/yr)</b>
Operation	18.67	196.71	305.32	53.1	19.21	2.85
Baseline	14.0	216.1	286.3	33.7	42.9 <sup>1</sup>	4.7
Project	4.67	-19.39	19.02	19.4	-23.69	-2.35
Threshold	65	65	80	82	14.6	15
Significant	No	No	No	No	No	No

1. Note that the baseline amount shown in Table AQ-8 are in pounds per year.

**Impact Evaluation AQ-2: Does the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Determination of whether Project emissions would violate any ambient air quality standard is largely a function of air quality dispersion modeling. If Project emissions would not exceed State and Federal ambient air quality standards at the Project's property boundaries, the Project would be considered to not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The Project does not propose to increase excavation or processing rate from what has occurred in the past on annual, daily and hourly bases. The combustion pollutant emissions decrease from the Baseline levels because of the phasing in of diesel engine rules and natural turnover as demonstrated in Impact AQ-3 (see Chapter 17's Cumulative Impact section). The PM<sub>10</sub> in fugitive dust would not change from the amounts already approved in the certified 2008 FEIR and thus no new significant impact would result. AAQs are evaluated at the property boundary. Because the Project activities are the same as those evaluated in the 2008 FEIR, the impacts at the site boundaries would not be significantly different than those evaluated during Phase E. Therefore, the impact is ***less than significant***.

**Level of Significance: Less than Significant**

**Impact Evaluation AQ-4: Does the Project expose sensitive receptors to pollutant concentrations in excess of standards?**

Determination of whether Project emissions would expose sensitive receptors to substantial pollutant concentrations is a function of assessing potential health risks. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. When evaluating whether a development proposal has the potential

to result in localized impacts, the nature of the air pollutant emissions, the proximity between the emitting facility and sensitive receptors, the direction of prevailing winds, and local topography must be considered.

A Health Risk Assessment was performed to evaluate the effects of TACs including DPM from vehicles and various substances found in fugitive dust emissions (i.e., metals and crystalline silica). Health risks from operation of the Project are presented in Table AQ-14. A conservative 30 year cancer risk analysis was included in addition to the 16 year Project timeline.

**Table AQ-14: Project Health Risk Impacts Without Mitigation**

Receptor # - Type	16 Year Excess Cancer Cases per Million People Exposed	30 Year Excess Cancer Cases per Million People Exposed	Chronic Hazard Index	Acute Hazard Index
1 - Residence	127	134	0.34	0.76
2 - Residence	71	85	0.15	0.44
3 - Residence	61	77	0.12	0.19
4 - Residence	29	35	0.060	0.28
5 - Residence	17	20	0.061	0.21
33 – Fenceline	N/A	N/A	N/A	1.2
Significance Threshold	10	10	1	1
Threshold Exceeded?	Yes	Yes	No	Yes

Source: SESPE, 2018

N/A means not applicable because this method of analysis applies only to worker receptors, or because this method does not apply to the receptor. Fenceline receptor 33 was chosen as it had the highest acute hazard index, and has UTM Coordinates 651653, 4262932.

As shown in Table AQ-14 without mitigation the project Cancer risk and Acute Hazard impacts are ***significant***.

#### **Level of Significance Before Mitigation: Significant**

The following mitigation measures are recommended to reduce diesel particulate and fugitive dust emissions.

**With the demolition of the receptor N-1 the potential impacts of diesel particulate would be less than significant. However if a new residence is constructed at the N-1 location** the following mitigation measure (AQ-4A) is recommended to reduce diesel particulate.

**Mitigation Measure AQ-4A** – Maintain offroad vehicle fleet engines at EPA certified Tier 4 interim or cleaner.

**Mitigation Measure AQ-4B** – Implement Enhanced Dust Control Methods to increase overall control efficiency from 68 percent to 80 percent.

By combining these mitigation measures, health risk attributed to engine emissions and TACs in fugitive dust can be reduced. Mitigation measure AQ-4A would decrease health risk impacts related to cancer by limiting the diesel particulate matter emissions of engines in the fleet. The EPA Nonroad Compression Ignition Engines: Exhaust Emission Standards details the requirements for Tier 4 certification. MM AQ-4B would involve implementing a series of practices to control emissions of fugitive dust, resulting in lower potential for both cancer and acute hazard exposure.

**Table AQ-15: Project Health Risk Impacts After Mitigation**

Receptor # - Type	16 Year Excess Cancer Cases per Million People Exposed	30 Year Excess Cancer Cases per Million People Exposed	Chronic Hazard Index	Acute Hazard Index
1 - Residence	-22*	-25*	0.19	0.68
2 - Residence	-90*	-99*	0.033	0.43
3 - Residence	-157*	-173*	0.031	0.17
4 - Residence	-53*	-58*	0.017	0.27
5 - Residence	-16*	-18*	0.040	0.20
33 – Fenceline	N/A	N/A	N/A	0.92
Significance Threshold	10	10	1	1
Threshold Exceeded?	No	No	No	No

**\* Although the modeling shows excess cases as a negative number as a result of mitigation, the health impacts after mitigation would be effectively zero.**

In the case of a stack, which releases pollutants above ground level, it is conceivable that a receptor close to the base of the stack would receive lower exposure than a further receptor, as the pollutant plume might travel before reaching ground level. In the modeling method employed however, emissions sources were placed at ground level. Concentration and risk therefore decrease with distance. For this reason, the results shown in Table AQ-15 were considered to be sufficient evidence that the nearest non residence receptor Country Kids Daycare will not be exposed to significant risk as the daycare center is more than 2 miles away from the project site.

## Level of Significance After Mitigation: Less Than Significant

### **Impact Evaluation AQ-5: Does the Project create objectionable odors affecting a substantial number of people?**

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine the presence of a significant odor impact. Rather, the SJVAPCD recommends that odor analyses strive to fully disclose all pertinent information.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley. These are presented in Table AQ-16 below along with a reasonable distance from the source within which, the degree of odors could possibly be significant. If the proposed project would result in sensitive receptors being located closer than the screening level distances, a more detailed analysis should be provided and include information regarding odor complaints.

**Table AQ-16: Odor Screening Distances**

<b>Type of Facility</b>	<b>Odor Screening Distance (miles)</b>
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operation (e.g., auto body shops)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Source: CEQA Guidance and Tools, 2016, p. 7 Appendix

Diesel exhaust from mobile equipment/vehicles has a slight odor. Odor intensity would decrease rapidly with distance and is not expected to be frequently (or at all) detectable at locations outside of the Project site boundary. In addition, given the subjective nature of odors, such odors are generally only considered to be objectionable by residential receptors (i.e., not by occupational workers). Given the rural nature of the Project vicinity, there are few residences located within 1 mile of the Project. Therefore, it is not anticipated that objectionable odors affecting a substantial number of people could result from the Project.

**Level of Significance: Less than Significant**

# 10 NOISE

## NOISE FUNDAMENTALS AND TERMINOLOGY

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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 sound<sup>1</sup>. 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.

## CHARACTERISTICS OF GROUNDBOURNE VIBRATION

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Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through a structure. As with noise, vibration consists of an amplitude and frequency. A person’s response to vibration depends on their individual sensitivity as well as the amplitude and frequency of the source.

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<sup>1</sup> 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**

<b>TERM</b>	<b>DEFINITION</b>
<b>Ambient Noise Level:</b>	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.
<b>Intrusive Noise:</b>	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.
<b>Decibel, dB:</b>	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).
<b>Frequency, Hz</b>	The number of complete pressure fluctuations per second above and below atmospheric pressure.
<b>Community Noise Equivalent Level, CNEL*:</b>	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.
<b>Day/Night Noise Level, <math>L_{dn}</math>*:</b>	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.
<b>Equivalent Noise Level, <math>L_{eq}</math>:</b>	The average noise level during the measurement or sample period. $L_{eq}$ is typically computed over 1, 8 and 24-hour sample periods.
<b><math>L_{max}</math>, <math>L_{min}</math>:</b>	The maximum or minimum sound level recorded during a noise event.
<b><math>L_n</math> :</b>	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.)
<b>Noise Exposure Contours:</b>	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.
<b>Sound Exposure Level, SEL; or Single Event Noise Exposure Level, SENEL:</b>	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.
<b>Sound Level, dBA:</b>	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.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity. Aggregate mining and processing vibration levels are not expected to be significant for this Project due to the relatively large distances between Project equipment (sources) and acoustically sensitive receivers as well as the fact that no blasting would occur with this Project. However, an assessment of mining-related vibration levels was addressed in the Noise Impact Assessment (NIA).

According to the California Department of Transportation's (CalTrans) Transportation and Construction Vibration Guidance Manual (California Department of Transportation, 2013), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage (e.g., crack plaster). Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate by a few ten-thousandths to a few thousandths of an inch. Differences in subsurface geologic conditions and distance from the source of vibration would result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes would decrease with increasing distance. The maximum rate or velocity of particle movement is the commonly accepted descriptor of the vibration "strength." This is referred to as the peak particle velocity (PPV) and is typically measured in inches per second.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table NO-2 indicates that the threshold for damage to structures ranges from 2.0 to 6.0 in/sec peak particle velocity (PPV). One-half this minimum threshold, or 1.0 in/sec PPV is considered a criterion that would protect against significant architectural or structural damage. The general threshold at which human annoyance could occur is noted as one tenth of that level, or 0.2 in/sec PPV.

**Table NO-2: General Human & Structural Responses to Continuous Vibration Levels**

<b>Effects on Structures and People</b>	<b>Peak Vibration Threshold (in./sec. PPV)</b>
Structural damage to commercial structures	2
Structural damage to residential structures	1
Architectural damage to old structures (cracking etc.)	0.5
General threshold of human annoyance	0.2
General threshold of human perception	0.01

Source: Transportation and Construction Vibration Guidance Manual (Caltrans, 2013).

## ENVIRONMENTAL SETTING

Two technical documents were prepared to analyze the impacts from noise generated by the proposed Project. The first document is the Noise Impact Assessment (NIA) for the Carli Mine Expansion Project prepared by SESPE Consulting, Inc. dated April 28, 2017. The second document, also prepared by SESPE, is the Addendum to the Noise Impact Assessment for the Carli Mine Expansion Project (Addendum) dated May 14, 2018. Both documents can be found in Appendix NO.

The Addendum was prepared because subsequent to the preparation of the April 2017 NIA the Project Description and Project Mine Plan design were revised. The Addendum analyzed the impacts resulting from the project changes. These changes were the relocation of the proposed portable processing plant to crush broken concrete and asphalt and the construction of a Ready Mix Plant.

The Project Description presented in Chapter 2 describes the proposed Project which include the subsequent changes. Tables and text reflect the existing setting and the impact analysis section present the potential impacts of the project as detailed in the Project Description and analyzed in the NIA and Addendum as appropriate. As a result of the changes in the project an impact identified in the NIA was subsequently determined to be less than significant and its associated Mitigation Measure was no longer required. To be consistent with the original documents the remaining Mitigation Measures proposed have retained their numbering presented in the NIA and Addendum.

## REGIONAL SETTING

The Project site is located in unincorporated Sacramento County, California, southeast of the City of Sacramento proximate to State Route 16 (SR-16), south of the City of Folsom and north of the City of Elk Grove (see Plate PD-1). Mather Airport is located approximately 3.8 miles away to the northwest. The Project site is bound by the existing Sacramento Aggregates operation to the north and east, Eagles Nest Road to the west, and Florin Road to the south. Across the Sacramento Aggregates processing facility, the Folsom South Canal aqueduct, which diverts water from the American River, runs north to south approximately 2,000 feet away from the Project's eastern perimeter (Plate PD-2).

The surrounding area is characterized by agricultural and mining land uses, rural dwellings, and small urban centers. Noise sources in the region are typical for rural areas, generally associated with agricultural production, aggregates production, traffic noise from adjacent roadways (Florin Road, Jackson Road, and Sunshine Boulevard), occasional aircraft over-flights, and urban activities from the nearby communities.

## LOCAL VIBRATION ENVIRONMENT

The existing ambient vibration environment in the immediate Project vicinity is extremely low, as would be expected in a rural area with no appreciable sources of local vibration. During field visits, NIA preparer's staff could not detect any appreciable groundbourne vibrations resulting for existing mining operations in the Expansion E excavation pit (See Plate NO-1). Background vibration levels around the Project perimeter are less than the threshold of perception.

## LOCAL NOISE ENVIRONMENT

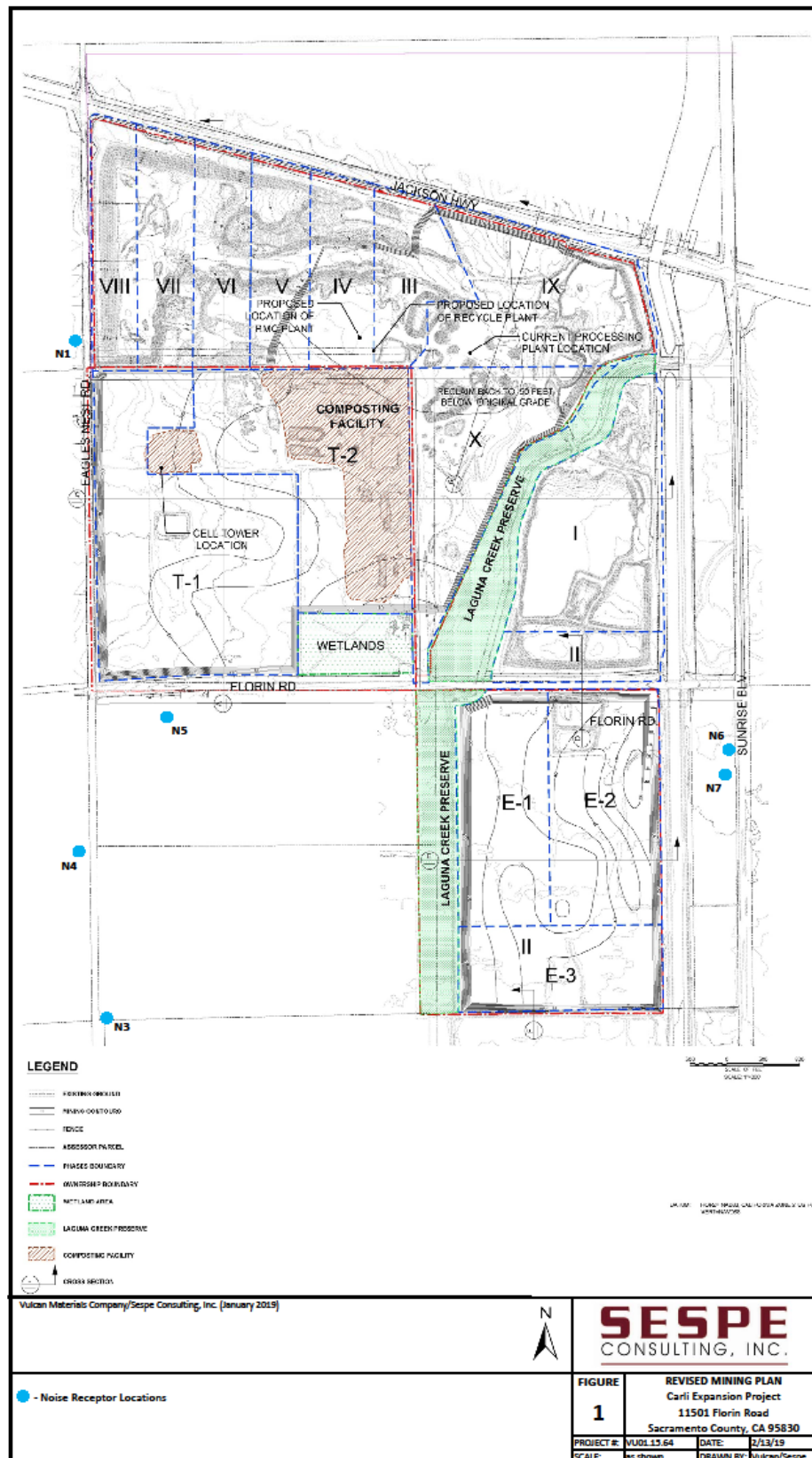
The existing noise environment experienced by residential receptors closest to the Project site is associated with vehicular noise from adjacent roadways, aggregates production, and agricultural production related noise. The existing ambient noise environment is consistent with that of typical rural dwellings in the area, and consists primarily of local roadway traffic (Florin Road and Eagles Nest Road), sand and gravel mining, aggregates processing (existing Sacramento Aggregates facility), and of natural sounds (wind, birds, insects, etc.).

To quantify the existing ambient noise environment at residential receivers, six (6) short-duration (15- minute) measurements and one (1) long-duration (24-hour) noise measurement were conducted at the seven (7) locations surrounding the proposed Project site on September 29th and 30th, 2016 (Plate NO-1). The NIA includes a description of the noise measurement equipment used (Appendix NO).

Details regarding the monitoring locations assessed are summarized in Table NO-3. The closest relevant receptor in each direction from the Project site was included. The measurement locations were selected to be generally representative of existing ambient conditions at the nearest residential receptors surrounding the Project site, and along nearby routes of travel. Additionally, measurements at these closest receivers conservatively account for potentially-affected receivers at locations farther from the Project noise sources. In addition to being representative of a nearby residential receptor (N1), the long-duration (24-hour) measurement is also used as a reference measurement to determine the daytime Leq and Lmax noise levels at the other receptor locations where only short-duration measurements were collected. Table NO-4 presents the results of the long-duration (24-hour) measurement collected at Receptor N1.

Leq and Lmax measurements collected at the long-duration (24-hour) reference location were compared to Leq and Lmax measurements at each short-duration (15-min) receptor location during the same time of day to determine the dBA difference between the two points. For example, Receptor N2 measurements (15-minute) collected between 11:21 AM and 11:36 AM when compared to the Leq and Lmax values

**Plate NO-1: Noise Monitoring Locations**



collected at the 24-hour reference point (N1) between 11:21 AM and 11:36 AM show a noise level difference of +1.5 Leq dBA and +3.5 Lmax dBA respectively. The difference between the noise level of the 15 minute measurement and the 24-hour measurement can be used as a correction factor, to estimate daytime Leq and Lmax values at short-duration receptor locations. Table NO-5 displays the correction factors while Table NO-6 shows the adjusted daytime Leq and Lmax ambient noise levels at each receptor.

**Table NO-3: Summary of Monitoring Locations**

Receptor	Duration	Date(s) Measured	Time Start	Time Stopped	Description
N1	24-hours	9/29/16 9/30/16	10:58 AM	10:58 AM	Residence east of the Project site along Eagles Nest Road
N2	15-mins	9/29/16	11:21 AM	11:36 AM	Residence southwest of the Project site along Eagles Nest Road
N3	15-mins	9/29/16	11:39 AM	11:54 AM	Residence southwest of the Project site along Eagles Nest Road
N4	15-mins	9/29/16	11:59 AM	12:14 PM	Residence southwest of the Project site along Eagles Nest Road
N5	15-mins	9/29/16	12:18 PM	12:33 PM	Residence south of the Project site along Florin Road
N6	15-mins	9/29/16	1:03 PM	1:18 PM	Residence southeast of the Project site / Traffic noise along Florin Road & Sunrise Boulevard
N7	15-mins	9/29/16	1:26 PM	1:41 PM	Residence southeast of the Project site along Sunrise Boulevard

**Table NO-4: Long-Duration (24-Hour) Noise Measurement Results (dBA)**

Receptor	24 Hour Measurement		Outdoor Area		Indoor	
			Daytime		Day & Nighttime	
	Leq	Lmax	Leq	Lmax	Leq	Lmax
N1	61.9	99.8	63.7	99.8	43.7	79.8

**Table NO-5: Ambient Correction Factors (dBA)**

Receptor	Time Start	Time Stopped	15 Minute Measured		24 Hour (during the same period) <sup>1</sup>		dBA Correction Factor <sup>1</sup>	
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>
N2	11:21 AM	11:36 AM	52.9	78.4	51.4	74.9	1.5	3.5
N3	11:39 AM	11:54 AM	48.7	67.3	48.9	69.1	-0.2	-1.8
N4	11:59 AM	12:14 PM	73.8	93.2	75.2	97.7	-1.3	-4.5
N5	12:18 PM	12:33 PM	61.9	82.7	55.1	77.6	6.8	5.1
N6	1:03 PM	1:18 PM	65.5	80.2	56.9	81.6	8.6	-1.4
N7	1:26 PM	1:41 PM	72.0	85.6	55.4	78.2	16.5	7.4

<sup>1</sup> The L<sub>eq</sub> and L<sub>max</sub> values shown represent the measured L<sub>eq</sub> and L<sub>max</sub> at the long-duration (24-hour) reference location during the same time period as the applicable short-duration (15-minute) receptor location. The difference (i.e. correction factor) is then applied to the measured 24-hour measurement to determine the daytime noise level at each receptor as shown in Table NO-6.

Using the correction factors, Table NO-6 summarizes the ambient noise values at each receptor location. Land in the immediate Project vicinity is primarily zoned agricultural. However, residences exist in some of these areas, so this analysis considers those locations be noise-sensitive residential receptors. This is conservative, as residential receptors are subject to the most stringent noise standards within the General Plan noise policies. The nearest noise sensitive receptor to the Project in each direction is included in this assessment.

**Table NO-6: Ambient Noise Level Summary (dBA)**

Site	Receptor Type	Ambient Noise <sup>2</sup>			
		Outdoor Area		Interior <sup>1</sup>	
		Daytime		Daytime & Nighttime	
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>
N1	Residential	63.7	99.8	43.7	79.8
N2	Residential	65.2	103.3	45.2	83.3
N3	Residential	63.6	98.0	43.6	78.0
N4	Residential	62.4	95.3	42.4	75.3
N5	Residential	70.5	104.9	50.5	84.9

N6	Residential	72.4	98.4	52.4	78.4
N7	Residential	80.3	107.2	60.3	87.2

1. Based on the EPA's *Protective Noise Level* document (March, 1974), an outdoor to indoor attenuation of 20 dBA is assumed. See Appendix B of the NIA for more detail.
2. Ambient noise levels for receptor N1 represent the measured Leq and Lmax daytime noise levels. To estimate Leq and Lmax daytime noise levels at short-duration (15-minute) receptor locations (N2, N3, N4, N5, N6 and N7), the applicable correction factor shown in Table 7 is applied to the measured Leq and Lmax daytime noise levels at the long-duration (24-hour) reference location.

## REGULATORY SETTING

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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.

### 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-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 (see Table NO-7 in this EIR). 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.

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-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.

**Table NO-7: Noise Element Table 2**  
**Non-Transportation Noise Standards Median (L<sub>50</sub>)/Maximum (L<sub>max</sub>)**

New Land Use	Outdoor Area		Interior
	Daytime	Nighttime	Day and Night
All Residential	55 / 75	50 / 70	35 / 55
Transient lodging <sup>4</sup>	55 / 75	---	35 / 55
Hospitals and nursing homes <sup>5,6</sup>	55 / 75	---	35 / 55
Theaters and auditoriums <sup>6</sup>	---	---	30 / 50
Churches, meeting halls, schools, libraries, etc. <sup>6</sup>	55 / 75	---	35 / 60
Office buildings <sup>6</sup>	60 / 75	---	45 / 65
Commercial buildings <sup>6</sup>	---	---	45 / 65
Playgrounds, parks, etc <sup>6</sup>	65 / 75	---	---
Industry <sup>6</sup>	60 / 80	---	50 / 70
<ol style="list-style-type: none"> <li>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.</li> <li>2. Sensitive areas are defined in the acoustic terminology section.</li> <li>3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.</li> <li>4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.</li> <li>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.</li> <li>6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.</li> <li>7. Where median (L<sub>50</sub>) 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.</li> </ol>			

## SACRAMENTO COUNTY ZONING CODE

The Sacramento County Zoning Code (Zoning Code) implements the land use policies of the County. The Zoning Code ensures development conforms to these policies by regulating land use and providing development standards.

Section 4.8 of the Zoning Code specifically pertains to surface mining operations within unincorporated Sacramento County. Zoning Code Section 4.8.12, Operating Standards for Aggregate Mining Operations, states all aggregate mining operations, including sand and gravel mines, hard rock quarries and dredger tailings mining operations, shall be subject to the requirements in this section.

### **Section 4.8.11.F. Noise Data**

The application must include a plan indicating the anticipated noise contour levels on the mining site and adjacent properties along with the measures proposed to control the noise. When mining, processing, and related activities are planned to occur within 500 feet of a habitable structure and/or potentially incompatible use, the mining operator shall provide to the County a noise monitoring program prepared by a qualified acoustical consultant (chosen from a list provided by Planning and Environmental Review). The study area radius of the noise monitoring program shall be increased to 1,000 feet if habitable structures and/or potentially incompatible uses are on land with either Agricultural or Agricultural-Residential zoning. The program will be used to evaluate the effectiveness of mitigation measures in reducing noise levels to comply with applicable noise ordinances. A qualified consultant shall test noise levels during the removal of overburden, the extraction of aggregates and the backfill of overburden as they occur at abutting residential boundaries. The owners of habitable structures and/or potentially incompatible uses included in the study area shall be notified when testing is to occur. Further testing may not be required if the consultant determines the mitigation measures are successful in achieving the required noise reduction. If testing indicates that noise standards are exceeded, the testing results shall be reported to the County and additional mitigation measures will be required.

### **Section 4.8.12.A**

The operating standards for aggregate mining operations are codified in the Zoning Code Section 4.8.12.A, Operating Hours which is provided below:

Unless otherwise provided as a condition of use permit the hours of operation of mining, processing, maintenance, and related activities shall be as set forth in Sections 4.8.12.A.1 and 4.8.12.A.2.

When mining, processing, and related activities occur within 1,000 feet of a habitable structure and/or potentially incompatible use on land zoned Agricultural or Agricultural-Residential, or within 500 feet from a habitable structure and/or potentially incompatible uses in all other zones, or are otherwise provided as a condition of use permit, then the

hours of operation of mining, processing and related activities, including haul out, shall be:

- a. Monday through Friday, inclusive: 6:00 a.m. until 9:00 p.m.; maintenance operations beyond mining hours to occur from 9:00 p.m. to midnight.
  - b. Saturday: 7:00 a.m. through 3:00 p.m.; maintenance operations beyond mining hours to occur from 3:00 p.m. to 4:00 p.m.
  - c. Sunday and any Federal/State holidays: no mining, processing, hauling or maintenance permitted.
2. For all parcels not subject to Section 4.8.12.A.1, the hours of operation of mining, processing, maintenance, and related activities, including haul out, shall be:
- a. Monday through Friday, inclusive: 6:00 a.m. until 10:00 p.m.; maintenance operations beyond mining hours to occur from 10:00 p.m. to 6:00 a.m.
  - b. Saturday: 6:00 a.m. through 3:00 p.m.; maintenance operations beyond mining hours to occur from 3:00 p.m. to 10:00 p.m.
  - c. Sunday and any Federal/State holidays: no mining, processing, hauling or maintenance permitted.
3. Extensions of Operating and Haul Out Hours. The use permit may specify hours of operation and haul out exceeding the hours set forth in Sections 4.8.12.A.1 and 4.8.12.A.2 for specified activities including haul out, basic uses, and ancillary uses, but not including mining. Any extension of hours through the use permit shall specify the use(s) and the hours, and may specify the circumstances required for using the extended hours and/or the number of days annually that the extended hours may be used.

### **Section 4.8.12.E**

Zoning Code Section 4.8.12.E, Noise Standards, states that sound levels created by the mining use at the boundary line of the authorized mining area shall not exceed 70 dBA except along a boundary contiguous to another area authorized to mine for sand and aggregates. A violation to the noise standard will occur if the noise level at the property line exceeds:

1. The noise limit for a cumulative period of more than 30 minutes in any hour, or;
2. The noise limit plus 5 dBA for a cumulative period of more than one minute per hour, or the noise limit plus 20 dBA for any period.

### *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. 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. Construction noise is specifically exempted from the Noise Ordinance (Sacramento County Code Section 6.68). Table NO-8 summarizes the Noise Ordinance standards.

In recognition of ambient noise, the ordinance allows the standards set forth in Table NO-8 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<sub>50</sub> noise standard would be increased to 60 dBA. The Noise Control Ordinance also states that each of the standards identified in Table NO-8 should be reduced by 5 dBA for impulsive or simple tone noises<sup>2</sup>, or for noises consisting of speech or music.

**Table NO-8: 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 <sub>50</sub>	55	50
15 – 30 minutes per hour	L <sub>25</sub>	60	55
5 – 15 minutes per hour	L <sub>08</sub>	65	60
1 – 5 minutes per hour	L <sub>02</sub>	70	65
Level not to be exceeded at any time	L <sub>max</sub>	75	70
Source: Sacramento County, Noise Control Ordinance. Chapter 6.68.070			

<sup>2</sup> “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.

## 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. 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-9 shows the 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 shown in Table NO-10 are expected to result in equal changes in annoyance at sensitive land uses. The rationale for the criteria shown in Table NO-10 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-9: 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

*Source: Architectural Acoustics, M David Egan, 1988.*

**Table NO-10: Significance of Changes in Noise Exposure**

Ambient Noise Level Without the Project, L <sub>dn</sub>	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>	

## VIBRATION CRITERIA

The California Department of Transportation (CalTrans) has developed a set of criteria to assess the potential impacts caused by vibration-generating activities. Table NO-11 outlines threshold criteria for Project-related vibration impacts on nearby human populations, based on test subjects' responses to transient vibrations in terms of peak particle velocity (PPV) in units of inches per second.

**Table NO-11: Human Responses to Transient Vibration**

PPV (inches/second)	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible
<i>Source: Transportation and Construction Induced Vibration Guidance Manual (Caltrans, 2013).</i>	

## SIGNIFICANCE CRITERIA

Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Noise the proposed project would have a significant impact if it:

- NO-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;
- NO-2 Expose people residing or working in the project area to excessive airport noise levels;

- NO-3 Expose people to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- NO-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.

The Project is more than two miles from the nearest airport and will not expose workers in the Project area to excessive airport noise levels. Therefore, impact NO-2 is not discussed further in this chapter.

In addition, although the noise analysis prepared by SESPE Consulting identified a potentially significant impact based on the creation of a substantial permanent increase in the ambient noise level on further analysis it was determined by the County that noise impacts associated with mining activities would cease once mining stopped. Therefore, the Project would not generate a substantial permanent increase in the ambient noise level and impact NO-3 is not discussed further in this chapter.

#### SACRAMENTO COUNTY GENERAL PLAN THRESHOLDS

The Sacramento County General Plan of 2005-2030 (2011) has adopted a Noise Element that outlines various guidelines, requirements and policies related to noise. The Sacramento County noise thresholds, specifically those presented in Table 2 of the Noise Element (Table NO-7 in this EIR), are utilized determining the significance.

Per the General Plan Noise Element, in cases where the existing ambient noise levels exceed the applicable standards, then the noise level standard would be increased at +5 dBA increments to encompass the ambient noise. Additionally if ambient noise levels are within 1 dB of the applicable significance threshold, the Sacramento County noise level standard is increased by +5 dB increments to encompass the ambient (e.g. ambient level of 79.5 dB results in a significance threshold of 85 dB rather than 80 dB). Table NO-12 below presents the applicable Sacramento County significance thresholds for each receptor, adjusted to encompass the ambient noise levels presented in Table NO-6. Additional detail regarding these calculations are included in the NIA.

**Table NO-12: Applicable Sacramento County Significance Thresholds (dBA)**

Site	Receptor Type <sup>1</sup>	Outdoor Area		Interior <sup>1</sup>	
		Daytime		Daytime & Nighttime	
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>
N1	Residential	65	105	45	85
N2	Residential	70	105	50	85
N3	Residential	65	100	45	85

N4	Residential	65	100	55	90
N5	Residential	75	110	55	90
N6	Residential	75	100	55	80
N7	Residential	85	110	65	90

<sup>1</sup> Each receptor is assumed to be residential. This is the most conservative approach, as the Sacramento County General Plan noise thresholds for residential receptors are the most restrictive.

## PROJECT-RELATED NOISE LEVEL INCREASE

Table NO-10 is commonly used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reaction to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source (i.e. mining equipment). Using this criteria, a Project-related noise impact at nearby receptors would be considered significant if noise levels increase by +6 dB or more, which represents a "clearly noticeable" noise level increase.

## VIBRATION SIGNIFICANCE THRESHOLDS

Table NO-11 threshold criteria for Project-related vibration impacts on nearby human populations, based on test subjects' responses to transient vibrations in terms of peak particle velocity (PPV) in units of inches per second. Using this criteria, a Project-related vibration impact would be considered significant if vibrations at nearby receptors are generate in excess of 0.24 PPV (in/sec), which is considered a "distinctly perceptible" vibration level.

## METHODOLOGIES

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To quantify the noise generated by the Project noise sources (i.e. mining equipment & portable concrete/asphalt processing plan) reference data was gathered from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model User Guide (Federal Highway Administration, 2006), and the previous Environmental Noise Impact Assessment prepared by Bollard Acoustical Consultants, Inc.

Table NO-13 shows each equipment type that would be utilized by the Project. Usage fraction and maximum sound pressure level (Lmax) noise data shown are FHWA default values. Source noise calculations in Appendix C of the Noise Assessment (Appendix NO) provide more detail. There is no usage factor for the portable concrete/asphalt processing plant as it is assumed to operate at full power for the entire hour during peak operations. Noise levels associated with the proposed RMC plant are based on field measurements collected from another RMC Plant by Mestre Greve Associates in 1998. See Appendix NO for calculations.

**Table NO-13 Reference Equipment Noise Data**

<b>Noise Source</b>	<b>Usage (%)</b>	<b>L<sub>max</sub> at 100-feet (dBA)</b>	<b>L<sub>eq</sub> at 100-feet (dBA)</b>
Scrapers (x2)	40	82	74
Dozer	40	85	75
Excavator	40	85	75
Front-End Loaders (x2)	40	80	70
Haul Trucks (x2) <sup>1</sup>	40	84	74
Water/Service Truck <sup>1</sup>	40	84	74
Concrete/Asphalt Plant <sup>2</sup>	---	91.1	87.4
RMC Plant <sup>2</sup>	---	88.6	82.0

Mine Equipment Sources: Federal Highway Administration (FHWA 2006). Bollard Acoustical Consultants, Inc. (Bollard 2005).

1-For haul trucks and water/service truck, the FHWA default values for a “flat-bed truck” were utilized.

2-Concrete/Asphalt Plant and RMC Plant: Based on field measures of portable concrete asphalt processing plant and RMC plant from Sespe studies.

## IMPACTS AND ANALYSIS

### **IMPACT EVALUATION NO-1: EXPOSURE OF PERSONS TO OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?**

To address the CEQA Criteria NO-1, the Sacramento County General Plan Noise Element significance thresholds presented in Table NO-12 are utilized. Table NO-14 and Table NO-15 show the predicted change in noise level at each receptor during the initial ground preparation of the site (removal of overburden) and during the actual mining operations (extraction of aggregate), and compares the results to the applicable Sacramento County Thresholds from Table NO-12. Noise generated by the portable concrete/asphalt processing plant and RMC plant was conservatively included in both the initial ground preparation and the actual mining operations phases.

Shielding was excluded from the assessment of noise levels during the initial ground preparation phase because these activities would begin at grade. Over time, equipment noise would be increasingly shielded as the excavation proceeds to a depth of

approximately 20-feet, at which depth actual mining operations would commence. Therefore, the predicted noise levels are conservative for future operations by assessing the noise levels expected at the beginning of the Project, which are the worst case noise levels during the overburden removal phase.

Mining operations would commence following the removal of overburden. Therefore, worst case noise levels during mining (as opposed to overburden removal) are expected when the excavation reaches a depth of approximately 20-feet. Barrier insertion loss calculations presented in Appendix NO show that the excavation pit walls at a depth of 20-feet would result in an approximately -19.9 dBA noise reduction between source (i.e. mining equipment) and receptor. This reduction has been applied to the noise levels associated with the mining operation and are presented in Table NO-15. Over time, equipment noise would be increasingly shielded as the excavation proceeds to a final depth of approximately 75-feet.

#### INITIAL GROUND PREPARATION

Referring to Table NO-14, noise levels during initial ground preparation activities exceed the applicable Sacramento County energy average noise level ( $L_{eq}$ ) outdoor daytime and indoor daytime/nighttime noise thresholds at **Receptor N1**. Unmitigated impacts to Receptor N1 during ground preparation activities are considered **potentially significant**. Mitigation Measures have been proposed and follow below.

#### OPERATIONS

Referring to Table NO-15, noise levels during mining operations do not exceed the applicable Sacramento County noise thresholds at any receptors. Therefore impacts from operations would be **less than significant**.

#### **Mitigation Measure NO-2:**

**The sensitive receptor N-1 has been removed from the property. Without a receptor at this location the proposed mitigation is not required. However, if prior to ground preparation (overburden removal) activities, or during ground preparation or prior to mining activities a residence is constructed on or near the location of the previous N-1 receptor** a 12-foot tall earthen berm with a minimum length of 300-feet extending from the northwest corner of the expansion boundary shall be constructed along the Project's western property line adjacent to Receptor N1. (See Plate NO-2) Applying this reduction, mitigated noise impacts are presented in Table NO-16.

**Table NO-14 Initial Ground Preparation – Sacramento County Significance Determination**

Receptor	Outdoor Area – Daytime (Leq)			Interior – Daytime & Nighttime(Leq)		
	Project	Threshold	Significant	Project	Threshold	Significant
N1	<b>72.9</b>	<b>65</b>	<b>Yes</b>	<b>52.9</b>	<b>45</b>	<b>Yes</b>
N2	62.7	70	No	42.7	50	No
N3	62.1	65	No	42.1	45	No
N4	58.1	65	No	38.1	45	No
N5	70.4	75	No	50.4	55	No
N6	59.9	75	No	39.9	55	No
N7	58.9	85	No	38.9	65	No

Source Table 11 from NIA (N2, N3, N6, N7) and Table 3 from Addendum (N1, N4, N5)

Values shown in **bold** represent an exceedance of the applicable Sacramento County significance threshold.

1 – Thresholds shown represent the appropriate Sacramento County General Plan noise threshold for each receptor presented in Table NO-12.

2 – Values shown represents the noise level at each receptor resulting for operation of Project noise sources (i.e. mining equipment & concrete/asphalt plant).

**Table NO-15: Mining Operations – Sacramento County Significance Determination**

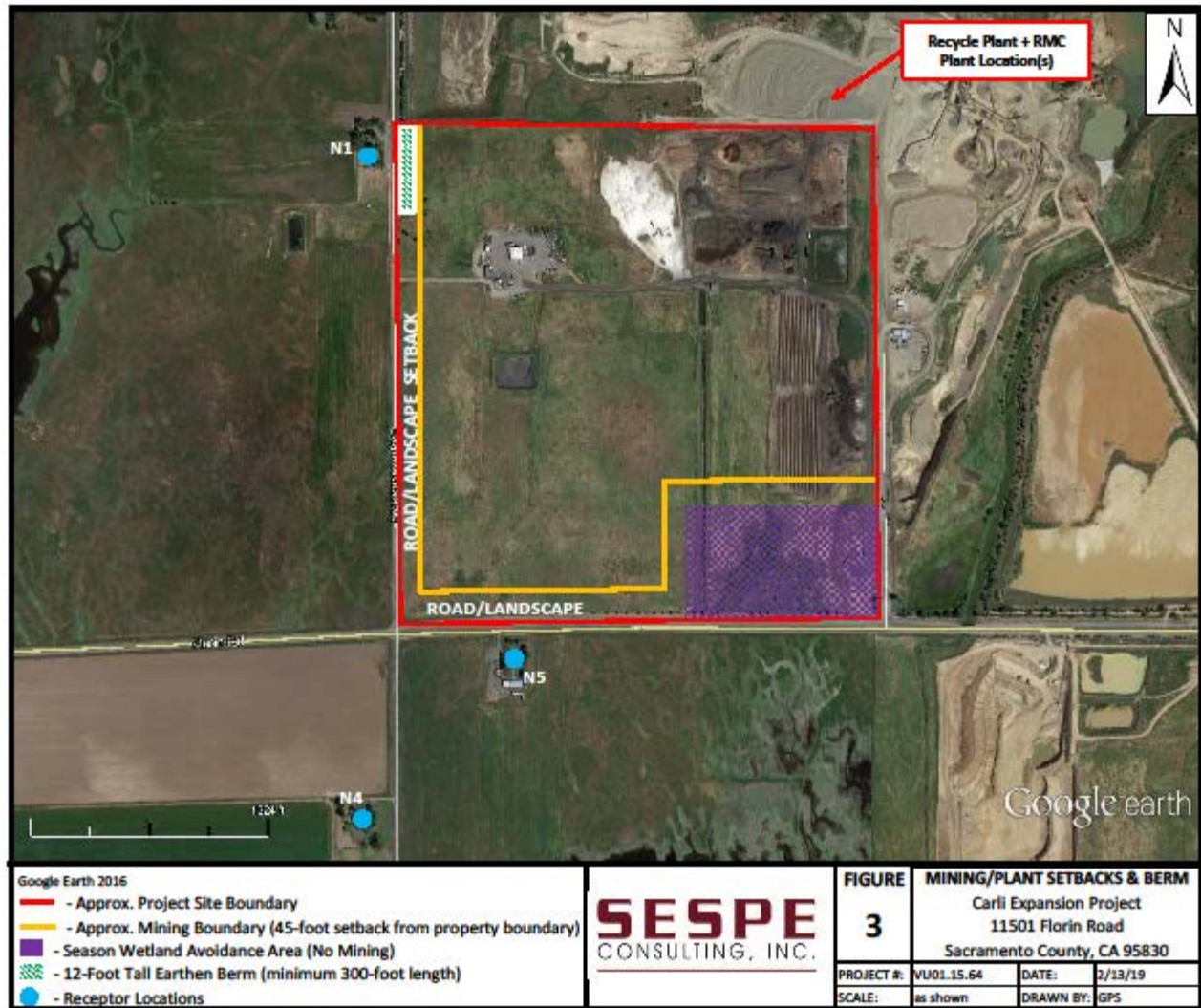
Site	Outdoor Area						Interior					
	Daytime						Daytime & Nighttime					
	L <sub>eq</sub>			L <sub>max</sub>			L <sub>eq</sub>			L <sub>max</sub>		
	Project	Threshold	Significant	Project	Threshold	Significant	Project	Threshold	Significant	Project	Threshold	Significant
N1	63.3	65	No	67.2	105	No	43.3	45	No	47.2	85	No
N2	39.7	70	No	43.7	105	No	19.7	50	No	23.7	85	No
N3	39.2	65	No	43.1	100	No	19.2	45	No	23.1	80	No
N4	44.7	65	No	48.7	100	No	24.7	45	No	28.7	80	No
N5	60.8	75	No	64.7	110	No	40.8	55	No	44.7	90	No
N6	37.0	75	No	41.0	100	No	17.0	55	No	21.0	80	No
N7	35.9	85	No	39.9	110	No	15.9	65	No	19.9	90	No

Values shown in **bold** represent an exceedance of the applicable Sacramento County significance threshold.

1 – Thresholds shown represent the appropriate Sacramento County General Plan noise threshold for each receptor presented in Table NO-12.

2 – Values shown represents the noise level at each receptor resulting for operation of Project noise sources (i.e. mining equipment & concrete/asphalt plant).

Plate NO-2: Berm Location Map



**If a new residence is constructed prior to ground preparation Mitigation Measure NO-2 would be implemented.** The berm would be constructed with overburden from the existing operation as part of the initial landscaping buffer. A 15 foot tall and 300 foot long berm would require about 5,000 CY of soil. With the use of existing trucks and a loader construction of the berm would be completed in 2-3 days. Impacts from implementation of the mitigation measure would be less than significant due to the short duration of berm construction.

**Table NO-16: MM NO-2 Ground Preparation Noise – Sacramento Co. Significance Determination**

Receptor	Outdoor Area – Daytime (Mitigated Leq) <sup>1</sup>			Interior – Daytime & Nighttime (Mitigated Leq)		
	Project	Threshold	Significant	Project	Threshold	Significant
N1	58.4	65	No	38.4	45	No

1. Mitigation NO-2: installation of berm.  
Source: NIA Addendum Table 4

As shown in Table NO-16 above, the Project is expected to have a less than significant impact with mitigation incorporated. It is important to note that the NIA and Addendum were designed to produce conservative worst-case Project noise impacts to nearby receptors. In reality, when taking into account the shielding or absorption effects from intervening topography between source and receptor as well as the fact that most excavation operations will not occur near the outermost mining boundary, noise levels are expected to be less than those calculated within the NIA and Addendum. However, to confirm the assumptions and conclusions of the assessments, the following **Mitigation Measure NO-3** is recommended.

***Mitigation Measure NO-3:***

*Upon beginning Project operation, the predicted noise impacts associated with onsite excavation equipment and the portable concrete/asphalt processing plant and Ready Mix Concrete Plant shall be verified with noise measurements. In the event that actual noise levels exceed the assumptions contained within this analysis, additional noise reduction measures (i.e. blankets, curtains, or walls) shall be implemented to reduce the impacts and the monitoring will be repeated. This process will continue until sufficient mitigation is provided and the impact is determined to be less than significant.*

**Level of Significance Before Mitigation**

Potentially significant.

**Mitigation Measures**

MM NO-2 and MM NO-3.

**Level of Significance After Mitigation**

Less than significant.

## GENERATION OF EXCESSIVE GROUNDBOURNE VIBRATION

### **IMPACT EVALUATION NO-2: EXPOSURE OF PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?**

The Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment (Federal Transit Administration, 2006) document provides guidelines for assessing vibration impacts resulting from construction activities. Table NO-17 below lists vibration source levels for common types of construction equipment, in terms of peak particle velocity (PPV) in units of inches per second at a distance of 25-feet.

**Table NO-17: Vibration Source Level for Construction Equipment**

Equipment	PPV (inches/second) at 25-feet away
Vibratory Roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Transportation and Construction Induced Vibration Guidance Manual (Caltrans, 2013), Transit Noise and Vibration Impact Assessment (FTA, 2006).

To assess Project vibration impacts at each receptor location, the reference PPV value of 0.089 inches per second (i.e. large bulldozer) is utilized. It is assumed that nothing larger or more powerful than a large bulldozer would be utilized at the site in close proximity to nearby receptors. The distance shown represents the measured distance from the closest boundary of the active mining area to the nearest property line of the receptor. Using this information, Table NO-18 summarizes the predicted groundbourne vibration impacts resulting from the Project. Significance was determined by comparing the predicted change in groundbourne vibration to the applicable CalTrans thresholds outlined in Table NO-11.

**Table NO-18: Predicted Project Vibration Levels at Receptors**

Receptor	Distance (ft)	Predicted Vibration PPV (in/sec)	Applicable Significance Threshold (in/sec) <sup>1</sup>	Significant?
N1	117	0.016	≤ 0.035	No
N2	1,758	0.001	≤ 0.035	No
N3	1,874	0.001	≤ 0.035	No

N4	987	0.002	≤ 0.035	No
N5	156	0.012	≤ 0.035	No
N6	2,412	0.001	≤ 0.035	No
N7	2,734	0.001	≤0.035	No

Note: See Appendix C of the NIA for more detail.

1. The Project vibration levels shown above are considered “barely perceptible” per CalTrans guidance (Caltrans, 2013).

As shown in Table NO-18, predicted vibration impacts to nearby receptors were well below the applicable CalTrans significance thresholds for human response. Groundbourne vibration impacts to nearby receptors resulting from Project operations are **less than significant** with **no mitigation required**.

### **Level of Significance: Less than Significant – No Mitigation Required**

#### SUBSTANTIAL TEMPORARY INCREASE IN AMBIENT NOISE LEVEL

#### **IMPACT EVALUATION NO-4: A SUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT?**

To determine if the Project would result in a substantial “temporary or periodic” increase in ambient noise levels at nearby receptors, the same methods as those outlined the NIA and Addendum. As shown in Table NO-19, the greatest source of “temporary” noise impacts will result from overburden removal activities. However, this Project phase is only expected to last approximately one (1) month.

Nonetheless, temporary impacts to Receptor N1 during ground preparation activities are **potentially significant**.

#### LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Potential for a significant impact is predicted at Receptor N1.

#### MITIGATION MEASURES

Following implementation of Mitigation Measure NO-2 and NO-3, Table NO-20 shows the mitigated noise impacts at Receptor N1. Mitigation Measures NO-2 and NO-3 are recommended to reduce impacts on receptors to less than significant levels.

#### LEVEL OF SIGNIFICANCE AFTER MITIGATION

Upon implementation of MM NO-2 and MM NO-3, Project impacts to nearby receptors would be **less than significant**.

**Table NO-19: Initial Ground Preparation – Project-Related Noise Level Increases w/o Mitigation**

Site	Ambient Leq (dBA)	Total Phase 1 Project Noise Level (dBA)	Change (dBA)	Subjective Reaction	Significant?
N1	63.7	73.4	9.7	About Twice as Loud	Yes
N2	65.2	67.1	1.9	Imperceptible	No
N3	63.6	65.9	2.3	Just Barely Perceptible	No
N4	62.4	63.8	1.4	Imperceptible	No
N5	70.5	73.5	3.0	Just Barely Perceptible	No
N6	72.4	72.6	0.2	Imperceptible	No
N7	80.3	80.3	0.0	Imperceptible	No

With the implementation of Mitigation Measure NO-2 the installation of the 12-foot berm would result in an approximately -14.5 dBA noise reduction from the Project mobile sources (i.e. dozers, scrappers) operating in areas near Receptor N1. Table NO-21 below shows the mitigated noise impacts at Receptors N1.

**Table NO-20: Mining Operations – Project-Related Noise Level Increases**

Site	Ambient Leq (dBA)	Total Phase 1 Project Noise Level (dBA)	Change (dBA)	Subjective Reaction	Significant?
N1	63.7	65.2	2.8	Just Barely Perceptible	No
N2	65.2	65.2	0.0	Imperceptible	No
N3	63.6	63.6	0.0	Imperceptible	No
N4	62.4	62.5	0.1	Imperceptible	No
N5	70.5	70.9	0.4	Imperceptible	No
N6	72.4	72.4	0.0	Imperceptible	No
N7	80.3	80.3	0.0	Imperceptible	No

As shown in Table NO-21 below, the noise level increase at Receptor N1 resulting from the Project is less than significant after mitigation is incorporated. With implementation of Mitigation Measure, NO-2, total Project noise level increases at Receptor N1 would be **less than significant**.

**Table NO-21: Mitigated Ground Preparation Noise – Project-Related Noise Level Increases**

Site	Ambient Leq (dBA)	Mitigated Phase 1 Project Noise Level (dBA)	Change (dBA)	Significance Threshold (dBA)	Significant?	Subjective Reaction
N1	63.7	64.9	1.1	≥6.0	No	Just Barely Perceptible

# 11 HYDROLOGY AND WATER QUALITY

## INTRODUCTION

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The purpose of the Hydrology and Water Quality chapter of the EIR is to describe the surface water hydrology and drainage of the subject site and assess the effects of Project implementation and to evaluate the potential for flood and water quality impacts resulting from the Project. During the Notice of Preparation process, comments received requested that EIR address the project's potential impacts on groundwater hydrology and quality from water usage and potential contamination. Therefore, the chapter has included an analysis of groundwater and potential impacts.

## ENVIRONMENTAL SETTING

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The Carli expansion area is bordered to the north and east by the existing Sacramento Aggregate mine site, to the south by Florin Road, and to the west by Eagles Nest Road (Plate HW-1).

The undeveloped areas of the Project Site are primarily non-native and native grasslands. Potential seasonal marshes/wetlands are located in the southeast corner of the parcel where the Project Site is located. Disturbance of this area is not included as part of the Project. The topography of the site is gentle with the site sloping primarily north to south-southeast, except for the southwestern portion of the site that slopes to the southwest. Surface runoff from the study area primarily leaves the site via a 36" concrete culvert that carries water south under Florin Road and discharges to the adjacent property to the south. Minor amounts of surface runoff from the site collect in earthen swales along Eagles Nest Road.

The earthen swales eventually discharge water to the adjacent property to the west via two 24" Corrugated Metal Pipe (CMP) culverts under the road (Plate HW-2).

A commercial composting operation is located in the northeastern portion of the site. It is anticipated that this operation will continue until the final phase of the mining. In addition to the composting operations, the surrounding land uses consist of Vulcan's current aggregate operations, cattle, horse, and sheep grazing, farmland, and several farm residences.

## LAGUNA CREEK WATERSHED

The Sacramento Aggregates mining and processing operation and the Carli expansion area lie within the Laguna Creek watershed (Plate HW-3). Laguna Creek is an intermittent stream, generally dry during the summer and fall months, which primarily supports fresh water marshes. Laguna Creek eventually joins Morrison Creek approximately 12 miles southwest of the Vulcan property, which then flows through the

**Plate HW-1: Project Area and Surrounding Mining**

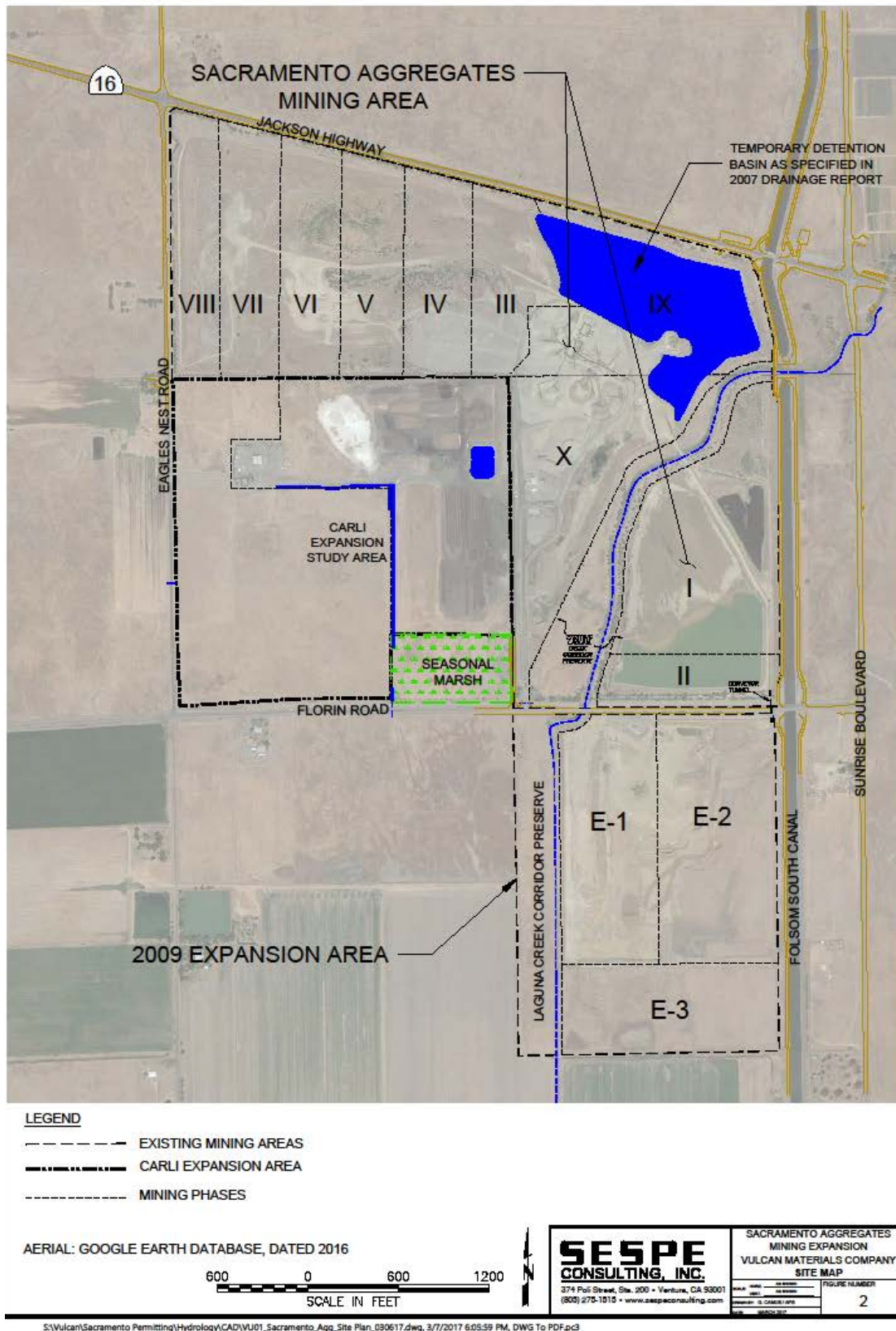
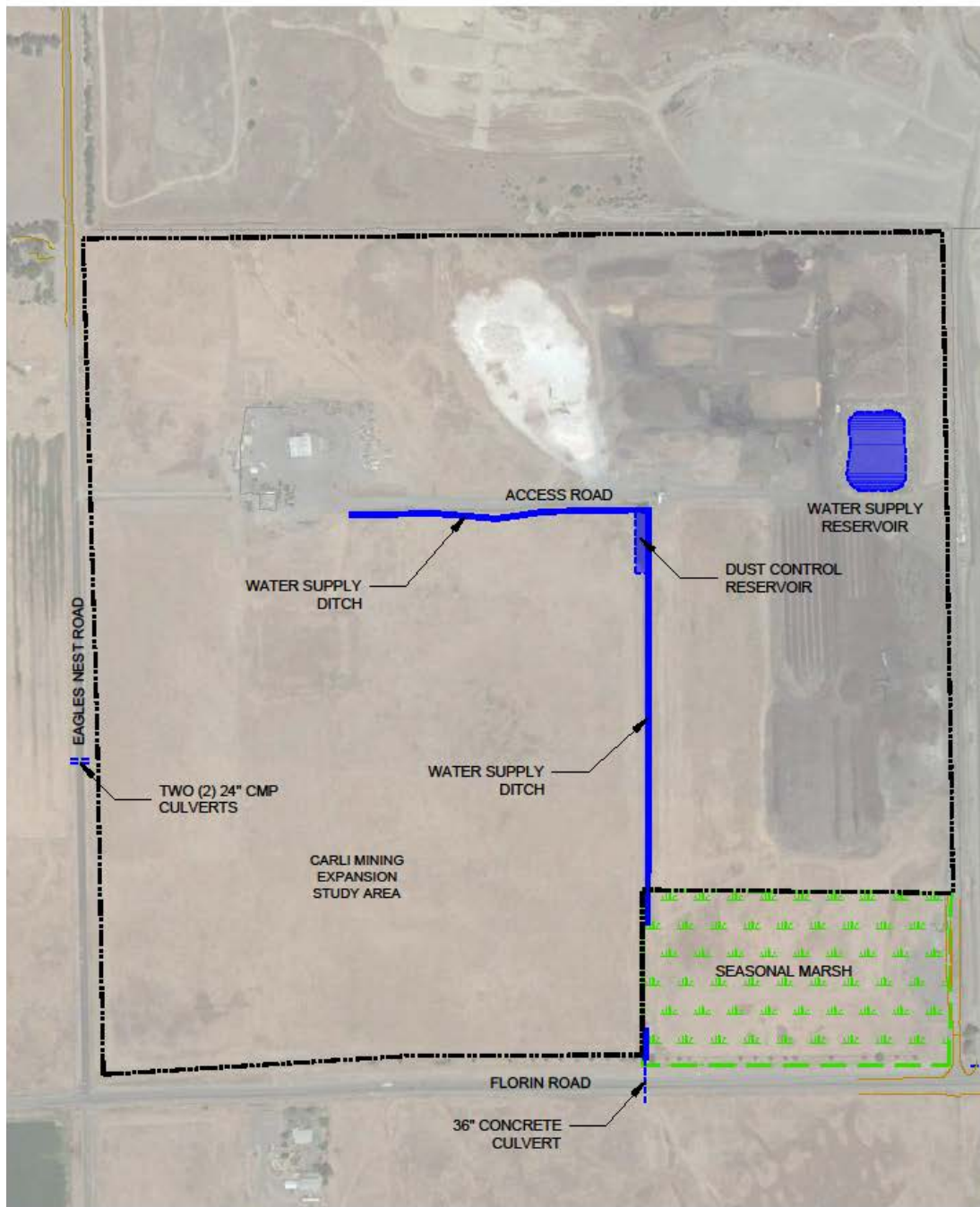


Plate HW-2: Drainage Features



**LEGEND**

----- CARLI EXPANSION AREA

AERIAL: GOOGLE EARTH DATABASE, DATED 2016

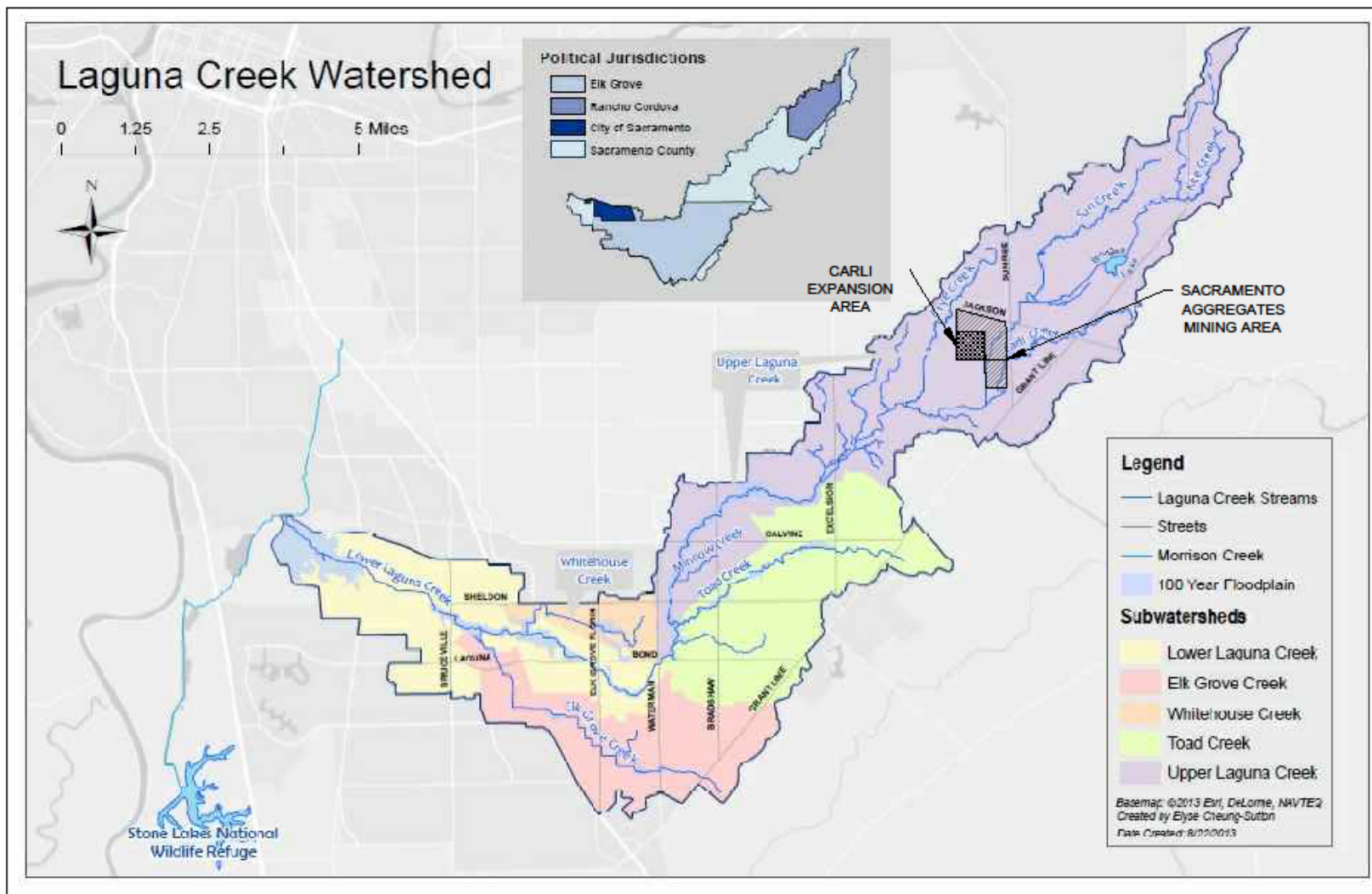


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SACRAMENTO AGGREGATES MINING EXPANSION VULCAN MATERIALS COMPANY SITE MAP	
FIGURE NUMBER	3

S:\Vulcan\Sacramento Permitting\Hydrology\CAD\WU01\_Sacramento\_Agg\_Site Plan\_090617.dwg, 3/7/2017 6:06:04 PM, DWG To PDF.pc3

## Plate HW-3: Laguna Creek Watershed



Sacramento Delta to the San Francisco Bay. The Folsom South Canal, a man-made water conveyance facility operated by the U.S. Bureau of Reclamation, parallels the eastern boundary of the Sacramento Aggregates operations but is not hydrologically connected to the mining operation areas.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the Project Site is not within a federally designated floodplain. Plates HW-4 and HW-5 show the full-scale sections of the FIRMs that include the Project area.

## SEASONAL MARSHES

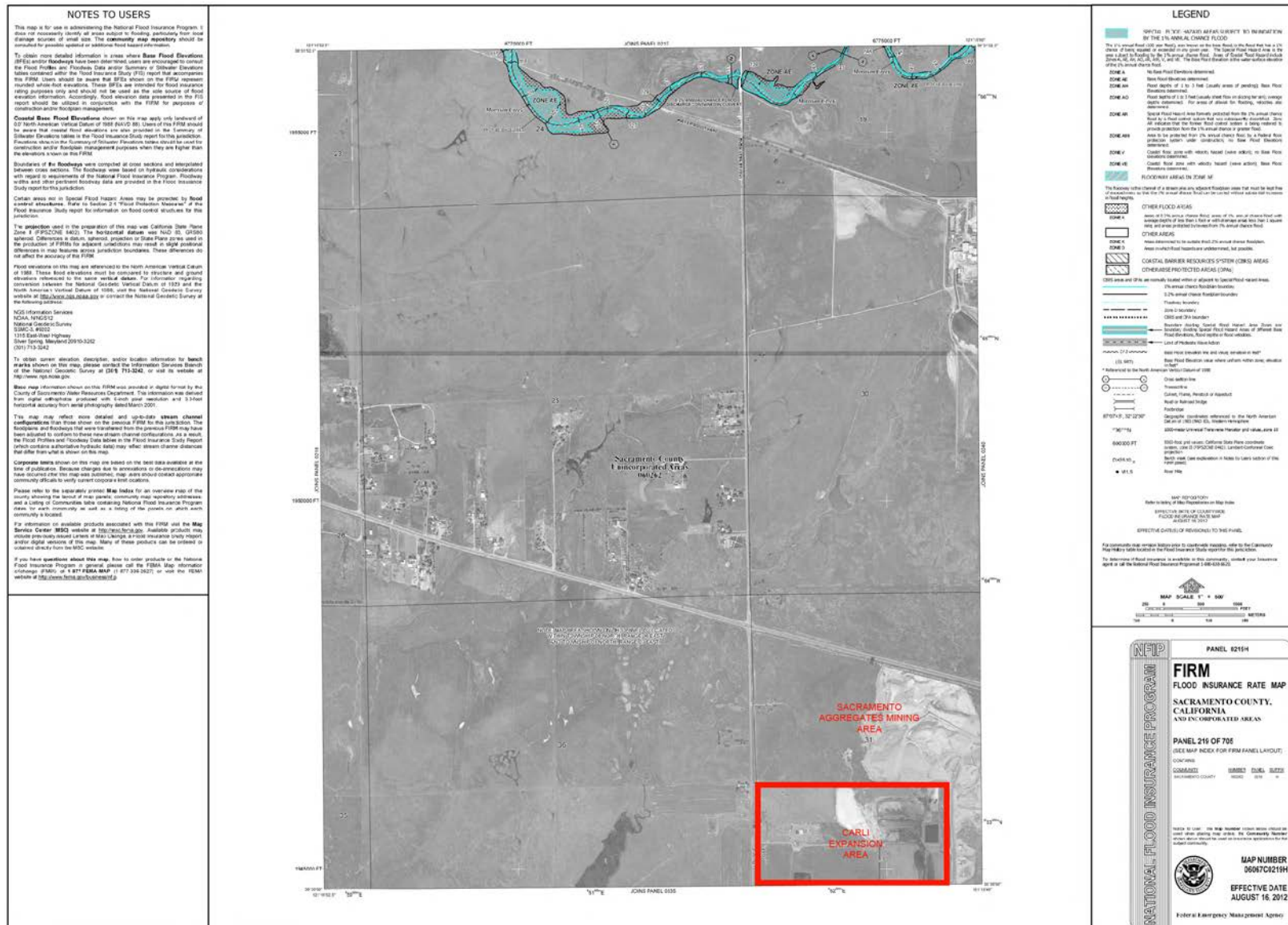
Potential seasonal marshes/wetlands located on the southeastern portion of the property, adjacent to the Project site's southeastern boundary and just north of Florin Road, appear to be supported by natural surface runoff from the site. This potential wetland area will not be mined or disturbed and has been removed from the active mining area in the mine plan, as shown in Plate HW-2.

## GROUNDWATER

The Project is located within the Department of Water Resources (DWR) defined South American Subbasin. The groundwater within the South American Subbasin is monitored by the Sacramento Central Groundwater Authority (SCGA) and is used for agriculture, industrial, municipal and private purposes.

The surface elevation of the Project Site is 120 feet above average mean sea level. The recent Sacramento County Groundwater Elevation Contour Maps (2007) show that groundwater elevations at the project site are between 0 and 10 feet above mean sea level (i.e., elevation 0 to 10 feet amsl). Plate HW-6 and HW-7 show the spring and fall elevations.

### Plate HW-4: FEMA Map 1 of Project Area



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VERSION NUMBER  
2.3.3.0  
MAP NUMBER  
0E067C0332J  
MAP REVISION

Plate HW-6: Spring Groundwater Elevations

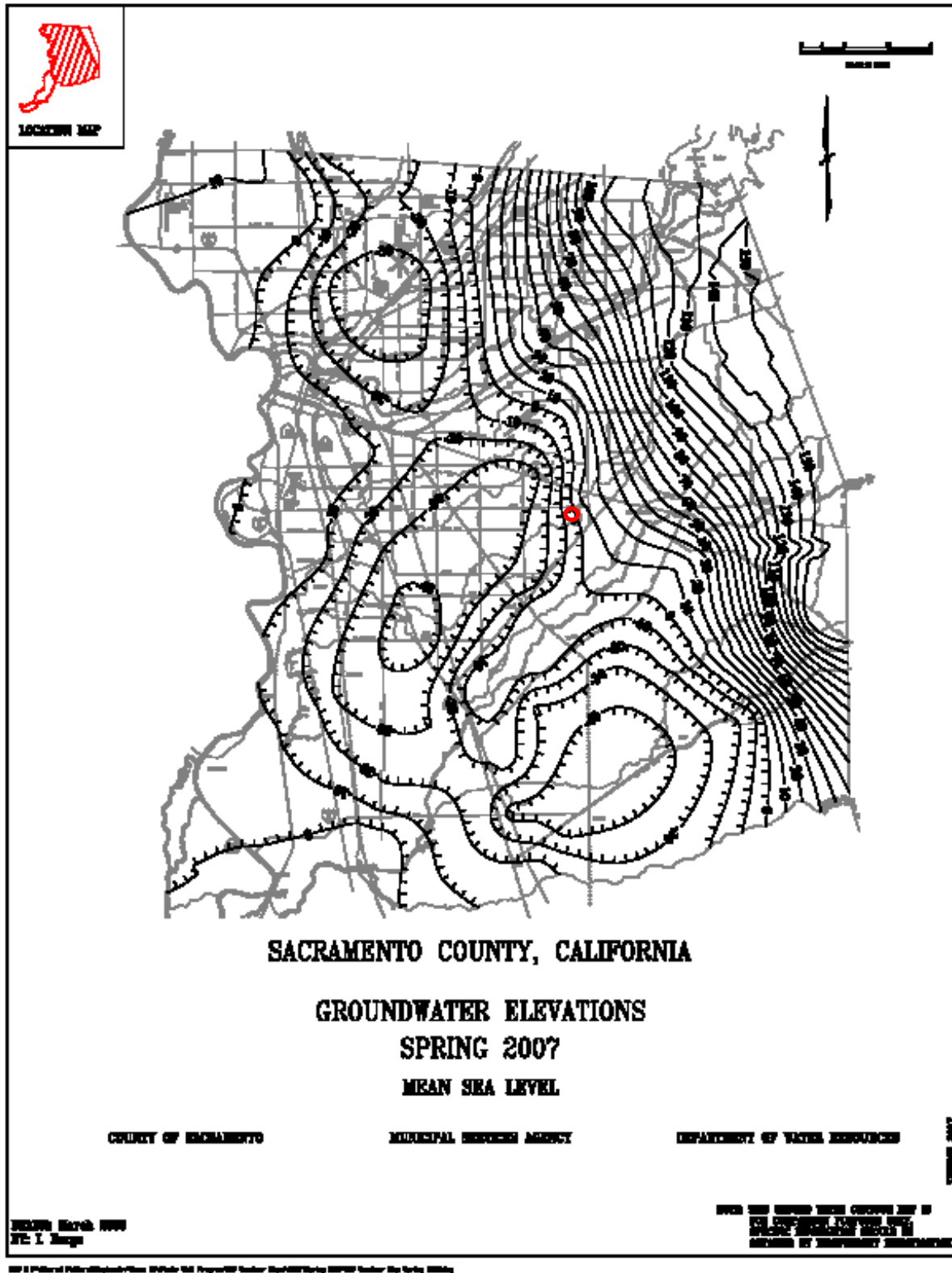
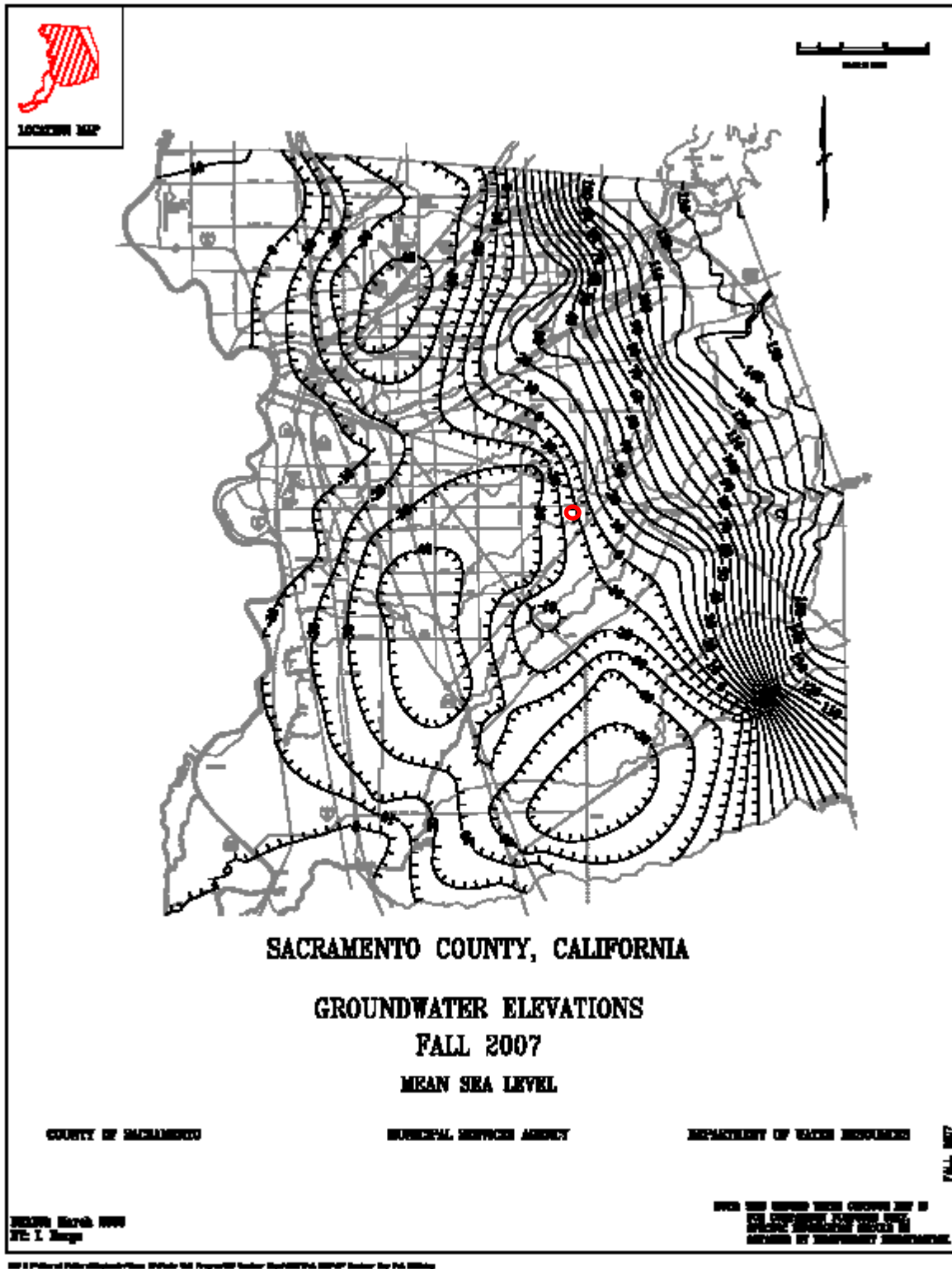


Plate HW-7: Fall Groundwater Elevations



## REGULATORY SETTING

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### 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 [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 Game (Fish and Game)
- 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 (Army Corps)

### FEDERAL

#### 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 Army Corps, 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 Army Corps 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).

## 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 (Army Corps) 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 Army Corps).

## STATE

### *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 (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. Porter-Cologne requires each Regional Water Board to prepare and adopt a Basin Plan. According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives.

The Basin Plan for the Sacramento River and the San Joaquin River Basin (October 2011) identifies the following as the beneficial uses of waters within the basin (not all are applicable to every water body): municipal water supply, agricultural water supply, industrial water supply, recreation, freshwater habitat, fish migration, fish spawning, wildlife habitat, and navigation. The “Implementation” section of the Basin Plan describes the various mechanisms used by the Regional Water Board to ensure that Basin Plan standards and policies are achieved. Mechanisms which are most germane to the discussion of this Project’s impacts include: municipal and industrial National Pollutant Discharge Elimination System permits, construction National Pollutant Discharge Elimination System permits, and the 303(d) listing of impaired waters. All of these implementation mechanisms are described in sections which follow, and the Project’s impact related to these are analyzed.

*STREAMBED ALTERATION*

Section 1603 of the Fish and Game Code requires applicants to notify Fish and Wildlife 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 Fish and Wildlife may include steps to protect water quality.

*SURFACE MINING AND RECLAMATION ACT (SMARA)*

The Surface Mining and Reclamation Act of 1975 (SMARA) is administered by the State of California, Department of Conservation, Office of Mining and Reclamation. SMARA provides a comprehensive surface mining and reclamation policy to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The reclamation plans required by SMARA and County Code define the basis for achieving safe and useable end land uses for mines. SMARA also encourages the production, conservation, and protection of the State's mineral resources.

SMARA statute 2773 states, that the reclamation plan shall be applicable to the specific piece of property. The statute further states the regulations for minimum verifiable standards such as: wildlife habitat; backfilling, regrading, slope stability, and recontouring; revegetation; drainage, diversion structures, waterways, and erosion control; prime and other agricultural land reclamation; building, structure, and equipment removal; stream protection; topsoil salvage, maintenance, and redistribution; and tailing and mine waste management. The standards shall apply to each mining operation, but only to the extent that they are consistent with the planned or actual subsequent use or uses of the mining site.

SMARA regulation 3503 also regulates erosion control facilities and their maintenance; settling ponds; grading and revegetation; erosion and sedimentation control; and surface runoff and drainage control. Additionally, SMARA regulation 3706 states that surface mining and reclamation activities shall be conducted to protect on-site and downstream beneficial uses of water in accordance with the Porter-Cologne Water Quality.

## LOCAL

*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 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 defined by full watershed development without channel modifications. The plan shall:

- a. Determine the future 100-year flood elevations associated with planned and full development of the watershed;
- b. Determine the future 100-year floodplain boundaries 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-10. Fill within the 100-year floodplain of creeks outside of the Urban Service Boundary is permissible to accommodate structures (e.g., residential, commercial, accessory) and septic systems, and only when the Board of Supervisors finds that the fill will not impede water flows or storm runoff capacity. Such development shall not cause an increase in base flood elevation of the 100-year floodplain exceeding 0.10 feet, unless analysis clearly indicated that the physical and/or economic use of adjacent property within the floodplain will not be adversely affected. A permit is required if the fill is within the jurisdiction of the Central Valley Flood Protection Board.
- 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 unless otherwise allowed in the Floodplain Management Ordinance.
- SA-17. For residential zoning, the area outside the 100-year floodplain 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 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.

### *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. Floodplains, whether local or FEMA, are regulated by the provisions of the Sacramento County Floodplain Management Ordinance, Improvement Standards, and Local Floodplain Management Plan.

### *SACRAMENTO COUNTY LAND GRADING AND EROSION CONTROL ORDINANCE*

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/stormwtr/construction.html>) and enforced by the Regional Board. Coverage is obtained by submitting a Notice of Intent (NOI) to the State 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, 2007*. 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.msa.saccounty.net/sactostormwater/SSQP/development.asp>

<http://www.sactostormwater.org/newdevelopment.asp>

#### *SACRAMENTO COUNTY ZONING CODE*

##### **4.8.5.A. Issuance of Work Authorization Permit**

Prior to commencement of any construction or mining activities pursuant to the conditional use permit, the applicant shall obtain a Work Authorization Permit from the Planning Director. This permit shall not be issued until the Director is satisfied that all conditions of the use permit, and provisions of this Section have been met. In addition, prior to issuance of the Work Authorization Permit the Planning Director must receive the items listed in Sections 4.8.5.A.1 through 4.8.5.A.4. Additional items specific to a project may be required prior to issuance of a Work Authorization Permit.

Section 4.8.5.A.3. is specific to drainage requirements:

3. A final drainage plan pursuant to Section 4.8.11.H and approved by the Sacramento County Water Resources Department.

## METHODOLOGY

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For the discussion of the hydrology of the Project, a flood and drainage report was prepared by SESPE Consulting (SESPE, September 2019). This report relied largely on the drainage and flood report data previously completed by West Yost Associates in May 2007 (2007 drainage report) for the Vulcan expansion south of Florin road (Expansion E). The 2007 drainage report required an intensive study due to the 2009 expansion's proximity to Laguna Creek and location within the floodplain. The 2007 drainage report analyzed flows in Laguna Creek using the US Army Corps of Engineers Hydrologic Engineering Center's River Analysis System (HEC-RAS) computer model. Sacramento County's Water Resources Division developed an unsteady flow model using HEC-RAS and its predecessor, Sacramento County Hydrologic Calculator (SacCalc), to develop hydrologic input to the existing HEC-1 model.

The drainage and flood report for the Expansion E included mitigation measures for flood waters from Laguna Creek since the area was within the model's 100-year floodplain. The complete 2007 drainage study for Expansion E can be found in Appendix 4 of the SESPE report (Appendix HY).

The Carli expansion does not lie within the FEMA 100-year floodplain, and is not expected to receive significant local runoff from the surrounding properties due to the existing topography and surrounding land uses. The existing Sacramento Aggregates mine to the north and east, Florin Road to the south, and Eagles Nest Road to the west of the Project potential obstruct run on flows from the surrounding properties.

The analyses conducted for the study assessed the potential Project impacts by quantifying the potential surface flows from the existing site (pre-Project), total storage capacity required for on-site rainfall as required by the Surface Mining and Reclamation Act (SMARA), and the post-Project effects on surrounding water bodies (Laguna Creek).

The maximum potential surface flow from the study area in the existing condition was calculated using the County SacCalc program's Nolte method. Precipitation values used to calculate the necessary storage capacity for on-site rainfall were generated from National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 6, Version 2, Precipitation Frequency Data Server (PFDS). Due to the large storage capacity of the mining pits that will capture and infiltrate on-site rainfall, post-Project analysis is not necessary since discharges from the site will be eliminated.

## HYDROLOGY

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The hydrology of the Project's study area is comprised of on-site rainfall and potential seasonal marsh/wetlands. Historical aerial photography suggests that low and moderate rain event flows rarely discharge to Laguna Creek and are captured in low areas, existing water supply retention basins, or seasonal marshes. During larger storm

events, the majority of the runoff from the Project area generally flows to the south and spills into low-lying areas on the adjacent property, south of Florin Road. To analyze the effects of the Project on Laguna Creek, the report assumed that the Project site currently drains indirectly to the creek via sheet flow through the adjacent property.

#### ON-SITE HYDROLOGY

The Project site is not expected to receive significant local runoff from the surrounding properties due to the existing topography and surrounding land uses. The existing Sacramento Aggregates mine site borders the Carli expansion to the north and east. Historic mine pits, silt ponds, and detention basins on the existing mine site are adequate to contain the on-site rainfall and flood flows (as described in the 2007 drainage report). Florin Road to the south and Eagles Nest Road to the west of the Project obstruct runoff from the surrounding properties. Earthen swales that run adjacent to these roads capture water and prevent flows from crossing the roads and entering the Project area.

The mining Project will ultimately result in the reduction of runoff from the study area. A SacCalc model for the existing site conditions was prepared to calculate the estimated maximum pre-Project runoff flow from the site. At the completion of mining and post-reclamation, the Project area will result in a lowered pit that will retain all on-site rainfall (Plates HW-8 and HW-9).

The SacCalc model used for the existing site conditions assumes that the Carli expansion area is comprised of one (1) subwatershed that drains to the property south of the Project Site via the culvert under Florin Road. This is a conservative assumption, as the Project area likely maintains most of the surface water onsite and the southwestern portion of the site drains to the west. Table HW-1 displays the SacCalc model inputs and computed peak flows from the Project site and Laguna Creek.

Plate HW-8: Final Pit Design

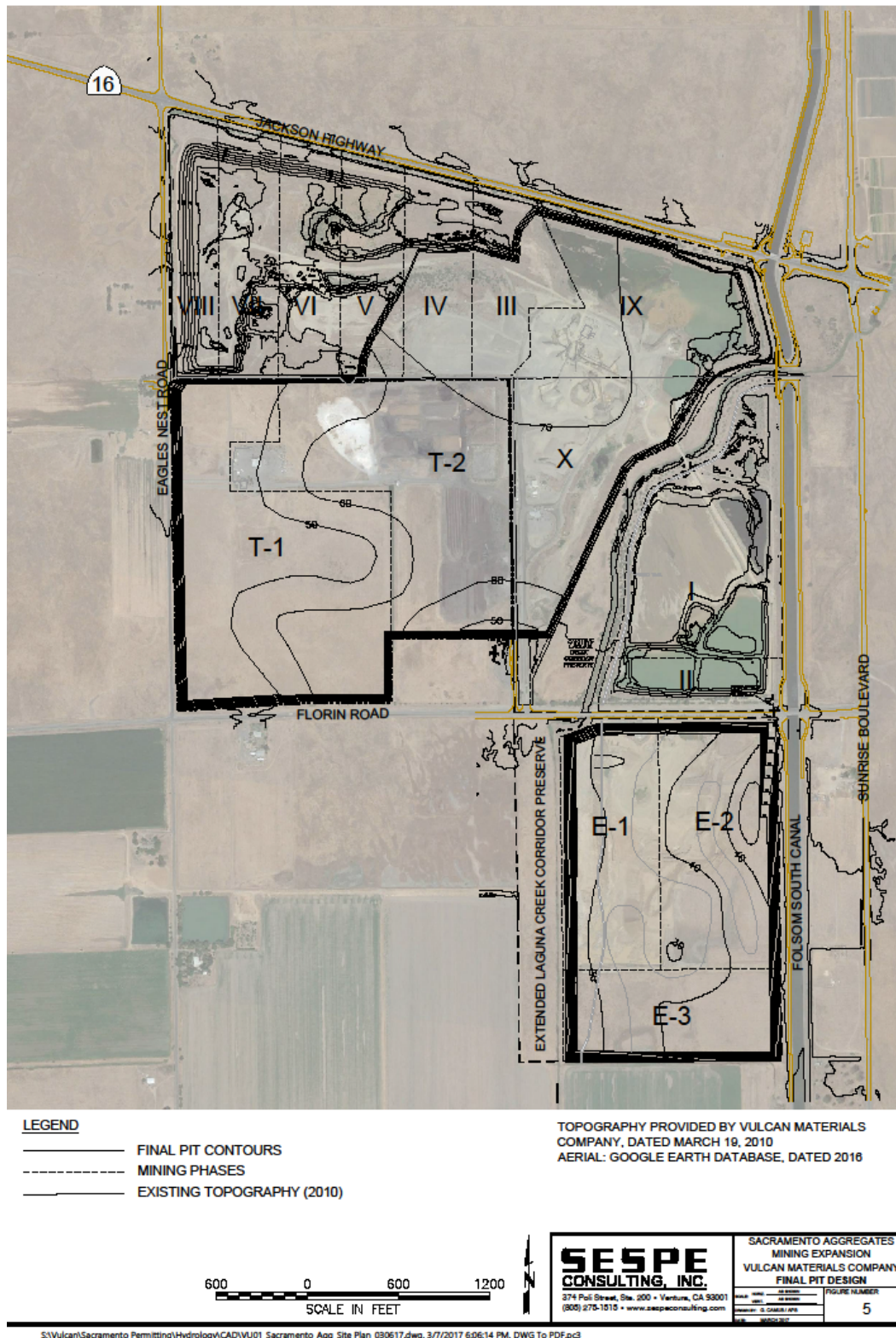
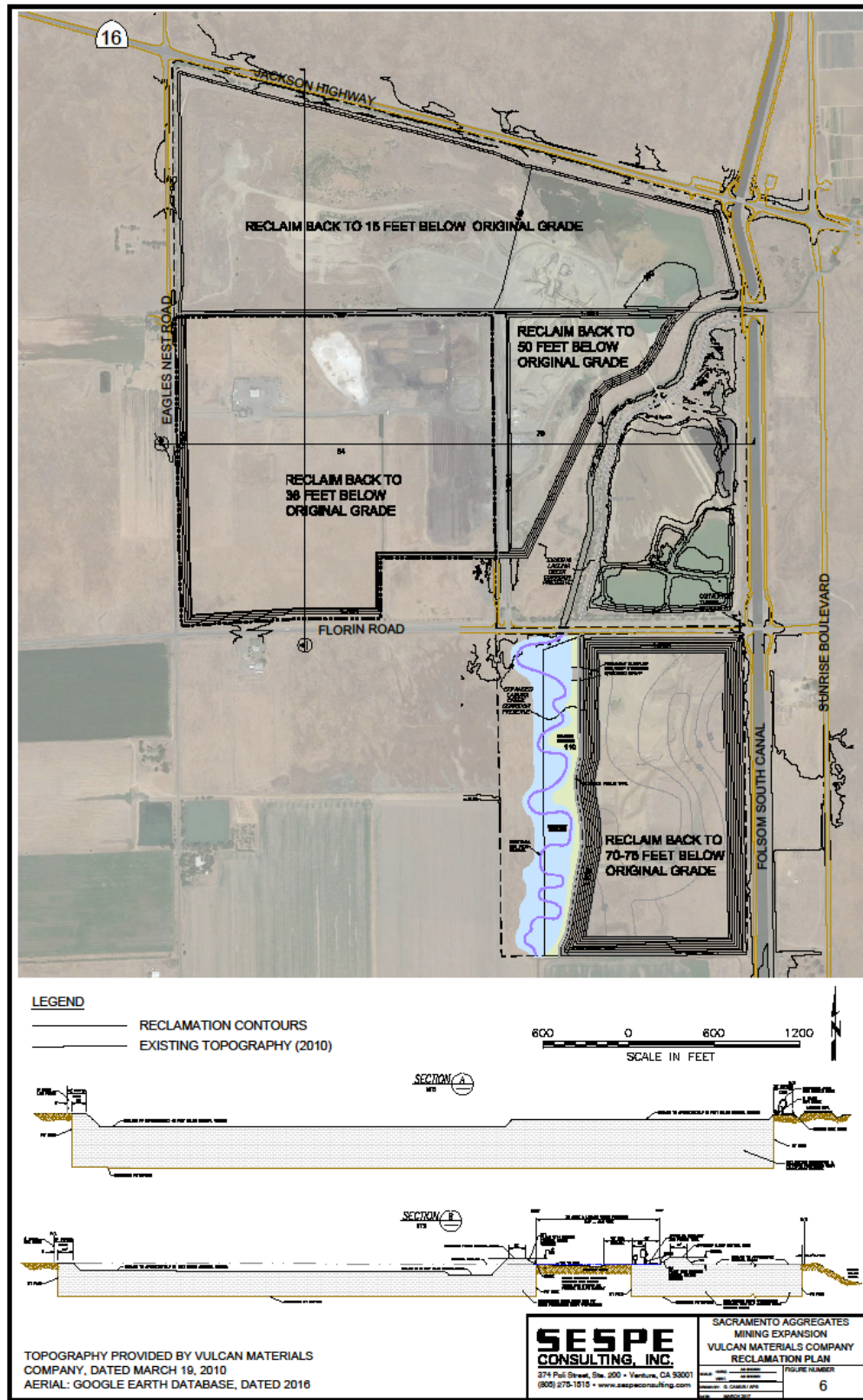


Plate HW-9: Reclamation Plan



**Table HW-1: Carli Expansion Hydrologic Data, Pre-Project**

Sub Shed	Area (acres)	Percent Impervious (%) <sup>A</sup>	Nolte Hydrological Zone	Project Existing Condition Peak Flow (cfs) <sup>B</sup>	Laguna Creek Peak Flow, 10-year Frequency (cfs) <sup>C</sup>	Computed Laguna Creek Flow Post-Mining (cfs)
CARLI	153.0	20	3	60.90	1,100	1,039.1

<sup>A</sup> Lowest percent available for Nolte Method, use for rural, low density land (City and County of Sacramento Drainage Manual Volume 2, Page 2-5).

<sup>B</sup> Nolte method design frequency based on size of drainage, greater than 100 acres uses 5-10 year recurrence interval (City and County of Sacramento Drainage Manual Volume 2, Page 2-5).

<sup>C</sup> Laguna Creek peak flow at Florin Road for 10-year recurrence frequency (West Yost Associates 20017 Drainage and Flood Report, Page 3-3).

During mining and post-mining, on-site rainfall will not flow from the Project area. Therefore, the computed post-Project Laguna Creek 10-year peak flow is the existing pre-Project Laguna Creek peak flow less the existing pre-Project existing condition peak flow.

Post-Project analysis of the Project site is not necessary due to the large storage capacity of the mining pits that will capture on-site rainfall and prevent surface water discharges from the site.

## SMARA REQUIREMENTS

SMARA regulations require surface mining and reclamation activities to be conducted in such a way to protect both on-site and downstream beneficial uses of water. In addition, erosion and sedimentation control is necessary during all phases of construction, operation, reclamation, and final closure of the mine. Erosion control methods on site must be designed to handle runoff from not less than the 20 year - 1 hour storm. The NOAA PFDS estimate for a 25 year - 1 hour storm is 0.837 inches. Therefore, the total volume of rainwater that falls on the Project area in the design storm is 9.8 acre-feet.

## FLOOD WATERS FROM LAGUNA CREEK

Previous analysis on the Laguna Creek channel in the 2007 drainage report for Expansion E included modeling of the existing 100-year floodplain, during-mining mitigation measures, and post-mining mitigation measures. Mining on the Carli expansion overlap for several months to allow a transition between the Carli site and the completion of mining activities on the expansion area south of Florin Road (Expansion/Phase E). Mitigation measures detailed in the 2007 drainage include temporary flood diversion berms along the western and southern top-of slope of the Phase E pit, and installation of a temporary detention basin and side channel weir structure to prevent the expansion of the floodplain onto adjacent properties. The specified weir crest elevation is 111.0 feet amsl. Visual inspection of the current site conditions indicated that these measures are already in place.

The 2007 drainage report also includes post-mining mitigation, which includes installation of a side channel weir to divert peak flows from Laguna Creek to the southernmost pit (Phase E). The specified weir crest elevation for post-mining flooding mitigation is 107.8 feet amsl.

With either of the proposed mitigations in place (during-mining or post-mining), flood waters from Laguna Creek are not expected to impact the Carli expansion area. Based on the topographic data, the lowest elevation contour for the Project area is 114 amsl. Conservatively assuming that the weir crest elevation controls the 100-year flood water surface elevation (111.0 feet), the Project site is not expected to be affected by flood water from Laguna Creek due to its elevation.

The 2007 drainage study based 100-year flood elevations off of HEC-RAS modeling data since FEMA flood maps (FIRMs) were not available for the expansion area at the time of the report. According to the published FEMA maps that are now available, the site is not within a federally designated floodplain. Fullscale sections of the FIRMs that show the Project area are shown in Plates HW-4 and HW-5 above.

## SIGNIFICANCE CRITERIA

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According to the CEQA Guidelines, impacts may be significant if the Project results in one of the following:

- HW-1 A violation of any water quality standard or waste discharge requirement.
- HW-2 Substantially depletes groundwater supplies or substantially interferes with groundwater recharge; or
- HW-3 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).
- HW-4 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 303d of the Clean Water Act).
- HW-5 Substantial increase to the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.
- HW-6 Creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

HW-7 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.

HW-8 Placement of structures within a 100-year flood hazard area that would impede or redirect flood flows.

HW-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.

The proposed Project will not result in the construction of housing nor will the Project place any structures within the 100-year flood hazard area that would impede or redirect flood flow. Therefore, the Project would not place housing or other structures within a 100-year flood hazard area and HW-7 and HW-8 will not be analyzed further.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation HW-1: Will the Project result in a violation of any water quality standard or waste discharge requirement?**

The Project is the expansion of an existing mining operation. Potential violations of water quality would be associated with discharge of sediments into the area waterways. As discussed in Impact Evaluation HW-4, surface and groundwater will be protected from siltation and pollutants as required by the State Surface Mining and Reclamation Act, Federal Clean Water Act, the Porter-Cologne Water Quality Control Act, County ordinances, Regional Water Quality Control Board and the State Water Resources Control Board. As required, the Project proponent will comply with National Pollutant Discharge Elimination System ("NPDES") Industrial Storm Water General Permit requirements, including implementation of a Storm Water Pollution Prevention Plan ("SWPPP") with Best Management Practices ("BMPs") to control erosion, sedimentation, and pollution. As required, the Project will also implement a Spill Prevention, Control, and Countermeasure Plan ("SPCC Plan") and Hazardous Materials Business Plan pursuant to 40 CFR Part 112 and 19 CCR Section 2729, respectively. Compliance with these regulations, in addition to the buffer of approximately 35 to 45 feet of native undisturbed material above the groundwater table, will ensure that groundwater resources are protected.

Surface runoff is not anticipated as the Project Site will be a self-contained basin. During mining activities, direct precipitation and drainage will be controlled through a combination of berms, slit fences, revegetation, hay bales and other erosion control measures, as needed, to ensure that land and water resources are protected from erosion, gullyng, sedimentation, and potential contamination.

However, during the initial phases of the mining plan (overburden removal), the ground disturbance activities have the potential to contribute sediment to surface water flows from the site.

**Level of Significance Before Mitigation: Potentially Significant**

To ensure that the Project does not deteriorate the downstream or off-site water quality, the following Mitigation Measure HW-1 is recommended.

HW-1: Prior to ground preparation (overburden removal) activities, a minimum 3-foot tall temporary earthen berm shall be constructed along the western and southern border of the expansion boundary. The temporary berm shall remain in place until (1) the mining pit is large enough to hold 9.8 acre-feet of water and (2) areas disturbed as part of the mining expansion are graded to drain to the pit bottom.

Plate H-10 shows the approximate location of the berm described in HW-1.

### **Level of Significance After Mitigation: Less than Significant**

#### **Impact Evaluation HW-2: Does the Project substantially deplete groundwater supplies or substantially interfere with groundwater recharge?**

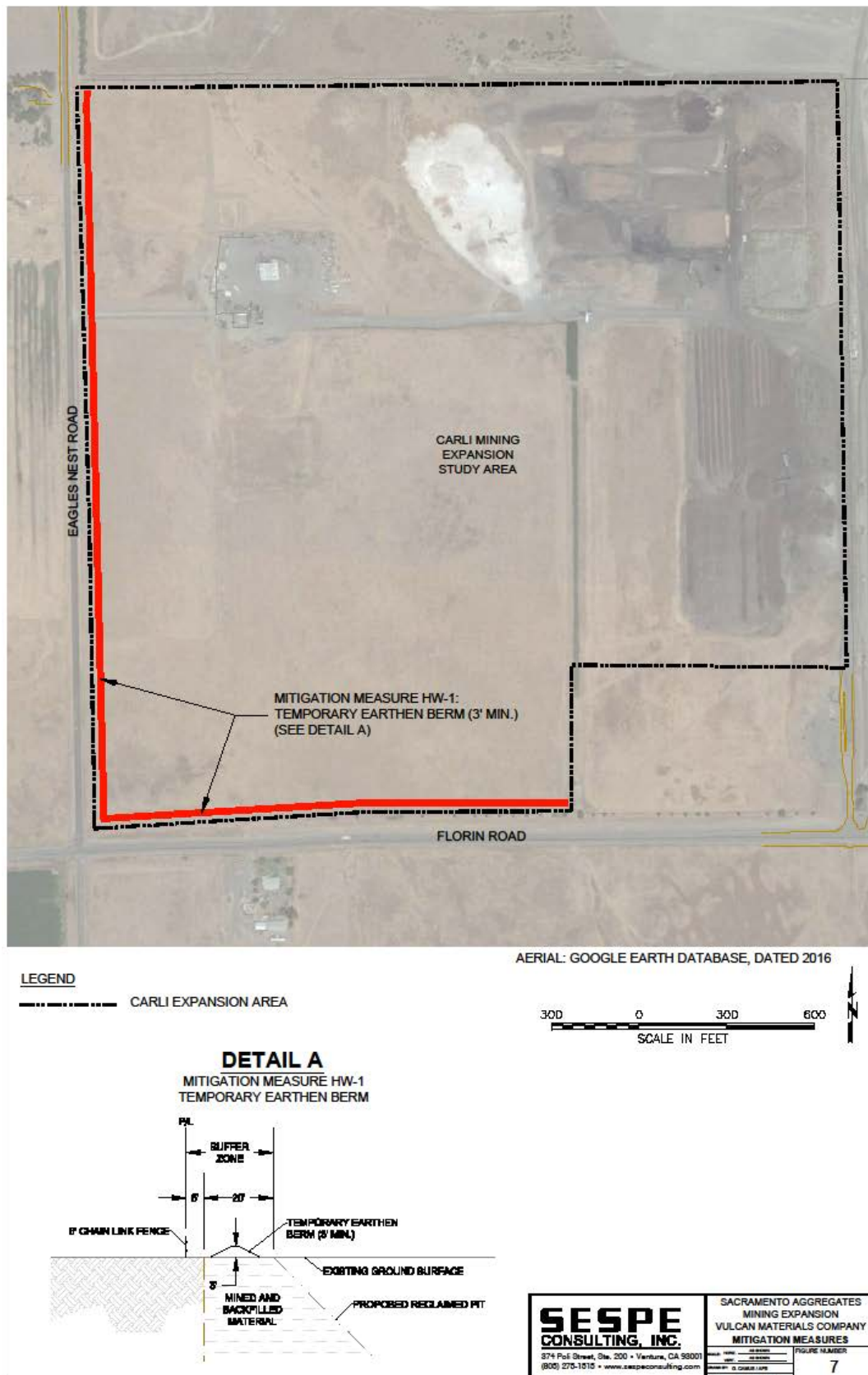
The surface elevation of the Project Site is 120 feet above mean sea level. The recent Sacramento County Groundwater Elevation Contour Maps (see Plates HW-6 and HW-7) show that groundwater elevations at the Project Site are between 0 and +10 feet mean sea level, which correlate to depths of approximately 110 to 120 feet below the current site grade.

The Project is not expected to adversely impact any wells or groundwater resources. During the geological survey of the Project Site (see Chapter 12) free water was encountered at depths ranging of about 57 to 58 feet while drilling. The water encountered in the borings is considered perched water and not the regional groundwater. It is reasonable to assume that if existing wells in the vicinity are currently used as a source of domestic or agricultural water, then these wells are already screened at intervals that are within the groundwater table and well below the proposed mine floor. Based on the maximum mining depth of 75 feet below ground surface, groundwater will not be encountered and a buffer of approximately 35 to 45 feet will exist between groundwater and the fully developed mine floor. Since groundwater is located below the proposed mining depths, there is also no potential for groundwater drawdown resulting from groundwater spillage or seepage into the mining pits. Therefore, the Project's impacts to groundwater supply are ***less than significant***.

### **Level of Significance: Less than Significant**

#### **Impact Evaluation HW-3: Does the Project substantially alter the existing drainage pattern of the project area and/or increase the rate of or amount of surface runoff in a manner that would result in flooding on- or off-site?**

If sediment-laden or otherwise polluted runoff discharges from the construction site are found to impact the County's storm drain system and/or Waters of the State, the property owner will be subject to enforcement action and possible fines by the County and the Central Valley Regional Water Quality Control Board. During the initial phases of the mining plan (overburden removal), the ground disturbance activities have the

**Plate HW-10: Mitigation Measure HW-1 Temporary Berm Location**

Potential to contribute sediment to surface water flows from the site. With the implementation of Mitigation Measure HW-1 impacts would be ***less than significant***.

#### POTENTIAL IMPACTS TO LAGUNA CREEK AND THE LAGUNA CREEK FLOODPLAIN

No direct encroachment into the creek or existing floodplain is planned during the Project. The current approved mining and reclamation plan for the Sacramento Aggregates mining operations include existing and future measures that mitigate for the loss of natural floodplain storage by the previous expansion. These measures would remain as the previous expansion area is reclaimed.

There will be no need for mitigation work affecting the creek or floodplain upstream or downstream of the site as a result of this Project. ***This impact is less than significant.***

#### POTENTIAL IMPACTS ON THE PROJECT SITE DRAINAGE

Local drainage within the mining operation will be collected in the excavated pits and will not be released to the creek. If necessary, storm water collected on the project site will be pumped to the existing settling ponds on the Sacramento Aggregates processing area adjacent to the Project area. Post-reclamation, the bottom of the excavation will temporarily retain all storm water from direct rainfall on-site and may result in the development of seasonal marshes in the low areas of the Project site. Outside of the Project area, land will drain to the creek as it does at present. Impacts from changes in the existing drainage pattern would be ***less than significant***.

#### **Level of Significance: Less than Significant**

#### **Impact Evaluation HW-4: Does the Project create substantial sources of polluted runoff or otherwise substantially degrade ground or surface water quality or which would result in substantial erosion or siltation on or off-site?**

Surface and groundwater will be protected from siltation and pollutants as required by the State Surface Mining and Reclamation Act, Federal Clean Water Act, the Porter-Cologne Water Quality Control Act, County ordinances, Regional Water Quality Control Board and the State Water Resources Control Board. As required, the project proponent will comply with National Pollutant Discharge Elimination System ("NPDES") Industrial Storm Water General Permit requirements, including implementation of a Storm Water Pollution Prevention Plan ("SWPPP") with Best Management Practices ("BMPs") to control erosion, sedimentation, and pollution. As required, the Project will also implement a Spill Prevention, Control, and Countermeasure Plan ("SPCC Plan") and Hazardous Materials Business Plan pursuant to 40 CFR Part 112 and 19 CCR Section 2729, respectively. Compliance with these regulations, in addition to the buffer of approximately 35 to 45 feet of native undisturbed material above the groundwater table, will ensure that groundwater resources are protected.

Surface runoff is not anticipated as the Project Site will be a self-contained basin. During mining activities, direct precipitation and drainage will be controlled through a combination of berms, silt fences, revegetation, hay bales and other erosion control measures, as needed, to ensure that land and water resources are protected from erosion, gullying, sedimentation, and potential contamination.

During the wet season (October 1 – April 30), the Project must include an effective combination of erosion, sediment and other pollution control best management practices (BMPs) in compliance with the County ordinances and the State's Industrial General Permit. During the rest of the year, typically erosion controls are not required, except in the case of predicted rain.

Erosion controls should always be the first line of defense, to keep soil from being mobilized in wind and water. Examples include stabilized construction entrances, tackified mulch, 3-step hydroseeding, spray-on soil stabilizers and anchored blankets. Sediment controls are the second line of defense; they help to filter sediment out of runoff before it reaches the storm drains and local waterways. These types of sediment controls could be utilized during initial site preparation and are normally in place but seldom needed during active mining. Examples include, staked or weighted straw wattles/fiber rolls, and silt fences. The Project would not create substantial sources of polluted runoff or otherwise substantially degrade water quality. The Project is designed to minimize erosion and provide sediment control by retaining stormwater and runoff in the interior mining pits (basins). Surface runoff will be allowed to collect in the mine floor before it evaporates, infiltrates, or is used on-site (e.g., for dust control). Prior to any mining-related excavations, standard construction Best Management Practices (BMPs) such as installation of straw wattles, berms and stabilized construction entrances, will be implemented to ensure avoidance and proper erosion and sediment control.

Mine waste will be limited to general refuse (which will be disposed of in accordance with applicable standards). The overburden fill slopes, perimeter berms, and temporary stockpiles will be seeded and wetted as needed to minimize water and wind erosion. No material stockpiles will be left following reclamation. However, any berms that may be installed and vegetated for visual or noise screening purposes, or flood protection, may be left in place.

In addition to erosion and sediment controls, the Project must have BMPs in place to keep other construction-related wastes and pollutants out of the storm drains in the event that wastes or pollutants are tracked out of the site by vehicles or other means. Such practices include, but are not limited to: containing wastes, managing portable toilets properly, and dry sweeping instead of washing down dirty pavement.

It is the responsibility of the Project proponent to verify that the proposed BMPs for the project are appropriate for the unique site conditions, including topography, soil type and anticipated volumes of water entering and leaving the site during mining. BMPs will be added to the stormwater pollution prevention plan (SWPPP), which is reviewed and approved prior to the issuance of the work authorization permit. If a SWPPP is not required (i.e., in a situation where a Notice of Non-Applicability is filed instead), then the

applicant will be expected to carry out the BMPs identified in its approved reclamation plan as needed.

During the mining phase, the stockpiles for topsoil and overburden will be vegetated with native grasses to guard against erosion. The vegetation of the stockpiles is required by the reclamation plan and will be inspected at least once per year to ensure compliance.

Areas reclaimed to non-prime agriculture (e.g., dryland pasture fields) will be backfilled/leveled as appropriate, graded for positive drainage, and prepared for crop plantings (e.g., winter wheat). Should any supplemental soil stabilizing practices be needed, straw mulch, fiber rolls, erosion control blankets and/or other BMPs will be used as necessary to control soil erosion.

If sediment-laden or otherwise polluted runoff discharges from the construction site are found to impact the County's storm drain system and/or Waters of the State, the Property owner will be subject to enforcement action and possible fines by the County and the Central Valley Regional Water Quality Control Board. Project compliance with requirements outlined above, as administered by the County of Sacramento and the Central Valley Regional Water Quality Control Board will ensure that Project-related erosion and pollution impacts are ***less than significant***.

**Level of Significance: Less than Significant**

**Impact Evaluation HW-5: Does the Project create substantial sources of runoff that would exceed the capacity of existing or planned stormwater systems?**

As discussed in Impact Evaluation HW-1, surface runoff is not anticipated as the Project Site will be a self-contained basin. During mining activities, direct precipitation and drainage will be controlled through a combination of berms, slit fences, revegetation, hay bales and other erosion control measures, as needed, to ensure that land and water resources are protected from erosion, gullyng, sedimentation, and potential contamination.

However, during the initial phases of the mining plan (overburden removal), the ground disturbance activities have the potential to contribute sediment to surface water flows from the site. In addition, to the potential water quality impacts described above, surface water flows from the site water would be directed to existing stormwater system. While not anticipated that runoff would exceed the capacity of existing stormwater facilities, with the implementation of Mitigation Measure HW-1 stormwater would be retained on site. Therefore, impacts are ***less than significant***.

**Impact Evaluation HW-6: Does the Project place structures that would impede or redirect flood flows within a 100-year floodplain or 200-year floodplain area in areas requiring urban levels of protection?**

The 2014 Sacramento County Floodplain Management Ordinance (CFMO) defines maximum allowable increments in post-project water surface elevations resulting from the implementation of projects. The Sacramento County Floodplain Management Ordinance Section 906-06 (H) requires that a project not have an adverse impact, as defined in Sacramento County Floodplain Management Ordinance Section 902-01. The definition of adverse impact includes but is not limited to an increase in the base flood elevation equal or greater than 0.1 foot.

No direct encroachment into the creek or existing floodplain is planned during the Carli expansion Project. The current approved mining and reclamation plan for the Sacramento Aggregates mining operations include existing and future measures that mitigate for the loss of natural floodplain storage by the previous expansion. The Project would not place structures that would impede or redirect flood flows within the floodplain area.

There will be no need for additional mitigation work affecting the creek or floodplain upstream or downstream of the site as a result of this Project. Impacts would be ***less than significant***.

**Level of Significance: Less than Significant**

**Impact Evaluation HW-9: Will the Project result in the 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.?**

Local drainage within the mining operation will be collected in the excavated pits and will not be released to the creek. If necessary, storm water collected on the project site will be pumped to the existing settling ponds on the Sacramento Aggregates processing area adjacent to the Project area. Post-reclamation, the bottom of the excavation will temporarily retain all storm water from direct rainfall on-site and may result in the development of seasonal marshes in the low areas of the Project site. Outside of the Project area, land will drain to the creek as it does at present.

The Project would not result in exposure of people or structures to flooding; therefore the impacts would be ***less than significant***.

**Level of Significance: Less than Significant**

## 12 GEOLOGY AND SOILS

### INTRODUCTION

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This chapter describes the expansion Project Site's soils and geology. It provides an analysis of slope stability related to the pit edges and creek channel and discusses the project's potential impacts to paleontological resources. Where appropriate, mitigation is included to reduce or eliminate impacts.

### ENVIRONMENTAL SETTING

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#### REGIONAL GEOLOGY

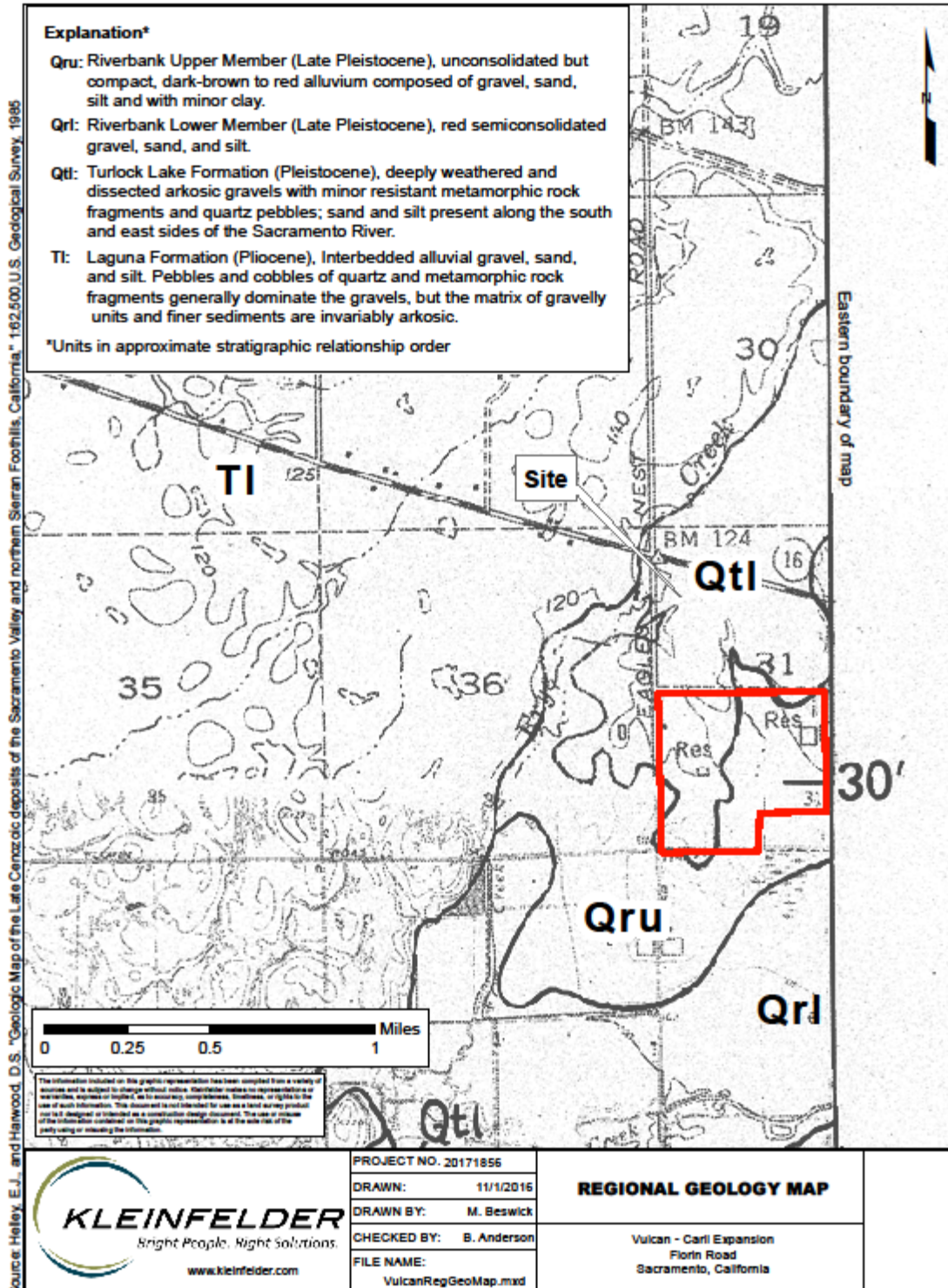
The present-day landscape of Sacramento County has been shaped over time by the ongoing processes of erosion and deposition. Material eroded from the ancestral Sierra Nevada, formed over 100 million years ago, was deposited onto the Sacramento Valley floor. Approximately 10 to 15 million years ago tectonic 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.

The Project is located in the southern portion of the Sacramento Valley. The Sacramento Valley represents the north extension of California's Great Valley Geomorphic Province characterized by a thick accumulation of alluvial and floodplain deposits within an asymmetric trough, approximately 400 miles long and 40 miles wide. The province is bordered to the north by the Cascade and Klamath ranges, to the west by strongly deformed sedimentary and volcanic rock units of the Coast Ranges, to the east by the granitic, gently sloping western foothills of the Sierra Nevada range, and to the south by east-west trending Transverse ranges. Erosion of these mountains has resulted in the accumulation of thousands of feet of granular and finegrained alluvium in the valley. These deposits thin and terminate on the older bedrock units representative of the mountain provinces along the boundaries of the basin.

Geologic mapping has been performed at the closest detail (1:62,000) by Helley and Harwood (1985) in the site vicinity. Plate GS-1 shows a portion of this map along with the site location and description of the site geologic units as mapped by Helley and Harwood. The area is characterized from west to east and oldest to youngest by:

- Laguna Formation (map symbol T1): Pliocene, interbedded alluvial gravel, sand, and silt.

# Plate GS-1: Regional Geology Map



- Turlock Lake Formation (map symbol Qtl): Pleistocene, deeply weathered and dissected arkosic gravels with minor resistant metamorphic rock fragments and quartz pebbles.
- Riverbank Formation:
  - Upper Member (map symbol Qru): Late Pleistocene, unconsolidated but compact dark-brown to red alluvium composed of gravel, sand, silt and with minor clay.
  - Lower Member (map symbol Qrl): Late Pleistocene, red semi-consolidated gravel, sand, and silt.

The Project site is mapped underlain by the Turlock Lake Formation. The older Laguna Formation is mapped approximately one third mile west of the site and stratigraphically beneath the Turlock Lake Formation. The Laguna Formation formed topographically higher and was eroded over time before the subsequent Turlock Lake and Riverbank Formations were deposited, respectively, along the eroded relief areas. This erosion and deposition sequence created the terraced topography with older geologic units topographically higher than younger geologic units.

### *SOILS*

The following soil types are mapped within the project area, shown in Plate GS-2 (NRCS Soil Survey Sacramento County, California):

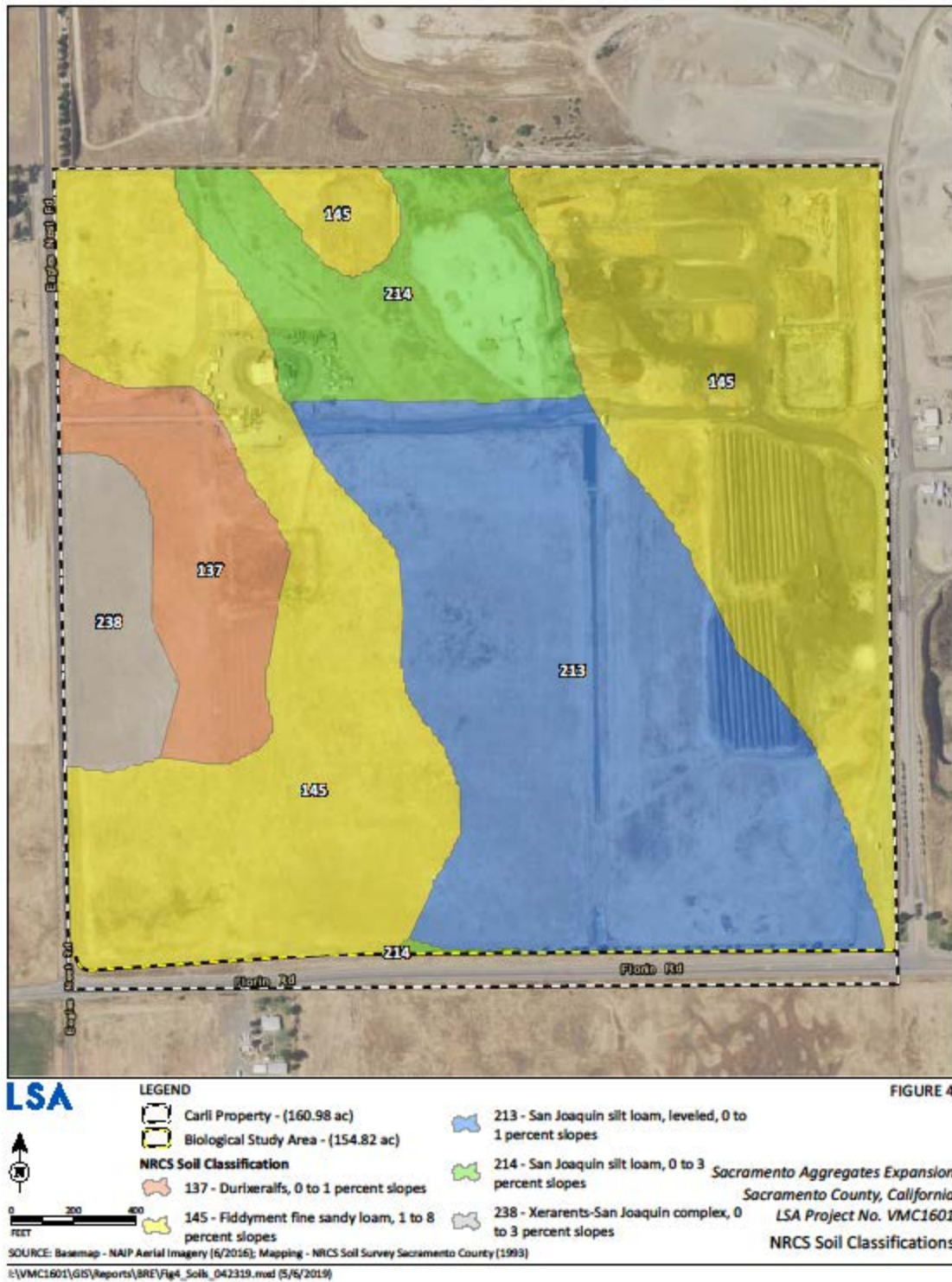
- Durixeralfs, 0 to 1 percent slopes
- Fiddymment fine sandy loam, 1 to 8 percent slopes
- San Joaquin silt loam, leveled, 0 to 1 percent slopes
- San Joaquin silt loam, 0 to 3 percent slopes
- Xerarents-San Joaquin complex, 0 to 1 percent slopes

All soil types in the review area with the exception of the Fiddymment fine sandy loam soils are considered hydric soils (NRCS Soil Survey Sacramento County, California).

### **DURIXERALFS, 0 TO 1 PERCENT SLOPES**

Durixeralfs are a great group of soils in the Alfisols order and the Xeralfs suborder and consist of well-drained soils formed in material derived from granitic rock sources. These soils are found on low terraces. The mean annual precipitation is about 15 inches and the mean annual temperature is about 62°F.

## Plate GS-2: Soils Map



**FIDDYMENT FINE SANDY LOAM, 1 TO 8 PERCENT SLOPES**

The Fiddymment-series soil consists of moderately deep, well-drained soils formed in material weathered from consolidated sediments of mixed rock sources. These soils are on nearly level to rolling low terraces and hills. The mean annual precipitation is about 19 inches and mean annual temperature is about 61°F. Soil temperature ranges from 62 to 67°F. Soil between 8 and 21 inches is moist in all parts from December through April and is dry in all parts from June through mid-October in most years.

**SAN JOAQUIN SILT LOAM**

The San Joaquin-series soils consist of moderately deep to a duripan (depth ranges from 20 to 40 inches), well and moderately well drained soils formed in alluvium derived from mixed but predominantly granitic rock sources. They are on undulating low terraces; some areas have been leveled. The mean annual precipitation is about 15 inches and the mean annual temperature is about 61°F. Soil temperature ranges from 60 to 64°F. Soil at depths of about 7 to 24 inches or directly above the duripan is dry in all parts from June to November and is moist in some or all parts the rest of the year. Permeability is very slow, so some areas are subject to rare or occasional flooding.

**XERAENTS-SAN JOAQUIN COMPLEX, 0 TO 1 PERCENT SLOPES**

Xerarents-San Joaquin Complex soils consist of well and moderately well drained soils formed in alluvium derived from granitic rock sources. These soils are found on low terraces in floodplains and basin floors. The mean annual precipitation is about 17 inches and the mean annual temperature is about 62°F.

**SOIL HAZARDS***SUBSIDENCE*

Subsidence is the gradual settling or sinking of Earth's surface with little or no horizontal motion. Lands in Sacramento County may be affected by five types of subsidence: compaction of unconsolidated soils by earthquake shaking, compaction by heavy structures, the erosion of peat soils, peat oxidation, and fluid withdrawal. As discussed below, the likelihood for substantial seismic activity in the Project area is low; thus earthquake shaking is not a major source of subsidence. Subsidence related to peat soils and heavy structures has not been an issue in the Project area. The pumping of water for residential, commercial, and agricultural uses from aquifers is the most common cause of subsidence in the County via the fluid withdrawal mechanism. Known subsidence areas generally occur in the far western portions of Sacramento County, west of Interstate Highway 5 (I-5). Although subsidence has caused substantial problems in portions of the Delta and the San Joaquin Valley, it has not been a major concern in the project area.

*LANDSLIDES*

A landslide is the downhill movement of masses of earth material under the force of gravity. The factors contributing to landslide potential are steep slopes, unstable terrain, and proximity to earthquake faults. This process typically involves the surface soil and

an upper portion of the underlying bedrock. Expansive soil on slopes tends to shrink and swell in response to moisture content changes. During this shrinking and swelling process, gravity tends to work the soil downslope. Movement may be very rapid, or so slow that a change of position can be noted only over a period of weeks or years (creep). The size of a landslide can range from several square feet to several square miles. The topography in the project area is relatively flat and not subject to landslides.

#### *NATURALLY OCCURRING ASBESTOS*

Asbestos is a naturally occurring mineral that is classified as a known human carcinogen. In California, serpentinite and ultramafic rock (two specific rock types) may contain asbestos minerals, especially near fault zones. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock.

Asbestos poses a health risk only when it becomes friable, which means that it can be easily broken into tiny pieces, which can then be become airborne and then inhaled. All types of asbestos are hazardous and may cause lung disease and cancer. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading, and at quarry operations (due to broken or crushed serpentinite and ultramafic rocks). All of these activities may have the effect of releasing potentially harmful asbestos into the air.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) has determined that Naturally Occurring Asbestos is present within areas of eastern Sacramento County. The unincorporated areas in eastern Sacramento County with a moderate likelihood for the presence of naturally occurring asbestos include portions of Rancho Murieta and areas south of U.S. 50 in the City of Folsom's sphere of influence. The Project Site is not near these areas therefore, the Project Site is not likely to contain naturally occurring asbestos.

### GEOLOGICAL HAZARDS

#### *FAULTING AND SEISMICITY*

The project site is located within an area influenced by several major Quaternary faults to the west and east. These include the Dunnigan Hills Fault, the Great Valley fault zone, and the Vaca Fault Zone to the west and the Foothills Fault System (FFS) to east of the project. The nearest Quaternary fault located west of the project site is the Dunnigan Hills fault located 47 miles west. The FFS is represented by multiple faults including the Prairie Creek, Spenceville, Deadman, Maidu, Lone, and Cleveland Hill faults. The closest portion of this fault system is located approximately 28 miles east of the project site. During the life of the Project it is probable at least one moderate to severe earthquake generated on one of these faults will cause ground shaking at the site. There is no evidence of recent (Holocene) faulting within the site area and no faults are mapped trending toward or near the site. Active Earthquake Fault Zones are not indicated in the site area by Special Publication 42, as defined by the Alquist-Priolo Earthquake Zoning Act of 1972.

The nearest fault to the Project Site is the Willows Fault, mapped by Helley & Harwood (1985) about 8 miles west of the site. This is a buried fault (no surface evidence of faulting) and is defined as potentially capable of generating infrequent and moderate magnitude earthquakes along its northern extent north of the Sutter Buttes. The fault is mapped on the basis of offset, deep (i.e. 1,500 feet) bedrock strata and associated groundwater elevation anomalies in that region.

#### *HISTORIC SEISMICITY*

A search of the USGS Earthquake Catalog (<http://earthquake.usgs.gov/earthquakes/search/>) of earthquakes between 1800 and present day within an approximately 60-mile radius of the site was performed. The data confirms the general absence of large earthquake epicenters (magnitude 4.5 or greater) in the Sacramento region with the most significant events represented by:

- Magnitude 6.0 on August 24, 2014 (South Napa) located approximately 60 miles southwest
- Magnitude 4.5 on January 25, 1980 (Concord) located approximately 52 miles southwest
- Magnitude 5.3 on January 27, 1980 (Concord) located approximately 52 miles southwest
- Magnitude 4.5 on July 4, 1990 (San Francisco) located approximately 56 miles southwest
- Magnitude 4.7 on October 11, 1986 (San Francisco) located approximately 56 miles southwest
- Magnitude 5.8 on January 24, 1980 (San Francisco) located approximately 52 miles southwest
- Magnitude 5.8 on August 1, 1975 (Oroville) located approximately 63 miles north

#### *LIQUEFACTION*

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts and silty clays are generally stable under the influence of seismic ground shaking. Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining or basement walls, and slope instability. Sites underlain by relatively loose sandy soils and saturated deposits of fill combined with a shallow groundwater table, which typically are located in alluvial river valleys/basins and floodplains, are susceptible to liquefaction. As identified in the General Plan, Sacramento County has two areas that may pose liquefaction problems: the City of Sacramento downtown area and the Delta. The Project area is outside both the

downtown area and the Delta. Therefore, the potential for damaging liquefaction to occur at the Project Site is considered to be very low.

### *MINERAL RESOURCES*

Under Surface Mining and Reclamation Act (SMARA), the State Mining and Geology Board may designate certain mineral deposits as being regionally significant to satisfy future needs. SMARA requires the office of the State Geologist to classify lands within California based on mineral resource availability. The State Geologist is responsible for classifying lands subject to urban development by Mineral Resource Zones according to the presence or absence of significant sand, gravel, stone, or other deposits of value that may be suitable for mining. The process is based solely on underlying geology without regard to existing land use or land ownership. The primary goal of mineral land classification is to ensure that local government decision-makers recognize and consider the mineral potential of the land before making land use decisions that could preclude mining.

In compliance with SMARA, the California Geological Survey (CGS) has established the following Mineral Resource Zone (MRZ) classification system to denote both the location and significance of key extractive resources

- MRZ-1** Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- MRZ-3** Areas containing mineral deposits, the significance of which cannot be evaluated from existing data.
- MRZ-4** Areas where available information is inadequate for assignment to any other MRZ zone.

The Project Site is located in the MRZ-2 designation. The MRZ-2 designation is defined as areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

The primary mineral resource in the project area in production is sand and gravel aggregate. Other mineral resources are located throughout the County that have, or could support commercial operations. These resources include clay, gold, silver, peat, topsoil, lignite, natural gas, and petroleum. Clay is surface mined in at least two locations within the county including along the Cosumnes River. At present, peat and lignite deposits in the Delta are not commercially mined.

### PALEONTOLOGICAL RESOURCES

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. The University of California Museum of Paleontology database contains 120 records of vertebrate fossils from the Riverbank

Formation in Sacramento County. Most of these fossils were found in the Teichert gravel pit near Perkins. A significant number of small vertebrate fossils were excavated at this site, including Pleistocene ground squirrels, voles, pocket gophers, packrats, shrews, and a bird (University of California Museum of Paleontology 2018).

## EXISTING SITE CONDITIONS

The proposed pit is located on the southwest corner of the Carli Expansion located northeast of the intersection of Florin Road and Eagles Nest Road, in Sacramento County California. The site is mostly level with low vegetation. A shallow pond is present in the center of the property, approximately 200 feet by 200 feet in size. A water canal extends north-south along the eastern-center of the property. The northeast portion of the site is currently used for organic material processing with a house and multiple out buildings associated with the business. A barbwire fence extends around the perimeter of the site. Various unpaved, aggregate base access roads are present across the site.

## *METHODOLOGY*

A field exploration program was conducted by Kleinfelder staff from September 6 through September 8, 2016, included drilling two exploratory borings. A track-mounted, Geoprobe 8140LS drill rig using sonic drilling methods was used to drill the borings. The depths of exploration extended to approximately 90 feet below the ground surface. The approximate locations of the borings are shown on Plate GS-3. Kleinfelder report is found in Appendix GS.

A Kleinfelder professional maintained logs of the borings, visually classified the soils encountered according to the Unified Soil Classification System, (see Appendix GS) and obtained disturbed bulk samples of the subsurface materials. Soil classifications made in the field from samples were in general accordance with ASTM Method D2488. These classifications were re-evaluated in the laboratory after further examination and testing in general accordance with ASTM D2487. The undrained shear strengths of cohesive samples were estimated in the field using a hand-held pocket penetrometer and values are presented on the boring logs. Sample classifications, running times recorded during sampling, and other related information were recorded on the boring logs (See Appendix GS-1). Borings were located in the field by measuring from existing landmarks. Horizontal coordinates and elevations of the borings were not surveyed.

Continuous core samples were taken during drilling, and the maximum depth explored was 90 feet below the ground surface. Borings B-1 and B-2 were drilled using a track-mounted sonic drill rig equipped with a 10-foot long, 4.75-inch diameter core barrel and button bit. Core extrusions obtained from the borings were packaged and sealed in the field to reduce moisture loss and disturbance. The core extrusions were contained in plastic sleeves and wooden core boxes and were returned to Kleinfelder's Sacramento laboratory for further examination and testing. After the borings were completed, they were backfilled with neat cement grout and the upper 5 feet was backfilled with soil. The soil cuttings generated during drilling operations were spread around the area adjacent to the borings.

Plate GS-3: Boring Location Map



### *FINDINGS*

The two borings were done on the western and southern boundaries of the property, within the fence line. The surface soils immediately inside the fence line had been recently disced at the time of the investigation. Organic materials were present at the ground surface at each location.

Soils from a depth of 0 to approximately 33 feet below ground surface consist of alternating layers of predominantly sandy silt, silt, and clay with lesser amounts of silty sand and clayey sand. These soils exhibited slight to moderate cementation. Sands are mostly fine grained. Poorly to well graded gravels and cobbles and silty and clayey gravel with sand are present from depths of approximately 33 to 57 feet. The maximum observed particle size was 5 inches. Silt and fine to coarse grained sand are present with the gravels and cobbles. Groundwater was encountered at the bottom of the gravel and cobble layer, at an approximate depth of 57 feet below ground surface (see below). Sandy silt and sandy clay with gravel were encountered above and below these gravel soils with some cementation. Alternating layers of silt and hard clay were present from depths of approximately 55 to 90 feet with clayey sand with gravel up to  $\frac{3}{4}$  inch encountered at a depth of approximately 73 to 84 feet. Both borings were terminated 90 feet below the ground surface.

As described above, the site is underlain by the Turlock Lake Formation which is describe by Helley and Harwood as deeply weathered and dissected arkosic gravels. However, the subsurface soils encountered are more consistent with the Upper Member of the Riverbank Formation; which is described as dark-brown to red alluvium composed of gravel, sand, and silt with minor clay. The age of the Turlock Lake Formation (between 600,000 and 700,000 years old) is very close to the Riverbank Upper Member (between 130,000 and 450,000 years old) which could account for the inconsistency between the mapped geologic units and the encountered subsurface soils. Detailed descriptions of the subsurface conditions encountered are provided on the boring logs presented in Appendix GS-1.

### **GROUNDWATER**

Free water was encountered in Borings B-1 and B-2 at depths ranging of about 57 to 58 feet while drilling. The regional groundwater elevation is shown on Sacramento County Department of Water Resources Groundwater Elevations Map (Spring 2007) to be between elevation 0 and +10 feet (mean sea level) which correlate to depths of approximately 110 to 120 feet below the current site grade. The water encountered in the borings is considered perched water and not the regional groundwater. Seasonal fluctuations in the groundwater level may occur due to variations in rainfall, temperature, irrigation, pumping from wells, and as a result of other factors that were not evident at the time of the investigation.

## REGULATORY SETTING

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### STATE

#### *ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT*

The intent of the Alquist-Priolo Earthquake Fault Zoning Act of 1972 is to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors and prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, giving legal support to terms such as active and inactive and establishes a process for reviewing building proposals in Earthquake Fault Zones. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. However, no Alquist-Priolo Zones are mapped within the Project Site (see <http://www.conservation.ca.gov/cgs/rghm/ap/Pages/main.aspx> , accessed 3-7-17).

#### *SEISMIC HAZARDS MAPPING ACT*

The intent of the Seismic Hazards Mapping Act of 1990 is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act provisions are similar in concept to those of the Alquist-Priolo Act: the State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. However, no Seismic Hazard Zones are mapped in the Project Site (see <http://www.conservation.ca.gov/cgs/shzp/Pages/SHMPpgminfo.aspx>, accessed 3-7-17).

#### *SURFACE MINING AND RECLAMATION ACT*

The State of California Surface Mining and Reclamation Act of 1975 (SMARA) is the primary regulation governing mining operations and mine reclamation. Its purposes are to ensure that adverse environmental effects are prevented or minimized; mined lands are reclaimed to a useable condition; production and conservation of minerals are encouraged while giving consideration to recreational, ecological, and aesthetic values; and residual hazards to public health and safety are eliminated. Local agencies are responsible for ensuring compliance with SMARA requirements for mine operation and reclamation.

SMARA mandates that the Mineral Resources Project classify lands throughout the state that contain regionally significant mineral resources. Furthermore, the Mineral Resources Project provides objective geologic expertise to lead agencies, operators, and the public. The Mineral Resources Project is administered by the California Geologic Survey. Through the SMARA Mineral Land Classification Project, the State

Geologist identifies and maps mineral resources of the state (not including oil and gas) to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. As published in the California Department of Conservation's "Map Sheet 52, Aggregate Sustainability in California" (DOC 2018), 45 percent of the anticipated 50-year demand is currently permitted.

Mineral resources classified under the Mineral Land Classification Project include metals; industrial minerals; and construction aggregate, which include sand, gravel, and crushed stone. Special emphasis has been given to construction aggregate because it is the state's most important mineral commodity in terms of tonnage, value, and societal infrastructure. Local agencies are required to use the classification information when developing land-use plans and when making land-use decisions.

*ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS*

The California Air Resources Board (ARB) has adopted an Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. This statewide regulation requires use of control measures to minimize emissions of asbestos-laden dust. The ATCM applies to any size construction project although there are more stringent mitigation requirements for projects that exceed 1 acre. Naturally Occurring Asbestos is known to be present in eastern Sacramento County. In the Project area, the Sacramento Metropolitan Air Quality Management District (SMAQMD) has regulatory authority to ensure compliance with the Asbestos ATCM.

## LOCAL

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 are the most pertinent General Plan policies related to geology and soils that pertain to the Project.

- CO-37: Apply the aggregate resources combining land use category to additional areas as subsequent studies determine them to contain mineral resources which are feasible and appropriate for mining. The aggregate resources combining land use category shall not be a prerequisite to (SM) surface mining combining zoning or regulation through the procedures of an existing special planning area zoning designation in conjunction with proposed surface mining.
- CO-39: Surface mining operations shall be subject to appropriate mitigation measures and shall avoid creating any significant nuisances, hazards, and adverse environmental impacts, unless the Board of Supervisors makes the findings to override as required by CEQA Guidelines Section 15091.

- CO-40: Extractive uses and associated processing uses and facilities shall maintain adequate minimum setbacks to protect adjoining land uses.
- CO-41: Surface mining shall not be allowed without adequate plans for reclamation of mined areas. Reclamation plans should be based on a plan for post-mining land use that is consistent with the land use strategies of the General Plan.
- CO-57: In areas where topsoil mining is permitted, it shall be done so as to maintain the long-term productivity of the soil.
- CO-160: County Planning staff shall take historical and cultural resources into consideration when conducting planning studies and documents in preparation of, including but not limited to, areas plans, corridor plans, community plans, and specific plans.
- CO-161: As a condition of approval for discretionary projects, require appropriate mitigation to reduce potential impacts where development could adversely affect paleontological resources.
- CO-162: Projects located within areas known to be sensitive for paleontological resources, should be monitored to ensure proper treatment of resources and to ensure crews follow proper reporting, safeguards and procedures.
- CO-163: Require that a certified geologist or paleo resources consultant determine appropriate protection measures when resources are discovered during the course of development and land altering activities.
- SA-1: The County shall require geotechnical reports and impose the appropriate mitigation measures for new development located in seismic and geologically sensitive areas.

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Geology and Soils the proposed project would have a significant impact if it:

- GS-1: Is 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; or
- GS-2: Results in substantial soil erosion or the loss of topsoil; or

- GS-3: Directly or indirectly destroys a unique paleontological resource or site; or
- GS-4: Exposes people or structures to substantial risk of loss, injury or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; or
- GS-5: Results in a substantial loss of an important mineral resource; or
- GS-6: Has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available.

As discussed above there are no Alquist-Priolo Zones (Earthquake faults) or Seismic Hazards Zones mapped within the Project Site. While there is a part of the Foothills Fault System to the east of the Project, and ground shaking could occur on site from a moderate to severe earthquake along this fault system the exposure to known earthquake faults and seismic hazards is minimal with no substantial risk of loss, injury or death. The proposed Project is a surface mine that will extract mineral resources from the site. Furthermore, the proposed Project will not construct any septic tanks or wastewater disposal systems. Therefore, GS-4, GS-5 and GS-6 are not applicable to the project.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation GS-1: Is the Project 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?**

The Project Site's soil before mining is considered to be stable. The potential for landslides, lateral-spreading, subsidence, liquefaction, or collapse is currently low.

At the Project Site, overburden and rock will be removed to elevations ranging between approximately 45 and 70 feet amsl (approximate depths of 50 to 75 feet bgs of 120 feet amsl), with side slope of 1H:1V. This is an interim slope that will be partially filled during mine reclamation. The final reclaimed pit slopes will be 1.75H:1V.

Static conditions evaluate long-term open cut excavation slope configurations and pseudostatic conditions evaluate the effect of a seismic event on the open excavation slope configuration. Sacramento County and SMARA regulations do not provide a defined slope stability factor of safety (FOS) criteria, but do require that the FOS's is suitable for the proposed end use and conform to the surrounding topography and uses. (see 14 California Code of Regulations (CCR) Section 3704(d)). As described in the Kleinfelder report, based upon current Sacramento County and surface mining regulations there is not a selected slope stability factor or safety criteria. However,

based on experience and criteria normally used by the mining industry and related projects, Kleinfelder determined that a static FOS of 1.4 and pseudostatic FOS of 1.1 respectively was acceptable for the slope stability analysis. This FOS's are considered suitable for the end use of open space, and dryland grazing.

According to the Kleinfelder analyses, the slopes meet the minimum FOS requirements for static and pseudostatic conditions. The slope stability is attributed mainly to the cementation and consolidated properties of the underlying materials. Results of stability analyses are summarized in Table GS-1 below.

**Table GS-1: Summary of Slope Stability Analyses Results**

Case	Condition	Factor of Safety
Static	Final Pit, 1H:1V slopes (depth 70 feet)	1.72
	Reclaimed, 1.75H:1V slopes (depth 35 feet)	1.41
Pseudostatic	Final Pit, 1H:1V slopes (depth 70 feet)	1.44
	Reclaimed, 1.75H:1V slopes (depth 35 feet)	1.19

The final reclaimed slope configuration has a lower FOS's since the fill placed against the slope has a lower shear strength than the native soils.

While the Kleinfelder analysis did not identify geologic, seismic, or soils conditions that would preclude excavation of the proposed mining pit, based on the results of their field investigation and laboratory testing programs, there was a concern that the presence of relatively clean, well and poorly graded gravel and cobble soils may not stand at steep cut-slope inclinations without having surficial sloughing. Surficial sloughing is a potentially significant impact requiring mitigation. If the mitigation measure below is utilized, the impacts to the mine slopes can be reduced to ***less than significant with mitigation***.

#### **Level of Significance Before Mitigation: Potentially Significant**

#### **Mitigation Measure GS-1: Slope Safety**

The Project shall comply with the following.

- Accumulated water should be removed from active excavation sites during mining and prior to backfilling the pit.
- Prior to replacing soils, the exposed subgrades should be compacted with at least a 10-ton roller. Following compaction, subgrade should be proof-rolled with a fully-loaded tandem-axle dump truck or water truck. Areas identified as being soft or yielding may require additional compaction or over-excavation.
- The buttress fill should be placed in such a manner as to meet the modeled strength obtained from a sample compacted to 85 percent relative compaction.

- Soils used for engineered fill to raise the bottom of the pit to the reclaimed elevation should be uniformly moisture-conditioned to between 2 and 5 percent above the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 90 percent relative compaction. The upper twelve inches of subgrades should be compacted to at least 95 percent relative compaction. Fills exceeding 5 feet in thickness should be compacted to at least 95 percent relative compaction for their full depth.
- Engineered fill to be placed as a buttress at the base of the excavated pit slopes should be placed in horizontal lifts less than 8 inches in loose thickness, and compacted to at least 85 percent relative compaction. No disking and/or blending will likely be required to uniformly moisture-condition soils used for engineered fill.

**Level of Significance After Mitigation: Less than Significant**

**Impact Evaluation GS-2: Does the Project result in substantial soil erosion or the loss of topsoil?**

The Project is a surface mining operation that will excavate the site for aggregate materials. The topsoil will be removed from the site prior to mining and placed or stored on-site for use in reclamation.

When the mining operation is complete, the site will be reclaimed using the topsoil from the site that has been salvaged and maintained for reclamation. The use of the topsoil could be many years in the future and the storage of the topsoil at the site should be conducted so as to not result in erosion or loss of topsoil.

The potential for the topsoil to get mixed up with overburden or otherwise eroded is a significant issue because the topsoil is the growth media of the soil. In other words, the topsoil contains organic materials that assist in plant growth and overburden does not contain the same organic materials. The topsoil is used to reclaim the site back to open space grassland and/or agriculture. If the topsoil is gone, then overburden will have to be heavily fertilized to obtain the same results as topsoil. Furthermore, if the topsoil stockpile is not properly maintained the topsoil has the potential to blow away with the wind or run-off in a rain event.

Topsoil handling and reclamation is regulated through SMARA. CCR Section 3711 outlines proper procedures for topsoil removal, storage and redistribution, including not removing topsoil more than a year in advance of mining, separating and clearly labeling topsoil from other stockpiles, not disturbing topsoil until it is ready for distribution, and redistributing topsoil in a stable area at consistent thickness. Upon reclamation, CCR Section 3705 outlines the requirements for revegetation to prevent erosion and protect topsoil, including using a suitable end use vegetative cover, decompaction of the site, using native plant species (unless exotic species meet end use), planting during the correct season, using soil stabilizing practices and irrigation, and fertilizing in such a way as to not contaminate the water. By complying with the requirements set forth in

SMARA, the Project will insure there is not a loss of topsoil through erosion or improper handling; impacts to substantial soil erosion or loss of topsoil are ***less than significant***.

**Level of Significance Before Mitigation: Less than Significant**

**Impact Evaluation GS-3: Does the Project directly or indirectly destroy a unique paleontological resource or site?**

The area is not known to contain paleontological resources (fossil remains). However, the excavation of the Project Site creates the possibility for unanticipated discoveries. The possibility for discovery of paleontological resources will not occur during the reclamation phase of the Project. The mitigation for unanticipated cultural discoveries (CR-2; see Cultural Resources chapter) includes provisions for paleontological resources and will prevent the direct or indirect destruction of a unique paleontological resource or site. Compliance with Mitigation Measure CR-2 will assure that impacts are ***less than significant***.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measures:**

Comply with Mitigation Measure CR-2.

**Level of Significance After Mitigation: Less than Significant**

## 13 BIOLOGICAL RESOURCES

### INTRODUCTION

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This chapter describes the biological resources that occur within the project site, includes a description of applicable federal, State and local regulations and policies that influence biological resources, identifies potential impacts to these resources, and recommends mitigation measures to reduce or eliminate impacts associated with the proposed surface mining project. The description of resources are based on the Biological Resources Evaluation prepared by LSA, dated May 2019. The Biological Resource Evaluation is included as Appendix BIO.

### ENVIRONMENTAL SETTING

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The Biological Study Area (BSA), totaling approximately 154.82 ac (see Plate BR-1), is currently the site of a commercial compost operation, within rural unincorporated Sacramento County. The northeast portion of the BSA is currently used for compost/manure processing; the majority of the remaining area is vacant except for a few buildings in the central portion of the site near Eagles Nest Road. Adjacent land uses include grazing, aggregate mining, and open space (see Plate BR-1).

### PHYSICAL CONDITIONS

#### *CLIMATE*

The climate in the BSA is characterized as Mediterranean with cool, wet winters and hot, dry summers. The average total annual precipitation is approximately 18.15 inches (Western Regional Climate Center, 2017), most of which falls between November and April. There is normally less than 0.5 inch of rain between June and September. The average winter temperature is 48.3 Fahrenheit (°F) and the average winter low temperature is 40.9 °F. The average summer temperature is 73.9 °F and the average summer high temperature is 89.4 °F.

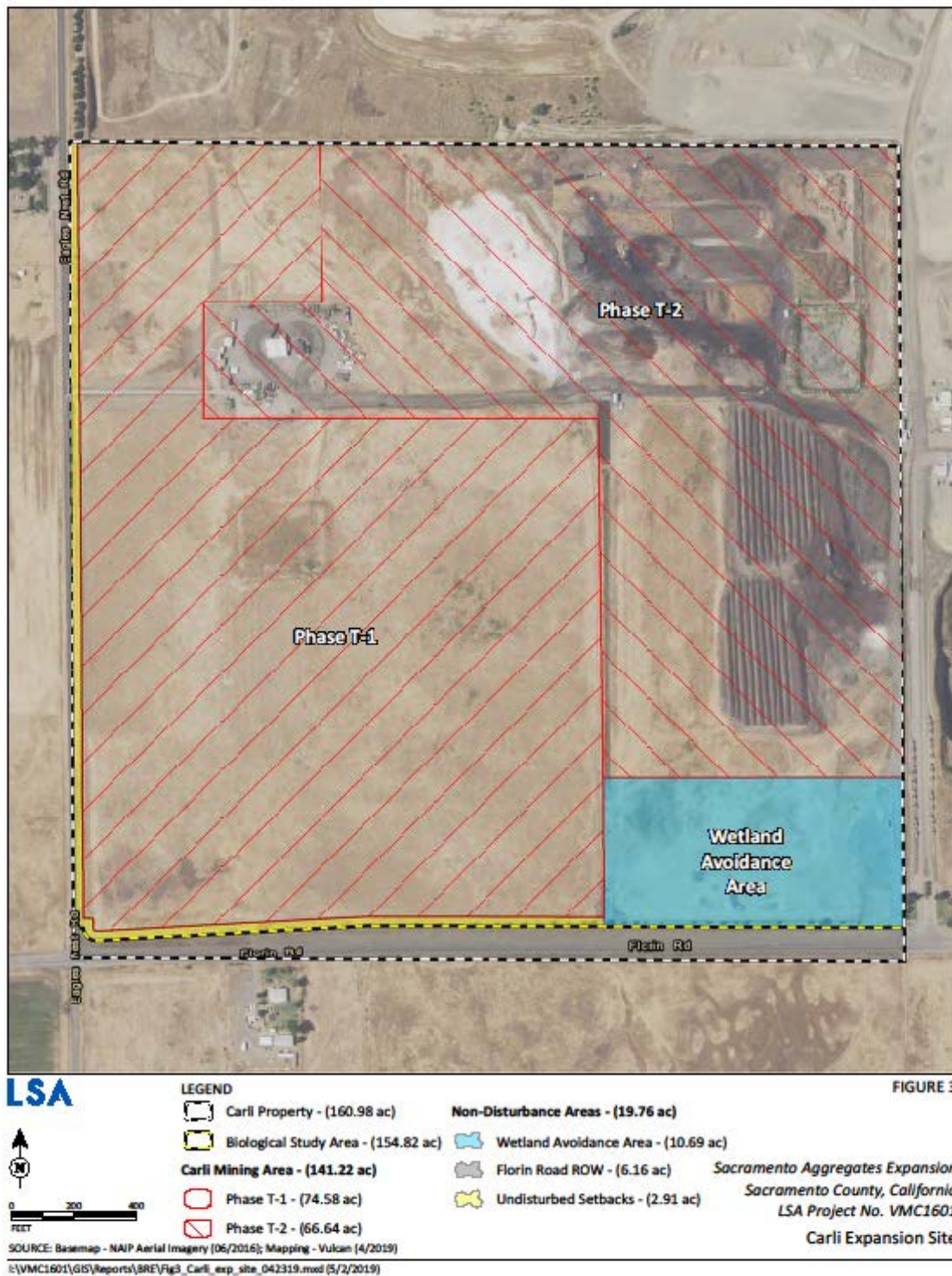
#### *TOPOGRAPHY*

The BSA lies at an elevation of about 120 feet above mean sea level. Topography of the site is gentle, sloping primarily north to south-southwest except for the western portion of the BSA that flows to the southwest. The entire BSA has been leveled to facilitate flood irrigation.

#### *HYDROLOGY*

Historic aerial photos (the earliest of which is from 1937) indicate the predominant flow pattern in the BSA from northwest southeast, except for the southwest part of the BSA with trends to the west. Subsequent photos (1947, 1957, and 1964) show an increase in agricultural use and associated irrigation. During this time period, irrigation runoff

### Plate BR-1: Biologic Study Area



still appeared to flow southeast out of the BSA, joining Laguna Creek. Current conditions (1971 to present) continue to maintain the general southeast flow pattern but a large ditch has been constructed to provide water for the compost operation and the ditch has been designed to flow north. Florin Road has also been constructed and blocks historical southeast flows into Laguna Creek, creating a large seasonal wetland in the southeast corner of the BSA. Water from this wetland flows into Laguna Creek only during large storm events. Laguna Creek joins Morrison Creek approximately 20 miles west, then flows southwest for approximately 3 miles into the Sacramento River.

### *SOILS*

The following soil types are mapped within the BSA, shown in Plate BR-2 (NRCS Soil Survey Sacramento County, California):

- Durixeralfs, 0 to 1 percent slopes
- Fiddymment fine sandy loam, 1 to 8 percent slopes
- San Joaquin silt loam, leveled, 0 to 1 percent slopes
- San Joaquin silt loam, 0 to 3 percent slopes
- Xerarents-San Joaquin complex, 0 to 1 percent slopes

All soil types in the review area with the exception of the Fiddymment fine sandy loam soils are considered hydric soils (NRCS Soil Survey Sacramento County, California).

#### **DURIXERALFS, 0 TO 1 PERCENT SLOPES**

Durixeralfs are a great group of soils in the Alfisols order and the Xeralfs suborder and consist of well-drained soils formed in material derived from granitic rock sources. These soils are found on low terraces. The mean annual precipitation is about 15 inches and the mean annual temperature is about 62°F.

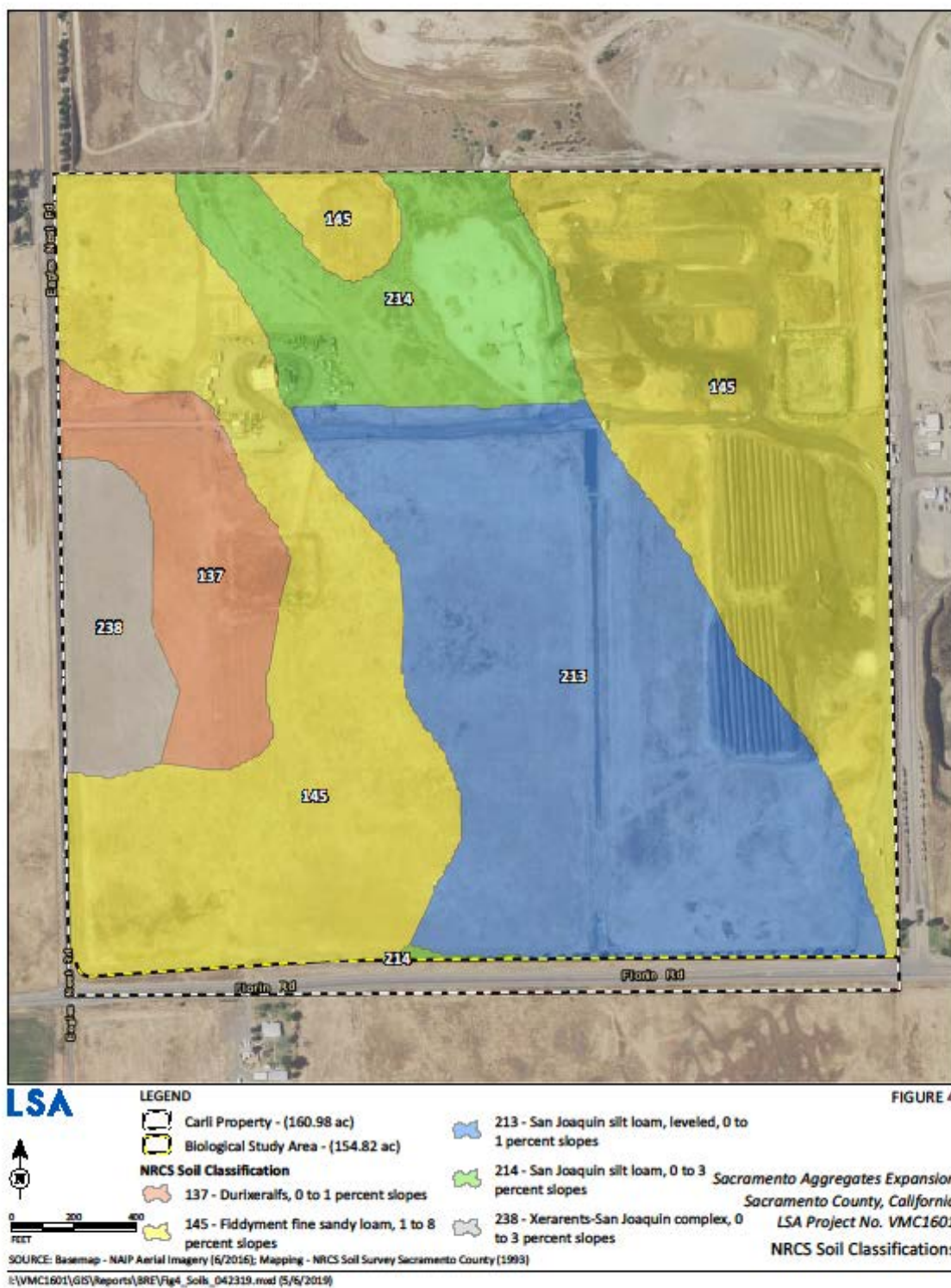
#### **FIDDYMENT FINE SANDY LOAM, 1 TO 8 PERCENT SLOPES**

The Fiddymment-series soil consists of moderately deep, well-drained soils formed in material weathered from consolidated sediments of mixed rock sources. These soils are on nearly level to rolling low terraces and hills. The mean annual precipitation is about 19 inches and mean annual temperature is about 61°F. Soil temperature ranges from 62 to 67°F. Soil between 8 and 21 inches is moist in all parts from December through April and is dry in all parts from June through mid-October in most years.

#### **SAN JOAQUIN SILT LOAM**

The San Joaquin-series soils consist of moderately deep to a duripan (depth ranges from 20 to 40 inches), well and moderately well drained soils formed in alluvium derived from mixed but predominantly granitic rock sources. They are on undulating low terraces; some areas have been leveled. The mean annual precipitation is about 15 inches and the mean annual temperature is about 61°F. Soil temperature ranges from

## Plate BR-2: Soil Map



60 to 64°F. Soil at depths of about 7 to 24 inches or directly above the duripan is dry in all parts from June to November and is moist in some or all parts the rest of the year. Permeability is very slow, so some areas are subject to rare or occasional flooding.

#### **XERAENTS-SAN JOAQUIN COMPLEX, 0 TO 1 PERCENT SLOPES**

Xerarents-San Joaquin Complex soils consist of well and moderately well drained soils formed in alluvium derived from granitic rock sources. These soils are found on low terraces in floodplains and basin floors. The mean annual precipitation is about 17 inches and the mean annual temperature is about 62°F.

### **BIOLOGICAL CONDITIONS**

#### *VEGETATION COMMUNITIES AND LAND USES*

Natural habitats comprise approximately 111.86 acres of the BSA and include non-native grasslands (108.12 acres), seasonal wetland (2.49 acres), and open water (1.25 acres) communities. The remaining 42.96 acres are devoted to developed land uses (Plate BR-3).

#### **NON-NATIVE GRASSLANDS**

Non-native grasslands are the most common vegetation community in the BSA. As a result of the decades of flood irrigation practices, this community is dominated by Italian ryegrass (*Festuca perennis*); however, wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*) are also present, with many other grasses and herbs present in smaller numbers. Small areas of ruderal vegetation and barren disturbed areas are included in this category. Portions of the non-native grasslands community are mowed and/or disked annually for fire protection.

#### **SEASONAL WETLANDS**

Seasonal wetlands occur in several locations within the review area. The seasonal wetlands are dominated by Italian ryegrass, rabbitsfoot grass (*Polypogon monspeliensis*), common spikerush (*Eleocharis macrostachya*), and curly dock (*Rumex crispus*) but several other species common in seasonal wetlands were also observed including Mediterranean barley (*Hordeum marinum*), low manna grass (*Glyceria declinata*), and vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*).

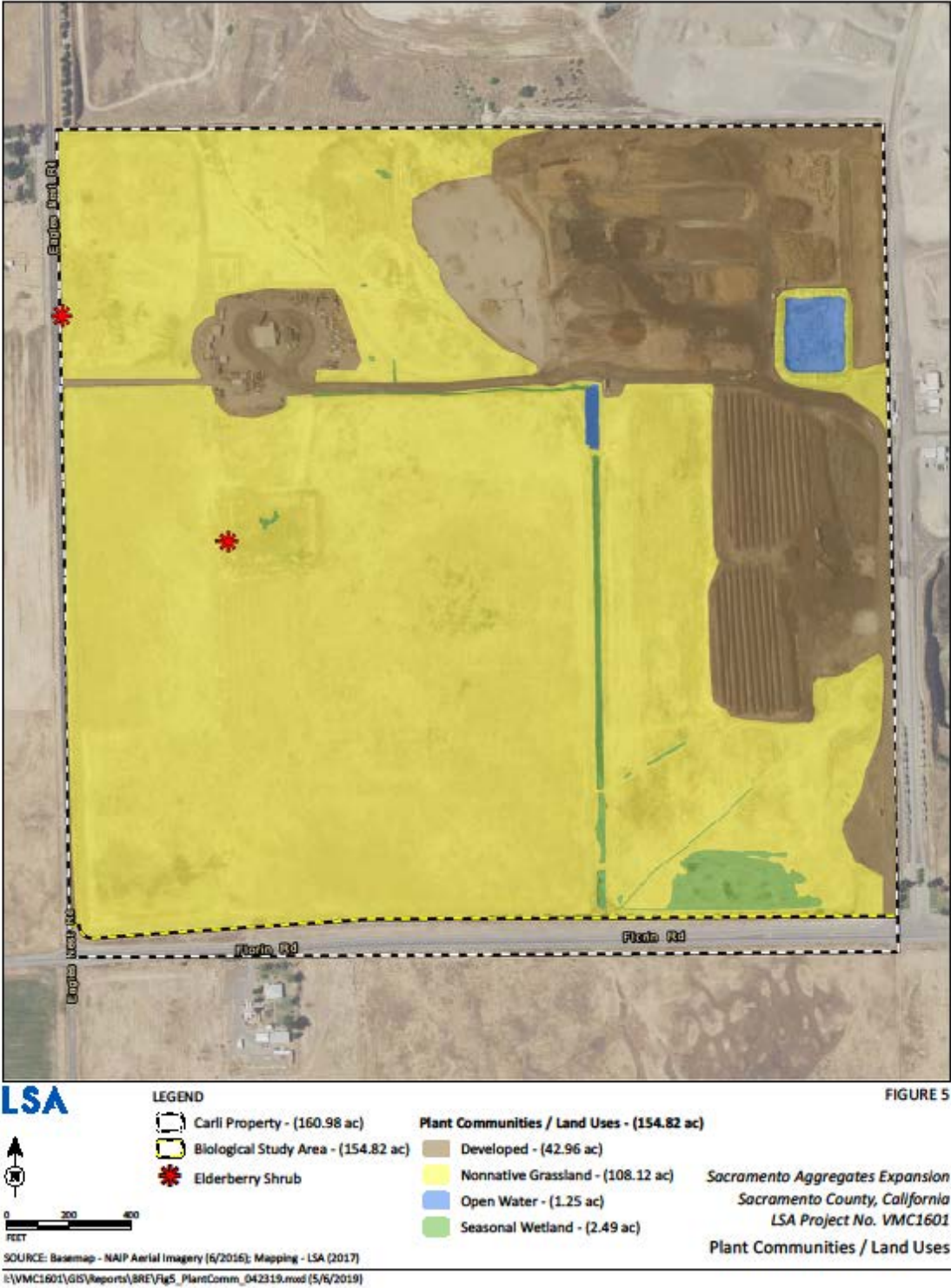
#### **OPEN WATER**

Aquatic open water features within the review area include a ponded ditch bisecting the southern half of the property and a retention basin in the northeast corner of property. Both features are man-made and typically inundated to support the composting operation. Based on minimal vegetation present, these areas are mapped as open water.

#### **DEVELOPED AREAS**

Developed areas include the office complex, compost piles, entrance station, and gravel roads.

Plate BR-3: Plant Communities



### *WILDLIFE USE*

Wildlife use of the BSA is relatively low due to the current compost operation on the site and the historical irrigation practices that have resulted in land-leveling and an Italian ryegrass-dominated grassland. However, a variety of species are known to occur in disturbed areas. Common wildlife species that may be observed include, but are not limited to, California ground squirrels (*Otospermophilus beecheyi*), coyote (*Canis latrans*), American crow (*Corvus brachyrhynchos*), California horned lark (*Eremophila alpestris actia*), brewers blackbird (*Euphagus cyanocephalus*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), and red-tailed hawk (*Buteo jamaicensis*).

The comprehensive list of plant and wildlife species observed is provided in the Biological Resources Report (Appendix BIO)

### *WILDLIFE MOVEMENTS*

Wildlife movement corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife corridors typically include vegetation and topography that facilitate the movements of wild animals from one area of suitable habitat to another in order to fulfill foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in surrounding habitats. Wildlife corridors generally include riparian zones and similar linear expanses of contiguous habitat.

There are no significant migration corridors that exist within the BSA. Laguna Creek, which meanders generally from northeast to southwest through the original mining, is the best example of a migration corridor near the BSA.

### *AQUATIC RESOURCES*

Aquatic features within the BSA, consisting of both wetlands and non-wetland waters and totaling 3.857 acres, are comprised of seasonal wetlands an inundated ditch that extends through the center of the BSA, several ephemeral ditches, and a retention basin in the northeast corner. Of the total acreage, 2.698 acres were determined to meet ACOE criteria for wetlands, and 1.159 acres were determined to be non-wetland waters. This information is summarized below in Table BR-1 and shown in Plate BR-4. The Approved Jurisdictional Delineation Report can be found in Appendix BIO.

**Table BR-1: Summary of Aquatic Resources in the BSA (acres)**

Type	Total
<b>Wetlands</b>	
Seasonal Wetlands	1.589
Ephemeral Drainage	0.049
Adjacent Wetlands	0.126
Ponded Ditch	0.858
Isolated Wetland	0.076
<b>Wetlands Subtotal</b>	<b>2.698</b>
<b>Non-Wetland Waters</b>	
Ephemeral Drainage	0.102
Retention Basin	1.057
<b>Non-Wetland Waters Subtotal</b>	<b>1.159</b>
<b>Total</b>	<b>3.857</b>

**SEASONAL WETLANDS**

A large seasonal wetland is located in the southeast corner of the BSA and other, smaller seasonal wetlands, are located throughout the BSA. The large seasonal wetland in the southeast corner conveys flows into Laguna Creek; several of the other seasonal wetlands appear to be isolated and or flow to the north. The vegetation in the seasonal wetlands are described above.

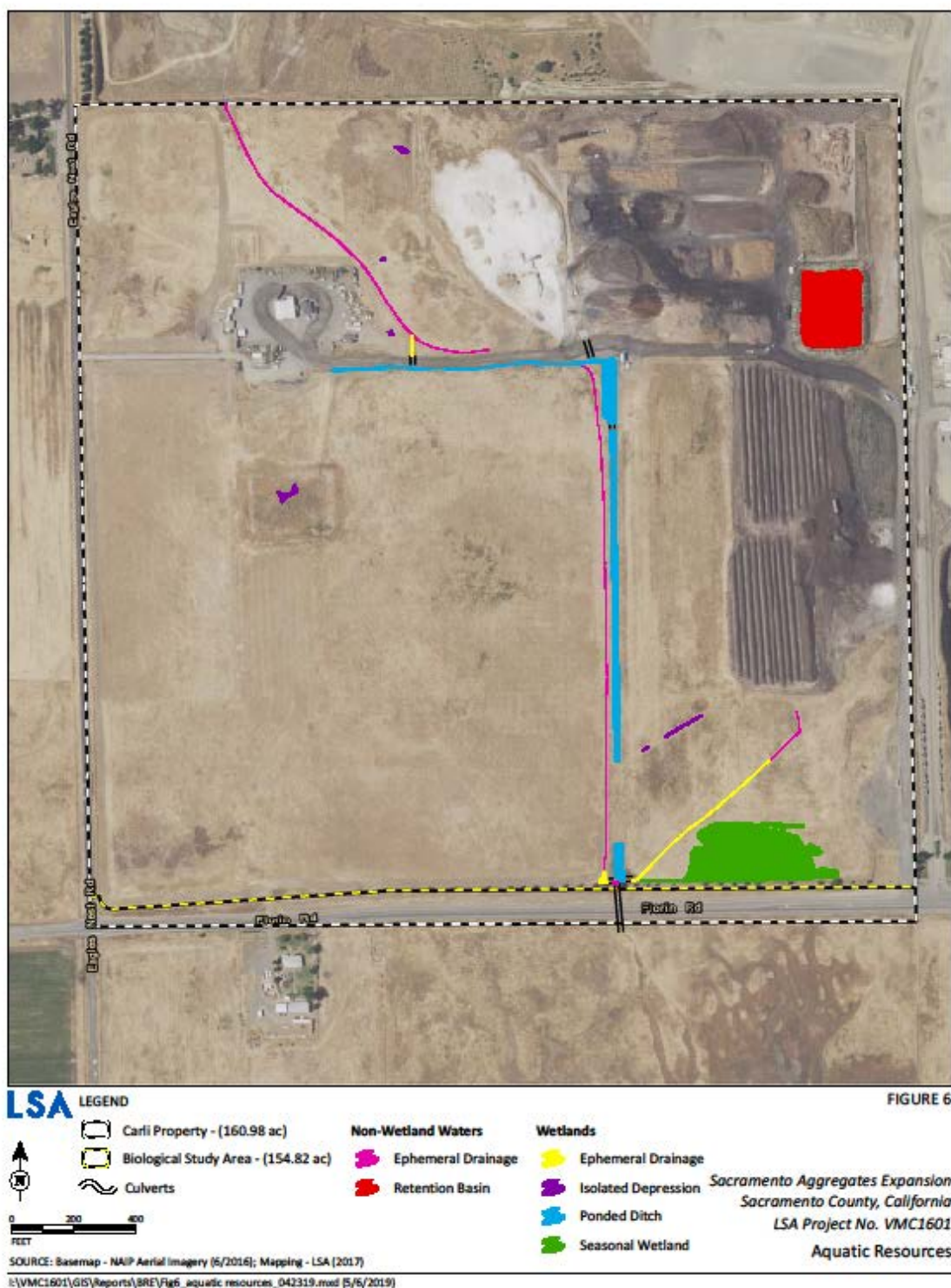
**PONDED DITCH**

The ponded ditch was excavated in uplands and designed to flow north. Water is artificially pumped into the ditch from a well and is used in compost operations for dust control. A section of the ponded ditch was recently filled and separated an approximately 200-foot long section of the ditch at the south end of the BSA from the majority of the ditch to the north.

**EPHEMERAL DRAINAGES**

Three ephemeral drainages are present within the BSA. Two of the drainages convey flows south of the BSA. The remaining drainage, located in the north-central portion of the BSA, drains north into a large mining pit on the original mining site.

## Plate BR-4: Aquatic Resources



## **RETENTION BASIN**

The retention basin is an isolated aquatic feature that is not connected to other waters within or adjacent to the BSA. Additionally, this feature is man-made and has been created by placing elevated basin walls; no excavation below ground level occurred. This feature is not considered waters of the U.S., and would not be regulated under Section 404 of the CWA.

## *INVASIVE SPECIES*

Many non-native species have been part of the California landscape for the past 150 years and are considered naturalized in the wild. Some examples of these introduced species observed during surveys include wild oats, black mustard (*Brassica nigra*), ripgut brome, Italian ryegrass, and foxtail barley, among others. These species are primarily annual or biennial and considered to be moderately invasive at worst. Several species of concern were observed in the BSA during surveys, including yellow star thistle (*Centaurea solstitialis*), medusa head (*Elymus caput-medusae*), and perennial pepperweed (*Lepidium latifolium*). These species have an invasive rating of 'High' per the California Invasive Plant Council Invasive Plant Inventory Online Database (<http://www.calipc.org/paf/>).

## *SPECIES OF CONCERN*

Table BR-2 provides a list of special status species that could potentially occur in the region, and therefore could potentially occur in the BSA; this list was compiled from literature review and 19 field surveys that occurred between October 5, 2016 and May 31, 2017. Surveys occurred during the dry and wet seasons. A review was conducted of the specific habitat required by each species listed in Table BR-2, and the specific habitats and habitat conditions present in the BSA. Based on this evaluation, it was determined whether the species listed in Table BR-2 had potential to occur in the BSA. Special status species that were observed, or determined to potentially occur in the BSA based on availability of suitable habitat of other factors such as scat, nests, dens, etc. are discussed more fully in the Special Status Species and Sensitive Habitats Section of this report. Species determined unlikely to occur in the BSA based on these same factors are documented accordingly in the table and not discussed any further.

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
<b>Plants</b>					
<i>Brasenia schreberi</i>	Watershield	List 2	Both natural and artificial water bodies (98-7,218 feet). Blooms June through September	Absent	Suitable habitat present, but species not observed within the BSA during focused plant surveys. The nearest CNDDDB occurrence is from Stone Lakes NWR over 15 miles from the BSA
<i>Carex comosa</i>	Bristly sedge	List 2	Lake margins and other wet places (-16 – 5315 feet). Blooms May through September	Absent	No suitable habitat present. There are no lake margins or comparable areas in the BSA. The nearest CNDDDB occurrence is from Stone Lakes NWR over 15 miles from the BSA
<i>Centromadia parryi</i> ssp. <i>rudis</i>	Pappose tarweed	List 4	Grasslands, edges of marshes and vernal pools, disturbed sites (0–1,640 feet). Blooms May through October.	Absent	Suitable habitat present, but species not observed within BSA during focused plant surveys. There are no CNDDDB occurrences from the 9-quad search area around the BSA.
<i>Cicuta maculate</i> var. <i>bolanderi</i>	Bolander's water hemlock	List 2	Fresh and brackish marshes (0-656 feet). Blooms July through September	Absent	No suitable habitat present within the BSA. The nearest CNDDDB occurrence is from Delta Meadows River Park over 20 miles from the BSA.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	List 2	Fresh marshes (50-920 feet). Blooms July through October	Absent	No suitable habitat present within the BSA. The nearest CNDDDB occurrence is from Elk Grove over

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					10 miles from the Carli Property.
<i>Downingia pusilla</i>	Dwarf downingia	List 2, SSHCP	Vernal pools, freshwater wetlands, valley grasslands and riparian areas (0 – 1,082 feet). Blooms March through May.	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDB occurrence is from Elk Grove area approximately 6.5 miles southwest of the BSA
<i>Gratiola heteroepala</i>	Boggs Lake hedge-hyssop	SE, List 1B, SSHCP	Vernal pools, marshes, and lake margins (13-7,900 feet). Blooms April through August.	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDB occurrence is from between Grant Line Road and Sloughhouse Road, less than 2 miles east southeast of the Carli Property.
<i>Hesperex caulescens</i>	Hogwallow starfish	List 4	Vernal pools (0-1,600 feet). Blooms March through June.	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. No CNDDB occurrences from the 9-quad search area around the BSA.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	Wooly rose-mallow	List 1B	Moist, freshwater-soaked river banks & low peat islands in sloughs; can also occur on riprap and levees (0-500 feet). Blooms June through September.	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrence is from Stone Lakes NWR over 13 miles from the BSA.
<i>Juglans hindsii</i>	Northern California	List 1B	Riparian woodland (0-2,100	Absent	No suitable habitat present within

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
	black walnut		feet). Blooms April through May.		the BSA. The nearest CNDDB occurrence is from Freeport along the Sacramento River over 13 miles from the BSA.
<i>Juncus leiospermus</i> var. <i>ahartii</i>	Ahart's dwarf rush	List 1B, SSHCP	Vernal pools (100 – 330 feet). Blooms April through May	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDB occurrence is from an area near Mather Regional Park, less than 2 miles north northeast of the BSA.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	List 1B	Marsh and slough edges (0 – 16 feet). Blooms May through July	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrence is from near the Cosumnes River over 19 miles from the BSA.
<i>Legenere limosa</i>	legenere	List 1B, SSHCP	Vernal pools (3-2,887 feet). Blooms April through June.	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDB occurrence is from an area near Sunrise Boulevard and Jackson Highway, less than 1 mile northeast of the BSA.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	List 1B	Valley and foothill grasslands and vernal pools (3-100 feet). Blooms March through May.	Absent	Marginally suitable habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDB occurrence is from Stone Lakes NWR over 15 miles from the BSA.

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	List 1B	Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion (0-33 feet). Blooms April through November.	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrence is from Delta Meadows River Park over 20 miles from the BSA.
<i>Limosella australis</i>	Delta mudwort	List 2	Riparian scrub, marshes and swamps (0 – 16 feet). Blooms in April	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrence is from Delta Meadows River Park over 20 miles from the BSA.
<i>Navarretia eriocephala</i>	hoary navarretia	List 4	Heavy soil of seasonally wet flats (0 – 1,312 feet). Blooms April through May	Absent	Potential habitat present, but species not observed within BSA during focused plant surveys. There are no CNDDB occurrences from the 9-quadrant search area around the BSA.
<b><u>Navarretia myersi</u></b>	<b><u>Pincushion navarretia</u></b>	<b><u>List 1B</u></b>	<b><u>Vernal pools, swale land cover</u></b>	<b><u>L</u></b>	<b><u>Suitable habitat present</u></b>
<i>Orcuttia tenuis</i>	Slender Orcutt grass	FT, SE, List 1B, SSHCP	Vernal pools moderate to deep, with few weedy plants (82 – 5,758 feet). Blooms May through September.	Absent	No suitable habitat present; no moderately deep vernal pools occur in the BSA. The nearest CNDDB occurrence is from an area near Laguna Creek, just over 2 miles southwest of the BSA.
<i>Orcuttia viscida</i>	Sacramento Orcutt grass	FE, SE, List 1B, SSHCP	Vernal pools moderate to deep, with few weedy plants (50-280 feet). Endemic to Sacramento County. Blooms April through	Absent	No suitable habitat present; no moderately deep vernal pools occur in the BSA. The nearest CNDDB occurrence is from an area near Excelsior Road and

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			July.		Florin Road, less than 2 miles west of the BSA.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	List 1B, SSHCP	Standing or slow-moving freshwater ponds, marshes, and ditches (0-1,985 feet). Blooms May through October.	Absent	Suitable habitat present in the ponded ditch. However, this species was not observed within BSA during focused plant surveys. The nearest CNDDDB occurrence is from Sunrise Boulevard and Grant Line Road, less than 1 mile southeast of the BSA. This species is known to occur in Laguna Creek on the original mine site approximately 600 feet east of the BSA.
<i>Scutellaria galericulata</i>	Marsh skullcap	List 2	Marshes, lower montane coniferous forests, meadows and seeps. (0-6,400 feet). Blooms June through September.	Absent	No suitable habitat present within the BSA. The nearest CNDDDB occurrence is from Delta Meadows River Park over 20 miles from the BSA.
<i>Scutellaria lateriflora</i>	Side-flowering skullcap	List 2	Wet meadows and marshes. (0-1,640 feet). Blooms July through September.	Absent	No suitable habitat present within the BSA. The nearest CNDDDB occurrence is from Delta Meadows River Park over 20 miles from the BSA.
<i>Trifolium hydrophilum</i>	Saline clover	List 1B	Marshes and swamps, valley and foothill grassland, and vernal pools. (3-1,100 feet). Blooms April through June.	Absent	Potential habitat present, but species not observed within BSA during focused plant surveys. The nearest CNDDDB occurrence is from Stone Lakes National Wildlife Refuge over 13 miles

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					from the BSA.
<b>Invertebrates</b>					
<i>Andrena blennospematis</i>	Blennosperma vernal pool andrenid bee	CA SA	Endemic to vernal pools and solely reliant on the host plant species (butter and eggs).	Absent	Host plant not identified within BSA during focused plant surveys. The nearest CNDDB occurrence is from between Sloughhouse and Rancho Murrieta approximately 6.25 miles east of the BSA.
<i>Branchinecta conservation</i>	Conservancy fairy shrimp	FE	Turbid playa pools in grasslands of the Central Valley. Requires a cool, stable temperature regime. Generally found in larger, deeper pools that remain inundated for 3-4 months.	Absent	Marginally suitable habitat is present, however focused surveys for vernal pool invertebrates in the BSA during the 2016-17 wet season yielded negative results. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT, SSHCP	Endemic to the grasslands of the Central Valley, Central Coast Mountains and South Coast Mountains. Typically associated with small, shallow vernal pools with relatively short periods of inundation. Found in larger pools in southern extent of range.	Absent	Marginally suitable habitat is present, however focused surveys for vernal pool invertebrates in the BSA during the 2016-17 wet season yielded negative results. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Branchinecta mesovallensis</i>	Midvalley fairy shrimp	CA SA, SSHCP	Endemic to a small portion of California's Central Valley in small, short-lived vernal pools	Absent	Marginally suitable habitat is present, however focused surveys for vernal pool invertebrates in the

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			and grass-bottomed swales ranging from 4 to 663 square feet.		BSA during the 2016-17 wet season yielded negative results. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT, SSHCP	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus nigra</i> ssp. <i>caerulea</i> ). Prefers branches greater than 1 inch in diameter.	Low	There are two elderberry shrubs within the BSA, but they are beyond 1,000 meters from the nearest riparian habitat, and when examined during surveys did not have beetle exit holes. The nearest CNDDDB occurrence is from Sloughhouse area approximately 2.5 miles east southeast of the BSA. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Dumontia oregonensis</i>	Hairy water flea	CA SA	Vernal Pools	Absent	Marginally suitable habitat present, but species not observed within BSA during surveys. Mather Field 1.5 mile north of the BSA is one of only 2 known sites for the species.
<i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	CA SA, SSHCP	Wetlands	Absent	Potential habitat present, but species not observed within BSA during surveys. The nearest CNDDDB occurrence is from Mather Field approximately 2.25 miles north of the BSA.

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE, SSHCP	Found in a variety of natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Within the Sacramento Valley.	Absent	Marginally suitable habitat is present, however focused surveys for vernal pool invertebrates in the BSA during the 2016-17 wet season yielded negative results.
<i>Linderiella occidentalis</i>	California	CA SA	Occurs in seasonal pools (e.g., vernal pools) in unplowed grasslands with old alluvial soils underlain by hardpan or heavy clay or in sandstone depressions. Tolerant of wide temperature range and pool size.	Absent	Marginally suitable habitat is present, however focused surveys for vernal pool invertebrates in the BSA during the 2016-17 wet season yielded negative results.
<b>Fish</b>					
<i>Hypomesus transpacificus</i>	Delta smelt	FT	With the exception of spawning season, delta smelt generally inhabits the freshwater-saltwater mixing zone of an estuary. Spawning occurs in river channels upstream from the mixing zone	Absent	The BSA is not within the known range of this species, and there is no suitable habitat present. There are no CNDDDB occurrences from the 9-quad search area around the BSA.
<i>Onchorhynchus mykiss irideus</i>	Steelhead – Central Valley DPS	FT	Population occur and spawn in the Sacramento and San Joaquin Rivers and their tributaries	Absent	No suitable habitat present within the BSA. The nearest CNDDDB occurrences are confined to the anadromous waters of the Cosumnes, American and

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					Sacramento Rivers.
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	SSC	Largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and other parts of the Sacramento-San Joaquin estuary. Occurs in slow moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrences are confined to the anadromous waters of the Cosumnes, American and Sacramento Rivers.
<i>Spirinchus thaleichthys</i>	Longfin smelt	FC, ST, SSC	Coastal waters near shore, bays, estuaries, and rivers, and landlocked in some lakes. In estuaries usually found in middle or bottom of water column. Prefers salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Absent	No suitable habitat present within the BSA. The nearest CNDDB occurrences are confined to the anadromous waters of the Cosumnes, American and Sacramento Rivers.
<b>Amphibians and Reptiles</b>					
<i>Emys marmorata</i>	western pond turtle	SSC, SSHCP	Occurs in permanent or nearly permanent water sources, ponds, marshes, rivers, streams and irrigation ditches with emergent vegetation and basking sites. Lay eggs in upland habitat consisting of sandy banks or grassy, open	Low	Potential habitat present, but species not observed within BSA during surveys. The nearest CNDDB occurrence is from Mather Lake approximately 3.5 miles north of the BSA. See discussion in Special Status Species and Sensitive Habitats

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			fields.		Section.
<i>Ambystoma californiense</i>	California tiger salamander	FT, ST, SSHCP	Most commonly found in annual grassland habitat, but also occurs in grassy understory of valley-foothill hardwood habitats, and uncommonly along stream courses in valley-foothill riparian habitats. Requires vernal pools or other seasonal water bodies for breeding. Needs underground refuges, especially ground squirrel burrows.	Absent	No suitable habitat present. While there are seasonal aquatic features in the BSA that could be considered suitable for breeding, the features do not remain inundated for a sufficient duration to allow the species to complete its life cycle. Additionally, upland refugia is also quite limited, with few California ground squirrels present within the BSA. The nearest CNDDDB occurrence is from near Wilton over 11 miles southeast of the BSA.
<i>Rana draytonii</i>	California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Absent	The BSA is not within the known range of this species, and American bullfrogs are known present in the BSA which severely limits the chances for this species to occur there. There are no CNDDDB occurrences for this species from the 9-quadrant search area around the BSA.
<i>Spea hammondi</i>	Western spadefoot	SSC, SSHCP	Occurs primarily in grassland habitats but also found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Absent	Marginally suitable habitat present, but species not observed within BSA during wet season surveys for vernal pool invertebrates or during other surveys. The nearest CNDDDB occurrences are from vernal pools just east of Sunrise Boulevard

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					and north of Jackson Highway approximately 0.5 mile east northeast of the BSA.
<i>Thamnophis gigas</i>	Giant garter snake	FT, ST, SSHCP	Streams and sloughs, usually with mud bottom. One of the most aquatic of garter snakes; usually in areas of freshwater marsh and low-gradient streams with emergent vegetation, also drainage canals, irrigation ditches, ponds, and small lakes.	Low	No suitable habitat present within the BSA. The nearest CNDDB occurrences are from Elk Grove approximately 9 miles southwest of the BSA.
<b>Birds</b>					
<i>Accipiter cooperii</i>	Cooper's hawk	SSC, SSHCP	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms or river flood-plains; also live oaks.	Low	Observed flying through the BSA, however, no suitable habitat is present. No further discussion.
<i>Agelaius tricolor</i>	Tricolored blackbird	ST, SSC, SSHCP	Nests in freshwater marshes with tules or cattails, or in other dense vegetation such as thistle, blackberry thickets, etc. in close proximity to open water. Forages in a variety of habitats including pastures, agricultural fields, rice field, and feedlots within a mile or two of nesting area.	Present	Thousands of individuals observed feeding within the BSA and staging observed in milk thistle patches near perimeter of BSA. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Aquila chrysaetos</i>	Golden eagle	SFP, SWL	Cliff walled canyons for nesting, mountains and foothill and	Low (foraging,	Suitable foraging habitat present, though this species was not

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			valley grasslands for foraging.	seasonal)	observed during surveys. The nearest CNDDB occurrence from Jackson Highway and Excelsior Road approximately 2.25 miles northwest of BSA. This species likely occurs in the BSA as a migrant or winter resident, but no nesting habitat present. No further discussion.
<i>Ardea alba</i>	Great egret	CA SA (nesting)	Rookery sites located near marshes, tideflats, irrigated pastures, and margins of rivers and lakes.	Present (foraging only)	Observed foraging within the BSA, however, no rookery trees present. No further discussion.
<i>Ardea Herodias</i>	Great blue heron	CA SA (nesting)	Colonial nester in large trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Present (foraging only)	Observed foraging within the BSA, however, no rookery trees present. No further discussion.
<i>Athene cunicularia</i>	Western burrowing owl	SSC, SSHCP	Burrow sites in open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals most notably, California ground squirrel	Low	While somewhat suitable habitat is present within the BSA, there are few California ground squirrel burrows present within the BSA to provide enough suitable nesting sites. Neither owls nor sign observed within BSA during surveys. The nearest CNDDB occurrence is from an area near Laguna Creek, just over 2 miles southwest of the BSA. See discussion in Special Status

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					Species and Sensitive Habitats Section.
<i>Buteo regalis</i>	Ferruginous hawk	SWL, SSHCP	Winters in open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats. Mostly eats lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Present (foraging seasonal)	Observed foraging within the BSA in April (late wintering or migrant individual). The BSA is not within the breeding range of the species. No further discussion.
<i>Buteo swainsoni</i>	Swainson's hawk	ST, SSHCP	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannahs. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Present	Nest observed in a willow along Laguna Creek within original mining site approximately 600 feet east of the BSA. Adults were observed foraging over the BSA on multiple occasions. See discussion in Special Status Species and Sensitive Habitats Section.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT, SE	Nests in riparian systems along the broad lower flood-bottoms of larger river systems; requires dense riparian vegetation.	Absent	No suitable habitat is present within the BSA. The nearest CNDDDB occurrences from the American River Parkway approximately 6 miles northwest of the BSA.
<i>Elanus leucurus</i>	White-tailed kite	SFP, SSHCP	Nests on rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands. Found in open	Present	Species observed foraging within the BSA. Suitable nesting habitat is present within 500 feet of the BSA. See discussion in Special Status Species and Sensitive

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching		Habitats Section.
<i>Falco columbarius</i>	Merlin	SWL (Wintering)	An uncommon winter migrant that requires dense tree stands close to bodies of water. Can be found in wetlands, lakeshores, coastlines, open grasslands, savannahs, and woodlands.	Low (foraging seasonal)	Probably occurs as a migrant or wintering resident within the BSA. The BSA is not within the breeding range of the species. No further discussion.
<i>Falco peregrinus</i>	Peregrine falcon	SF{	Nest on cliffs, hut also human-made structures such as buildings, bridges, and electrical towers.	Low (foraging seasonal)	Probably occurs as a migrant or wintering resident within the BSA, but very unlikely to nest within the BSA. There are no CNDDDB occurrences from the 9-quadrant search area around the BSA. No further discussion.
<i>Haliaeetus leucocephalus</i>	Bald eagle	SFP	Requires large bodies of water; occurs near ocean shore, lakes, reservoirs, and rivers. Usually nest within 1 mile of water, in large, dominant trees with open branches.	Absent	No suitable habitat present. No lakes or large waterbodies present in the vicinity. The nearest nesting record is at Lake Natoma approximately 10 miles north northeast of the BSA.
<i>Lanius ludovicianus</i>	Loggerhead shrike	SSC, SSHCP	Shrublands and open woodlands with grasslands for foraging and barbed wire fences or thorny vegetation for impaling prey.	Low	Suitable habitat occurs within the BSA, but species not observed during surveys. There are no CNDDDB occurrences from the 9-quadrant search area around the BSA. See discussion in Special

**Table BR-2 Special Status Species Potentially Occurring Within the BSA**

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
					Status Species and Sensitive Habitats Section.
<i>Melospiza melodia</i>	Song sparrow ("Modesto" population)	SSC	Occurs in the northern Central Valley, high populations near the Butte sink area and Sacramento-San Joaquin river delta. Found frequently along riparian corridors, particularly the Stanislaus and Cosumnes Rivers. Sometimes observed near vegetated irrigation canals and levees. In the winter, this species may be found far from water, in open habitats with shrubs or tall herbs	Absent	Suitable habitat is not present in the BSA; The nearest CNDDB occurrences from the American River Parkway approximately 6 miles northwest of the BSA.
<i>Nycticorax nycticorax</i>	Black-crowned night-heron	CA SA (nesting)	Colonies usually in trees, occasionally in tule patches. Forage on lake margins, mud-bordered bays, and marches.	Low (foraging)	One individual observed flying over the BSA during April survey. Likely forages within the BSA occasionally but no suitable nesting habitat is present. No further discussion.
<i>Phalacrocorax auritus</i>	Double-crested cormorant	SWL (nesting)	Colonial nester in trees, on ground, or on cliffs, near ponds, lakes, rivers, lagoons, estuaries, and along open coastlines.	Low (foraging)	One individual observed flying over the BSA during April survey. Likely forages within the BSA occasionally but no suitable nesting habitat is present. No further discussion.
<i>Progne subis</i>	Purple martin	SSC	Colonies nest in large coniferous tree cavities at elevation, but in the Central	Low (foraging)	Migrants or individuals dispersing from breeding colonies may forage over the BSA occasionally;

Table BR-2 Special Status Species Potentially Occurring Within the BSA

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			Valley, they nest locally in man-made structures such as weep holes of freeway overpasses.		suitable nesting habitat is not present within the BSA. The nearest CNDDDB occurrence is from East Sacramento under Highway 50 approximately 9 miles northwest of the BSA. No further discussion.
<i>Riparia riparia</i>	Bank swallow	ST	Open and partly open situations, frequently near flowing water. Colonial nester in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc.	Low (foraging seasonal)	Migrants or individuals dispersing from breeding colonies may forage over the BSA occasionally; suitable nesting habitat is not present within the BSA. The nearest CNDDDB occurrence is from the American River Parkway approximately 8 miles north of the BSA. No further discussion.
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	SSC	Nests typically in colonies in marshes. Requires cattails, bulrushes, and reeds in water, usually 3 feet above the water's surface	Present (foraging)	Several individuals observed foraging with the BSA in mixed flocks with other blackbird species. Suitable nesting habitat is present within 500 feet of the BS (south of Florin Road). See discussion in Special Status Species and Sensitive Habitats Section.
<u>Antigone Canadensis</u>	<u>Sandhill crane</u>	<u>ST; SFP</u>	<u>In wintering months, use open agricultural habitats, natural vegetation communities, and seasonally managed wetlands. After onset of winter rains, forage for invertebrates by probing</u>		<u>Suitable foraging habitat present.</u>

Table BR-2 Special Status Species Potentially Occurring Within the BSA

Scientific Name	Common Name	Status	Habitat Requirements	Potential for Occurrence	Comments
			<u>soils in grassland habitats.</u> <u>Avoid grassland habitats</u> <u>when vegetation exceeds 10</u> <u>inches.</u>		
<b>Mammals</b>					
<i>Taxidea taxus</i>	American badger	SSC, SSHCP	Occurs throughout California and the United States. Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert.	Absent	No suitable habitat present and this species was not observed during surveys. Nearest CNDDDB occurrence from Jackson Highway and Excelsior Road approximately 2.25 miles northwest of BSA.
<u>Lasirus</u> <u>blossevillii</u>	<u>Western red bat</u>	<u>SSC</u>	<u>Roosts in the foliage of large shrubs and trees bordering forests, rivers, agricultural and urban areas</u>		<u>No large shrubs and trees on the site.</u>

**Status Codes****Federal****FE:** Federally listed; Endangered**FT:** Federally listed; Threatened**FPE:** Federally Proposed for Listing as Endangered**FPT:** Federally Proposed for Listing as Threatened**FC:** Federal Candidate**NMFS SC:** National Marine Fisheries Service Species of Concern  
**State****ST:** State listed; Threatened**SE:** State listed; Endangered**SFP:** State Fully Protected**SC:** State Candidate**SWL:** State Watch List**SSC:** California Species of Special Concern**CA SA:** Special Animal: General term that refers to taxa that the CNDDDB is interested in tracking regardless of legal or protection status: Includes the following categories in addition to**California Native Plant Society (CNPS) designations:****List 1A:** Plants presumed extinct in California**List 1B:** Plants rare and endangered in California throughout their range.**List 2:** Plants rare, threatened or endangered in California but more common elsewhere in their range**List 3:** Plants about which we need more information; a review list**List 4:** Plants of limited distribution; a watch list**SSHCP:** Species covered by the South Sacramento Habitat Conservation Plan

those listed above:

- Taxa which meet the criteria for listing, even if not currently included on any list, as described in section 15380 of the California Environmental Quality Act Guidelines.
- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.
- Populations in California that may be on the periphery of a taxon's range, but are threatened with extirpation in California.
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, vernal pools, etc.)
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization (NGO).

## *SPECIAL STATUS SPECIES AND SENSITIVE HABITATS*

### **SPECIAL STATUS PLANT SPECIES**

Of the 23 special status plant species identified in the record searches, potential or suitable habitat is present for 11 species. All target species were surveyed within the normal blooming period during the focused plant surveys on April 12, and May 10, 2017. No special status plants were observed in the BSA during focused plant surveys or any other surveys. As a result, special status plant species are considered absent from the BSA.

The BSA is not located within critical habitat for any special status plants.

### **SPECIAL STATUS WILDLIFE SPECIES**

Species that require specific habitat not present in the BSA were eliminated as potentially occurring and are not discussed further (with the exception of Vernal Pool Invertebrates). Special status species that were determined to have the potential to occur in the BSA, or otherwise warrant further discussion, are discussed below.

The BSA is not located within critical habitat for any special status wildlife.

### **VERNAL POOL INVERTEBRATES**

Vernal pool fairy shrimp (*Branchinecta lynchi* - VPFS), midvalley fairy shrimp (*B. mesovallensis*), vernal pool tadpole shrimp (*Lepidurus packardii* - VPTS), and California linderiella (*Linderiella occidentalis*) are all special status aquatic invertebrate species that depend on vernal pools or similar seasonal aquatic environments to complete their life cycles. VPFS is a Federal Threatened species and VPTS is a Federal Endangered species; the remaining species are State species of special concern. None of these species are formally listed pursuant to CESA.

There are CNDDDB occurrences of VPFS, VPTS, and midvalley fairy shrimp within the 9-quadrant search area and occurrences of California linderiella from within 1 mile west of the BSA, all from as recently as 2005.

LSA conducted a dry season survey for vernal pool invertebrates. In addition, a total of 12 wet season vernal pool invertebrate surveys were performed by LSA biologists in the BSA and at an adjacent reference site. Description of the survey methodology is in the Biological Resources Evaluation (Appendix BIO)

No special status vernal pool invertebrates were observed in the BSA during the wet season surveys nor did the dry season survey yield positive results. However, VPFS, VPTS, and California linderiella were all observed at the Triangle Rock Preserve reference site, which is to the east of the Project Site, during the 2016-17 surveys, demonstrating that these species successfully completed their life cycle during the 2016-17 season. Based on these results, special status vernal pool invertebrates are considered to be absent from the BSA.

### **VALLEY ELDERBERRY LONGHORN BEETLE**

Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is a federal threatened species. VELB are dependent on their host plant, black elderberry (*Sambucus nigra*), which is a common component of Central Valley riparian habitats. VELB typically occupy elderberry shrubs with stems that are greater than 1 inch in diameter, and that are part of mature riparian habitat corridors associated with large river systems from the valley floor to 500 feet in elevation.

Two elderberry shrubs with stems greater than 1 inch in diameter occur in the BSA (see Plate BR-3). These shrubs are not part of a riparian habitat corridor and close examination of the stems revealed no beetle exit holes. The nearest riparian corridor to the BSA is along Laguna Creek, which is over 1,000 feet from the shrubs. There are 13 CNDDDB occurrences for VELB within 10 miles of the BSA, the nearest of which is located approximately 2.5 miles east southeast near Sloughhouse Road. VELB is considered to have a low potential to occur in the BSA.

### **WESTERN POND TURTLE**

Western pond turtle (*Emys marmorata*) is a State species of special concern, which ranges from the Central Valley and San Francisco Bay area north through Oregon and parts of Washington into the Vancouver, BC area. This species was long thought conspecific with southern pond turtle (*A. pallida*) which ranges from the San Francisco Bay area south into Baja California, but the two species have recently been split.

This species typically occurs in ponds, marshes, rivers, streams and irrigation ditches with sites for basking and grassy banks or fields adjacent for egg laying. There are six CNDDDB records for western pond turtle within 10 miles of the BSA, the closest of which is from Mather Lake approximately 3.5 miles north. The ponded ditch, which flows south to north through the south-central portion of the BSA, provides marginal habitat for the species, but there is poor connectivity between this and more appropriate habitat, and no turtles were observed during the surveys of the BSA. Western pond turtle is considered to have a low potential to occur in the BSA.

### **TRICOLORED BLACKBIRD**

The tri-colored blackbird (*Agelaius tricolor*) is protected under the California Fish and Game Code (Sections 3503 and 3800). In March 2018 tricolored blackbird was listed as a State Threatened species under the California Endangered Species Act.

Tricolored blackbird (*Agelaius tricolor*) is a State Threatened species, which due to precipitous declines in many parts of its limited range, has been submitted as a candidate for Endangered Species listing on multiple occasions in recent years. This species is closely related to the much more widespread red-winged blackbird (*A. phoeniceus*), but unlike that species which ranges across most of the continent, tricolored blackbirds are a near California endemic, with only a very few breeding in the Pacific Northwest, Nevada, and Baja California.

Tricolored blackbirds breed in colonies in thorny shrubs such as Himalayan blackberry (*Rubus armeniacus*) or California wild rose (*Rosa californica*) adjacent to wetlands and near an abundant source of insects such as pastures or croplands.

Thousands of tricolored blackbirds were observed during all surveys of the BSA, foraging in the compost piles in the northeast portion of the BSA and staging in patches of milk thistle (*Silybum marianum*) on the eastern and northern perimeters of the BSA. The patches of milk thistle that occur on the site, which varies from year to year based on precipitation and maintenance activities, provide suitable nesting habitat for this species.

### **WESTERN BURROWING OWL**

Western burrowing owl (*Athene cunicularia*) is a State species of special concern which occurs in warm valleys, open grasslands, deserts, and scrublands associated with agriculture and urban areas that support populations of California ground squirrels (*Otospermophilus beecheyi*). Burrowing owls nest below ground, utilizing abandoned burrows of other species, most commonly ground squirrel burrows, and feed on insects and small mammals.

While marginally suitable foraging habitat for western burrowing owl is present in the BSA, there are relatively few California ground squirrel burrows present to provide enough suitable nesting sites. Additionally none of the burrows exhibited signs of burrowing owl occupancy when examined during field surveys. The nearest CNDDDB occurrence is from an area near Laguna Creek, just over 2 miles southwest of the BSA. However, burrowing owls are migratory and despite the limited burrow habitat present in the BSA could potentially move on to the site prior to the start of mining. Western burrowing owl is considered to have a low potential to occur in the BSA.

### **SWAINSON'S HAWK**

Swainson's hawk (*Buteo swainsoni*) is a State threatened species which breeds as far north as Alaska and Arctic Canada, across the Great Basin, Rocky Mountains, and Great Plains, and in an isolated breeding population from Shasta County south through much of the Central Valley. They are long distance migrants, wintering primarily in South America, returning north to breed. They return to the Central Valley in mid-March and begin migrating south in August. Nests are built in the tops of large trees, primarily those associated with riparian habitats. Home ranges maintained by Swainson's hawks average about 6,800 acres, and they are known to forage up to 10 miles from their nest sites.

Swainson's hawks were observed soaring, foraging, vocalizing, and in courtship displays over the BSA on multiple occasions during site surveys, and an active Swainson's hawk nest was discovered approximately 600 feet east of the BSA in a willow tree along Laguna Creek. There are no trees within the BSA that would be considered suitable for nesting, but the BSA provides suitable foraging habitat, and there are multiple suitable nest trees within 0.5 mile of the BSA.

**WHITE-TAILED KITE**

White-tailed kite (*Elanus leucurus*) is a Fully Protected species in the State of California. Its Pacific population ranges from southwestern Washington south through the Willamette Valley of Oregon and down the entire coast of California and Central Valley to Baja California. Separate populations live in southern Florida and Texas and Louisiana south through Mexico. This raptor species uses trees in open areas for nesting, and open grasslands and marshes for foraging.

At least one white-tailed kite was observed foraging low over the BSA during the field surveys. There are no trees within the BSA that would be considered suitable for nesting, but the BSA provides suitable foraging habitat and there are multiple suitable nest trees within 0.5 mile of the BSA.

**LOGGERHEAD SHRIKE**

Loggerhead shrike (*Lanius ludovicianus*) is a State species of special concern which occurs in shrublands and open woodlands with open grassy areas for foraging and barbwire fences or thorny vegetation for impaling prey. Loggerhead shrikes feed on insects, small mammals, and small birds.

Foraging habitat appropriate for loggerhead shrike is present throughout the BSA, and barbwire fences present around the perimeter of the BSA provide a suitable perch for impaling prey. Suitable nest trees are present along the southern perimeter and immediately adjacent to the BSA. However, no loggerhead shrikes were observed during the field surveys. Additionally, there are no CNDDDB occurrences of loggerhead shrike from the 9-quad area but this species is known to occur at Mather Field, along Grant Line Road, and at many other sites with similar habitat composition within a few miles of the BSA. Based on this information, loggerhead shrike is considered to have a low potential to occur in the BSA.

**YELLOW-HEADED BLACKBIRD**

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*) is also a State species of special concern. It nests across western North America from the Prairie Provinces of Canada east to the Upper Midwest and south to Texas and the Lower Colorado River. Yellow-headed blackbirds breed in colonies in fresh marshes with dense stands of cattails where dragonflies and other aquatic insects are abundant.

Yellow-headed blackbirds were observed mixed in with tricolored, red-winged, and Brewer's blackbirds (*Euphagus cyanocephalus*) as well as great-tailed grackles (*Quiscalus mexicanus*) and brown-headed cowbirds (*Molothrus ater*) foraging in the compost piles in the northeast portion of the BSA during the non-breeding winter months. Yellow-headed blackbirds are known to nest at Mather Lake, 3.5 miles north of the BSA but no suitable nesting habitat is present in the BSA.

**SENSITIVE HABITATS**

The BSA includes one community (seasonal wetlands) considered sensitive under CEQA and may be regulated by the ACOE, RWQCB, and/or CDFW if the community is

determined to be waters of the U.S. or waters of the State. Potential permitting requirements for impacts to this community are discussed in impact analysis section.

## REGULATORY SETTING

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### FEDERAL

#### *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. The FESA protects plants and animals that are listed as endangered or threatened by the National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS). In general, NMFS is responsible for the protection of listed marine species and anadromous fish species, while other listed species are under USFWS jurisdiction. Section 9 of the FESA prohibits the taking of threatened or endangered wildlife, where taking is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50CFR 17.3). The FESA prohibitions and requirements are different, however, for federally threatened or endangered plant species. For plants, the FESA prohibits the taking of threatened or endangered plants only from areas within federal jurisdiction, or if such take would result in a “knowing violation of any [State law or regulation]” (16 USC 1538). Therefore, in the absence of a federal nexus, a project does not require an incidental take permit pursuant to FESA for impacts to listed plants on private lands.

Under Section 7 of the FESA, federal agencies are required to enter into formal consultation with the USFWS and/or NMFS on proposed federal actions (i.e., actions authorized, funded, or carried out by federal agencies) if their actions could adversely affect a listed (or proposed) species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the activity will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

#### *FEDERAL CLEAN WATER ACT SECTION 404*

The purpose of the Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The USACE and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States (waters of the U.S.) under Section 404 of the CWA. The definition of “waters of the U.S.” includes all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above-listed waters; tributaries of the above-listed waters; territorial seas; and wetlands adjacent to the above-listed waters. Wetlands are defined as those areas “that are inundated or saturated by surface or

ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”

As part of the wetland delineation and verification process, the USACE will determine whether wetlands and other features in a project site are considered waters of the U.S., and therefore regulated under Section 404 of the CWA. If a project would require the discharge of dredged or fill material into Waters, the proponent must seek a permit from the USACE. The USACE can issue an individual permit (for projects resulting in substantial impacts) or a general permit (i.e., Nationwide Permit [for those that result in only minimal individual or cumulative adverse effects for certain categories of projects and impacts]). The EPA also has authority over wetlands and may override an USACE permit.

#### *FEDERAL CLEAN WATER ACT, SECTION 401*

Section 401 of the Clean Water Act requires any person applying for a Section 404 permit for activities resulting in a discharge into waters of the U.S. to obtain a water quality certification. In California, the water quality certifications are issued by the Regional Water Quality Control Board (Regional Water Board). The goal of this program is to protect waters of the U.S. by ensuring that waste discharged into these features meets state water quality standards.

#### *MIGRATORY BIRD TREATY ACT*

The Migratory Bird Treaty Act (MBTA) of 1918 established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. 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 Migratory Bird Treaty Act, of which 58 are legal to hunt.

#### STATE

##### *CALIFORNIA ENDANGERED SPECIES ACT (CESA)*

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of the Federal Endangered Species Act, but unlike its federal counterpart, CESA pertains to state-listed endangered and threatened species. Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. 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.”

CESA requires state agencies to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species, or result in destruction or adverse modification of essential habitat. The California Endangered Species Act allows the CDFW to authorize exceptions to the state's prohibition against "take" of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under California Environmental Quality Act (CEQA) (Fish and Game Code Section 2081).

#### *FULLY PROTECTED SPECIES*

California Fish and Game Code Sections 4700 (mammals), Section 3511 (birds), Section 5050 (reptiles and amphibians), and Section 5515 (fish) designate certain species as "fully protected." The State of California first began to designate species as "fully protected" prior to the creation of the CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Fully protected species, or parts thereof (e.g., feathers, wings, talons), may not be taken or possessed by any individual at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species. CDFW may issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

#### *SPECIES OF SPECIAL CONCERN*

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern are defined by the CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under FESA, CESA, or the Fish and Game Code, but may be considered under CEQA Guidelines Section 15380.

#### *MIGRATORY BIRD SPECIES AND BIRDS OF PREY (RAPTORS)*

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nests or eggs of any bird, except as provided by this code or any regulation made pursuant thereto. Additionally, Subsection 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. These stipulations are similar to the federal Migratory Bird Treaty Act and serve to protect nesting native birds. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the Migratory Bird Treaty Act.

#### *NATIVE PLANT PROTECTION ACT*

The Native Plant Protection Act prohibits the taking, possession, or sale within the state of any rare, threatened, or endangered plants as defined by the CDFW. The Native Plant Protection Act is administered by the CDFW and set forth in California Fish and Game Code Sections 1900-1913. The CESA (Fish and Game Code Sections 2050-

2116) provided further protection for rare and endangered plant species, but the Native Plant Protection Act remains part of the Fish and Game Code.

#### *CALIFORNIA STREAMBED ALTERATION NOTIFICATION/AGREEMENT*

Section 1602 of the Fish and Game Code requires the filing of a Notification of Lake and Streambed Alteration with CDFW, which may be used to support a Streambed Alteration Agreement (SAA) for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW must be notified prior to any such activities and will review the proposed action(s). If necessary, CDFW will propose measures to protect affected fish and wildlife resources. The Streambed Alteration Agreement is comprised of the final mitigation measure(s) and condition(s) mutually agreed-upon by the CDFW and the Applicant. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

#### *PORTER-COLOGNE WATER QUALITY CONTROL ACT*

The State Water Resources Control Board (State Water Board) and the Regional Water Board have jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Act (Porter-Cologne). “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050 (e)). Porter- Cologne (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.

Porter-Cologne requires any person discharging waste, or proposing to discharge waste, that could affect the quality of waters of the State to file a Report of Waste Discharge with the Regional Water Board (Water Code Section 13260(a)). The Regional Water Board will either issue, or waive the issuance of, Waste Discharge Requirements (WDRs) for the proposed discharge which will include conditions on the discharge to ensure the protection of water quality. Through the WDRs program, the Regional Water Board also regulates discharges to “isolated” water features which are not considered waters of the U.S. under the Federal Clean Water Act. Porter-Cologne also requires compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water National Pollutant Discharge Elimination System General Construction Permit and General Industrial Permit for discharge of storm water runoff associated with construction and industrial activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

#### *CALIFORNIA RARE PLANT RANKS*

The California Native Plant Society (CNPS) maintains the *Inventory of Rare and Endangered Plants of California*, which provides a list of plant species native to California that have low population numbers, limited distribution, or are otherwise

threatened with extinction. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by California Department of Fish and Wildlife and the California Native Plant Society. The California Rare Plant Ranks are currently recognized in the California Natural Diversity Database (CNDDDB). The following definitions of the California Native Plant Society California Rare Plant Ranks include:

- CRPR 1A – presumed extirpated in California and either rare or extinct elsewhere;
- CRPR 1B – rare, threatened, or endangered in California and elsewhere;
- CRPR 2A – presumed extirpated in California, but more common elsewhere;
- CRPR 2B – rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3 – a review list of plants about which more information is needed; and
- CRPR 4 – a watch list of plants of limited distribution.

California Rare Plant Ranks List 1A and 2A are presumed extirpated in California. In general, CRPR List 3 and 4 plants do not meet the definition of endangered, threatened, or rare pursuant to CEQA Section 15380.

#### *CALIFORNIA NATURAL DIVERSITY DATA BASE*

The CDFW administers the CNDDDB, which maintains a list of special-interest plants, animals, and natural communities that occur within California. These particular species, natural communities, or habitat types are designated as sensitive because of their rarity (e.g., very localized distribution, few scattered occurrences) and/or because of some threat such as development or off-road vehicles, to this specific habitat type. The purpose of these listings is solely informational; there is no regulatory protection of these species or communities afforded by these CNDDDB listings.

#### LOCAL

#### *SACRAMENTO COUNTY GENERAL PLAN*

Under California law, cities and counties must adopt a comprehensive, long-term general plan for physical development related to their planning boundaries. The Sacramento County General Plan (General Plan) was adopted November 9, 2011, with a planning horizon to 2030. The General Plan serves as the principal land use planning and policy document for Sacramento County and establishes broad goals, objectives and policies that guide countywide land use. The General Plan consists of 15 elements and five policy plans. Each element provides goals, objectives, and policies to guide land use decisions related to the subject matter of that element.

The following are the most pertinent General Plan policies related to biological resources that pertain to the project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

- CO-25. Support the preservation, restoration, and creation of riparian corridors, wetlands and buffer zones.
- CO-39. Surface mining operations shall be subject to appropriate mitigation measures and shall avoid creating any significant nuisances, hazards, and adverse environmental impacts, unless the Board of Supervisors makes the findings to override as required by CEQA Guidelines Section 15091.
- CO-40. Extractive uses and associated processing uses and facilities shall maintain adequate minimum setbacks to protect adjoining land uses.
- CO-41. Surface mining shall not be allowed without adequate plans for reclamation of mined areas. Reclamation plans should be based on a plan for post-mining land use that is consistent with the land use strategies of the General Plan.
- CO-44. Due to the predicted shortages of aggregates in Sacramento County, mining of mineral resources within the Urban Services Boundary (USB) is encouraged, where consistent with Habitat Conservation Plans or other County initiated conservation programs and where such mining does not preclude successful completion of these plans, to avoid the potential loss of these mineral resources as a result of potential urban development. This policy is not intended to preclude mining outside the USB.
- 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-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
- CO-62. Permanently protect land required as mitigation.

- 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-75. Maintain viable populations of special status species through the protection of habitat in preserves and linked with natural wildlife corridors.
- CO-76. Habitat conservation plans shall be adopted by the County to provide a comprehensive strategy to protect and aid in the recovery of special status species.
- CO-87. Encourage private landowners to protect, enhance and restore riparian habitat.
- CO-88. Where removal of riparian habitat is necessary for channel maintenance, it will be planned and mitigated so as to minimize unavoidable impacts upon biological resources.
- CO-89. Protect, enhance and maintain riparian habitat in Sacramento County.
- CO-91. Discourage introductions of invasive non-native aquatic plants and animals.
- CO-93. Discourage fill in the 100-year floodplain (Please also refer to CO-117).
- CO-105. Channel modification projects shall be considered for approval by the Board of Supervisors only after conducting a noticed public hearing examining the full range of alternatives, relative costs and benefits, and environmental, economic, and social benefits.
- CO-105a. Encourage flood management designs that respect the natural topography and vegetation of waterways while retaining flow and functional integrity. (Added 2016)
- CO-106. Realigned or modified channels should retain topographic diversity including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.

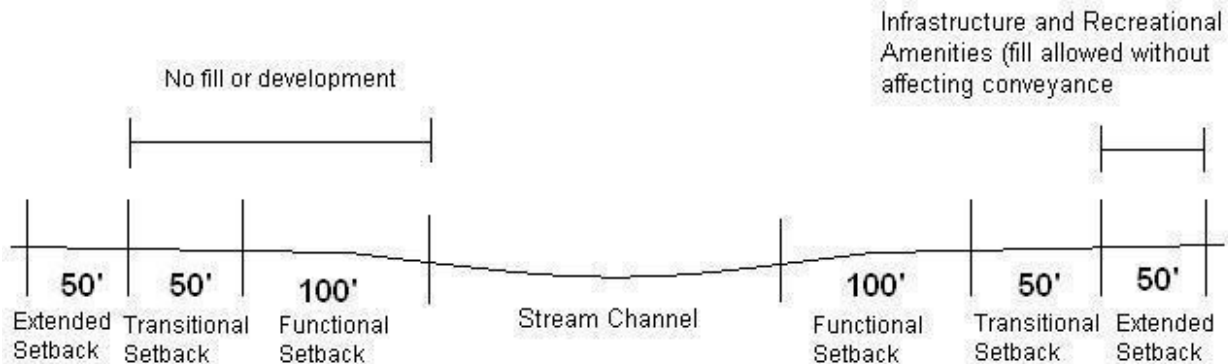
- CO-107. Maintain and protect natural function of channels in developed, newly developing, and rural areas.
- CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.
- CO-110. Improvements in watercourses will be designed for low maintenance. Appropriate Manning's "n" <sup>1</sup> values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.
- CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.
- CO-112. The use of concrete and impervious materials is discouraged where it is inconsistent with the existing adjacent watercourse and overall ecological function of the stream.
- CO-113. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid introduction of nonindigenous species.
- 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-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions (Plate BR-5).
- A functional setback of at least 100 feet and measured from the outside edge of the stream bank should be retained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter and other contaminants that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank which provides bank stability, erosion control and flood attenuation.

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<sup>1</sup> The Manning's "n" is the resistant coefficient used in hydraulic calculations. (Information from Sacramento County Department of Water Resources, Drainage Development Review/Hydrology)

### Plate BR-5: Policy CO-115 Setback Diagram

## Multifunctional Setbacks



- A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate micro-climate, maintain channel complexity and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife.
- An extended setback of at least 50 feet in width beyond the transitional setback should be retained along all stream corridors. This setback will allow for recreational uses such as bike, pedestrian and/or equestrian trails and will allow for the placement of infrastructure such as water and sewer lines.
- Stormwater discharge ponds or other features used for improving stormwater quality may be located within the extended or transitional setback area. However, in order to protect stream habitat and floodplain value, the width of the setback shall not be based upon the width of the pollutant discharge pond. The ponds shall be landscaped and maintained with vegetation native to the surrounding area. Detention ponds or other features implementing pollutant discharge requirements, other than approved regional stormwater quality practices that are designed and operated to complement the corridor functionally and aesthetically, are prohibited.

- Setback averaging within individual development projects or as otherwise specified in a County-adopted master plan will be permitted except when riparian woodland will be lost. The minimum width of setbacks cannot fall below 50 feet.
  - Master drainage plans may provide for other standards that meet the intent of this policy.
- 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-123. The use of native plant species shall be encouraged on revegetation plans.
- CO-124. Maintain and manage rivers and streams to encourage special status species.
- CO-125. Restore concrete sections of rivers and streams to natural or naturalized channels, where feasible for increased flood or conveyance capacity and groundwater recharge.
- 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-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.
- 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).

### *SOUTH SACRAMENTO COUNTY HABITAT CONSERVATION PLAN*

The SSHCP is a regional approach to addressing development, habitat conservation, and agricultural lands within the south Sacramento County region, including the cities of Galt and Rancho Cordova. The specific geographic scope of the SSHCP includes U.S. Highway 50 to the north, the Sacramento River levee and County Road J11 (connects the towns of Walnut Grove and Thornton, it is known as the Walnut Grove-Thornton Road) to the west, the Sacramento County line with El Dorado and Amador counties to the east, and San Joaquin County to the south (Plate BR-6). The SSHCP Project area excludes the City of Sacramento, the City of Folsom, the City of Elk Grove, most of the Sacramento-San Joaquin Delta, and the Sacramento community of Rancho Murieta.

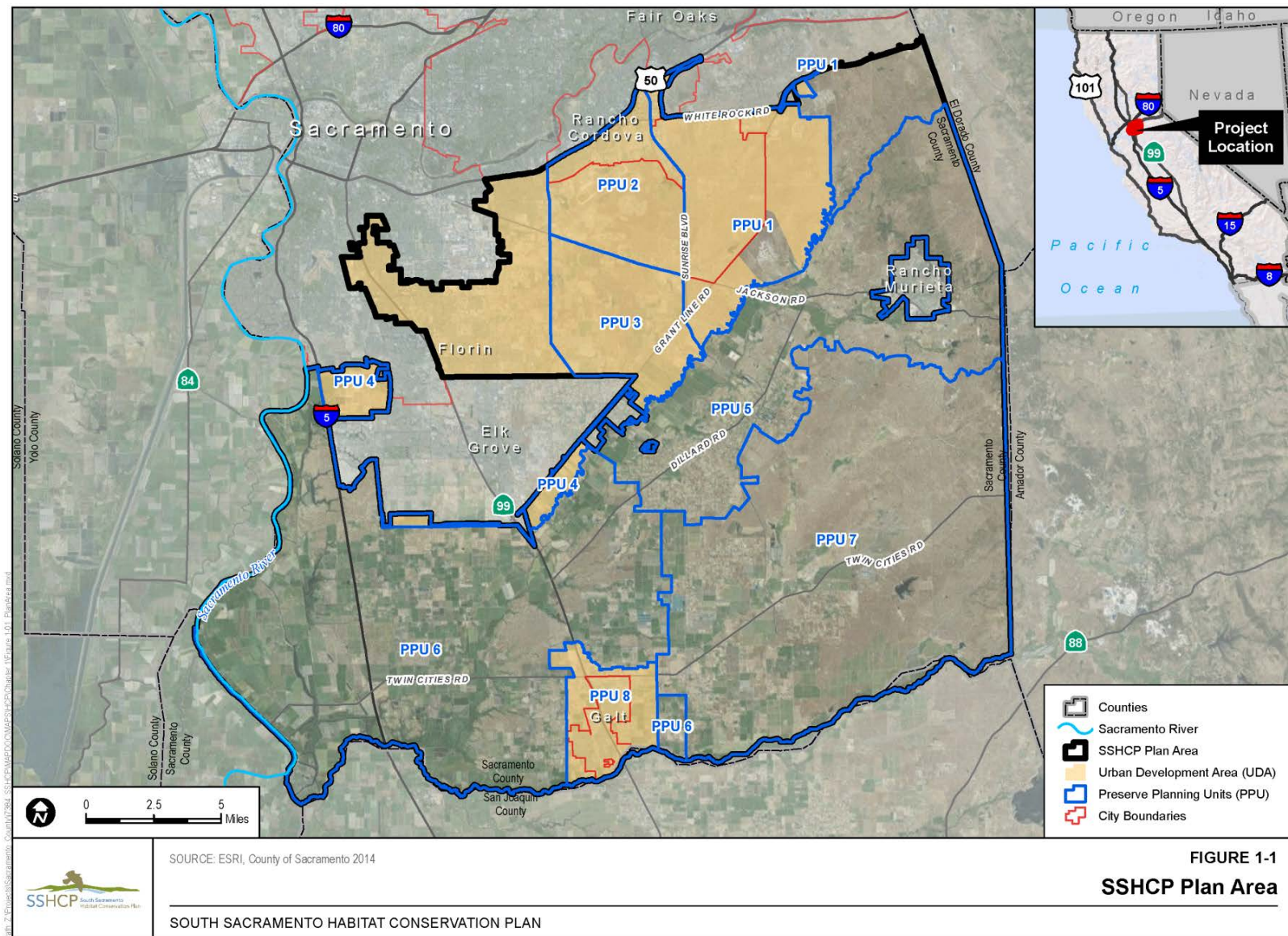
The SSHCP covers 28 different species of plants and wildlife, including 10 that are state and/or federally-listed as threatened or endangered. The SSHCP has been developed as a collaborative effort to streamline permitting and protect covered species habitat. .

On May 15, 2018 the Final SSHCP and EIS/EIR was published in the federal Register for a 30 day review period. Public hearings on the proposed adoption of the final SSHCP, final EIS/EIR, final Aquatic Resources Plan (ARP), and final Implementation Agreement (IA) began in August 2018, and adoption by the County occurred on September 11, 2018. The permit was received on June 12, 2019 from the U.S. Fish and Wildlife Service, July 25, 2019 from the U.S. Army Corps of Engineers, and August 20, 2019 from the California Department of Fish and Wildlife.

The SSHCP will consolidate and enhance wetlands, primarily vernal pools and upland habitats to provide ecologically viable conservation areas. It also intends to minimize regulatory hurdles and facilitate the permitting process for development projects. The SSHCP will include 28 covered species of plants and wildlife, including 11 that are state and/or federally-listed as threatened or endangered. Sacramento County is partnering with the incorporated cities of Rancho Cordova, and Galt, as well as the Sacramento Regional Sanitation District, Sacramento County Connector JPA (Joint Powers Authority), and Sacramento County Water Agency to further advance the regional planning goals of the South Sacramento Habitat Conservation Plan.

The SSHCP Conservation Strategy minimizes habitat fragmentation by focusing on the establishment of large Preserves, and by linking existing preserves and SSHCP Preserves together to allow wildlife movement. Development of the SSHCP included comprehensive landcover mapping of the Plan area, as well as modeling habitat for each of the covered species. This data is utilized to focus mitigation funds towards preservation of lands that is suitable for species by habitat type. In addition to preserving lands by habitat type, as required by the ESA (Section 10(a)(2)(A)(ii)) and Fish and Game Code Section 2081, the SSHCP includes measures to avoid and minimize take of Covered Species through species-specific avoidance and minimization measures (AMMs).

## Plate BR-6: South Sacramento Habitat Conservation Plan Area



Covered activities within the SSHCP boundary are required to comply with the provisions of the SSHCP including applicable AMMs, Biological Goals and Objectives (BGOs), and payment of fees to mitigate for the loss of natural land cover types. In addition to the SSHCP itself, covered activities must comply with the Aquatic Protection Ordinance (Chapter 16.135.010 through 16.135.110 of the Sacramento County Code), the Implementing Resolution (Resolution No. 2018-0642), and the Fee Ordinance (Chapter 22.45.101 through 22.45.102 of Title 22 of the Sacramento County Code). Draft AMMs are located in Appendix BIO.

## SIGNIFICANCE CRITERIA

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Appendix G of the CEQA provides guidance for assessing the significance of potential environmental impacts. Related to biological resources the proposed project would have a significant impact if it:

- BR-1: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or approved local, regional, or state habitat conservation plan.
- BR-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;
- BR-3: 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;
- BR-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- BR-5: Conflict with any local policies or ordinances protecting biological resources; or

## IMPACTS AND ANALYSIS

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The proposed mining expansion will result in impacts to vegetation communities and aquatic resources in the BSA. Additional discussion of these impacts as they relate to special status species and habitats is provided below.

At the time that the BRE was prepared the SSHCP had not been adopted therefore the BRE included mitigation measures to reduce potential significant impacts. However, the County Board of Supervisors has approved the SSHCP and certified the Final EIS/EIR, and was subsequently approved by the other participating entities. The proposed project is within the SSHCP UDA and is considered a covered activity and required to comply with the SSHCP AMMs. For those impacts that are potentially significant, the BRE included mitigation measures. The SSHCP AMMs are equivalent mitigation measures and are listed herein in place of the measures set out in the BRE.

The SSHCP is a habitat based plan in which mitigation fees are based on impacts to habitat or land cover rather than impacts to individual species.

The baseline mapping for the SSHCP Landcovers is illustrated in Plate BR-7. The landcovers outlined in the baseline map are an interpretation of habitat based on remote sensing analysis over a number years prior to adoption of the SSHCP. Therefore, these landcovers are intended to serve as a guide as to what may be present on the project site and are intended to be updated. During the local impact authorization process, these landcovers will be refined, and calculation of project mitigation impact fees will be based on the additional survey and wetland delineation data.

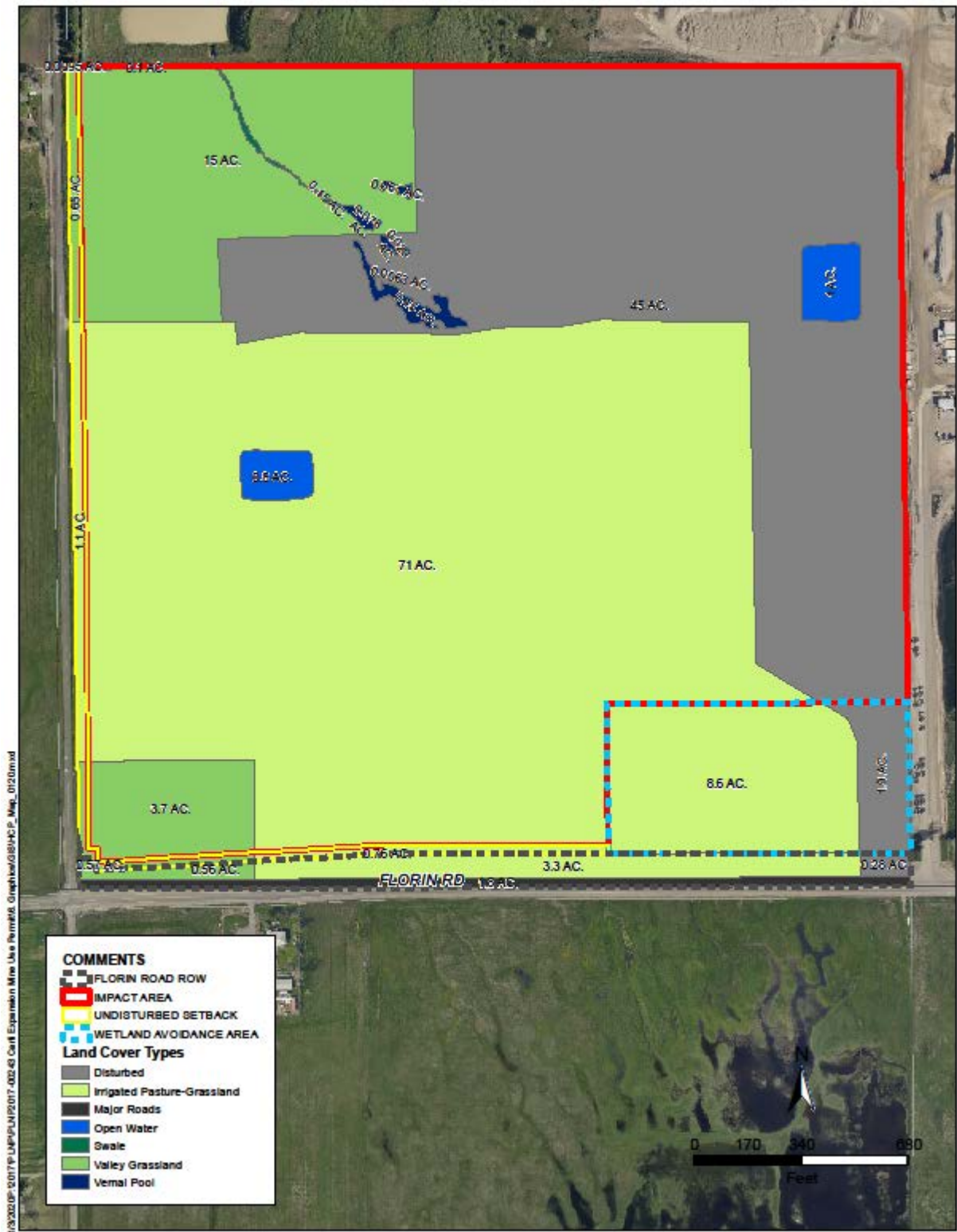
As discussed, the project applicant had prepared a BRE which identified the plant communities present on the project site (see Plate BR-3) the areas identified as valley grassland and irrigated pasture-grassland on the SSHCP Landcover (BR-7) are identified as non-native grasslands in the BRE. Likewise the aquatic resources identified in the BRE (Plate BR-4) are not the same as shown on the Landcover map.

The SSHCP also provides for streamlined permitting under Section 404 of the Clean Water Act (CWA) and compliance with related laws. In order to comply with federal regulations, an aquatic resources delineation, following the U.S. Army Corps of Engineers (Corps) Sacramento District January 2016 Minimum Standards<sup>2</sup>, is required. The South Sacramento In-Lieu Fee (ILF) Program was established in order to synergize the compensatory mitigation required for impacts to aquatic resources, including wetlands, under the CWA with compensation for impacts to species habitat required under the SSHCP's Conservation Strategy. While every effort was made during program development to simplify integration of these three components, the nomenclature used in an aquatic resources delineation may not match the SSHCP's land cover and available ILF credit types.

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<sup>2</sup> [https://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimum-standards/Minimum\\_Standards\\_for\\_Delineation\\_with\\_Template-final.pdf](https://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimum-standards/Minimum_Standards_for_Delineation_with_Template-final.pdf)

Plate BR-7: SSHCP Land Cover Types



### **IMPACT EVALUATION BR-1: SOUTH SACRAMENTO HABITAT CONSERVATION PLAN (SSHCP) CONSISTENCY**

The baseline mapping for the SSHCP Landcovers is illustrated in Plate BR-7. The landcovers outlined in the baseline map are an interpretation of habitat based on remote sensing analysis over a number years prior to adoption of the SSHCP. Therefore, these landcovers are intended to serve as a guide as to what may be present on the Project Site and are intended to be updated. During the local impact authorization process, these landcovers will be refined, and calculation of Project mitigation impact fees will be based on the additional survey and wetland delineation data.

The analysis contained in this chapter is consistent with the protocol for covered species analysis under the SSHCP. Compliance with the SSHCP will ensure that impacts to covered species and their habitat will be less than significant. The mitigation contained in this chapter has been structured such that the required mitigation is consistent with the adopted SSHCP mitigation and monitoring protocols.

The applicant will be required to obtain a signed SSHCP authorization form from the Environmental Coordinator for potential impacts to terrestrial and aquatic habitats. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO), as well as payment of fees to support the overall SSHCP Conservation Strategy. Thus, the Project is consistent with, and aids in the goals set forth in the proposed SSHCP. Impacts with regards to consistency with the proposed SSHCP are ***less than significant***.

### **IMPACT EVALUATION BR-2: DOES THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON WETLANDS DESIGNATED AS JURISDICTIONAL WATERS OF THE UNITED STATES AS DEFINED BY SECTION 404 OF THE CLEAN WATER ACT?**

There are two general types of impact to habitats: direct and indirect. A direct impact occurs when a wetland is destroyed by construction activities within the wetland margin.

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. Impacts to Aquatic Resources are shown in Plate BR-8.

Mining will result in permanent impacts to aquatic resources, consisting of 0.842 acre of wetlands and 1.154 acres of non-wetland waters, as shown below in Table BR-3. At this time it is unclear if these acreages have been verified by the ACOE. If not, they will need to be verified prior to submission of an application under the SSHCP. It should be noted that within the SSHCP landcover types such as Open Water impacts would require mitigation even if not jurisdictional.

Plate BR-8: Aquatic Resources Impacts



**Table BR-3: Impacts to Aquatic Resources in the BSA (acres)**

Type	Total
<b>Wetlands</b>	
Seasonal Wetlands	0.000
Ephemeral Drainage	0.018
Adjacent Wetlands	0.000
Ponded Ditch	0.751
Isolated Wetland	0.073
<b><i>Wetlands Subtotal</i></b>	<b>0.842</b>
<b>Non-Wetland Waters</b>	
Ephemeral Drainage	0.097
Retention Basin	1.057
<b><i>Non-Wetland Waters Subtotal</i></b>	<b>1.154</b>
<b>Total</b>	<b>1.996</b>

**Level of Significance Before Mitigation: Potentially Significant****Mitigation Measure BR-2.1: Wetlands**

As a covered activity under the SSHCP, the Project would be subject to the mitigation and permitting procedures as outlined in the SSHCP. Approximately 0.842 acres of wetlands would be permanently impacted along with 1.152 acres of non-wetland waters. Exact acreages will be determined through the permit process, and acreages of onsite wetlands presented in this document represent approximations based on the best information available at this time.

**Level of Significance After Mitigation – Less than Significant**

**IMPACT EVALUATION BR-3: DOES THE PROJECT 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?**

The implementation of the Project may have direct, and/or indirect impacts on a number of special-status plant and animal species. The following discussions pertain to the

potential impacts to species that have been documented or are likely to occur in the project area as identified by Table BR-2 above.

#### *SPECIAL STATUS PLANTS*

Based on the negative results of the spring 2017 focused plant surveys, special status plant species are considered absent from the BSA. The Project is not expected to result in impacts to special status plant species. Therefore, the impacts are ~~less than~~ **significant**.

**However, the Avoidance and Minimization PLANT-1 of the SSHCP states that if Covered Activities occur within modeled habitat for Covered Plant Species, rare plant surveys should be conducted in accordance with CDFW's most recent rare plant survey protocol. As the Project area includes modeled habitat for Covered Plant Species such as Sanford's arrowhead (*Sagittaria sanfordii*), the Project would be subject to the survey requirement in the SSHCP. Therefore mitigation has been proposed to ensure the potential impacts are less than significant.**

**LEVEL OF SIGNIFICANCE BEFORE MITIGATION: ~~LESS THAN SIGNIFICANT~~ POTENTIALLY SIGNIFICANT.**

**MITIGATION MEASURES: ~~NONE PROPOSED~~ BR-3.1**

**The applicant will be required to obtain authorization through the SSHCP for potential impacts to Special Status Plants. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION: LESS THAN SIGNIFICANT**

#### *INVERTEBRATES*

##### **VERNAL POOL CRUSTACEANS**

There are a variety of invertebrate species which rely on vernal pools and similar seasonal wetland habitat. Species associated with vernal pools include California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and Ricksecker's water scavenger beetle. All of these species spend their life cycle within the margins of the vernal pool. None of these species are readily observed through casual observation. Thus, lack of recorded sightings is not cause to conclude that the species is not present. As previously stated, the SSHCP is a habitat based plan; therefore, the mitigation fee for impacted land covers is required regardless of surveys that demonstrate the presence or absence of the species typically known to use the land cover type as habitat. Surveys do help define the landcover type and identify applicable AMMs.

Wetland and water features on and off-site may provide potential habitat for vernal pool fairy species, and known records for vernal pool species occur in the Project vicinity. The protocol under the SSHCP assumes that the delineated onsite and offsite wetlands may be vernal pool habitat and potentially contain special status vernal pool crustaceans, even if there are no documented occurrences in the waters. Mitigation for vernal pool crustaceans has been included below, and impacts are **potentially significant without mitigation**.

### **Level of Significance Before Mitigation: Potentially Significant**

#### **Mitigation Measure BR-3.13.2: Vernal Pool Crustaceans**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to Vernal Pool Crustaceans. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

### **Level of Significance After Mitigation – Less than Significant**

#### ***VALLEY ELDERBERRY LONGHORN BEETLE***

##### **IMPACT EVALUATION**

Two elderberry shrubs with stems greater than 1 inch in diameter will be removed as a result of mining operations (see Plate BR-3).

No beetle exit holes were observed in the shrub stems during the surveys, and the shrubs are located over 2,800 feet from riparian habitat and more than 2 miles from the nearest CNDDDB occurrence of VELB. Based on the USFWS guidelines for assessing impacts to VELB (Framework 2017), no mitigation is proposed for removal of these elderberry shrubs. As the proposed removal of the elderberry shrubs would not affect VELB, impacts would be considered ***less than significant***.

### **Level of Significance Before Mitigation: Less than Significant**

#### **MITIGATION MEASURES: NONE PROPOSED**

#### ***AMPHIBIANS AND REPTILES***

#### ***WESTERN POND TURTLE***

##### **IMPACT EVALUATION**

Mining activities could directly affect western pond turtle if this species is present when mining begins. The Project will result in permanent impacts to the ponded ditch feature in the center of the BSA, totaling 0.751 acre, which is suitable aquatic habitat for this species. Although no turtles were observed during the surveys of the BSA, and there is

low potential to occur in the BSA if present the impacts to western pond turtle would be **potentially significant without mitigation**.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure BR-3.2B-3.3: Western Pond Turtle**

To avoid impacts to western pond turtles the following shall apply:

The applicant will be required to obtain authorization through the SSHCP for potential impacts to Western Pond Turtle. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**Level of Significance After Mitigation – Less than Significant**

*BIRDS*

***TRICOLORED BLACKBIRD***

**IMPACT EVALUATION**

Mining activities could directly affect tricolored blackbird if this species is nesting when mining begins. The mining project will also result in permanent impacts to 97.88 acres of nonnative grasslands which is suitable foraging habitat for this species. Since the presence of milk thistle patches varies on the site from year to year, loss of this vegetation is not considered an impact to tricolored blackbird. While specific areas of vegetation will vary, there is still the possibility for mining activities to disturb nesting birds. Thus, disturbance to nesting tri-colored blackbirds from mining activities is a **potentially significant** impact.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure BR-3.33.4: Tricolored Blackbird**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to Tricolored Blackbird. Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**Level of Significance After Mitigation – Less than Significant**

***WESTERN BURROWING OWL***

**IMPACT EVALUATION**

Mining could directly affect western burrowing owl if this species is nesting when mining begins, although it is unlikely burrowing owl occur in the BSA on a regular basis. The Project will also result in 97.88 acres of permanent impacts to non-native grasslands marginally suitable for western burrowing owl. Thus, disturbance to nesting western

burrowing owls and the loss of habitat from mining activities is a ***potentially significant*** impact.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure BR-3.43.5: Western Burrowing Owl**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to Western Burrowing Owl. The project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**Level of Significance After Mitigation – Less than Significant**

***SWAINSON’S HAWK***

**IMPACT EVALUATION**

Mining could directly affect Swainson’s hawk if this species is nesting near the Carli Property when mining begins. The Project will also result in 97.88 acres of permanent impacts to non-native grasslands which provides suitable foraging habitat for Swainson’s hawk. Thus, disturbance to nesting Swainson’s hawks and the loss of habitat from mining activities is a ***potentially significant*** impact.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure BR-3.53.6: Swainson’s Hawk**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to Swainson’s Hawk. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**Level of Significance After Mitigation – Less than Significant**

***WHITE-TAILED KITE***

**IMPACT EVALUATION**

Mining could directly affect white-tailed kite if this species is nesting near the Carli Property when mining begins. The Project will also result in 97.88 acres of permanent impacts to non-native grasslands which provides suitable foraging habitat for white-tailed kite. Thus, disturbance to nesting white-tailed kite and the loss of habitat from mining activities is a ***potentially significant*** impact.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure BR-3.63.7: White-Tailed Kite**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to covered raptor species such as white-tailed kite. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**If it is determined during surveys or project implementation that project activities may impact white-tailed kite, project personnel shall fully avoid any impacts that may result in take if white-tailed kite is observed to be utilizing the project area or adjacent area.**

### **Level of Significance After Mitigation – Less than Significant**

#### ***LOGGERHEAD SHRIKE***

##### **IMPACT EVALUATION**

Mining could directly affect loggerhead shrike if this species is nesting near the Carli Property when mining begins. The Project will also result in 97.88 acres of permanent impacts to non-native grasslands which provides suitable foraging habitat for loggerhead shrike. Thus, disturbance to nesting loggerhead shrike and the loss of habitat from mining activities is a ***potentially significant*** impact.

### **Level of Significance Before Mitigation: Potentially Significant**

#### **Mitigation Measure BR-3.73.8: Loggerhead Shrike**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to covered raptor species such as loggerhead shrike. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

### **Level of Significance After Mitigation – Less than Significant**

#### ***YELLOW-HEADED BLACKBIRD***

##### **IMPACT EVALUATION**

Mining could directly affect yellow-headed blackbird if this species is nesting near the Carli Property when mining begins. The Project will also result in 97.88 acres of permanent impacts to non-native grasslands which provides suitable foraging habitat for yellow-headed blackbird. Thus, disturbance to nesting yellow-headed blackbird and the loss of habitat from mining activities is a ***potentially significant*** impact.

### **Level of Significance Before Mitigation: Potentially Significant**

#### **Mitigation Measure BR-3.83.9: Yellow-headed Blackbird**

The yellow-headed blackbird is a California Species of Special Concern. The CDFW has regulatory oversight of this species; however, yellow-headed blackbird is not a covered species under the SSHCP and there is no requirement to issue a ITP for impacts to this species.

Although not a covered species in the SSHCP the yellow-headed blackbird were observed on the Project Site foraging mixed in with tricolored, red-winged, and Brewer's blackbirds. As such, AMMs for tricolored blackbird include species surveys, pre-construction surveys, and construction monitoring. These AMMs along with payments for impacts to grasslands would be equivalent to the measures presented in the BRS.

Therefore, as the applicant proceeds in obtaining authorization through the SSHCP for potential impacts to tricolored blackbird the scope for required surveys will include the requirement to survey for yellow-headed blackbird. Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy

### **Level of Significance After Mitigation – Less than Significant**

#### **IMPACT EVALUATION BR-4: WILL THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON THE MOVEMENT OF ANY NATIVE RESIDENT OF MIGRATORY FISH OR WILDLIFE SPECIES?**

##### **IMPACT: MIGRATORY NESTING BIRDS**

The 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.” To avoid take of nesting migratory birds, mitigation has been included to require that activities either occur outside of the nesting season, or to require that nests be buffered from construction activities until the nesting season is concluded. Impacts to migratory nesting birds would be *less than significant with mitigation*.

### **Level of Significance Before Mitigation: Potentially Significant**

#### **Mitigation Measure BR-4.1: Migratory Nesting Birds**

To avoid impacts to nesting migratory birds the following shall apply:

- A. If construction activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, a survey for active migratory bird nests shall be conducted no more than 14 days prior to construction by a qualified biologist. **The minimum survey radii surrounding the work area shall be the following: i) 250 feet for passerines;**

**ii) 500 feet for small raptors such as accipiters; iii) 1,000 feet for larger raptors such as buteos.**

- B. No trees are slated for removal from the Project area; however, any landscape trees along the boundary of the Project Site that require removal shall be removed during the period of September through January, in order to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, shall be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found.
- C. If active nest(s) are found in the survey area, a non-disturbance buffer, the size of which has been determined by a qualified biologist, shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1.

**Level of Significance After Mitigation: Less than Significant**

**IMPACT EVALUATION BR-5: WILL THE PROJECT CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES?**

**IMPACT: ADVERSE EFFECT ON GRASSLAND HABITAT**

Grassland habitat in Sacramento County is characterized by annual grasses and forbs, which are predominantly non-native species. Non-native annual grasses that dominate grasslands include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), red brome (*B. madritensis* ssp. *rubens*), wild barley (*Hordeum* spp.), and foxtail fescue (*Vulpia myuros*). Common forbs of this land cover type include broadleaf filaree (*Erodium botrys*), redstem filaree (*E. cicutarium*), turkey mullein (*Eremocarpus setigerus*), true clovers (*Trifolium* spp.), bur clover (*Medicago polymorpha*), popcorn flower (*Plagiobothrys* spp.), and many others (Kie, J.G., 20050). Purple needlegrass (*Nassella pulchra*) and Idaho fescue (*Festuca idahoensis*) are two perennial grasses that can be present in moist, lightly grazed, or relic native grassland areas. Vernal pools and seasonal wetlands are often present within the County's grassland habitats.

General Plan policy CO-59 directs that mitigation should occur for any loss of or modification to "native vegetative habitat" or "special status species habitat". The County's grasslands are typically not dominated by native vegetative habitats, but do provide habitat for a variety of special status species, including the Swainson's hawk, a variety of other bird species.

The temporary (i.e., during the mining and reclamation period, as the Project Site will be returned to open space or agricultural uses in the post-reclamation condition) loss of approximately 97.88 acres of grasslands that serves as habitat or potential habitat for special status species. Grasslands on the Project Site is comprised of the following land covers (i.e. valley grassland and irrigated pasture-grassland) as illustrated in Plate BR-7. As noted above the landcover types identified in the SSHCP differ from the plant

community type identified in the BRE the final determination as to grassland type will be finalized during the SSHCP permitting process.

The loss of 97.88 acres of grasslands habitat to mining activities is a ***significant*** impact. Because the grasslands on the Project Site serve as habitat for other species, mitigation for grasslands has been encompassed in previous mitigation for foraging habitat.

Rather than mitigate by species, the SSHCP mitigates by landcover type, therein mitigating impacts to each species to which the landcover type is applicable. Therefore, the Project will comply with the grassland and/or agricultural land cover mitigation as stipulated by the SSHCP. Thus, impacts to grasslands are ***less than significant with mitigation***.

**Level of Significant Before Mitigation: Significant**

**Grassland Mitigation Measure: Mitigation Measure BR 5**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to grassland land cover type (valley grassland or irrigated pasture grassland). Compliance with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**Level of Significance After Mitigation: Less than Significant**

## 14 CULTURAL RESOURCES

### REGULATORY SETTING

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#### *FEDERAL*

##### *NATIONAL HISTORIC PRESERVATION ACT*

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 the National Historic Preservation Act. Other federal laws pertinent to cultural resources include the Archaeological Data Preservation Resources Protection Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act of 1989, among others.

The Section 106 review process is implemented using a five step procedure: 1) identification and evaluation of historic properties; 2) assessment of the effects of the undertaking on properties that are eligible for the National Register; 3) consultation with the State Historic Preservation Office and other agencies for the development of a memorandum of agreement that addresses the treatment of historic properties; 4) receipt of Advisory Council on Historic Preservation comments on the memorandum of agreement or results of consultation; and 5) the project implementation according to the conditions of the memorandum of agreement.

The Section 106 compliance process may not consist of all the steps above, depending on the situation. For example, if identification and evaluation result in the documented conclusion that no properties included in or eligible for inclusion are present, the process ends with the identification and evaluation step.

##### *NATIONAL ENVIRONMENTAL POLICY ACT*

The National Environmental Policy Act (NEPA) requires federal agencies to assess whether federal action would result in significant effect on the human environment. The Council on Environmental Quality's National Environmental Policy Act 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 historical resources" (40 CFR 1508.27[b][8]).

*STATE**CALIFORNIA ENVIRONMENTAL QUALITY ACT*

The California Environmental Quality Act (CEAQ) 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 resources, the lead agency may require reasonable efforts to be made to permit any of 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 (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 have a local register.

Public Resources Code Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of California Environmental Quality Act were used as the basic guidelines for the cultural resources study. Public Resources Code Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the California Register of Historical Resources. 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.

*ASSEMBLY BILL 52*

As of July 1, 2015, "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.). To help determine whether a project may have such an effect, the Public Resources Code

requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. (Pub. Resources Code, § 21080.3.1.)

Assembly Bill (AB) 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR)
  - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Consistent with the requirements of AB 52, three tribes (Wilton Rancheria, the Lone Band of Miwok Indians, and the United Auburn Indian Community of the Auburn Rancheria) have requested formal notice and information pursuant to California Public Resources Code, Section 21080.3.1(b) regarding projects for which the County of Sacramento is lead agency.

#### *NATIVE AMERICAN BURIALS AND ACCIDENTAL DISCOVERIES*

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 specific 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.*

The California Environmental Quality Act 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 American, the Native American Heritage Commission 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 Native American Heritage Commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and dispositions of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the California Environmental Quality Act Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources. 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”.

#### *LOCAL*

##### *SACRAMENTO COUNTY GENERAL PLAN*

Under California law, cities and counties must adopt a comprehensive, long-term general plan for physical development related to their planning boundaries. The Sacramento County General Plan (General Plan) was adopted November 9, 2011 with a planning horizon to 2030. The General Plan serves as the principal land use planning and policy document for Sacramento County. Furthermore, the General Plan establishes broad goals, objectives and policies that guide county-wide land use. The General Plan consists of 15 elements and five policy plans. Each element provides goals, objectives, and policies to guide land use decisions related to the subject matter of that element.

The following are the most pertinent General Plan policies related to cultural resources that apply to the project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

- CO-150: Utilize local, state and national resources, such as the North Central Information Center, to assist in determining the need for a cultural resources survey during project review.
- 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-161: As a condition of approval for discretionary projects, require appropriate mitigation to reduce potential impacts where development could adversely affect paleontological resources.
- CO-163: Require that a certified geologist or paleoresources consultant determine appropriate protection measures when resources are discovered during the course of development and land altering activities.

## CULTURAL HISTORY

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### *PREHISTORY*

One of the earliest clearly dated contexts for human occupation in north central California is from site CA-SHA-475 located north of Redding on Squaw Creek, where a charcoal based C-14 date suggests initial Native American presence within this area around 6,500 years ago. Continuous use of the region is indicated on the basis of evidence from this and other regional sites, particularly within the Farmington area and along the Truckee River drainage east of Sacramento within the Sierra Nevada. Most of the artifactual material dating to this early time period suggests cultural affiliation with the Borax Lake area—the presence of large wide-stemmed projectile points and manos and metates being the most prominent and distinctive artifact types represented. The possibility exists that this early culture represents Hokaan-speaking peoples who were also ancestral to those who subsequently expanded into the southern Cascade, the southern Klamath, the North Coast Range, and the lower reaches of the Sierra Nevada near Folsom and Sacramento.

Sometime around AD 200-400, the first major disruption of this early California culture is believed to have occurred. Arriving ultimately from Southern Oregon and the Columbia and Modoc Plateau region and proceeding down the major drainage systems (including the Feather, Yuba and American Rivers), Penutian-speaking peoples began arriving in the area and soon occupied much of the Sacramento Valley floor and the margins of the Sacramento River. Presumably introduced by these later arrivals were more extensive use of bulbs and other plant foods, animal and fishing products more intensively processed with mortars and pestles, and perhaps the bow and arrow and associated small stemmed- and corner-notched projectile points. In the northernmost Sacramento

Valley, the so-called Shasta (archaeological) Complex represents the material culture record of the local Penutian speakers. Generally similar archaeological expressions also define the Penutian-speaking occupants of the northern Sierra Nevada around Grass Valley and Nevada City, and the Nisenan ancestors who occupied the area in the foothills above and valley margins around, Sacramento, Folsom, Orangevale and Citrus Heights.

### *ETHNOLOGY*

The project area is located within territory occupied by the Nisenan (Wilson and Towne 1978: Figure 1) Native American peoples also referred to as “Southern Maidu.” These Penutian-speaking peoples occupied the drainages of the southern Feather River and Honcut Creek in the north, through Bear River and the Yuba and American River drainages and along the Sacramento River in the south. Villages were frequently located on flats adjoining streams, and were inhabited mainly in the winter as it was usually necessary to go out into the hills and higher elevation zones to establish temporary camps during food gathering seasons (i.e. spring, summer, and fall).

As with all northern California Indian groups, economic life for the Nisenan revolved around hunting, fishing, and collecting of plant foods. The Nisenan were very sophisticated in terms of their knowledge of the uses of local animals and plants, and of the availability of raw material sources which could be used in manufacturing an immense array of primary and secondary tools and implements. Unfortunately, only fragmentary evidence of the material culture of these people remains, due in part to perishability, and in part to the impacts to archaeological sites resulting from later (historic) land uses.

Based on the results of previous survey work in the general area, the range of prehistoric site types for this portion of Sacramento County include the following:

- Surface scatters of lithic artifacts and debitage associated with midden accumulations and other surface features (i.e. circular housepit depressions, mortar holes) resulting from protracted occupation along the margins of streams, particularly where systems merge with one another.
- Surface scatters of lithic artifacts and debitage without midden accumulations, resulting from short-term occupation and/or specialized economic activities.
- Bedrock milling stations, including mortar holes and metate slicks, in areas where suitable bedrock outcrops or large boulders are present and exposed.
- Cemetery areas, usually but not always associated with habitation sites.
- Petroglyphs.
- Isolated finds of aboriginal artifacts and flakes.

Clearly it was not expected that all of these sites would be encountered within the present Project area, but rather that these would be the most likely types to be found if any sites were discovered at all.

### *HISTORIC CONTEXT*

Recorded history in the general vicinity begins with the attempts of Spanish colonists to explore parts of California beyond the coastal zone. Gabriel Moraga's expedition was undertaken in 1806, with additional incursions occurring through the 1840's. European Americans began arriving in the mid-1820's, most notably with the trapping expeditions of Jedediah Strong Smith. However, the European Caucasian incursion with the greatest impact on Native American population and culture occurred immediately following the discovery of gold at Coloma in 1848, which initiated the Gold Rush of 1849.

Mining along virtually every stream within this part of California was underway by 1850, including many of the streams and dry arroyos around Folsom. Placer mining continued to yield large quantities of gold through the next several years, and by 1855 supporting industry around Folsom included stores, transportation companies, saloons, foundries, lumber mills, water companies, toll roads and stage lines.

The period immediately following the Gold Rush saw numerous homesteads claimed and ranches created. Soon, virtually all of the land in the vicinity of Sacramento and south toward Elk Grove was subjected to intensive-level ranching and/or farming.

Water storage and water diversion projects represent additional important historic themes for this area, with undertakings such as the Folsom Reservoir representing one of the larger of such projects. As with the earlier mining and ranching emphasis, the activities associated with water storage and diversion have also adversely affected the local cultural resource base.

### INFORMATION CENTER RECORD SEARCH

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A records search (SAC-16-156) was conducted of the Area of Potential Effect (APE) (Plate CR-1) and a 0.5-mile radius on October 6, 2016, by the North Central Information Center (NCIC) of the California Historical Resources Information System, at California State University, Sacramento. The NCIC, an affiliate of the State of California Office of Historic Preservation (OHP), is the official state repository of cultural resource records and reports for Sacramento County. The records search included a review of the following federal and state inventories:

- California Inventory of Historic Resources (California Department of Parks and Recreation 1976);
- California Points of Historical Interest (OHP 1992);

- California Historical Landmarks (OHP 1996);
- National Register of Historic Places (National Park Service [NPS] 2015); and
- National Historic Landmarks Listed by State or Territory (NPS 2016)

The records search found that a small portion of the APE was previously investigated by the following report:

Shapiro, Lisa and Robert J. Jackson, 1996, Draft Environmental Impact Report, Sacramento Aggregates - East Vineyard Community Plan Amendment, Rezone and Use Permit. Pacific Legacy, Inc.

This investigation did not identify any resources within the APE.

## LITERATURE REVIEW

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An additional four investigations have been conducted within 0.5 miles of the Project. These studies have resulted in the identification and documentation of six archaeological cultural resources within 0.5 miles of the Project.

On June 14, 2017, LSA sent letters describing the Project as well as associated project maps to the Sloughhouse Area Genealogical Society, Sacramento County Historical Society, and Elk Grove Historical Society asking for any information or concerns they may have regarding the Project. On June 22, 2017, LSA left follow-up messages and voice message for each organization. No responses were received by LSA. Copies of the letters and notes are provided in the LSA report (Appendix CR).

LSA also reviewed historical maps and aerials for the project to identify any built environment resources and to assess the potential for buried prehistoric and historical archaeological deposits in the APE.

## FIELD ASSESSMENT

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LSA staff surveyed all portions of the APE that were free of mining activity on November 22, 2016. The field survey consisted of walking transects spaced no more than 15 meters apart. The visibility was extremely low and ranged 0-10 percent; therefore, mapped locations of former buildings, water conveyance features, and roads were fully inspected to determine the presence or absence of associated archaeological material. Surface scrapes were also conducted in areas of low visibility.

Inspection of the former building locations resulted in negative findings: no structure pads, foundations, or historic refuse was observed. A utility box was identified in this location but appears modern. Fragments of concrete, asphalt, metal, and PVC utility pipes were observed; however, they were found scattered in various areas and did not

appear to represent any type of cohesive site or feature. The majority of trees visible in the most recent aerial images have been reduced to stumps. Milk thistle is also present on site. The area also appears to have been recently disturbed by heavy equipment.

Inspection of the mapped historic-period reservoir in the southern half of the APE resulted in negative findings as well. Although the area is elevated, the reservoir has been recently filled with native soil. No associated artifacts were observed near or in the reservoir.

The reservoir in the northeastern portion of the APE is still in use and is well maintained except for the gate platform which has been shoddily repaired by rip rap and plywood supports. The manual gate valve is located on the southwest corner.

The well, as depicted on historic-period maps, is situated next to a concrete standpipe and a modern gas tank enclosure made of cinder blocks and mortar. The enclosure measures six rows high. The well connects to a buried plastic pipe that extends south towards the filled-in reservoir to a concrete standpipe. The concrete standpipe measures 36 inches in diameter, stands 8.5 feet high, contains a wrought-iron ladder, and is situated next to a decomposing wood post and a dirt road.

The earthen ditch is maintained, still in use, and connected to the modern dust control reservoir with a metal, manually operated gate valve. It measures approximately 20 feet wide.

## FINDINGS

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The Carli property once functioned as a residence and farm from circa 1900 to 2009. This is evidenced through the presence of agricultural ditches, reservoirs, aerial photographs that depict plowed rows, and the fact that the former owners of this property were listed as farmers in the U.S. census. After the Gold Rush, the area received an influx of farming activity, among which the APE would have been one of many farming operations in the region during the early and mid-20th century. The features still present that were associated with the original farm include the northeastern-most reservoir, the earthen ditch, and the standpipes observed during the field survey. All other resources that were once associated with the farm complex have either been demolished or significantly altered.

## NATIVE AMERICAN CONTACTS

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On September 25, 2016, LSA sent a letter describing the Project with maps depicting the APE to the Native American Heritage Commission (NAHC) asking them to review their Sacred Lands File for any Native American cultural resources that might be impacted by the project. NAHC Staff Services Analyst, responding on October 4, 2016, informed LSA that a records search of the Sacred Lands File failed to show the presence of Native American cultural resources within the Project Site.

On August 28, 2017, pursuant to AB 52 Sacramento County staff sent letters with maps depicting the APE and project description to the following Native American contacts. Gene Whitehouse, Chairman, United Auburn Community of the Auburn Rancheria; Steven Hutchason Executive Director, Environmental Resources Department, Wilton Rancheria; and Randy Yonemura, Cultural Committee Chair, Lone Band of Miwok Indians. No responses were received by the County.

## SIGNIFICANCE CRITERIA

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In order for a cultural resource to be considered a “historic property” by becoming eligible under the National Register of Historic Places (NRHP) criteria, it must be demonstrated that the resource possesses integrity of location, design, setting, materials, workmanship, feeling and association, and must meet as 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 California Register of Historical Resources (CRHR) were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP), enumerated above, and require similar protection to what National Historic Preservation Act (NHPA) Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets as 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 California Environmental Quality Act (CEQA), if an archeological site is not a significant “historical resource” but meets the definition of a “unique archeological resource: as defined in the Public Resources Code 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 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 National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) nor qualify as a “unique archaeological resource” under the California Environmental Quality Act (CEQA) Public Resources Code (PRC) Section 21083.2 are viewed as not significant. Under the California Environmental Quality Act (CEQA), “A nonunique 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 National Historic Preservation Act (NHPA) and historical resources under the California Environmental Quality Act (CEQA)) that affect the characteristics of any resource that qualify it for the National Register of Historic Places (NRHP) or adversely alter the significance of a resource listed on or eligible for listing on the California Register of Historical Resources (CRHR) are considered a significant effect on the environment (CEQA guidelines 15065(a)(1)). Impacts to significant cultural resources from the proposed Project are thus considered significant if the project physically destroys or damages all or part of a resource, changes the character of the use of the resource or introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

## IMPACTS AND ANALYSIS

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Cultural Resources the proposed project would have a significant impact if it:

- CR-1: Causes a substantial adverse change in the significance of a historical resource; or
- CR-2: Has a substantial adverse effect on an archaeological resource; or
- CR-3: Disturbs any human remains, including those interred outside of formal cemeteries; or
- CR-4: Cause a substantial adverse change in the significance of a tribal cultural resource.

### **Impact Evaluation CR-1: Does the project cause a substantial adverse change in the significance of a historical resource?**

There are no sites eligible for the National Register of Historic Places or for the California Register of Historical Resources within the Project area.

**Level of Significance: Less than Significant – No Mitigation Required**

### **Impact Evaluation CR-2: Does the project have a substantial adverse effect on an archaeological resource?**

Field surveys were conducted on the site in 2016. The survey coverage was complete in nature with transects of no more than 15 meters wide. Additionally, a record search was conducted for the project area through the North Central Information Center of the California Historical Resources Information System. No sites were found on the project site that were eligible for the National Register of Historic Places or for the California Register. But as a precaution for unintended discoveries, mitigation measures have been added in the event such a discovery is made.

**Level of Significance Before Mitigation: Potentially Significant**

### **Mitigation Measure CR-2: Cultural Resources Unanticipated Discoveries**

If subsurface deposits believed to be cultural, paleontological 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 history 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 of California Register of Historical Resources.

If a potentially eligible resource is encountered, then the archaeologist and Project proponent shall coordinate with Planning and Environmental Review and 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 Planning and Environmental Review as verification that the provisions of CEQA for managing unanticipated discoveries have been met.

In addition, pursuant to Section 5097.98 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.

### **Level of Significance After Mitigation: Less than Significant**

#### **Impact Evaluation CR-3: Does the project disturb any human remains, including those interred outside of formal cemeteries?**

The site was surveyed and no evidence of graves were found in the Project area. But as a precaution for unintended discoveries, mitigation measures have been added in the event such a discovery is made.

### **Level of Significance Before Mitigation: Potentially Significant**

#### **CR-3: Unintended Discovery Mitigation Measure**

Comply with Mitigation Measure CR-2.

### **Level of Significance After Mitigation: Less than Significant**

#### **Impact Evaluation CR-4: Will the Project cause a substantial adverse change in the significance of a tribal cultural resource?**

Pursuant to Public Resources Code 21080.3.1, Planning and Environmental Review staff sent project notifications to those California Native American tribes that requested

to be informed by the lead agency through formal notification of proposed projects in Sacramento County that are traditionally and culturally affiliated with the tribe. No responses or requests for consultation were received within 30 days of receipt of the formal notification.

Both CEQA and Section 106 of the NHPA require the Lead Agency to address any unanticipated cultural resource discoveries during project construction, in which if a discovery is made, earthmoving activities must halt until a tribal monitor may evaluate the resource encountered. With implementation of Mitigation Measure CR-2, environmental impacts to potentially sensitive tribal resources are considered ***less than significant with mitigation***.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measures: See Mitigation Measure CR-2**

**Level of Significance After Mitigation: Less than Significant**

# **15 HAZARDS AND HAZARDOUS MATERIALS**

## **INTRODUCTION**

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This chapter describes the hazards and hazardous materials in the Project area resulting from the proposed uses of the property. This includes a description of applicable federal, state and local regulations and policies that influence hazardous materials, and identifies potential impacts to future activities, residents and workers relating to exposure to hazards and hazardous materials.

## **ENVIRONMENTAL SETTING**

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The Project site is located in unincorporated Sacramento County; at 11509 Florin Road, on the south side of Jackson Road (HWY 16) between Eagles Nest Road and Sunrise Boulevard.

The Carli Expansion site currently has a commercial composting operation located in the north and northeastern portion of the site (see Plate PD-3). The composting operation is doing business as Lopez's AG Service, INC (Business License Number GNB32005-22361). The composting operation was started in 2000 and it is anticipated that the composting operation will continue operating until the final phase of mining on the Carli Expansion site. The composting operation has a portable office structure and building use as a repair shop on the Project Site. The Carli site also has a cell tower located near the composting operation. The cell tower is currently in operation and will remain in operation until the final mining phase. The implementation of the Project will remove the structures and cell tower and the applicant has no plans of reconstructing the cell tower at the Project Site. There are no other significant structures or residence located on the Project Site.

The undeveloped area of the Carli site is primarily non-native grasslands. The topography of the site is gentle with the site sloping north to south-southwest, except for the western portion of the site that slopes to the southwest.

The surrounding land uses consist of the applicant's mining facility, cattle, horse and sheep grazing, farmland and several farm residences. The Project Site is located in the Vineyard Community Plan area. The Carli site has a General Plan designation of Permanent Agricultural Extensive 160. The current processing plant and mining area has a General Plan designation of Permanent Agricultural Extensive 160 with Surface Mining Land Use Overlay.

## REGULATORY SETTING

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### **DEFINITIONS**

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 (Cal EPA), Department of Toxic Substances Control (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 U. S. 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).

## **FEDERAL**

The federal government adopted laws, generally known as the Resource Conservation and Recovery Act (RCRA), to provide for the regulation of hazardous wastes and substances. The RCRA requires any business, institution, or other entity generating hazardous waste to identify and track such waste from its generation until it is recycled, reused, or disposed. The RCRA, subsequently amended in 1984 by the Hazardous and Solid Waste Act, extended the “cradle-to-grave” tracking system to hazardous substances, specifically prohibiting certain techniques of disposing specified hazardous substances.

The U.S. EPA was given primary responsibility for implementation of the RCRA. Individual states may implement their own hazardous substance management programs, if approved by the EPA, with regulations at least as strict as the RCRA. In August 1992, the Cal EPA received authorization to implement California’s RCRA program, called the Hazardous Waste Control Act (HWCA). The HWCA and associated regulations are similar to RCRA but have a broader definition of “hazardous material” and, as a consequence, regulate more chemicals. Cal EPA DTSC is the responsible agency for the implementation of the HWCA. The DTSC has the authority to delegate enforcement responsibility to local jurisdictions that enter into an agreement with the State agency for the generation, transport and disposal of hazardous substances under HWCA.

### **HAZARDOUS MATERIALS TRANSPORTATION**

The U.S. Department of Transportation developed regulations for the intrastate movement of hazardous materials that have been adopted by the State of California. California has also adopted provisions that regulate the transportation of hazardous material passing through and/or originating in the State. The regulations require hazardous waste be transported by a California registered hazardous waste transporter that meets specific requirements, including possession of a valid Hazardous Waste Transporter Registration, liability insurance for environmental restoration, and compliance with Vehicle Code registration regulations. The California Highway Patrol (CHP) and Caltrans are primarily responsible for the enforcement of these regulations. Caltrans is primarily responsible for response to chemical spills and chemical identification, while the CHP enforces hazardous material and waste labeling and packaging regulations.

## **STATE**

California regulations governing hazardous materials are as stringent as (and in some cases, more stringent than) federal regulations. The state has been granted primacy (primary responsibility for oversight) by the EPA to administer and enforce hazardous waste management programs. State regulations also have detailed planning and management requirements to ensure that hazardous materials are handled, stored, and disposed of properly to reduce human health risks. California regulations pertaining to hazardous waste management are published in the CCR. The CCR is updated yearly

and incorporates all legislation and final regulations enacted during the year, as well as specifying the agencies responsible for enforcing the various regulations.

- Department of Toxic Substances Control. 22 CCR gives the California DTSC responsibility for regulating hazardous waste management at the state level. The DTSC regulates the treatment, storage, and disposal of hazardous waste in accordance with 22 CCR and the RCRA. The DTSC administers the state and federal Superfunds for cleanup of major hazardous waste contamination sites.
- Regional Water Quality Control Board. 23 CCR charges the nine Regional Water Quality Control Boards (RWQCBs) with responsibility for overseeing water quality control. The RWQCBs are responsible for protecting actual or potential beneficial uses of water, including municipal, industrial, and agricultural water supplies and recreation. Each RWQCB has authority to supervise hazardous waste cleanup at sites referred by local agencies and in cases where water quality is affected or threatened. Either the DTSC or the RWQCB may be responsible for cleanup of sites of significant contamination by hazardous wastes. The two agencies often work together to ensure that their requirements are consistent and are implemented as intended.
- California Occupational Safety and Health Administration. Health and safety regulations applying to the investigation and cleanup of sites contaminated with hazardous waste are enforced by Cal-OSHA under 8 CCR and the adopted federal regulations (29CFR 1910).

## **LOCAL**

### **ENVIRONMENTAL MANAGEMENT DEPARTMENT**

Sacramento County is responsible for enforcing the State regulations, both in the incorporated cities and unincorporated areas of the County, governing hazardous waste generators, hazardous waste storage, and underground storage tanks (including inspections, enforcement and removals). The Sacramento County Environmental Management Department (EMD) regulates the use, storage and disposal of hazardous materials in Sacramento County by issuing permits, monitoring regulatory compliance, investigating complaints, and other enforcement activities. The EMD also oversees remediation of certain contaminated sites resulting from leaking underground storage tanks.

### **SACRAMENTO COUNTY GENERAL PLAN**

The following are the most pertinent General Plan policies related to hazardous materials that pertain to the Project. Any potential environmental impacts related to these policies will be discussed in the Impacts and Analysis section below.

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-7: Encourage the implementation of workplace safety programs and to the best extent possible ensure that residents who live adjacent to industrial or commercial facilities are protected from accidents and the mishandling of hazardous material.

HM-10: Reduce the occurrences of hazardous material accidents and the subsequent need for incident response by developing and implementing effective prevention strategies.

HM-11: Protect residents and sensitive facilities from incidents which may occur during the transport of hazardous materials in the County.

### **SACRAMENTO COUNTY ZONING CODE**

Section 4.8 of the Sacramento County Zoning Code contains rules and regulations pertaining to the Surface Mining (SM) Combining Land Use Zone. The SM Combining Zone is required in order to mine the site. Several sections of the SM regulations address public safety and hazards. They are codified in the Zoning Code as follows:

#### **Zoning Code Section 4.8; Purpose**

The SM Combining Zone is designed to protect the mineral resources of Sacramento County from incompatible land use; to manage the mineral resources; to assure the County of an adequate supply of these resources with due consideration for the environment; and to provide for the restoration of mined lands for future use. The goals to be pursued by establishment of this zone include:

- (a) That mineral resource areas be protected from preclusive and incompatible land uses.
- (b) That surface mining be controlled to provide for protection of the environment.
- (c) That surface mining be controlled to protect the public health, safety, welfare, and property values of residents living near surface mining operations.
- (d) That provisions be made for the reclamation of mined lands.

#### **Zoning Code Section 4.8.12.B; Fences**

Unless otherwise provided by condition of the use permit, the following fence requirements shall apply:

- 1) Fences erected for safety purposes shall be chain-link. Fences erected for other purposes may be of other types, as designated in the use permit.
- 2) Fences shall be not less than 6 feet in height above the grade of the property outside the fence area.

- 3) Gates shall be installed to fence height at all entrances.
- 4) Fences shall be kept in good repair.
- 5) Fences shall conform to the ground to preclude opening of more than 4 inches between the ground and the fence.
- 6) Fences shall be placed around mining site and processing site boundaries as necessary to ensure public safety and security.

#### **Zoning Code Section 4.8.12.C; Warning and Complaint Information Signs**

- 1) The operator shall provide warning and trespass signs advising of the aggregate mining operation on the fences at interval of not more than 500 feet. Signs shall be kept legible and in good repair.
- 2) The operator shall provide signs containing information necessary for reporting complaint to the mine operator, and also for reporting fugitive dust to the Sacramento Metropolitan Air Quality Management District. Signs shall be placed to be easily visible by the public.

#### **Zoning Code Section 4.8.12.F; Mining Setbacks**

Unless otherwise provided as a condition of the use permit, mining areas shall be set back from the property lines, public streets and sewage disposal system as follows:

- 1) **Periphery of Mining Sites.** A 25-foot minimum setback from the property line is required, the first five feet of which shall consist of undisturbed land.
- 2) **Periphery of Mining Sites Adjacent to Habitable Structures and/or Potentially Incompatible Uses.** A 25-foot minimum setback from the property line is required, the first 10 feet of which shall consist of undisturbed land. For habitable structures existing at the time of mining use permit issuance (including habitable structures primarily used as a residence on a non-residentially zoned property) a minimum of 50 feet of unmined land between the structure and mining activity is required. The distance from habitable structures is to be measured from the edge of a primary residence or residential accessory dwelling, whichever is closer to the property line. The distance is not to be measured from ancillary structures such as pools, decks, and patios.
- 3) **Mining Sites Adjoining Public Streets.** A 25-foot minimum setback from all public streets consisting entirely of unmined land is required.

For right of ways with Public Utilities and Public Facilities (PUPFs), there shall be a 31-foot minimum setback from all public streets consisting entirely of unmined land.

## SIGNIFICANCE CRITERIA

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Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Hazards and Hazardous Materials the proposed Project would have a significant impact if it:

- HM-1: Creates a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or
- HM-2: Exposes the public or the environment to a substantial hazard through reasonably foreseeable upset conditions involving the release of hazardous materials; or
- HM-3: Emits hazardous emissions or handles hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school; or
- HM-4: Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 resulting in a substantial hazard to the public or the environment; or
- HM-5 Impairs the implementation of or physically interferes with an adopted emergency response or emergency evacuation plan.

The Project Site is not located within ¼ mile of an existing or proposed school. Furthermore, the Project is not located on a known hazardous materials site. This is confirmed using DTSC website (accessed on 5-10-19). Lastly, there are no known adopted emergency response or emergency evacuation plans near the Project Site. Therefore, the Project would not interfere with any known emergency response or excavation plan. Thus, HM-3, HM-4, and HM-5 will not be further analyzed.

## IMPACTS AND ANALYSIS

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### **Impact Evaluation HM-1: Does the Project create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

The Project is a surface mine that will excavate aggregate materials from the site using heavy equipment such as scrapers and loaders. The heavy equipment will be serviced by mobile maintenance trucks and fuel trucks as needed. The needed materials for equipment maintenance will be stored in the mobile maintenance trucks whether hazardous or not. The mobile maintenance trucks are stored off-site at the applicant's

equipment yard. The hazardous materials that will be used at the site include fuels, motor oil, and lubricants. During operations, heavy equipment may be fueled at the Project Site. Materials will be used in compliance with applicable laws and regulations. The project applicant states that there will be no hazardous material stored at the site.

It is anticipated that the structures located on the Project Site (portable office and repair shop and cell tower), including septic systems may be removed to facilitate mining at the Project Site. These structures may contain hazardous materials, including but not limited to asbestos and lead. Demolition and disposal of the existing structures will be conducted in accordance with hazardous waste regulations. Demolition permits from Sacramento County will be obtained prior to removal of structures.

The conveyor system contains lubricants for the rollers. The maintenance of the conveyor system could involve lubricating the rollers or replacing the conveyor material. The materials used in the maintenance of the conveyor system will be used in compliance with applicable laws and regulations.

The Project's reclamation plan shows how the project site will be reclaimed to an open space and/or agricultural end use. These uses are permitted under the zoning classification for the site. The reclamation plan contains a section about contaminant control and mine waste disposal. SMARA regulations help ensure that the Project Site is returned to a safe and contaminant free condition. Mine waste will be limited to overburden (to be used for on-site reclamation) and general refuse which will be disposed of in accordance with applicable standards.

The Sacramento County EMD reviewed the Project application and materials. EMD has requested conditions of approval for the use permit. These conditions include limits to the amount of hazardous materials that can be stored at the project site and compliance with the HWCA.

The demolition of structures on the Project Site will be accomplished under the direction of the County's Building Inspection Department through the demolition permit process.

The applicant has stated that hazardous materials will not be stored or disposed of at the site. Although the applicant has indicated no storage or disposal of hazardous materials will occur at the Project Site, mitigation measures are still recommended to ensure no storage occurs at the site or that if storage does occur it meets all applicable standards. The use of hazardous materials is limited to the minor maintenance of the heavy equipment conducted at the Project Site. However, even with limited exposure to hazardous material, there is still the potential for accidents such as fuel spills that may occur during maintenance activities. Therefore, the impacts are ***less than significant with mitigation.***

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure HM-1: Transport, Use, or Disposal of Hazardous Materials**

- A. Non-functional equipment, scrap metal, construction debris, used batteries and tires, and similar objects shall be removed from the site on a regular basis and disposed of at appropriately licensed facilities.
- B. Spare parts containing petroleum products (i.e., lubricants, hydraulic oil, etc.) shall be stored using Best Management Practices (BMP's) to prevent contamination of soil or storm water runoff.
- C. All delivery, maintenance, and repair trucks containing petroleum products or other hazardous materials shall comply with the State of California, Department of Transportation's regulations for transport of hazardous materials. All trucks carrying petroleum products shall be equipped with quick connect couplings and automatic shut-off valves to prevent spills, and shall carry appropriate absorbent materials to contain and recover spillage.

**Level of Significance After Mitigation: Less than Significant**

**Impact Evaluation HM-2: Does the Project expose the public or the environment to a substantial hazard through reasonably foreseeable upset conditions involving the release of hazardous materials?**

The Project is subject to Sacramento County Environmental Management Department (EMD) regulations which will protect the public and environment in regards to hazardous waste. EMD has provided comments and recommended conditions of approval for the project. EMD has requested that as part of ongoing operations, if the Project Site has storage of hazardous materials in excess of standards, the applicant must obtain a permit and submit a Hazardous Materials Business Plan to EMD. Furthermore, EMD requests any facility that generates hazardous waste must obtain a permit from EMD. The purpose of this is to ensure compliance with the Hazardous Waste Control Act.

The applicant is not anticipating any storage of hazardous materials at the site. Furthermore, the mobile fleet that services the heavy equipment has to comply with safety standards and vehicle regulations that will help insure no impact from hazardous materials. Although the applicant has indicated that no storage or disposal of hazardous materials will occur at the Project Site mitigation is still recommended to ensure the project does not expose the public or the environment to hazards involving the release of hazardous materials. Therefore, the impacts are ***less than significant with mitigation***.

**Level of Significance Before Mitigation: Potentially Significant**

**Mitigation Measure HM-2: Releasing of Hazardous Materials**

Comply with Mitigation Measure HM-1

**Level of Significance After Mitigation: Less than Significant**

# 16 GREENHOUSE GAS EMISSIONS

## INTRODUCTION

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This section includes a discussion regarding greenhouse gasses (GHGs) that have been linked to global climate change as well as details related to localized GHG emissions and sources. Furthermore, this section describes federal and state regulations related GHG emissions and the potential impacts the proposed Project may have on climate change. The section is based on the Air Quality and Climate Change Impact Assessment prepared by SESPE Consultants and dated April 18, 2019 (Appendix AQ).

## GREENHOUSE GAS BACKGROUND

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Prominent Greenhouse Gases contributing to the greenhouse effect are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF<sub>6</sub>) which are described below. Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of Earth's climate which is known as global climate change or global warming.

### CARBON DIOXIDE

Carbon dioxide (CO<sub>2</sub>) 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 CO<sub>2</sub> emissions accounted for 76 percent of greenhouse gas emissions in the United States in 2014. The California Energy Commission (CEC) estimates that CO<sub>2</sub> emissions associated with fossil fuel combustion account for 84.3 percent of California's anthropogenic (manmade) greenhouse gas emissions and the total CO<sub>2</sub> emissions in the United States have increased by 9 percent from 1990 to 2014.

### METHANE

Methane (CH<sub>4</sub>) 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 CH<sub>4</sub> emissions accounted for 7.9 percent of total greenhouse gas emissions in the United States in 2004. The CEC estimates that CH<sub>4</sub> emissions from various sources represent 9.0 percent of California's total greenhouse gas emissions and the total CH<sub>4</sub> emissions in the United States has decreased by 5.6 percent from 1990 to 2014.

## **NITROUS OXIDE**

Nitrous oxide (N<sub>2</sub>O) is produced by biological processes that occur in soil and water and by a variety of anthropogenic activities in the agricultural, energy-related, industrial, and waste management fields. While total N<sub>2</sub>O emissions are much lower than CO<sub>2</sub> emissions, N<sub>2</sub>O is approximately 300 times more powerful than CO<sub>2</sub> at trapping heat in the atmosphere. Since 1750, the global atmospheric concentration of N<sub>2</sub>O has risen by approximately 21 percent. The main anthropogenic activities producing N<sub>2</sub>O in the United States are agricultural soil management, stationary fuel combustion, fuel combustion in motor vehicles, manure management, and nitric acid production.

The EPA estimates that N<sub>2</sub>O emissions accounted for 6 percent of total greenhouse gas emissions in the United States in 2014. The CEC estimates that nitrous oxide emissions from various sources represent 2.8 percent of California's total greenhouse gas emissions and the total N<sub>2</sub>O emissions in the United States have decreased by 0.01 percent from 1990 to 2014.

## **FLUORINATED GASES (HFCs, PFCs, AND SF<sub>6</sub>)**

Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF<sub>6</sub>), 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 (Hydrochlorofluorocarbon-22 refrigerant), 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 SF<sub>6</sub>) emissions accounted for 3.0 percent of total greenhouse gas emissions in the United States in 2014. The CEC estimates that fluorinated gas emissions from various sources represent 3.9 percent of California's total greenhouse gas emissions and the total fluorinated gas emissions in the United State has increased by 56 percent from 1990 to 2014.

Climate change is a global problem. Greenhouse Gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes about one day, GHGs have long atmospheric lifetimes; one year to several thousand years. GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere.

Similarly, impacts of Greenhouse Gases are realized globally, as opposed to localized air quality effects of criteria air pollutants and toxic air contaminants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say, the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

### ***ATTRIBUTING CLIMATE CHANGE – GREENHOUSE GAS EMISSION SOURCES***

Emissions of Greenhouse Gases contributing to global climate change are attributable in large part to activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural emissions sectors. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through sequestration and dissolution (CO<sub>2</sub> dissolving into the water), respectively, two of the most common processes for removing carbon dioxide from the atmosphere.

### ***SOURCES OF GREENHOUSE GAS EMISSIONS***

In June 2017, CARB released the 2017 edition of the California GHG inventory covering calendar year 2015 emissions. In 2015, California emitted 440.4 million gross metric tons of CO<sub>2</sub>e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for approximately 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector (including both in-state and out-of-state sources) (19 percent) (CARB 2017c).

### ***ADAPTATION TO CLIMATE CHANGE***

According to the Intergovernmental Panel on Climate Change, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Program, global average temperature is expected to increase by three to seven degrees Fahrenheit by the end of the century, depending on future Greenhouse Gas emission scenarios. According to the California Natural Resources Agency, temperatures in California are projected to increase two to five degrees Fahrenheit by 2050 and by four to nine degrees Fahrenheit by 2100.

Other environmental resources could be indirectly affected by the accumulation of Greenhouse Gas emissions and resulting rise in global average temperature. For example, an increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada's. According to the California Energy Commission, the snowpack portion of the state's water supply could potentially decline 30 to 90 percent by the end of the 21st century. An increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would

normally be held in the snowpack of the Sierra Nevada's until spring would flow into the Central Valley with winter storm events. This scenario would place more pressure on California's levee and flood control systems.

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the State if suitable conditions are no longer available.

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and associated moisture content of plants and soils. An increase in frequency of extreme heat events and drought are also expected. These changes are expected to lead to increased frequency and intensity of wildfires.

Another outcome of global climate change is sea level rise. Sea level rose approximately seven inches during the last century and it is predicted to rise an additional seven to 22 inches by 2100, depending on the future levels of Greenhouse Gas emissions. California Natural Resources Agency projects that sea levels along California will rise five to 24 inches by 2050 and 17 to 66 inches by 2100.

## **SACRAMENTO COUNTY EMISSIONS**

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CARB and the County each have emissions inventories of GHG for their respective jurisdictions. Each is discussed below followed by Table GG-1 which presents a side-by-side summary of emissions by source category for both inventories.

CARB's most recent GHG emission inventory, the 2016 Edition, tracks the emissions of seven GHGs identified in the California Health and Safety Code for years 2000 to 2014. In 2014, total GHG emissions were 441.5 MMTCO<sub>2</sub>e, a decrease of 2.8 MMTCO<sub>2</sub>e compared to 2013. This represents an overall decrease of 9.4% since peak levels in 2004. During the 2000 to 2014 period, per capita GHG emissions in California dropped from a peak in 2001 of 13.9 tonnes per person to 11.4 tonnes per person in 2014; an 18% decrease. Overall trends in the inventory also demonstrate that the carbon

**Table GG-1: State and County GHG Inventories**

Sector/Activity	2014 Statewide (MMTCO <sub>2</sub> e/yr.)	2020 Statewide BAU (MMTCO <sub>2</sub> e/yr.)	2030 Statewide Proposed BAU Ranges (MMTCO <sub>2</sub> e/yr.)	2015 Sacramento County (MMTCO <sub>2</sub> e/yr.)	2020 Sacramento County BAU (MMTCO <sub>2</sub> e/yr.)	2030 Sacramento County BAU (MMTCO <sub>2</sub> e/yr.)
Electricity	88.24	57.3	42 – 62	1.394658	1.479479	1.667427
Transportation	159.53	185.3	103 – 111	1.868365	1.981996	2.233783
Industrial (fuel, water)	93.32	93.7	77 – 87	0.046068	0.048870	0.055078
Commercial (fuel)	14.61	17.9	38 – 40	0.208479	0.221158	0.249254
Residential (fuel)	23.73	31.7		0.477183	0.506204	0.570511
Agriculture & Forestry	36.11	36.2	24 – 25	0.254899	0.270401	0.304753
High GWP	17.15	31.5	8 – 11	0.251085	0.266356	0.300193
Recycling and Waste	8.85	9.4	8 – 9	0.352909	0.374372	0.421932
Total	441.54	509.4	300 – 345	4.853646	5.148836	5.802930
Cap-and-Trade	n/d	n/d	40 – 85	n/d	n/d	n/d
Goal	n/d	431	260	n/d	4.337103 <sup>c</sup>	3.252827 <sup>c</sup>

From: SESPE Consulting, Air Quality and Climate Change Impact Assessment (April 2019)

Notes: n/d = not determined.

- a Electricity and natural gas related GHG emissions for industrial, commercial and residential are summed in the County inventory and presented for each type of land use accordingly.
- b Water and wastewater related emissions are attributed to the industrial sector for comparison to the statewide inventory.
- c Countywide 2020 and 2030 targets are estimated based on information in the Strategy and Framework Document (CAP, 2011).

intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 28% decline since the 2001 peak, while the State's GDP has grown 28% during this period (Trend Report, 2016, p. 1).

The transportation sector remains the largest source of GHG emissions in the State, accounting for 36% of the inventory, and shows a small increase in emissions in 2014. Emissions from the electricity sector continue to decline due to growing zero-GHG energy generation sources. Emissions from the remaining sectors have remained relatively constant, although emissions from high-GWP gases have continued to climb as they replace ozone depleting substances banned under the Montreal Protocol (Trend Report, 2016, p. 2).

The County has prepared GHG inventories for 2005 and 2015 for sources within the unincorporated areas as well as its own operations. Table GG-1 presents the most recent GHG emissions inventories and business as usual (BAU) projections published by CARB and the County.

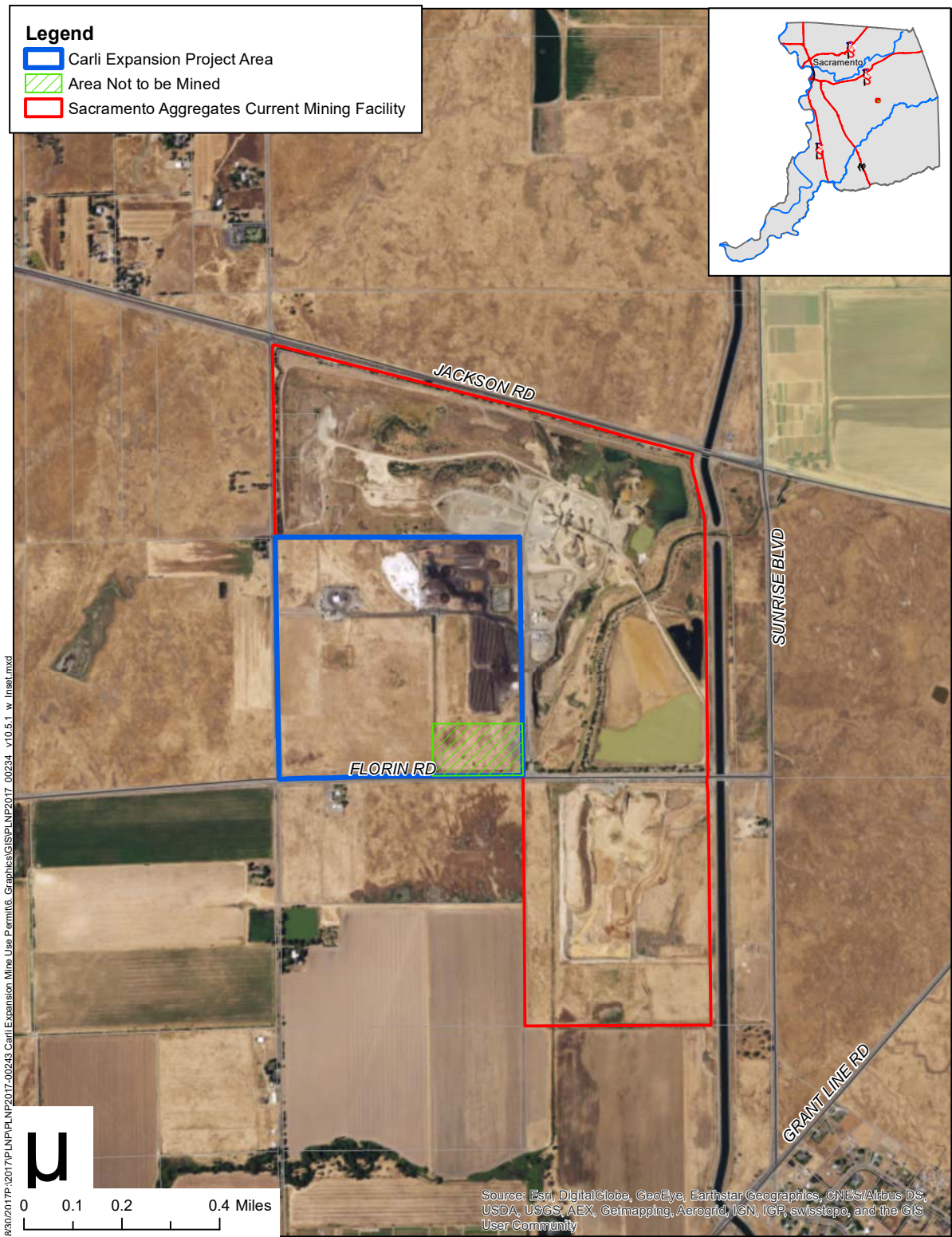
## **ENVIRONMENTAL SETTING**

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The Project Site is located within Sacramento County; east of the city of Sacramento and south of Jackson Highway (Hwy-16). The site is bounded to the west by Eagles Nest Road and the south by Florin Road and is approximately one-half mile west of Sunrise Boulevard (Plate GG-1). The project site is 161 acres and is located in the Vineyard Community.

The Project Site is also located within the Sacramento Valley Air Basin (SVAB). The Sacramento Valley Air Basin also includes all of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yolo, and Yuba Counties. The SVAB also includes the western portion of Placer County and the eastern portion of Solano County. The ambient concentrations of air pollutant emission are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Plate GG-1: Project Location



## **REGULATORY SETTING**

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### **FEDERAL**

#### **SUPREME COURT RULING**

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the Clean Air Act. The Supreme Court of the United States ruled on April 2, 2007 (*Massachusetts, et al., Petitioners v. Environmental Protection Agency, et al.*), that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the Clean Air Act, and that the EPA has authority to regulate emissions of Greenhouse Gases (GHGs). The ruling resulted in the EPA taking steps to regulate GHG emissions and lent support for state and local agencies' efforts to reduce GHG emissions.

#### **GREENHOUSE GAS PERMITTING REQUIREMENTS**

In response to the issue of climate change, the EPA has taken actions to regulate, monitor, and potentially reduce Greenhouse Gas emissions.

The Clean Air Act requires new major stationary emissions sources and major modifications at existing stationary sources to obtain an air pollution permit before starting construction. On May 13, 2010, the EPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. This rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

Prevention of Significant Deterioration permitting requirements now cover new construction projects that emit Greenhouse Gas emissions of at least 100,000 tons of carbon dioxide equivalent (CO<sub>2</sub>e) (90,718 metric tons [MT]) per year even if they do not exceed the permitting thresholds for any other pollutant. Modifications at existing facilities that would increase GHG emissions by at least 75,000 tons (68,039 metric tons) per year will be subject to permitting requirements, even if they do not significantly increase emissions of any other pollutant. Title V Operating Permit requirements apply to sources based on their GHG emissions even if they would not apply based on emissions of any other pollutant. Facilities that emit at least 100,000 tons (90,718 metric tons) per year of CO<sub>2</sub>e will be subject to Title V permitting requirements. The EPA issued a final rule on June 29, 2012 that continues to focus permitting on the largest emitters. The EPA did not revise the Greenhouse Gas permitting thresholds that were established by the GHG Tailoring Rule. Therefore, at this time, Prevention of Significant Deterioration and Title V permitting requirements are not applicable to additional, smaller sources of GHG emissions.

### **STATE**

#### **EXECUTIVE ORDER S-3-05**

Executive Order (EO) S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that

increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea level. To combat those concerns, the EO established total Greenhouse Gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

### **EXECUTIVE ORDER B-30-15**

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed the California Air Resources Board (CARB) to update its Climate Change Scoping Plan to address the 2030 goal.

### **ASSEMBLY BILL 32, THE CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006**

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in Greenhouse Gas emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that is being phased in and started in 2012. To effectively implement the cap, AB 32 directs the CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

### **SENATE BILL 32, THE CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006: EMISSIONS**

Approved in September 2016, SB 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

### **ASSEMBLY BILL 32 CLIMATE CHANGE SCOPING PLAN**

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)*, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; CARB 2017b). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG

emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard, Sustainable Communities Strategy, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands.

### **SENATE BILL X7-7**

Global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. These conditions can have major implications on the agriculture industry in California. Senate Bill X7-7 was enacted in November 2009 and requires all water suppliers in California to increase water use efficiency. Specifically, the legislation sets an overall goal for the State of California to reduce per capita urban water use by 20 percent by December 31, 2020. An interim goal of a 10 percent per capita reduction was set for December 31, 2015.

## **LOCAL**

### **SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**

Sacramento Metropolitan Air Quality Management District (SMAQMD) has adopted Greenhouse Gas thresholds, to provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA and Assembly Bill (AB) 32 in 2013. SMAQMD's goals in developing GHG thresholds include ease of implementation; use of standard analysis tools; and emissions mitigation consistent with AB 32.

SMAQMD utilized guidance from the California Air Pollution Control Officers Association to develop threshold concepts. The goal was to develop a threshold screening level that would capture 90 percent of emissions for new stationary sources and land development projects.

Sacramento Metropolitan Air Quality Management District (SMAQMD) Greenhouse Gas thresholds of significance are separated into two project types (Table GG-2). The first is the Land Development and Construction project type and the second project type is Stationary Source Only. Both of these project types are further subdivided into the construction phase and the operational phase. The adopted threshold for stationary sources projects in the operational phase is 10,000 metric tons of CO<sub>2e</sub> per year while the construction phase threshold is 1,100 MT of CO<sub>2e</sub> per year. Furthermore, the land development thresholds for both the construction and operational phase are 1,100 MT CO<sub>2e</sub> per year.

**Table GG-2: Sacramento Metropolitan Air Quality Management District Threshold of Significance for Greenhouse Gases**

<b>Land Development and Construction Projects</b>		
	Construction Phase	Operational Phase
Greenhouse Gas as CO <sub>2</sub> e	1,100 metric tons per year	1,100 metric tons per year
<b>Stationary Source Only</b>		
	Construction Phase	Operational Phase
Greenhouse Gas as CO <sub>2</sub> e	1,100 metric tons per year	10,000 metric tons per year

**SACRAMENTO COUNTY GENERAL PLAN**

Under California law, cities and counties must adopt a comprehensive, long-term general plan for physical development related to their planning boundaries. The Sacramento County General Plan (General Plan) was adopted November 9, 2011 with a planning horizon to 2030. The General Plan serves as the principal land use planning and policy document for Sacramento County. Furthermore, the General Plan establishes broad goals, objectives and policies that guide county-wide land use. The General Plan consists of 15 elements and five policy plans. Each element provides goals, objectives, and policies to guide land use decisions related to the subject matter of that element.

The following is the most pertinent General Plan policy related to Greenhouse Gas Emissions that pertain to the project. Any potential environmental impact related to this policy will be discussed in the Impact and Analysis section below.

LU-115:

It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of state and local action.

**SACRAMENTO COUNTY CLIMATE ACTION PLAN**

In 2009 a Greenhouse Gas Emissions inventory for Sacramento County was prepared. The inventory included the following cities; Citrus Heights, Elk Grove, Folsom, Galt, Isleton, Rancho Cordova, and Sacramento. Sacramento County then began preparing a multi-phase Climate Action Plan to meet the State's targets for Greenhouse Gas reductions. The Board of Supervisors adopted the Climate Action Plan – Strategy and Framework Document on November 9, 2011, which provided direction for the first and second phases of the Climate Action Plan.

The Board of Supervisors adopted the Climate Action Plan for Phase 1, Government Operations on September 11, 2012. The Phase 1 Climate Action Plan identified ways County-owned facilities, vehicles, and equipment could reduce Greenhouse Gas emissions. Additionally, The Sacramento County Office of Planning and Environmental Review is currently working on the second phase of the Climate Action Plan. Phase 2 will look at the emissions for the entire unincorporated County and not just County-owned facilities like Phase 1.

### **SACRAMENTO COUNTY GREENHOUSE GAS THRESHOLDS**

Sacramento County published Greenhouse Gas thresholds of significance as part of the General Plan Environmental Impact Report (EIR), in May of 2009. In April 2011 the thresholds were updated via a memorandum to the Environmental Coordinator, and attached to this memorandum was a document titled "Sacramento County Greenhouse Gas Thresholds: Guidance on Application." The guidance document was subsequently updated in July 2012, to reflect new analysis information such as the availability of the California Emissions Estimator Model (CalEEMod). The thresholds were further revised in April 2014 to reflect minor changes to the Countywide GHG inventory. The thresholds are based on per capita metrics for residential projects and per 1,000 square feet for commercial/industrial projects. The significance thresholds used within Sacramento County are contained within below in Table GG-3.

**Table GG-4: Sacramento County Thresholds of Significance for Greenhouse Gas Emissions**

Sector	2005 Baseline	2020 Target	Thresholds
Residential Energy	1,033,142	878,275	1.33 per capita
Commercial & Industrial Energy	772,129	656,914	7.87 per 1,000 square feet
Transportation	2,066,970	1,757,236	2.67 per capita
Trucks	488,806	414,470	0.10 per Vehicle Mile Traveled (VMT)

The County has acknowledged the established thresholds do not apply well to mining operations because expressing the threshold as a function of building square footage is not proportionate to mining's Greenhouse Gas impacts which are a function of haul truck traffic, off-road heavy equipment, worker commutes, on-site processing and energy usage.

## SIGNIFICANCE CRITERIA

Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed a range of potential significant effects by topical area.

Related to Greenhouse Gas Emissions the proposed Project would have a significant impact if it:

- GG-1: Generates greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

## EXISTING PROJECT EMISSIONS

### PROJECT BASELINE

The Baseline condition includes excavation of materials at the Phase E site. The annual CO<sub>2</sub>e emissions is calculated to be 1,531 MT/yr. (i.e., 2,041.4 MT/yr. minus 510.4 MT/yr. mitigated by purchasing and retiring GHG offsets) as presented in the 2008 FEIR. Excerpts of the 2008 FEIR are provided in Appendix C of the Addendum (dated 9/9/2019) to Greenhouse Gas Impact Section of the Air Quality and Climate Change Impact Assessment prepared by Sespe Consulting and dated 4/19/2019 (Appendix AQ).

### OPERATION PHASE

Based on the equipment and activity levels for exaction in the Baseline and for the Project, GHG emissions are summarized in Table GG-4. OFFROAD model load factors were updated between the 2007 version used in the 2008 FEIR, the 2011 version that was used in the 4/19/2019 report and remain unchanged in the current 2017 version.

**Table GG-5: Project Operational GHG Emissions**

Equipment <sup>(a)</sup>	Horsepower	Load Factor	Operating (hr/yr)	Activity (hp-hr/yr)	CO <sub>2</sub> e (MT/yr)
D9R CAT DOZER	450	0.43	1,248	241,488	118.1
140H CAT MOTOR GRADER	165	0.41	312	42,214	10.3
EX1200 HITACHI EXCAVATOR	625	0.38	2,496	592,800	286.0
988F CAT LOADER	425	0.36	2,496	381,888	183.4

988F CAT LOADER	425	0.36	2,496	381,888	183.4
R40-C EUCLID RIGID HAULER	525	0.38	2,097	418,352	204.4
R40-C EUCLID RIGID HAULER	525	0.38	2,097	418,352	202.2
357 PETERBILT WATER TRUCK	385	0.38	624	91,291	44.4
384 PETERBILT WATER TRUCK	190	0.38	312	22,526	11
SUBTOTAL – DIRECT EMISSIONS	3,715	0.378 avg.	14,178	2,569,692	1,243
READY MIX PLANT	1,553	1.0	1,500	2,32,317	466.84
A&C PROCESSING PLANT	1,400	0.75	300	420,000	84.18
WATER USE (DUST CONTROL & RMC)				25,754	5.16
SUB-TOTAL – INDIRECT EMISSIONS				2,775,071	556
TOTAL FUTURE PROJECT EMISSIONS					1,799

Notes: From Addendum to GHG Impact Section 9/9/19.

- 2008 FEIR Table AQ-3, p. 9-13 for equipment types, sizes and hours of operation and FEIR Appendix A.
- CalEEMod (incorporates OFFROAD2011 values and remains unchanged in OFFROAD2017) for load factors, brake specific fuel consumption (BSFC) of 0.367 lb fuel/hp-hr, CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions factors (E.F.), and GWP.
- AP-42 for diesel fuel density of 7.05 lb/gal and conversion from horsepower to kWh (1.34 hp/kWh).
- Although the Project is continuation of operations described in the 2008 FEIR, the offroad haul truck activity is lower (2,097 hr/yr) than it was in the 2008 FEIR (2,496 hr/yr) because distance traveled is lower for the given Carli site geometry and Project features. The values presented reflect the maximum annual emission from the haul trucks.
- Ready-Mix Plant electricity use is based on Cradle to Gate Life Cycle Assessment of Ready Mixed Concrete Manufacture by MRMCA Members that reports 3.86 kWh/yd<sup>3</sup> electricity use rate and proposed maximum of 450,000 yd<sup>3</sup>/yr for Project.  
([http://www.nrmca.org/sustainability/EPDProgram/Downloads/NRMCA%20LCA%20Project%20Report\\_v1.0\\_b\\_20140929.pdf](http://www.nrmca.org/sustainability/EPDProgram/Downloads/NRMCA%20LCA%20Project%20Report_v1.0_b_20140929.pdf)).
- A&C Processing Plant electricity use is based equipment list in Appendix F of AQCCIA (Sespe, 4/19/2019) and conservatively assigned electric motor sizes totalin 1,400 hp for the 500 ton/hr A&C Plant processing the maximum rate of 150,000 tons/yr as follows: crusher (500 hp), screen (100 hp), and six conveyors (50 hp each).
- Electricity generation and water supply emissions factors from CalEEMod User Guide Appendix D: 0.72412 lb CO<sub>2</sub>, 0.0000302 lb CH<sub>4</sub>, 0.0000081 lb N<sub>2</sub>. Global warming potential (GWP) for these pollutants also from CCAR GRP3.1 as follows: 1 lb CO<sub>2</sub>e/lb CO<sub>2</sub>, 23 lb CO<sub>2</sub>e/lb CH<sub>4</sub>, and 296 lb CO<sub>2</sub>e/lb N<sub>2</sub>O.

## IMPACTS AND ANALYSIS

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### **IMPACT EVALUATION GG-1: DOES THE PROJECT GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT?**

Mining projects in Sacramento County do not fit neatly into any type of Greenhouse Gas screening or modeling.

For mining projects in the past, the threshold of significance for the commercial and industrial sector was determined using the Sacramento Area Council of Governments 2020 projection of building square footage for this sector. However, a significance threshold which utilizes building square footage is inappropriate given that mining operations are primarily exterior and can occur over large swaths of land. A mine is not similar to a land development or a construction project. A mine is not developing the land for future uses or constructing any structures; it merely extracts aggregate materials. Furthermore, most mine operations are not simultaneously excavating the entire site; instead the site is mined in smaller phases. The operator may work one phase of a mining project for over a year. Therefore, instead of using the County's industrial and commercial threshold, or SMAQMD's threshold of 1,100 metric tons per year for a typical land development such as a residential development, this analysis utilizes SMAQMD's stationary sources operational phase threshold of 10,000 metric tons per year.

The first step in the current Greenhouse Gas methodology of Sacramento County is to determine if a project screens out. This is accomplished by comparing the project with the Sacramento Metropolitan Air Quality Management District (SMAQMD) Greenhouse Gas Operations Screen Levels table. For example, if the project is a single family residential project with fewer than 57 dwelling units it will screen out and no additional analysis is required. For mining projects there is no Land Use Category that equates.

If the project does not initially screen out, then the planner will run the project information through the California Emissions Estimator Model (CalEEMod). The threshold for most projects is 1,100 metric tons of CO<sub>2</sub>e per year. If the CalEEMod run for a land development project shows less than 1,100 metric tons per year, the project will again screen out and no additional analysis is required. If the project has not screened out using either of the above two methods then the project will be analyzed further. The complete CalEEMod results are then analyzed to discover what activities associated with project implementation cause the GHG impacts so mitigation measures can be crafted that lessen the impacts associated with GHG emissions.

For mining projects, the appropriate screening threshold was determined to be 10,000 metric tons of CO<sub>2</sub>e per year, consistent with SMAQMD's stationary sources operational phase threshold.

SESPE Consulting (Appendix AQ) evaluated the Greenhouse Gas emissions associated with the Project, both direct and indirect. The project-specific data, including detailed mining information was used in the analysis.

The analysis concluded the Project would result in 1,799 metric tons of CO<sub>2</sub>e per year. While it does indicate that the proposed Project would increase by 268 metric tons of CO<sub>2</sub>e from the baseline conditions it is under the threshold of 10,000 metric tons of CO<sub>2</sub>e per year. The Project related operational emissions are shown in Table GG-4 and summarized in Table GG-5 (see Appendix AQ for all inputs and calculations).

**Table GG-6: Summary of Greenhouse Gas Emissions Associated with the Project<sup>1</sup>**

Source	CO <sub>2</sub> e (Metric Ton /year)
Total Baseline Emissions After Mitigation	1,531
Project GHG Emissions	1,799
Project GHG Emissions Impact	268
Significance Threshold	10,000
Exceed Threshold	No
Notes: CO <sub>2</sub> e = Carbon dioxide equivalent, GHG = greenhouse gas; MT = metric tons 1 Detailed assumptions and modelling output files are included in Appendix AQ Source: SESPE Consulting 4/19/2019 and 9/9/2019.	

Reclamation activities would contribute minor levels of GHG emissions; however, these activities would utilize the same equipment as the mining operation and would not be expected to cause an increase in annual emissions estimated above. Although there would be additional GHG emissions, the annual GHG emissions for the Project are below the 10,000 metric ton of CO<sub>2</sub>e per year screening threshold. Therefore, the project's Greenhouse Gas impacts are ***less than significant***.

It is also useful to provide additional context for emissions from an aggregate mining operation. Aggregate demand arises from the need for construction materials for the new construction or maintenance of buildings, roads and structures. Such demand is typically driven by population growth. Therefore, an increasing demand for aggregate is the underlying trigger to any Greenhouse Gas emissions associated with a proposed aggregate mining facility. In most cases, aggregate has inelastic demand; that is, an increase or decrease in the price of aggregate has little or no effect on the quantity of aggregate demanded by consumers. As local sources of aggregate are depleted and aggregate is hauled longer distances to the consumer, prices will increase and so will the GHG emissions associated with the longer haul routes. The proposed Project would meet the local need for aggregate driven by growth in the region and could potentially reduce the need to import aggregate from outside the Sacramento area.

**Level of Significance: Less than Significant – No Mitigation Required**

## 17 SUMMARY OF IMPACTS AND THEIR DISPOSITION AND CUMULATIVE IMPACTS

### SIGNIFICANT EFFECTS WHICH CANNOT BE AVOIDED

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#### AESTHETICS

##### *VISUAL CHARACTER (AE-1)*

Implementation of the Project will irreversibly change the landform of the project area. The mining pit will be approximately 141 acres in size and will be excavated down to 75 feet below grade. Despite the application of feasible mitigation measures that screen the proposed project site, the Project will result in a **significant and unavoidable** impact related to aesthetics due to the irreversible change in the landform.

### SIGNIFICANT EFFECTS WHICH COULD BE AVOIDED WITH IMPLEMENTATION OF MITIGATION MEASURES

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#### AESTHETICS

##### *LIGHTING (AE-2)*

The Project would include lighting facilities for nighttime operations, which has the potential to negatively impact adjacent homes and roadways. With mitigation that shields the light source and directs the light away from the public right-of-way or adjacent properties, the impacts associated with lighting will be **less than significant**.

#### TRANSPORTATION/TRAFFIC

##### *ROADWAY PUBLIC SAFETY (TR-2)*

Although traffic is not expected to increase over the existing mining operations the impacts of the existing traffic (i.e., effects of the haul trucks on the roadway surface) were previously determined to be potentially significant requiring mitigation. The applicant's responsibility to repair damages is not reduced through the permitting of the expansion site. Therefore, mitigation is included requiring the Project proponent to agree to repair damages caused by haul trucks on the roadway segments that were analyzed in the previous traffic study. This mitigation will assure impacts to the roadway remain **less than significant**.

##### *PEAK HOUR TRAFFIC (TR-3)*

There is no increase in haul trucks or employees reporting to the Project site. The peak hour trips generated for the proposed expansion are considered baseline as the impacts of the haul trucks arriving at the processing plant has been mitigated for in the prior EIR.

However, the prior approvals were based on the impacts for the previous development being mitigated. Although there is no change in haul truck trips, the project's impacts would remain potentially significant without mitigation. Existing mitigation measures will be retained reduce the Projects impact. With mitigation the impacts are ***less than significant***.

## AIR QUALITY

### *EXPOSURE TO SENSITIVE RECEPTORS - PM (AQ-4)*

A Health Risk Assessment was performed to evaluate the effects of TACs including DPM from vehicles and various substances found in fugitive dust emissions (i.e., metals and crystalline silica). The mitigation measures have been added to reduce the Project's impacts from diesel particulate and fugitive dust emissions. With mitigation the impacts are ***less than significant***.

## NOISE

### *EXPOSES PERSONS TO NOISE LEVELS IN EXCESS OF STANDARDS - ONSITE NOISE SOURCES (NO-1)*

There would be 7 sensitive receptors potentially exposed to noise from the Project site. The noise from the Project was evaluated by the standards of the General Plan, Noise Ordinance, and the Zoning Code. The noise generated from the project has the potential to exceed adopted standards at a residence during both daytime hours and nighttime hours. Noise mitigation measures have been included to reduce noise impacts to ***less than significant***.

### *SUBSTANTIAL TEMPORARY INCREASE IN AMBIENT NOISE LEVELS (NO-3)*

The Project would result in a substantial "temporary or periodic" increase in ambient noise levels at nearby receptors, the greatest source of "temporary" noise impacts will result from overburden removal activities. Temporary impacts to Receptor N1 during ground preparation activities are potentially significant.

Following implementation of mitigation, impacts on receptors are reduced to ***less than significant*** levels.

## HYDROLOGY AND WATER QUALITY

### *PROJECT MAY RESULT IN A VIOLATION OF A WATER QUALITY STANDARD (HW-1)*

Surface runoff is not anticipated as the Project site will be a self-contained basin. During mining activities, direct precipitation and drainage will be controlled through a combination of berms, slit fences, revegetation, hay bales and other erosion control measures, as needed, to ensure that land and water resources are protected from erosion, gullyng, sedimentation, and potential contamination.

However, during the initial phases of the mining plan (overburden removal), the ground disturbance activities have the potential to contribute sediment to surface water flows from the site. With implementation of the proposed mitigation, impacts are ***less than significant***.

*CREATE POLLUTED RUNOFF RESULTING IN DEGRADED WATER QUALITY, SUBSTANTIAL EROSION OR SILTATION ON OR OFF-SITE (HW-4)*

If sediment-laden or otherwise polluted runoff discharges from the construction site are found to impact the County's storm drain system and/or Waters of the State, the property owner will be subject to enforcement action and possible fines by the County and the Central Valley Regional Water Quality Control Board. During the initial phases of the mining plan (overburden removal), the ground disturbance activities have the potential to contribute sediment to surface water flows from the site. With the implementation of proposed mitigation, impacts are ***less than significant***.

## GEOLOGY

*UNSTABLE SOIL (GS-1)*

The results of geotechnical analyses indicate that the proposed reclamation slopes will be appropriate for the proposed end use of the site from a static and seismic standpoint provided the consultant's recommendations are incorporated into the design and construction of the Project. Upon implementation of the recommended mitigation measures, the Project's impacts to unstable soil and off-site landslides, lateral spreading, subsidence, liquefaction or collapse the impacts are ***less than significant***.

*PALEONTOLOGICAL RESOURCES (GS-3)*

Project excavation creates the possibility for unanticipated discoveries. Compliance with mitigation that requires all work to halt and the use of a qualified archeologist if a subsurface paleontological resource is discovered will assure that impacts are ***less than significant***.

## BIOLOGICAL RESOURCES

*IMPACTS TO WETLANDS AND WATERS (BR-2)*

As a covered activity under the SSHCP, the Project would be subject to the mitigation and permitting procedures as outlined in the SSHCP. Approximately 0.842 acres of wetlands would be permanently impacted along with 1.152 acres of other waters. Exact acreages will be determined through the permit process, and acreages of onsite wetlands presented in this document represent approximations based on the best information available at this time. Upon successfully mitigating impacts, impacts to wetlands and waters would be ***less than significant***.

*SPECIAL STATUS SPECIES (BR-3)*

The implementation of the proposed Project would result in temporary, direct, and/or indirect impacts on a number of special-status plant and animal species. The affected species are as follows:

Species	Impact Before Mitigation	Impact After Mitigation
<b><u>Special Status Plants</u></b>	<b><u>Potentially Significant</u></b>	<b><u>Less than Significant</u></b>
Western pond turtle	Potentially Significant	Less than Significant
Tricolored blackbird	Potentially Significant	Less than Significant
Burrowing Owl	Potentially Significant	Less than Significant
Swainson's hawk	Potentially Significant	Less than Significant
White-tailed kite	Potentially Significant	Less than Significant
Loggerhead shrike	Potentially Significant	Less than Significant
Yellow-headed blackbird	Potentially Significant	Less than Significant
Northern harrier	Potentially Significant	Less than Significant

The applicant will be required to obtain authorization through the SSHCP for potential impacts to special-status plant and animal species. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy. Compliance with the requirements of the SSHCP reduce the biological resources impacts to ***less than significant***.

#### *MIGRATORY SPECIES (BR-4)*

The Project may have impacts to migratory birds. To avoid take of nesting migratory birds, mitigation has been included to require that activities either occur outside of the nesting season, or to require that nests be buffered from construction activities until the nesting season is concluded. Impacts to migratory nesting birds would be ***less than significant***.

#### *CONFLICT WITH POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES - GRASSLAND HABITAT (BR-5)*

The applicant will be required to obtain authorization through the SSHCP for potential impacts to grassland land cover type (valley grassland or irrigated pasture grassland). The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.. Therefore, the Project will be

subject to mitigate for Swainson's hawk foraging habitat by complying with the grassland and/or agricultural land cover mitigation as stipulated by the SSHCP, and impacts to grasslands are ***less than significant***.

## CULTURAL RESOURCES

### *ARCHAEOLOGICAL RESOURCES (CR-2)*

The surveys conducted for the Project site did not indicate any prehistoric or historic archaeological resources. However, there remains potential for the existence of buried prehistoric archaeological materials or previously undiscovered surface resources within the Project area. Therefore, mitigation has been included to address any unanticipated cultural resource discoveries during project construction. With mitigation the impacts are ***less than significant***.

### *HUMAN REMAINS (CR-3)*

Archival research did not reveal the presence of burials or graves in the project area, nor did subsurface testing reveal buried features of concern. The implementation of the project will excavate the site, which leaves potential for excavation to uncover unanticipated remains. Mitigation has been included to address the event of an unanticipated discovery; with implementation of this mitigation, impacts are ***less than significant***.

## HAZARDOUS MATERIALS

### *TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS (HM-1)*

The Project is a surface mine that will excavate aggregate materials from the site using heavy equipment such as scrapers and loaders. The heavy equipment will be serviced by mobile maintenance trucks and fuel trucks as needed, which could contain petroleum products (i.e., lubricants, hydraulic oil, etc.) or other similar hazardous materials. Although potential for exposure is minimal, mitigation is included to ensure the Project meets all applicable standards so impacts are ***less than significant***.

### *EXPOSE THE PUBLIC OR ENVIRONMENT TO HAZARDOUS MATERIALS (HM-2)*

The applicant is not anticipating any storage of hazardous materials at the site. However, in the event material storage is necessary for maintenance of the mobile fleet, mitigation has been recommended to ensure the Project does not expose the public or the environment to hazards involving the release of hazardous materials. With mitigation the impacts are ***less than significant***.

## EFFECTS FOUND NOT TO BE SIGNIFICANT

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### LAND USE

#### *CONSISTENCY WITH LAND USE PLANS AND POLICIES (LU/PH-1)*

The Project has been evaluated for consistency with SMARA, the Sacramento County General Plan, the Vineyard Community Plan, and the Sacramento County Zoning code. Policy consistency focuses on consistency with those policies that have been adopted for the purpose of mitigating an environmental effect. The Project conforms with the mandates outlined in SMARA. The Project is consistent with specified General Plan policies. The Project is consistent with the Vineyard Community Plan and proposed land uses. The Project also includes a request for a rezone to add the SM combining zone to the Carli Expansion parcel. In order to perform surface mining in unincorporated Sacramento County the site must have the SM combining zone added to the zoning and obtain an approved use permit from the Board of Supervisors. Zoning Code Section 4.8.4.A, Surface Mining Operations, states that aggregate mining uses are permitted in the SM combining zone, subject to approval of a conditional use permit by the Board of Supervisors, and upon approval of a reclamation plan and financial assurance pursuant to the Sacramento County Code, Chapter 20.04, *Surface Mining and Reclamation*.

The Project application conforms to Zoning Code section 4.8.11 which specifies the required data to be included in the project application' such as the mining plan, the reclamation plan, the soil data, traffic plan, air pollution control measures, noise data, waste data, drainage plan, hazardous materials, landscape plan, lighting plan, and analysis of ancillary use. Furthermore, the proposed Project conforms to the operating standards of Zoning Code Section 4.8.12. This section includes requirements for the following: operating and haul out hours, fences, warning and complaint information signs, visual screening, mining setbacks, noise minimization, backfilling, slope stability, recontouring, and roadways. Upon approval of the requested community plan amendment, rezone, use permits, and reclamation plan, the Project will be consistent with the Zoning Code. The Project's impacts with regards to land use plan and policy consistency are ***less than significant***.

#### *INDUCES UNPLANNED POPULATION GROWTH (LU/PH-2)*

The Project does not propose any new housing nor will it remove any barrier to growth. Therefore, the Project's impacts are ***less than significant***.

### AGRICULTURAL RESOURCES

#### *FARMLAND CONVERSION (AG-1)*

The 49.77 acres of farmland of local importance will not be permanently converted, because the end use of the mine (open space and/or non-prime

agricultural) will restore the site to allow agricultural uses to take place. The impact to farmland of local importance is ***less than significant***.

#### *WILLIAMSON ACT CONTRACT (AG-2)*

The Carli Expansion site (10509 Florin Road; APN 067-0120-073) is under Williamson Act Contract 69-AP-047. According to the contract the removal of gravel, clay, and sand and other materials are considered compatible uses with the Williamson Act Contract. Thus, the mining of the site would not conflict with the existing Williamson Act Contract. Therefore, the impacts associated with existing Williamson Act contract are ***less than significant***.

#### *CONFLICT WITH NEARBY AGRICULTURAL USES (AG-3)*

Mining operations generally don't interfere with surrounding farming operations. The site would be reclaimed in accordance with reclamation plans, which specify agricultural uses or open space areas as the end result of reclamation. The proposed Project will not introduce incompatible uses in the vicinity of existing agricultural use. Therefore, the Project's impacts are ***less than significant***.

### PUBLIC SERVICES

#### *WATER SUPPLY (PS-1)*

The project is a temporary, construction-level project and would not require expansion of existing water supply facilities. Existing wells would be utilized to supply water for dust suppression. The water utilized for the project would come from on-site wells and the supply is sufficient for the proposed Project. Therefore, the proposed Project would have an adequate water supply and impacts are ***less than significant***.

#### *WASTEWATER TREATMENT (PS-2)*

On the Project site, the existing composting operation has a permitted septic system. As mining proceeds, the on-site structures including the septic system will be removed. Removal of the system will be required to comply with Sacramento Environmental Management Department's (EMD) liquid waste permitting and inspection program requirements. The proposed Project would not change the number of employees that use the existing septic system located on the existing mining operation so there would be no change in the wastewater treatment facilities with project implementation. With compliance with the EMD requirements impacts to wastewater disposal facilities would be ***less than significant***.

#### *DISPOSAL FACILITIES (PS-2)*

The composting operation is a solid waste facility subject to regulation by EMD, which is the LEA for Sacramento County. Regardless whether the composting operation relocates or closes there are LEA requirements that will need to be met. If the operation was to move the LEA requires that a new permit for the new location be applied for and approved. If the operation closes then a restoration plan needs to be submitted and approved by the LEA. Because the site is to be mined the restoration plan would identify

the transition to a mine. With the approval of the restoration plan the oversight of the operation by LEA would conclude, the subsequent restoration of the mine site would not be subject to LEA. With compliance with the LEA requirements for the composting operation to move or close the impacts to disposal facilities would be **less than significant**.

The Project will include an asphalt and concrete recycle plant adjacent to the existing processing facility. The recycle plant will be required to comply with the requirements of 14 CCR 17381.1 for Construction and Demolition (C&D) and Inert Debris Recycling Centers. With compliance with these requirements the impacts of the proposed asphalt and concrete recycle plant to disposal facilities would be **less than significant**.

#### *IMPACTS TO ELECTRICAL SERVICES (PS-6)*

Electric power is provided via Sacramento Municipal Utility District (SMUD) to the composting business. The applicant is proposing to use an electric conveyor system. The applicant is not proposing to use any natural gas service as part of the Project and there is not current natural gas services. Electric service is already at the site and there may be a minor extension of the infrastructure to connect the conveyor system. This will not result in an adverse physical impact because the Project will not require the addition of substantial electrical power infrastructure at the site. Therefore, there are no substantial adverse physical impacts associated with the electric or natural gas service and impacts would be **less than significant**.

#### TRAFFIC

##### *TRANSPORTATION POLICIES – (TT-1)*

There are no conflicts with adopted policies, plans, or programs supporting alternative transportation that have been identified. The Project is not a development that attracts large numbers of customers to the site. Only a limited number of employees will access the site on a daily basis. The proposed Project does not need additional bus turnouts or bicycle racks. Furthermore, there are no conflicts with adopted policies supporting alternative transportation. Therefore, the Project's impacts to adopted policies and plans supporting alternative transportation are **less than significant**.

##### *ACCESS AND CIRCULATION (TT-4)*

Access to the Carli Expansion site would be from the existing processing facilities entrance driveway. Although the proposed Project includes the recycle and RMC, because the production and processing rates would not change from the existing rates, the amount of haul trucks entering and exiting the site would not change from what was evaluated during the prior environmental review.

The Circulation Element of the Sacramento County General Plan includes a Transportation Plan – a planned network of major roadways to serve the County's needs throughout the General Plan planning period. The Transportation Plan currently shows Florin Road, Eagles Nest Road, and Sunrise Boulevard as local streets and

indicates that Florin Road and Sunrise Boulevard in post 2030 are to be classified as thoroughfares. Therefore, the Project's impacts to access and circulation are ***less than significant***.

## AIR QUALITY

### *OBSTRUCTION OF AIR QUALITY PLAN (AQ-1)*

Projects with emissions below the thresholds of significance for criteria pollutants would be determined not to conflict or obstruct implementation of the SMAQMD's air quality plans. As none of the criteria pollutant emissions will exceed the SMAQMD thresholds the Project would not conflict or obstruct the implementation of the applicable air quality plan and impacts associated with potential obstruction of implementation of an air quality plan are ***less than significant***.

### *AIR QUALITY STANDARD (AQ-2)*

The Project does not propose to increase excavation or processing rate from what has occurred in the past on an annual, daily and hourly basis. The combustion pollutant emissions decrease from the baseline levels because of the phasing in of diesel engine rules and natural turnover (see Cumulative Analysis below). The PM10 in fugitive dust would not change from the amounts already approved in the certified 2008 FEIR and thus no new significant impact would result. AAQs are evaluated at the property boundary. Because the Project activities are the same as those evaluated in the 2008 FEIR, the impacts at the site boundaries would not be significantly different than those previously evaluated. Therefore, the impact is ***less than significant***.

### *ODOR (AQ-5)*

Mining activities could result in odorous diesel exhaust emissions from off-road equipment and trucks. These types of odorous emissions, however, would be temporary and would not be generated at only one location for an extended period. Diesel exhaust would also dissipate rapidly from the source with an increase in distance. These activities will not result in the frequent exposure of objectionable odorous emissions. Therefore, the air quality impacts are ***less than significant***.

## NOISE

### *GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS (NO-2)*

Predicted vibration impacts to nearby receptors were well below the applicable CalTrans significance thresholds for human response. Groundborne vibration impacts to nearby receptors resulting from Project's operations are ***less than significant***.

## HYDROLOGY

### *GROUNDWATER (HW-2)*

The Project would not excavate to a depth that will intercept or interfere with groundwater recharge. The surface elevation of the Project site is 120 feet above mean sea level. Groundwater elevations at the Project site are between 0 and +10 feet mean sea level, which correlate to depths of approximately 110 to 120 feet below the current site grade. The maximum mining depth proposed is 75 feet below ground surface, groundwater will not be encountered and a buffer of approximately 35 to 45 feet will exist between groundwater and the fully developed mine floor. Therefore, the Project's impacts to groundwater supply are ***less than significant***

### *ALTERATION OF THE DRAINAGE PATTERN WHICH WOULD RESULT IN FLOODING ON OR OFF-SITE – PHASE 1A AND 2A (HW-2)*

The Project would accommodate all off-site flows onsite, through a series of down drains into the mining pits. Mining activities in these phases would not impact any areas within the floodplain and would not alter the drainage pattern in a manner that would create flooding on or offsite; impacts are ***less than significant***.

### *RUNOFF THAT WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER SYSTEMS (HW-4)*

If sediment-laden or otherwise polluted runoff discharges from the construction site are found to impact the County's storm drain system and/or Waters of the State, the property owner will be subject to enforcement action and possible fines by the County and the Central Valley Regional Water Quality Control Board. Project compliance with requirements outlined in Chapter 11 (Hydrology and Water Quality), as administered by the County of Sacramento and the Central Valley Regional Water Quality Control Board will ensure that Project-related erosion and pollution impacts are ***less than significant***.

## GEOLOGY

### *SOIL EROSION (GS-2)*

Topsoil handling and reclamation is regulated through SMARA. CCR §3711 outlines proper procedures for topsoil removal, storage and redistribution, including not removing topsoil more than a year in advance of mining, separating and clearly labeling topsoil from other stockpiles, not disturbing topsoil until it is ready for distribution, and redistributing topsoil in a stable area at consistent thickness. Upon reclamation, CCR §3705 outlines the requirements for revegetation to prevent erosion and protect topsoil, including using a suitable end use vegetative cover, decompaction of the site, using native plant species (unless exotic species meet end use), planting during the correct season, using soil stabilizing practices and irrigation, and fertilizing in such a way as to not contaminate the water. By complying with the requirements set forth in SMARA, the Project will insure there is not a loss of topsoil through erosion or improper handling; impacts to substantial soil erosion or loss of topsoil are ***less than significant***.

## BIOLOGICAL RESOURCES

### *CONSISTENCY WITH THE SOUTH SACRAMENTO HABITAT CONSERVATION PLAN (BR-1)*

The Project is a covered activity under the proposed SSHCP within the urban development area. The analysis contained in this chapter is consistent with the protocol for covered species analysis under the SSHCP. Where necessary, mitigation has been included to reduce impacts to covered species, waters, and sensitive communities such that impacts would be reduced to less than significant. The mitigation contained in this chapter has been structured such that the Project is implemented under the SSHCP, the required mitigation will be consistent with the adopted SSHCP mitigation and monitoring protocols. The Project would be required to obtain permits pursuant to the conditions and procedures outlined in the SSCHP. Thus, the Project is consistent with, and aids in the goals set forth in the proposed SSHCP. Impacts after mitigation with regards to consistency with the proposed SSHCP are ***less than significant***.

## CULTURAL RESOURCES

### *HISTORICAL RESOURCES (CR-1)*

The Project site contains no documented historical resources eligible for listing on the National Register of Historical Places (NRHP) or California Register of Historical Places (CRHR). Therefore, none of the sites are considered to be Historic Properties. The impacts are ***less than significant***.

### *TRIBAL RESOURCES (CR-4)*

Pursuant to Public Resources Code 21080.3.1, Planning and Environmental Review (PER) staff sent project notifications to those California Native American tribes that requested to be informed by the lead agency through formal notification of proposed projects in Sacramento County that are traditionally and culturally affiliated with the tribe. No responses or requests for consultation were received within 30 days of receipt of the formal notification. Tribal cultural resources were not identified in the Project area. Therefore, these impacts of the Project are ***less than significant***.

## GREENHOUSE GAS

### *GENERATION OF GREENHOUSE GAS EMISSIONS (GG-1)*

The Project's worst case scenario estimate for CO<sub>2e</sub> emissions per year is approximately 1,799 metric tons of CO<sub>2e</sub>. Reclamation activities would contribute minor levels of GHG emissions; however, these activities would utilize the same equipment as the mining operation and would not be expected to cause an incremental increase in annual emissions estimated above. The annual GHG emissions for the Project are below the 10,000 metric ton of CO<sub>2e</sub> per year screening threshold. Therefore, the Project's Greenhouse Gas impacts are ***less than significant***.

## CUMULATIVE IMPACTS

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An EIR must discuss the “cumulative impacts” of a project when its incremental effect will be cumulatively considerable. This means that the incremental effects of the individual project would be considerable when viewed in connection with the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15065(c)).

*CEQA Guidelines* Section 15355 defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” This Section further states that, “Individual effects may be changes resulting from a single project or a number of separate projects;” additionally, “The cumulative impact from several projects is [defined as] the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”

Section 15130(a)(3) states also that an EIR may determine that a project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Finally, Section 15130(b) indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, that it should reflect the severity of the impacts and their likelihood of occurrence, and that it should be focused, practical, and reasonable.

To be adequate, a discussion of cumulative effects must include the following elements:

Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency’s control, or (b) a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.

For some projects, the only feasible mitigation measures will involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis (Section 15130(c)).

## CUMULATIVE ENVIRONMENTAL SETTING

The discussion of cumulative impacts reflects the likelihood of impacts occurring and the severity of the impact when the project’s impacts are combined with other projects in the vicinity. The major impact associated with the proposed Project that cannot be mitigated to a level of less than significant is aesthetics; this Project impact is considered significant and unavoidable even after mitigation measures are applied. The

Project also has impacts associated with transportation roadway public safety; daily peak hour trips; biological resources; hydrology and drainage; geology and soils; cultural resources, and hazardous materials. These Project impacts have been mitigated to less than significant on an individual basis.

The impacts that have been identified at the project level are generally site specific impacts (e.g. geology and soils, hazardous materials, cultural resources). The preceding analysis of project-level impacts also identified off-site impacts for noise, and considered and determined there were no off-site impacts that were significant or could not be mitigated related to air quality, greenhouse gas, hazardous materials (off-site transport), hydrology and traffic. Impacts may be cumulative in nature when considered in the context of the urbanizing Project vicinity. Much of the Project vicinity is currently rural, but has been planned for future urban levels of development in the unincorporated County. These master plan development areas represent the potential contributors to environmental impacts in the cumulative setting.

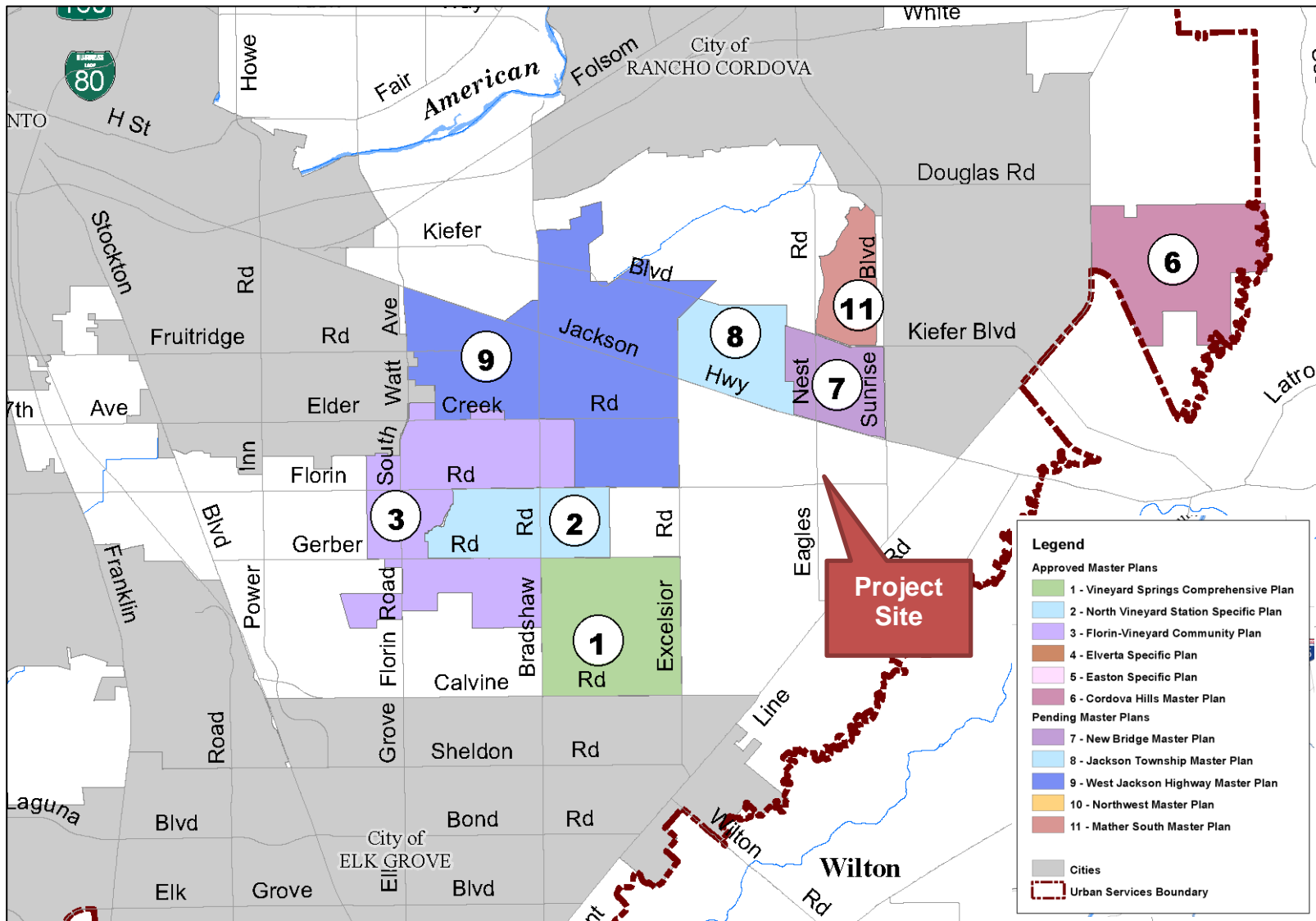
#### CUMULATIVE IMPACTS FRAMEWORK

This EIR uses a plan-based approach to determine whether significant cumulative impacts would occur. For a plan-based approach, the EIR analysis considers the Sacramento County General Plan, and other applicable planning documents identified in the General and Regional Plans Considered section below (Plate SI-1).

#### *GENERAL AND REGIONAL PLANS CONSIDERED*

- Sacramento County General Plan
- City of Rancho Cordova General Plan
- Vineyard Community Plan
- Florin Vineyard Community Plan
- North Vineyard Station Specific Plan
- Vineyard Springs Comprehensive Plan
- Cordova Hills Special Planning Area

Plate SI-1: Sacramento County Master Plans



A focus of the 2030 Sacramento County General Plan is to efficiently accommodate growth through the implementation of the two growth boundaries established in the 1993 General Plan: the Urban Services Boundary (USB) and the Urban Policy Area (UPA). The USB is the ultimate growth boundary for the unincorporated area. The UPA defines the area within the USB expected to receive urban services in the near term. Together, the UPA and the USB promote orderly growth and the efficient extension of infrastructure and the provision of urban services. They also seek to preserve agriculture and rangelands, critical habitats and natural resources.

For purposes of this chapter, the approved plans above and pending master plans (discussed further below) are cumulatively referred to as “Plan Areas”. The Plan Areas identified above contain a large amount of vacant land and represent the greatest potential for realization of short-term development, helping to accommodate a portion of anticipated population growth expected over the lifetime of the General Plan, as well as providing additional commercial and retail amenities, business and employment opportunities, parks, open space, schools and all the public facilities and infrastructure necessary to support the ultimate population.

There are a number of recently approved and pending projects within each of these Plan Areas. Therefore, for the purposes of this EIR, cumulative impacts are more appropriately assessed at the Plan Area level, which encompasses the broader picture of long term growth in Sacramento County. It can be expected that the area surrounding the Project site and larger vicinity will absorb a significant amount of projected new growth in the unincorporated area, and thus, will represent the majority of the cumulative environmental impacts in the project vicinity.

#### *FORESEEABLE PROJECTS IN THE VICINITY OF THE PROJECT AREA*

Most recently approved and pending projects encompassed in the environmental setting are captured under the analysis and impacts of one or more of the Plan Areas outlined above, and are therefore not comprehensively listed here. Several current project applications are of note. These projects are not yet approved and are large, master plan projects on a scale similar to that of the plan documents addressed in the section above. All of the master plan projects are currently in the entitlement approval process and would require significant improvements before development occurs. It is unknown if these areas would develop within the timeframe of the project, but they are included here given they are foreseeable projects that are indicative of the urbanizing nature of the cumulative setting of the project.

The NewBridge Specific Plan (PLNP2010-00081) application was accepted and initiated by the Board on February 7, 2012. The planning area is located approximately 2,300 feet north of the proposed Project site. NewBridge encompasses approximately 1,095 acres. Development is proposed in the area bordered by Eagles Nest Road, Jackson Road, Kiefer Boulevard and Sunrise Boulevard. The West Planning Area is within the Specific Plan but no change in land use designations is requested within it. Within the North and South Planning Areas the applicant for the NewBridge Specific Plan proposes land uses that include mixed use; low, medium and high-density residential; commercial; public/quasi-public, parks; and open space.

The West Jackson Highway Master Plan (PLNP2008-00240) is located approximately 2.2 miles to the north and west of the Project site. The plan has residential, commercial and open space uses projected for the area. The West Jackson Highway Master Plan includes approximately 5,913 acres and will have a variety of urban land uses in an area that was used by Teichert Aggregates and Granite Construction for aggregate mining. The proposed Master Plan creates two District Plan areas. The District Plans establish specific land uses, policies and development standards for the properties within the District Areas. Overall, that project includes a mixture of residential, recreational, and employment nodes.

The Jackson Township Specific Plan (PLNP2011-00095) is located approximately 4,600 feet northwest of the Project site. The Jackson Township Specific Plan encompasses approximately 1,391 acres and will provide a wide variety of housing, commercial, employment, open space, and recreational uses. The proposal includes three elementary schools, a middle school/high school, a public-quasi public site for a fire station, and several parks. In addition, large portions of the specific plan area along the northern and eastern perimeter are planned to be wetland preserves.

The Mather South Community Master Plan (PLNP2013-00065) is within the Mather Field Special Planning Area is focused on redevelopment of the former Mather Air Force Base. County Economic Development has partnered with Mather South LLC to master plan and develop approximately 848 acres that is generally bounded by the Mather Golf Course and Mather Lake to the north, the Folsom South Canal to the east, Kiefer Boulevard to the south and the Mather Preserve and Zinfandel Drive to the west. Proposed uses include residential dwelling units, an Environmental Education Campus, a Research and Development Campus, commercial-retail, parks and open space areas. The Mather South Community Master Plan was approved by the County Board of Supervisors on January 28, 2020.

## CUMULATIVE IMPACTS AND ANALYSIS

For purposes of this EIR, significant cumulative impacts would occur if impacts related to the implementation of the project, combined with the environmental impacts of other past, present, and reasonably foreseeable future projects, would result in an adverse significant effect. For an impact to be considered cumulative, these incremental impacts and potential incremental impacts must be related to the types of impacts caused by the Project.

### *LAND USE*

Though the Land Use chapter (Chapter 4) of this EIR examined many topics (policy consistency, displacement of housing, etc), the potential cumulative impacts related to land use are restricted to the topic of land use compatibility with adjacent uses, because the character of adjacent land uses will be different in the cumulative condition than in the existing condition. Cumulative conditions as they relate to land use include development of adopted and pending Plan Areas. The Land Use chapter discussed cumulative land use impacts of the Project in detail, specifically consistency of the Project with the Vineyard Community Plan. As to the other pending or adopted master

plans, none cover the same land area as the proposed project, nor does the proposed Project prevent those land use plans from developing, as proposed. While the other pending master plans have not been approved, if they are approved, this Project does not contribute to any land use inconsistency. Under the cumulative scenario, with mitigation, impacts would be ***less than significant***.

#### *AGRICULTURAL RESOURCES*

Build out of the adopted Community Plans and urbanization through development of the in-progress Jackson Highway Corridor master plans will result in significant conversion of agricultural lands to urban uses. General Plan Policy AG-5 states there is an impact to farmland if over 50 acres is permanently converted to a non-agricultural use. In the case of this Project, the 49.77 acres of farmland of local importance will not be permanently converted to mining uses but only converted during the 13-year lifespan of the mine. Upon completion of the reclamation plan to open space or agricultural uses, the Project site will be restored to allow agricultural uses to take place. Therefore, the cumulative impacts to the loss farmland of local importance are ***less than significant***.

#### *AESTHETICS*

Singular project aesthetics analyses focus on a specific project site and its immediate environment, but for the purposes of this cumulative discussion the viewshed is defined more broadly. Most of the County includes relatively flat topography which is either urbanized or dominated by crop farming interspersed with rural communities and open space areas.

Cumulative visual impacts are dependent on the future development of the immediate project area. Future development of the Plan Areas is also expected to damage scenic resources and substantially degrade the visual character and quality of the area. The Project vicinity has active and reclaimed surface mining facilities resulting in numerous mining pits in the area. The determination of the significance of aesthetic impacts of mining pits has varied over time. Current significance determinations in Sacramento County consider any large, open mining pit to be a significant impact due to the irreversible change to the landform. The proposed Project's already significant impact to aesthetics will exacerbate the aesthetic impacts existing from the other mining pits in the area. Therefore, this Project's contributions to cumulative aesthetic impacts are considered ***cumulatively significant and unavoidable***.

#### *PUBLIC SERVICES*

The Project may require minor extension of infrastructure to serve the electrical needs of the mine, but will not require significant new infrastructure to provide for levels of service already available in the Project vicinity.

An existing cell tower located on the composting operation will require relocation prior to mining those areas and will be done in cooperation with the tower owner. The relocation of the wireless facility will not have an impact on existing wireless providers

ability to provide service to their customers. Provision of public services will be expanded through build out of Plan Areas. The Project will not have an impact on service providers' ability to fulfill these plans. Therefore, there are no substantial adverse physical impacts associated with the electric or natural gas service, and cumulative impacts to public services are ***less than significant***.

#### *TRANSPORTATION*

There is no increase in haul trucks or employees reporting to the Project site. The peak hour trips generated are considered baseline as the impacts of the haul trucks arriving at the processing plant has been mitigated for in the prior EIR. However, development of approved and pending projects would result in an increase in traffic using the area roadways. Future cumulative conditions would require that as developments are approved and constructed they would have to pay/provide their fair share in mitigation of traffic impacts. Under the cumulative scenario, with mitigation, impacts would be ***less than significant***

#### *AIR QUALITY (IMPACT AQ-3)*

The nonattainment status of regional pollutants is a result of past and present development. Future attainment of State and Federal ambient air quality standards is a function of successful implementation of the SMAQMD's attainment plans. Consequently, the SMAQMD's application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

A Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (CCR §15064(h)(3)).

If project emissions (change from baseline) exceed thresholds for NO<sub>x</sub>, ROG, PM<sub>10</sub> or PM<sub>2.5</sub>, then the project would result in a cumulatively considerable net increase of a criteria pollutant for which the SMAQMD is in non-attainment under applicable Federal or State ambient air quality standards. This does not imply that if the project impact is less than those significance criteria, it cannot be cumulatively significant. The significance criteria are presented in the Air Quality chapter (Chapter 9) and include a single set of emissions levels that are applied separately to construction and operation phases, both of which have been found to be ***less than significant***. Accordingly, the Project's contribution to cumulative impacts has been found to be ***less than significant***.

#### *NOISE*

Noise associated with stationary sources creates isolated impact areas, so cumulative impacts with respect to noise occur where there are increases in ambient noise due to

mobile sources. Cumulative impacts with respect to traffic noise on existing neighbors are discussed in length in the noise chapter (Chapter 10).

Although as the area develops through buildout of Master Plan areas, noise from haul trucks and mining operations was determined to be less than significant. Given that future noise would be likely generated by the build out of the area and not the Project cumulative impacts would be ***less than significant***.

#### *HYDROLOGY*

Comprehensive development of the New Bridge specific plan, Jackson Township specific plan and Mather South Community master plan areas will permanently alter the drainage characteristics, and potentially the floodplain, of the areas that encompass the cumulative setting. This project is consistent with the already-adopted Vineyard Community Plan. Master Plans for stormwater facilities are developed to reduce cumulative impacts related to drainage and runoff. Reducing cumulative impacts then focuses on preventing individual projects from creating conditions that exacerbate problems with runoff, flooding or water quality as a result of individual project implementation.

All development is required to maintain and comply with a Stormwater Pollution Prevention Plan (SWPPP). Compliance with the SWPPP will minimize any potential for significant runoff or erosion on site and subsequent siltation downstream. Erosion will be minimized since the disturbed surfaces within the mine site will be reclaimed in accordance with the Surface Mining and Reclamation Act (SMARA) to allow the surfaces to become revegetated.

The Project would not result in off-site flooding, as all onsite flows from adjacent properties will be maintained onsite. The Project does not encroach into the floodplain there is no possibility of water from outside of the project area inundating the site. Therefore, the project's contribution to cumulative drainage and hydrology impacts would be ***less than significant***.

#### *GEOLOGY AND SOILS*

Most geologic and soils impacts are generally site-specific and not cumulative in nature. With adherence to the reclamation plan, the impacts to the safety of the mining slopes and the loss of topsoil has been reduced to less than significant. The Project does not obstruct access to mineral resources and provides adequate side slopes. Thus implementation of the project does not contribute to a substantial impact; cumulative impacts are ***less than significant***.

#### *BIOLOGICAL RESOURCES*

The open space and agricultural land of the project site and the surrounding region provide grassland habitat that support a variety of special status species, as described in the Biological Resources chapter (Chapter 13). Habitats within these areas also include wetland resources such as seasonal wetlands, and other features. Wetlands support special status invertebrates, amphibians, and plants. The proposed master plans and development projects in the Project vicinity will result in the cumulative loss of

grassland habitat (grazing land) that may exceed 10,000 acres. The Project will contribute to a ***cumulatively considerable*** impact with respect to loss of grassland habitat, associated wetland habitat, and the species in which they support.

There are 97.88 acres of grassland that could serve as habitat for species that would be lost with over the course of Project development. As discussed below the South Sacramento Habitat Conservation Plan (SSHCP) has been adopted which mitigates by landcover type, therein mitigating impacts to each species to which the landcover type is applicable along with specific avoidance and minimization measures (AMMs) for identified species. Therefore, the Project will comply with the grassland and/or agricultural land cover mitigation as stipulated by the SSHCP.

As a covered activity under the SSHCP, the Project would be subject to the mitigation and permitting procedures as outlined in the SSHCP. Approximately 0.842 acres of wetlands would be permanently impacted along with 1.152 acres of other waters. Exact acreages will be determined through the permit process, and acreages of onsite wetlands presented in this document represent approximations based on the best information available at this time. As urban growth continues, the available lands for mitigating biological impacts are diminishing and mitigation is occurring across the landscape without any particular strategy or application of a comprehensive plan that would assure biological and functional success. To address this, the SSHCP was adopted. The final draft SSHCP and SSHCP EIS/EIR was prepared and published in the federal register on May 15, 2018, and approved by the Board of Supervisors on September 11 2018. Other participating agencies have also adopted the SSHCP. The associated permits were received on June 12, 2019 from the U.S. Fish and Wildlife Service, July 25, 2019 from the U.S. Army Corps of Engineers, and August 20, 2019 from the California Department of Fish and Wildlife. The SSHCP is a regional approach to addressing development, habitat conservation, and agricultural lands within the south Sacramento County region. The SSHCP will consolidate and enhance wetlands, primarily vernal pools and upland habitats to provide ecologically viable conservation areas (see the Biological Resources chapter for additional information regarding the SSHCP).

The Project is subject to the policies and measures in the SSHCP. The Project is consistent with the SSHCP in terms of covered activities and project design. Mitigation has been included in this document that the project would implement avoidance and minimization measures consistent with the SSHCP.

Singularly, projects are required to mitigate their biological impacts and generally it is determined that such mitigation reduces individual impacts to less than significant. The Project will be required to mitigate impacts to species, habitats and waters, through participation in the SSHCP. Thus, the Project's contribution to the significant cumulative impact is ***less than significant***.

#### *CULTURAL RESOURCES*

Cumulative development could significantly impact historic, archaeological, or tribal cultural resources. The archaeology of prehistoric resources in their original contexts is

crucial in developing an understanding of the social, economic, and technological character of the resources. The boundaries of an archaeologically important site could extend beyond property boundaries. As a result, a meaningful approach to preserving and managing cultural resources should focus on the likely distribution of cultural resources, rather than on project or parcel boundaries. The cultural system is represented by the total inventory of all cultural sites. Other development projects in the region may also contain both known and unknown historic, archaeological, and tribal cultural resources, and as previously undeveloped areas begin to urbanize, it is likely that unknown resources may be discovered in some places.

Proper planning and appropriate mitigation measures can help to capture and preserve knowledge of the resources and can provide opportunities for increasing understanding of past cultures and the environmental conditions by recording data about any sites discovered and preserving the artifacts found. Additionally, there are many regulations in place that protect cultural and tribal cultural resources that require mitigation measures and consultation in the event that resources are, or may be, present. With these protections in place, most impacts on cultural resources should be mitigated. However, without knowing more detail about the number and significance of cultural and tribal resources that could be affected by implementation of development plans in the region, it is possible that some impacts may not be able to be mitigated fully, so this is a ***potentially significant cumulative impact***.

The Project site contains no known significant cultural resources. However, there is still a potential for the existence of buried or previously undiscovered surface resources during project implementation.

Based on the findings of the records and literature search and field survey, mitigation has been proposed in the event that undiscovered cultural resources are encountered during implementation of the Project. If cultural resources are uncovered, work in a 200-foot radius is to stop while the resource is evaluated and next steps are determined. This limits the cumulative contribution of impacts to cultural and tribal cultural resources within the County to ***less than significant***.

#### *HAZARDOUS MATERIALS*

Most impacts in this category are existing hazardous conditions which have the potential to impact projects, but which are not exacerbated by projects. The only impact discussed in the Hazards and Hazardous Materials chapter (Chapter 15) to which the project could cumulatively contribute is increases in the transport, use, and disposal of hazardous materials. All of the foreseeable projects would be required to implement and comply with federal, state, and local hazardous materials regulations and codes monitored by the state and/or local jurisdictions, and as such would not create a cumulatively significant hazard; impacts are ***less than significant***.

### GREENHOUSE GASES

Climate change is itself a cumulative phenomenon. As areas around the world continue to develop and urbanize, associated mobile and stationary greenhouse gas emissions will increase, and the cumulative phenomenon is significant.

The Project has the potential to result in maximum emissions of approximately 1,799 metric tons of CO<sub>2</sub>e per year. Reclamation activities would contribute minor levels of GHG emissions; however, these activities would utilize the same equipment as the mining operation and would not be expected to cause an incremental increase in annual emissions estimated above. The annual GHG emissions for the project are below the 10,000 metric ton of CO<sub>2</sub>e per year screening threshold. In addition, the proposed Project will come on line as the southern section of the existing mine (also operated by Vulcan) ceases operation. This means that effectively there will be a net zero cumulative impact on greenhouse gases. Therefore, the project's contribution to cumulative greenhouse gas impacts is ***less than significant***.

### GROWTH INDUCING IMPACTS

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An EIR must discuss the ways in which a proposed project could foster economic or population growth or the construction of additional housing in the vicinity of the project, and how that growth will, in turn, affect the surrounding environment (see CEQA Guidelines Section 15126.2(d)).

The proposed Project is a sand and gravel mining facility that produces aggregate materials for the local Sacramento construction market. Aggregate materials are an inflexible commodity; in other words, there is no substitute to aggregate materials and if a construction project requires aggregate materials the project managers will have to obtain the aggregate materials, even if it means shipping it in at higher cost and environmental impact, in order to complete the construction.

The Project as proposed does not have growth inducing impacts beyond the fact that the material mined at the site will be used in some way on most local construction projects. The Project does not propose to expand water or waste water services or remove any barrier to growth. Furthermore, the Project does not create a demand for additional housing or public services. The proposed Project is also not changing any policies related to development in the County. Therefore, the proposed Project will not result in growth inducing impacts.

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## **19 GLOSSARY OF ACRONYMS / ABBREVIATIONS**

AADT	average annual daily trips
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AC	Alternating Current
ACHP	Advisory Council on Historical Preservation
ADL	aerially deposited lead
ADT	average daily trips
amsl	above mean sea level
Army Corps	U.S. Army Corps of Engineers
APE	Area of Potential Effect
APCO	Air Pollution Control Officer
AQMD	Air Quality Management District
AR-2	Agricultural Residential
ARB	California Air Resources Board
ATCM	Airborne Toxic Control Measure
BCECP	Basic Construction Emission Control Practices
BACT	Best Available Control Technology
BLM	Bureau of Land Management
BMP	Best Management Practices
BP	Before Present
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standards
CACP	Clean Air and Climate Protection Model

CalEEMod	California Emissions Estimator Model
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code and Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH <sub>4</sub>	methane
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalent
County DWR	Sacramento County Department of Water Resources
CFR	Code of Federal Regulations

CRHP	California Register of Historic Places
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Ranks
CSH	Center for Sacramento History
CWA	Clean Water Act
DA	Development Agreement
dB	decibel(s)
dBA	A-weighted sound levels
dbh	diameter at breast height
DC	Direct Current
DHS	California Department of Health Services
DNL	Day-Night Average Sound Level
DPM	Diesel particulate matter
DRP	Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMD	Sacramento County Environmental Management Department
EPA	U.S. Environmental Protection Agency
ESC	Erosion and Sediment Control
(F)	Flood Combining Zone
FACE	Financial Assurance Cost Estimate
FAM	Financial Assurance Mechanism
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act

FICON	Federal Interagency Committee on Noise
FIRM	Federal Insurance Rate Maps
FOS	Factor of Safety
FSZ	Farmland Security Zone
General Plan Sacramento County General Plan	
GIS	Geographic Information Systems
GHG	Greenhouse Gas
GLO	General Land Office
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbons
HUD	U.S. Department of Housing and Urban Development
HWCA	Hazardous Waste Control Act
H:V	Horizontal: Vertical
ICLEI	International Council for Local Environmental Initiatives
ISA	International Society of Arboriculture
IR	Interim Agricultural Reserve
JPA	Joint Powers Authority
L <sub>dn</sub>	day-night noise level
L <sub>eq</sub>	equivalent sound level
L <sub>max</sub>	A-weighted maximum sound level
L <sub>50</sub>	sound level exceeded 50% of the time, the Median sound level
lb/day	pounds per day
LID	Low Impact Design
LOS	level of service
ICLEI	Local Governments for Sustainability

MBTA	Migratory Bird Treaty Act
Methane	CH <sub>4</sub>
MRZ	Mineral Resource Zones
MSL	Mean Sea Level
MT	Metric Tons
MMT	Million metric tons
MPH	miles per hour
MPO	Metropolitan Planning Organizations
MTP	Metropolitan Transportation Plan
M-1	Light Industrial
N <sub>2</sub> O	nitrous oxide
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 88
NCIC	North Central Information Center
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation

NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O <sub>3</sub>	ozone
OHP	Office of Historical Preservation
Pb	lead
PCE	passenger car equivalent
PFC	Perfluorocarbons
PG&E	Pacific Gas & Electric Company
PM <sub>2.5</sub>	particulate matter equal to or less than 2.5 microns in diameter
PM <sub>10</sub>	particulate matter equal to or less than 10 microns in diameter
PSD	Prevention of Significant Deterioration
Porter-Cologne	Porter Cologne Water Quality Act
Ppm	parts per million
ROG	reactive organic gases
Regional Water Board	Regional Water Quality Control Board
RT	Regional Transit
SAA	Streambed Alteration Agreement
SACOG	Sacramento Area Council of Governments
SacDOT	Sacramento County Department of Transportation
SAFCA	Sacramento Area Flood Control Agency
SB	Senate Bill
SCC	Sacramento County Code

SCS	Sustainable Communities Strategy
SF <sub>6</sub>	sulfur hexafluoride
SFNA	Sacramento Federal Nonattainment Area
SHPO	State Historic Preservation Officer
(SM)	Surfacing Mining Combing Zone
SMARA	Surface Mining and Reclamation Act of 1975
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utilities District
SO <sub>2</sub>	sulfur dioxide
Southgate	Southgate Recreation and Park District
SSC	Species of Special Concern
SSHCP	South Sacramento County Habitat Conservation Plan
SSQP	Sacramento Stormwater Quality Partnership
State Water Board	State Water Resources Control Board
STP	Shovel Test Pit
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminants
TMDL	Total Maximum Daily Load
TRU	Transport Refrigeration Unit
UBC	Uniform Building Code
UDA	Urban Development Area
UPA	Urban Policy Area
USA	Underground Service Alert
USB	Urban Service Boundary

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley Elderberry Longhorn Beetle
VMT	Vehicle miles traveled
VOC	Volatile Organic Compound
VPTS	Vernal pool tadpole shrimp
WAP	Work Authorization Permit
WBWG	Western bat working group
Zoning Code	Sacramento County Zoning Code
°C	Celsius
°F	Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter

## 20 RESPONSE TO COMMENTS

The Draft Environmental Impact Report (DEIR) was released on April 1, with a 45 day public review period. The review period for the DEIR closed on May 15, 2020. At the request of the agency one comment was accepted on May 18, 2020. An e-mail letter was received by the County on May 28, 2020. A total of eight individual comments were received during the comment period. All seven comment letters in their entirety are included at the end of this Response to Comments chapter. Each comment has been given a numeric designation (e.g. Letter 1) as identified below.

### List of Written Comments on the DEIR

1. California Department of Toxic Substances Control (DTSC), Gavin McCreary, via email (April 17, 2020).
2. Sacramento Municipal Utilities District (SMUD), Amy Spitzer, via email (May 18, 2020).
3. California Department of Fish and Wildlife (CDFW), Kevin Thomas, via email (May 12, 2020).
4. Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 14, 2020).
5. Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 14, 2020).
6. Central Valley Regional Water Quality Control Board (CVRWQCB), Jordan Hensley, via regular mail (May 18, 2020).
7. Sacramento Metropolitan Air Quality Management District (SMAQMD), Rachel DuBose, via email (May 18, 2020).
8. Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 28, 2020).

Each DEIR comment letter is detailed below with the text of the submitted comments and a response to each comment. Individual comments addressing separate subjects within each letter are labeled in this chapter based on the letter's numeric designation and comment number (e.g. 1-1). Note that the preface language of the letters is often excluded (where the text consists of salutations and brief descriptions of the commenting organization).

Where changes to the text of the EIR are required as a result of the comments received, those changes are shown with **bold underline** for text added and ~~strikethrough~~ for text deleted within the pertinent chapter(s).

In some cases the response to comment is "comment noted." Pursuant to Sections 15088 and 15204 of the CEQA Guidelines, no written responses are provided for those letters or comments that do not address significant environmental issues. While no

response to the comment is provided, the comment letters are forwarded to the Board of Supervisors for their consideration.

## LETTER 1

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California Department of Toxic Substances Control (DTSC), Gavin McCreary, via email (April 17, 2020).

### **COMMENT 1-1**

The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.

### **RESPONSE 1-1**

Comment noted historic uses of the site did not result in the release of hazardous wastes/substances. The project site currently consists of commercial composting operation which commenced in 2000, a cell tower, and non-native grassland. Prior to the composting operation, the project site was vacant. Neither composting operations, cell towers, nor grassland result in the release of hazardous wastes/substances. Additional studies are not warranted.

### **COMMENT 1-2**

Refiners in the United States started adding lead compound to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

### **RESPONSE 1-2**

The project site is located approximately 1,400 feet south of Jackson Road, approximately 2,600 feet west of Sunrise Boulevard, 30 feet east of Eagles Nest Road and 30 feet north of Florin Road. The portion of Florin Road adjacent to the project site

is a rural, infrequently travelled road, as is Eagles Nest Road. Eagles Nest Road is also a relatively short road that does not lead to or from popular destinations. The nearby roads with more significant travel volume are Jackson Road and Sunrise Boulevard.

According to the Soil Management Agreement for Aerially Deposited Lead Contaminated Soils between DTSC and the California Department of Transportation, ADL-contaminated soil exists along roadsides and medians. The highest lead concentrations are usually found within 10 feet of the edge of the pavement, and in *some* cases can extend 20 feet or more from the edge of the pavement. (See Soil Management Agreement, <https://dtsc.ca.gov/caltrans/>) The project site is setback 30 feet from the nearest roads (Florin Road and Eagles Nest Road), both of which are infrequently travelled, and will not disturb soil in the 20-ft zone acknowledged as having the highest risk of ADL. The only roads with significant travel volume in the project area, Jackson Road and Sunrise Boulevard are 70x and 130x the outer limit distance cited by the Soil Management Agreement as having the highest risk of ADL, respectively. As the closest roads (both of which are infrequently traveled) are 1.5x the distance from the project site that is cited in the Soil Management Agreement as the typical outer limit of ADL contamination, and 70x and 130x that distance for the only roads with significant travel volume in the project area (Jackson Road and Sunrise Boulevard), the potential for ADL-contaminated soil within the project area is low.

### **COMMENT 1-3**

If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook ([https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/11/aml\\_handbook.pdf](https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/11/aml_handbook.pdf)).

### **RESPONSE 1-3**

The project site has not been used for mining activities. The project site has been used for composting operations and contains non-native grassland and a cell tower. Prior to the composting operation the site was vacant. There are mining activities adjacent to the project site; however, these sites are not abandoned and will be closed in accordance with their reclamation plan.

### **COMMENT 1-4**

If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in

accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers* ([https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance\\_Lead\\_Contamination\\_050118.pdf](https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf)).

#### **RESPONSE 1-4**

The demolition of any structures on the project site will be subject to a demolition permit from the County. At the time of demolition permit issuance, the County will require testing for lead paint, asbestos and other possible contaminants, as appropriate for the specific buildings to be demolished, and consistent with County policy and state law. Additionally, the buildings were constructed approximately 15 years ago and were therefore built in a time period where lead paint and asbestos were not used in construction of buildings.

#### **COMMENT 1-5**

If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to DTSC's 2001 Information Advisory Clean Imported Fill Material ([https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP\\_FS\\_Cleanfill-Schools.pdf](https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf)).

#### **RESPONSE 1-5**

The site will not require the importation of soil to backfill excavated areas. The Project Applicant will utilize material on-site for any backfilling.

#### **COMMENT 1-6**

If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)* (<https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf>).

#### **RESPONSE 1-6**

The site is currently and formerly used for composting operations and additionally consists of non-native grassland. The site was previously used for dryland grazing and irrigated pasture, but has not been used for either purposes in approximately 10 years. Application of pesticides for dryland grazing or on a pasture of this relatively small size would not be economically feasible, therefore sampling is not required under DTSC's 2008 Guidance cited in the comment. (See *DTSC 2008 Interim Guidance for Sampling Agricultural Properties (Third Revision)*, p. 2.)

## LETTER 2

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Sacramento Municipal Utilities District (SMUD), Amy Spitzer, via email (May 18, 2020).

### **COMMENT 2-1**

It is our desire that the Project EIR will acknowledge any Project impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - <https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services>
  - <https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way>
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery
- The potential need to relocate and or remove any SMUD infrastructure that may be affected in or around the project area

### **RESPONSE 2-1**

The above topical areas have been discussed throughout the EIR as applicable. See the Project Description, Public Services, Greenhouse Gases and Summary of Impacts and their disposition

### **COMMENT 2-2**

More specifically, SMUD would like the Project EIR, and any subsequent addendums for proposed Project activities, to include adequate evaluation of cumulative impacts to utility systems, the utility facilities needed to serve the Project, and any potential environmental issues associated with extending utility service to the proposed Project including the minor extension of the infrastructure to connect the conveyor system.

In addition, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

SMUD has the following existing distribution system infrastructure on and adjacent to the project that will need be maintained by the existing or equivalent system:

- 12/69kV overhead facilities along Jackson Rd.
- 12kV overhead facilities along Sunrise Blvd.
- 12kV overhead facilities along Eagles Nest Rd.

- .12kV overhead facilities on the Sacramento Aggregates Current Mining Facility parcel
- 12kV overhead facilities on the Carli Expansion Project parcel.

**RESPONSE 2-2**

Existing SMUD facilities and infrastructure that have the potential for impacts from the Project have been included in the Public Services chapter.

**COMMENT 2-3**

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

**RESPONSE 2-3**

Comment Noted. The applicant will coordinate with SMUD throughout the Project planning process. As needed agreements will be established regarding the Project and potential impacts and/or encroachment to SMUD facilities.

LETTER 3

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California Department of Fish and Wildlife (CDFW), Kevin Thomas, via email (May 12, 2020).

**COMMENT 3-1**

**Table BR-2 does not include all Covered Species under the South Sacramento Habitat Conservation Plan (SSHCP).**

CDFW has identified the following species, covered under the SSHCP, that are not analyzed in Table BR-2:

- Pincushion navarretia (*Navarretia myersii*)
- Western red bat (*Lasirurs blossevillii*)
- Sandhill crane (*Antigone canadensis*)

To address this comment, CDFW recommends revising Table BR-2 to address these species and ensure consistency with the SSHCP.

**RESPONSE 3-1**

Sacramento County has revised Table BR-2 to include the identified species under the plants, mammals, and birds headings.

### **COMMENT 3-2**

#### **The Project is subject to Notification under Section 1602 of the Fish and Game Code.**

As noted in CDFW's comments on the Notice of Preparation of the DEIR, Notification to CDFW is required, pursuant to Section 1602 of the Fish and Game Code section 1602 if a project proposes activities that will substantially divert or obstruct the natural flow of water; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The DEIR has provided sufficient information to determine that mining activities at the Project location are subject to the Notification requirement in Section 1602 of the Fish and Game Code. CDFW recommends the Project consult with CDFW regarding obtaining a Streambed Alteration Agreement. Please note, this process is currently independent of the SSHCP.

### **RESPONSE 3-2**

The Project does not propose or involve any activity that will substantially divert or obstruct the natural flow of water, substantially change or use any material from the bed, channel, or bank of any river, or deposit or dispose of debris where it may pass into any river, stream, or lake. As such, the project will not require obtaining a Streambed Alteration Agreement.

### **COMMENT 3-3**

#### ***Special Status Plants is not consistent with the SSHCP.***

Avoidance and Minimization PLANT-1 of the SSHCP states that if Covered Activities occur within modeled habitat for Covered Plant Species, rare plant surveys should be conducted in accordance with CDFW's most recent rare plant survey protocol. As the Project area includes modeled habitat for Covered Plant Species such as Sanford's arrowhead (*Sagittaria sanfordii*), the Project would be subject to the survey requirement in the SSHCP.

To correct this, CDFW recommends the following mitigation measure to the DEIR:

*The applicant will be required to obtain authorization through the SSHCP for potential impacts to Special Status Plants. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.*

### **RESPONSE 3-3**

Sacramento County will incorporate CDFW's proposed Mitigation Measure as BR-3.1 in response to impact BR-3. The subsequent mitigation measures shall be re-numbered as appropriate from BR-3.2 to BR-3.9. The project will pay mitigation fees under the SSHCP.

#### **COMMENT 3-4**

**Project should obtain take coverage through the SSHCP for taking of state-listed species.**

The DEIR notes observations of both tricolored blackbird (*Agelaius tricolor*) and Swainson's hawk (*Buteo swainsoni*), two species listed as *threatened* under CESA. Due to the presence of these species on or adjacent to the Project area and the Project's participation in the SSHCP, take coverage may be obtained through the SSHCP to comply with CESA. To address this, the Project will need to work with the appropriate Land Use Authority Plan Permittee (Sacramento County) to submit and obtain CDFW concurrence on a "Covered Activity Authorization Form" (Attachment 1) through the SSHCP. In order to facilitate this process, please ensure that the final approved project can demonstrate that the required SSHCP Avoidance and Minimization Measures have been properly incorporated or will be incorporated into the proposed Covered Activity.

#### **RESPONSE 3-4**

CDFW's concerns are addressed in the DEIR under current Mitigation Measures BR-3.3 and BR-3.5 (to be renumbered as BR-3.4 and BR-3.5, respectively, after adopting new BR-3.1).

#### **COMMENT 3-5**

**Mitigation Measure BR-3.6 revisions needed to adequately mitigate impacts to white-tailed kite to less-than-significant**

White-tailed kite (*Elanus leucurus*) is a fully protected species under the section 3511 of the Fish and Game Code. As such, project activities should avoid impacts to white-tailed kite. As identified in the DEIR, white-tailed kite may occur within 0.5 miles of the Project area, so Mitigation Measure BIO-3.6 should consider that white-tailed kite may be detected through the course of the Project.

To correct this, CDFW recommends the measure be revised to state:

*"If it is determined during surveys or project implementation that project activities may impact white-tailed kite, project personnel shall fully avoid any impacts that may result in take if white-tailed kite is observed to be utilizing the project area or adjacent area."*

**RESPONSE 3-5**

Sacramento County has reviewed this comment and will incorporate CDFW's proposed revision to the current Mitigation Measure BR-3.6 (to be renumbered as BR-3.7 after adopting new BR-3.1).

Sacramento County has revised Mitigation Measure BR-3.6 **3.7** to read as follows:

**Mitigation Measure BR-3-~~63~~-7: White-Tailed Kite**

The applicant will be required to obtain authorization through the SSHCP for potential impacts to covered raptor species such as white-tailed kite. The Project will comply with the requirements of the SSHCP, including adherence to the Avoidance and Minimization Measures (Appendix BIO) as well as payment of fees to support the overall SSHCP Conservation Strategy.

**If it is determined during surveys or project implementation that project activities may impact white-tailed kite, project personnel shall fully avoid any impacts that may result in take if white-tailed kite is observed to be utilizing the project area or adjacent area.**

**COMMENT 3-6****Mitigation Measure BR-4.1 revisions needed to more effectively mitigate Migratory Birds to less-than-significant**

Mitigation Measure BIO-14 of the DEIR describes preconstruction surveys for nesting migratory birds. For clarity during implementation, this measure should more clearly defining the survey methodology.

To address this concern, CDFW recommends defining the survey radii for potentially high disturbance activities as: *The minimum survey radii surrounding the work area shall be the following: i) 250 feet for passerines; ii) 500 feet for small raptors such as accipiters; iii) 1,000 feet for larger raptors such as buteos*

**RESPONSE 3-6**

Sacramento County has revised Mitigation Measure BR-4.1 to read as follows:

**Mitigation Measure BR-4.1: Migratory Nesting Birds**

To avoid impacts to nesting migratory birds the following shall apply:

- A. If construction activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, a survey for active migratory bird nests shall be conducted no more than 14 days prior to construction by a qualified biologist. **The minimum survey radii surrounding the work area shall be the following: i) 250 feet for passerines;**

**ii) 500 feet for small raptors such as accipiters; iii) 1,000 feet for larger raptors such as buteos.**

- B. No trees are slated for removal from the Project area; however, any landscape trees along the boundary of the Project Site that require removal shall be removed during the period of September through January, in order to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, shall be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found.
- C. If active nest(s) are found in the survey area, a non-disturbance buffer, the size of which has been determined by a qualified biologist, shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1.

## LETTER 4

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Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 14, 2020).

### **COMMENT 4-1**

I live at [7266 Eagles Nest Rd](#) about ¼ mile down Eagles Nest to the south from the proposed mine expansion. I'm very concerned, as is my neighbor, Sherry Rowles, who lives directly across Florin Rd from project, about the expansion and the possible ways it could affect our lifestyle.

- Noise is a big concern. I noticed they are putting a 12 ft berm on the west edge. What about along Florin Road on the south side to buffer us?

### **RESPONSE 4-1**

Noise impacts from initial ground preparation do not exceed the applicable Sacramento County noise thresholds for Receptor N5 located south of the Project along Florin Road. Noise impacts from initial ground preparation exceed thresholds at Receptor N1, and thus, the 12 foot berm to the west of the Project (Mitigation Measure NO-2) would mitigate the impacts at Receptor N1. Mitigation is not required for Receptors N5 (along Florin Road) since impacts do not exceed the County noise thresholds at that location.

With the removal of Receptor N1 Mitigation Measure NO-2 is no longer required (see Change in Circumstances in the Executive Summary). Unless a new residence is constructed the berm is not required.

### **COMMENT 4-2**

- Late hours of operation and weekend operations is worrisome.

**RESPONSE 4-2**

Sacramento County has reviewed this comment and acknowledges the concern, however, the proposed Project will be operating within Sacramento County zoning requirements. The Sacramento County Zoning Code allows mining, processing, and related activities within 1,000 feet of a habitable structure to operate between these hours: Monday through Friday 6:00am until 9:00pm, and Saturday 7:00am through 3:00pm. (Sacramento County Zoning Code Section 4.8.12.A.).

The operating hours of the original use permit are conditioned to end Monday through Friday by 9pm and Saturday by 3pm. Mining and processing is not permitted on Sunday and labor union holidays. The proposed use permit for the Project would not alter the operating hours from the original permit.

**COMMENT 4-3**

- Dust. Bad stuff getting kicked up into the air.

**RESPONSE 4-3**

Sacramento County has reviewed this comment and determined that Mitigation Measure AQ-4B would mitigate dust impacts to less than significant. Mitigation Measure AQ-4B requires the implementation of Enhanced Dust Control Methods to increase overall control efficiency from 68% to 80%. Dust Control would also comply with the Sacramento Metropolitan Air Quality Management District (SMAQMD) rules to control project dust.

Rule 402: Nuisance. The developer or contractor is required to prevent dust or any emissions from onsite activities from causing injury, nuisance, or annoyance to the public.

Rule 403: Fugitive Dust. The developer or contractor is required to control dust emissions from earth moving activities, storage or any other construction activity to prevent airborne dust from leaving the project site.

**COMMENT 4-4**

- lights. They have a long line of bright lights on their conveyors on their site across Florin Rd. I don't want to see something like that out my window.

**RESPONSE 4-4**

Sacramento County has reviewed this comment and determined that Mitigation Measure AE-2 would mitigate light impacts to less than significant. Mitigation Measure AE-2 requires that lighting be arranged and controlled to not illuminate public right-of-ways or adjacent properties. Lighting at the project site shall be equipped with shield that concentrate the illumination downward so no direct light is cast off the site.

**COMMENT 4-5**

- toxics.

**RESPONSE 4-5**

Sacramento County has reviewed this comment and has determined that Mitigation Measure AQ-4A would mitigate toxics impacts to less than significant. The project applicant is required to maintain off-road vehicle fleet engines at EPA certified Tier 4 interim or cleaner. Diesel engines would comply with applicable state regulations including Airborne Toxic Control Measures and ground construction work would comply with Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

**COMMENT 4-6**

- Groundwater safety is a huge concern.

**RESPONSE 4-6**

Sacramento County has reviewed this comment and it notes groundwater will be protected from siltation and pollutants as required by state and federal law. Compliance with state and federal regulations, in addition to the buffer of 35-45 feet of native undisturbed material above the groundwater table will ensure that groundwater resources are protected. Please refer to the discussion of Impact Evaluation HW-4 for additional detailed measures the project applicant will take to protect groundwater and surface water resources.

**COMMENT 4-7**

- The installation of the asphalt/concrete recycling plant. That's a big unknown as to how that will affect the area.

**RESPONSE 4-7**

Sacramento County has reviewed this comment and has determined that the anticipated impacts of the asphalt/concrete recycling plant are addressed and analyzed throughout the DEIR. The implementation of various mitigation measures will mitigate any impacts from the asphalt/concrete recycling plant to less than significant.

**COMMENT 4-8**

-the constant sound of their back up alarms beeping, beeping, beeping.

**RESPONSE 4-8**

Sacramento County has reviewed this comment and has determined that the impacts from noise levels during mining operations would be less than significant. The noise

studies conducted (and depicted in Table NO-15) demonstrate that noise levels during mining operations would not exceed the applicable Sacramento County noise threshold at any receptors. Mitigation Measure NO-3 additionally allows for ongoing noise measurement to assure that noise levels do not exceed County thresholds. In the event that noise levels exceed the assumptions in the DEIR, additional noise reduction measures will be implemented.

#### **COMMENT 4-9**

- Additional trucks hauling in concrete and asphalt. They have been good about keeping trucks off Eagles Nest. I'm hoping they continue with that.

#### **RESPONSE 4-9**

As discussed in Chapter 8 Transportation/Traffic the Project would include the use of a portable asphalt and concrete processing plant to process approximately 100,000 tons of concrete and asphalt that would be imported to the site on an annual basis as well as the importation of 50,000 tons of outside aggregate products per year. Even though aggregate would be brought on-site, the operation of the portable asphalt and concrete processing plant would not increase in the overall permitted annual output of 1.5 million tons of material per year. Output from the RMC the applicant has proposed would be included in the permitted annual output.

Trucks currently coming to the mine are empty with no change in the annual output, the haul trucks bringing in the materials for the portable asphalt and concrete processing plant and the RMC are considered baseline for the existing processing facility. Currently the haul trucks arrive empty at the processing plant; they are then loaded with processed aggregate materials destined for customers use. Under the proposed Project, materials would arrive to be processed and trucks would then be filled with processed materials. Again, there would be no change in the amount of materials output.

Therefore, the number of trucks coming to and leaving the project site would not change. The previous EIR identified the potential impacts from the existing number of trucks accessing the project site and proposed mitigation measures to address these impacts.

Mitigation Measures TR-1 and TR-2 would mitigate haul truck trip impacts to less than significant level. The project applicant anticipates no increase in overall haul trucks or employees reporting to the Project site. Mitigation Measures TR-1 and TR-2 require the project applicant to repair damages to roadway segments and to provide a minimum 30-foot setback from the right of way of Florin Road to mitigate the haul truck trip impacts.

#### **LETTER 5**

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Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 14, 2020).

**COMMENT 5-1**

Can you tell me what AG 5 is and why the mine doesn't have to mitigate for the lost farmland? Does this include other "temporary uses" Or just gravel mining? Where can I find an explanation of that?

**RESPONSE 5-1**

The Project will not trigger Sacramento County General Plan Policy AG-5's requirement to mitigate. AG-5 requires 1:1 mitigation where projects propose to permanently convert over 50 acres of farmland to a non-agricultural use. The Project proposes to temporarily convert 41 acres of farmland of local importance during the 13-year lifespan of the mine. Upon completion of the reclamation plan to open space or agricultural uses, the Project Site will be restored to allow agricultural uses to take place.

The Sacramento General Plan Agricultural Chapter is available here for additional information:

<https://planning.saccounty.net/LandUseRegulationDocuments/Documents/General-Plan/Agricultural%20Element%20-%20Amended%2009-26-17%20.pdf>

**LETTER 6**

Central Valley Regional Water Quality Control Board (CVRWQCB), Jordan Hensley, via regular mail (May 18, 2020)

**COMMENT 6-1**

The comment letter provides an overview of the Basin Plan, and the Antidegradation Policy, formulated and adopted by the CVRWQCB.

**RESPONSE 6-1**

Comment noted. The comments provided by CVRWQCB are not specific to the Project or the environmental document, but rather provide a broad overview of the regulatory setting that may be applicable to the Project.

**COMMENT 6-2**

These comments provide an overview of potential permitting requirements related to maintaining water quality that may apply to the Project.

**RESPONSE 6-2**

Comment noted. The project proponent will ensure all applicable permits and regulations are obtained and adhered to as part of project implementation.

## LETTER 7

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Sacramento Metropolitan Air Quality Management District (SMAQMD), Rachel DuBose, via email (May 18, 2020).

### **COMMENT 7-1**

Measure AQ-4B commits to increasing overall dust control efficiency from 68 to 80%. Please provide more information on the methods that will be implemented to achieve this efficiency.

### **RESPONSE 7-1**

Baseline 68% control is addressed on Page 53 of the Air Quality and Climate Change Impact Assessment (AQCCIA) which states, "Table 26 includes mitigation measures that were present in the 2008 FEIR, such as 68% control on fugitive dust sources."

Project 80% control references materials in Appendix F of the AQCCIA that contain the following text in Footnote 'a' to the dust emissions calculation table, "Haul truck road dust emissions are updated from those presented in the 2008 FEIR for the previous expansion project to incorporate geometry of the Project site and dust control resulting from rain days. Other sources were calculated by applying rain day control factor to the calculations in the 2008 EIR."

Review of guidance available on the SMAQMD website did not reveal control efficiencies for dust sources. Specifically, the construction basic and enhanced mitigations contain only measures and lack corresponding efficiencies that may be used in calculating emissions.<sup>1</sup> Thus, alternative sources of information were used to support the analysis.

AQCCIA Appendix F contains a copy of South Coast AQMD Rule 1157 that was adopted January 7, 2005 and later amended on September 6, 2006.<sup>2</sup> As discussed in the Staff Report<sup>3</sup> for Rule 1157, AQMD staff claimed that 80% control is achieved by implementing requirements of the Rule. Further evidence of 80% control from Rule 1157 exists in the guidance<sup>4</sup> used by mining and related facility operators to complete annual emissions reporting (AER) and specifically for non-plant sources. Plant equipment and other sources that have factors in AP-42 were assigned the level of control as determined by comparing the uncontrolled and controlled factors in Table

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<sup>1</sup> <http://www.airquality.org/Residents/CEQA-Land-Use-Planning/Mitigation>

<sup>2</sup> <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1157.pdf>

<sup>3</sup> <http://www3.aqmd.gov/hb/2005/January/0501ag.html>

<sup>4</sup> <https://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/particulate-matter-emission-factors-for-processes-equipment-at-asphalt-cement-concrete-and-aggregate-product-plants.pdf>

11.19.2-2 of AP-42.<sup>5</sup> The South Coast AQMD Rule 1157 Guidance document and AP-42 table are attached for convenience.

The South Coast AQMD Rule 1157 control efficiency of 80% was chosen for the following reasons:

- Rule 1157 is industry-specific for aggregates processing and related facilities.
- South Coast AQMD has the resources to ensure accuracy and support emissions and control factors published.
- The value of 80% control is moderate as compared to other values that could have been used to show even greater emissions reduction for a control measure. Accordingly, the value should be supportable in most any jurisdiction even though corresponding measures to be taken that would achieve 80% control may differ (i.e., 80% is achievable).

Methods of dust control that are proposed for this Project which achieve 80% or greater control are listed below. The methods are subject to change by the Applicant provided that alternative methods proposed by the Applicant achieve at least 80% control of Project emissions and that the County concurs.

- Use dust suppressants as needed to limit opacity to less than 20% as determined by EPA Method 9.
- Remove or stabilize material spillage on internal roads.
- Remove or stabilize piles of materials that fall off the underside of a conveyor belt and accumulate on the ground.
- Unpaved Haul Roads.
  - The operator of a facility/operation shall apply chemical stabilizers on the internal unpaved haul roads so that the surface is maintained in a stabilized condition.
  - The operator of a facility/operation shall post signs at the two ends of the internal unpaved haul roads, stating that haul trucks shall use these roads unless traveling to the maintenance areas.
- Paved Haul Roads.

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<sup>5</sup> <https://www3.epa.gov/ttn/chief/ap42/ch11/final/c11s1902.pdf>

- The operator of a facility/operation with a minimum of 60 aggregate and/or mixer trucks exiting the facility on any day shall sweep the internal paved roads with a street sweeper by the end of each production work shift.
- The operator of a facility/operation with less than 60 aggregate and/or mixer trucks exiting the facility on any day shall sweep the internal paved roads with a street sweeper by the end of every other workday. On the days that the roads are not swept, the operator shall apply water as necessary to comply with SCAQMD Rule 1157 subparagraph (d)(1)(A) on at least 100 feet of paved roads, or the entire length of paved roads leading to an exit to public paved roads, if such roads are less than 100 feet long.
- Use PM10 efficiency sweeper.
- Stockpiles.
  - The operator of a facility/operation shall maintain in a stabilized condition the entire surface area of the open storage piles of materials, except for areas of the piles that are actively disturbed during the loading and/or unloading activities.
  - At the end of each workday in which loading or unloading activities of materials were performed, the operator of a facility/operation shall re-apply dust suppressants to re-stabilize disturbed areas of the piles.
- Install track-out control (e.g., rumble grates, wheel wash, gravel pad) prior to egress onto public paved roads unless greater than 0.25 mile of paved internal road exists between plant area and exit.

#### **COMMENT 7-2**

Table AQ-15 “Project Health Risk Impacts After Mitigation” inappropriately presents cancer risk due to the project as negative values. The table appears to convey the difference in risk from the originally approved project in 2008 to the currently proposed project. The DEIR can certainly report the estimated change in health risk, but this must be clearly labeled as such, and the actual health risk due to the currently proposed project must be clearly disclosed.

#### **RESPONSE 7-2**

The risk is appropriately presented to take into account the existing setting to evaluate the current ‘project’ and the resulting change in the environment. The purpose of CEQA is to understand the effect of a project on the environment. Describing the effect of mitigating existing sources to show a negative value is appropriate because that is how the environment would change. AQMD’s suggestion that the future cancer risk with the Project would be more appropriate to present doesn’t comport with the requirements of CEQA which are to understand the change in the environment. In fact, the threshold of

significance (i.e., 10 excess cancer cases per 1 million individuals exposed) is clearly an incremental value or the amount of increase that is cumulatively considerable.

Conversely, when comparing modeled criteria pollutant concentrations to ambient air quality standards (AAQS) the comparison determines whether the AAQS would be exceeded and, in that case, requires addition of background concentration so that their sum can be compared to the AAQS which is an amount not to be exceeded more than a small percentage of the time (e.g., PM10 is evaluated based on the 98th percentile highest day). A similar approach could be taken for health risk if AQMD were to make existing health risk estimates publicly available and adopt a significance threshold for that purpose.

Although the suggested analysis may not be appropriate for CEQA significance, additional HRA has been prepared (See Appendix to RTC at end of this chapter). Results obtained using the suggested HRA method are provided below. A change to the circumstances surrounding the Project has occurred in the demolition of the closest receptor located on Eagles Nest Road adjacent to the western boundary of the Project site. (see Plate ES-1) The change has been incorporated into the updated results provided and mitigation measures that reduce impacts at the former receptor will be reworded such that they would come into effect if the residence were to be reconstructed in the future.

#### **ADDITIONAL HRA METHODOLOGY AND RESULTS**

As discussed in the Air Quality and Climate Change Impact Assessment (AQCCIA, 4/18/2020), the CEQA HRA presented the change in the environment that would occur with the Project and proposed mitigations that would reduce non-cancer health risk impacts to less than significant levels, and cancer risk impacts to less than exist in the baseline condition (i.e., cancer risk values are less than zero or negative values). HRA modeling consisted of Project sources assigned positive emissions values and Baseline sources assigned negative emissions values to produce health risk values incorporating effects of both new and former sources that would result from the Project and Mitigated Project. Health risk impacts from the Mitigated Project are shown in Table AQ-15 (page 9-30) of the Air Quality chapter of the FEIR.

As suggested by SMAQMD in Comment 7-2, the Additional HRA removed Baseline sources from the AQCCIA HRA model and calculated health effects from only new Project sources assuming a typical “greenfield” baseline condition. The Project would only last sixteen (16) years at the proposed mining rate. Nevertheless, both the AQCCIA and this Additional HRA included a thirty (30) year project scenario to allow comparison with other HRAs for projects under CEQA which normally assume a thirty

(30) year or seventy (70) year exposure duration as recommended in the AB 2588 Health Risk Assessment Guidelines document (Guidelines).<sup>6</sup>

The Guidelines also adjust cancer risk for age because children are disproportionately affected. Specifically, the third trimester up to age two (2) are weighted by a factor of ten (10), age two (2) up to age sixteen (16) are weighted by a factor of three (3), and age sixteen (16) and above are weighted by a factor of one (1). Total cancer risk for a project is the sum of cancer risk for each year of exposure. Accordingly, the AQCCIA HRA consisted of three modeled scenarios. One run for life before two (2) years of age with Project sources in locations that would occur in the first couple years of operation and another run for source locations during the remainder of the Project (i.e., until Year 16) that was extended to thirty (30) years for disclosure purposes. Locations of sources and receptors presented in Plate RTC 1 and RTC 2. It is important to note that neither greenfield baseline nor 30-year exposure would be possible. Compounding of these assumptions results in produces cancer risk values that exceed the evaluation criteria, but which are also inappropriate to compare with the evaluation criteria due to these overly conservative and not reasonably foreseeable assumptions.

As shown in Table RTC-1 even with the greenfield baseline condition assumption requested by SMAQMD Comment 7-2, Mitigated Project health risk impacts remain less than the evaluation criteria. The health risk values in Table RTC-1 are presented in response to Comment 7-2 for disclosure purposes and do not represent CEQA analysis because of the underlying assumptions. The CEQA analysis in the DEIR follows an appropriate methodology and the health risk results as shown in Table AQ-15. Additional HRA documentation supporting new results presented in Table RTC 1 is attached (Appendix RTC).

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<sup>6</sup> 30 years is the 95th percentile of time spent living in one house and 70 years is used to represent a lifetime

Plate RTC-1: Sources, Receptors: Project Year 0 - 2

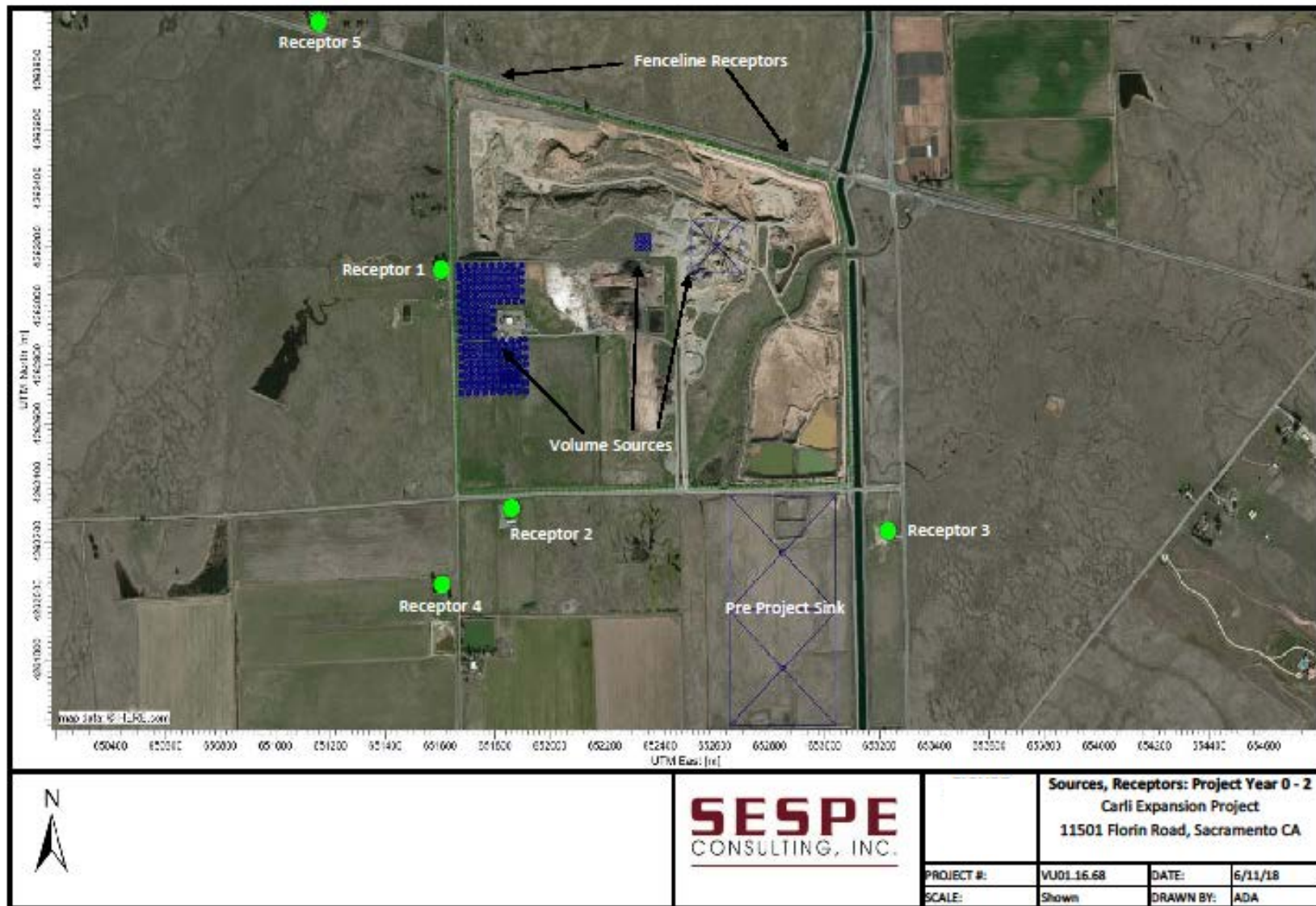
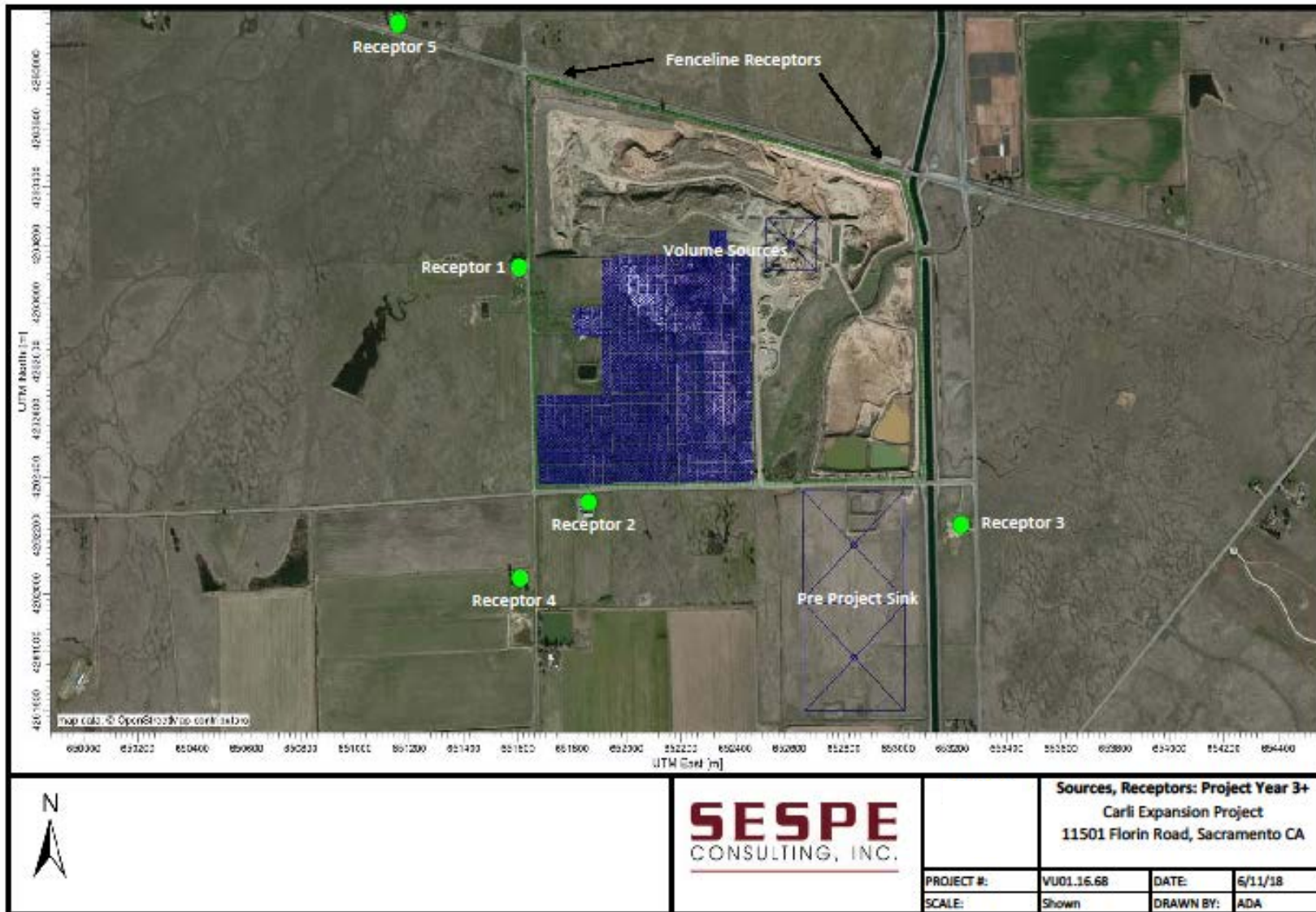


Plate RTC-2: Sources, Receptors: Project Year 3+



**Table RTC-1: Additional HRA for the Mitigated Project and Greenfield Baseline**

Receptor # - Type	16 Year Excess Cancer Cases per Million People Exposed	30 Year Excess Cancer Cases per Million People Exposed	Chronic Hazard Index	Acute Hazard Index
1 - Residence <sup>a</sup>	20.2	21.4	0.22	0.88
2 - Residence	9.3	10.4	0.08	0.59
3 - Residence	3.5	3.8	0.05	0.35
4 - Residence	2.9	3.2	0.03	0.38
5 - Residence	4.5	4.9	0.06	0.34
33 – Fenceline	N/A	N/A	N/A	1.29
Significance Threshold	10	10	1	1
Threshold Exceeded?	No	No <sup>b</sup>	No	No

Notes: greyed cells are presented for disclosure purposes but excluded from comparison with evaluation criteria for the following reasons:

- a. Residence located at Receptor 1 has been demolished and is not included in evaluation of criteria.
- b. Neither greenfield baseline nor 30-year exposure would be physically possible. Compounding of these assumptions results in produces cancer risk values that exceed the evaluation criteria, but which are also inappropriate to compare with the evaluation criteria due to these overly conservative and not reasonably foreseeable assumptions.

### **COMMENT 7-3**

Be advised that as part of the air quality permitting process, the Sac Metro Air District will perform a health risk analysis separate from the one performed for this EIR for the batch plant and potential diesel engine powering the recycling plant.

### **RESPONSE 7-3**

Comment noted. Section 4.2.1.2 of the AQCCIA which starts on Page 18 describes regulatory requirements that are enforced by AQMD including permit requirement in Rule 201, New Source Review in Rule 202, and air toxics control measures in Rule 904.

### **COMMENT 7-4**

Provide a citation for the following statement from page 12, paragraph 2 of the Air Quality and Climate Change Impact Assessment (April 18, 2019): “Although the regulations require Tier 4 Final engines in 2015, manufacturing has not kept up with demand in the 100 to 174 hp and 750+ hp size categories.”

### **RESPONSE 7-4**

Historically, and up until the applicant's consultant's last check (5/22/2020), ARB's willingness to register engines of various model year and Tier was provided on the PERP program webpage (<https://ww2.arb.ca.gov/our-work/programs/portable-equipment-registration-program-perp>). At the time that the air quality impacts were being assessed, the website contained the language quoted in the comment. Since that time, the allowable new registration characteristics changed (See <https://ww2.arb.ca.gov/resources/documents/perp-regulation-and-portable-engine-atcm>).

The reason that the PERP program webpage is important is because some air districts adopt the language as best available control technology (BACT) to avoid becoming the "dump" for old engines. Any portable engine that would be used by the Project to power processing equipment would likely require an operating permit from SMAQMD and be subject to new source review (NSR) requirements such as BACT which itself is a moving target. Thus, the PERP language was used to predict the level of control that would be required as BACT by SMAQMD.

## LETTER 8

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Margaret D. Waegell, 7266 Eagles Nest Road, CA 95830; via email (May 28, 2020).

### **COMMENT 8-1**

We're very concerned about noise emanating from the project. I read it will be at it's worst during the initial removal until they reach a certain depth. I'm wondering why are they putting a 12 foot berm along the west side of the project but not along the south side along Florin? Also of course potential noise from the concrete/asphalt plant. Maybe they should consider putting a 12 ft berm along Florin to protect us?

### **RESPONSE 8-1**

As discussed in Response 4-1 the noise level along Florin Road would not exceed the threshold of significance that would require mitigation. Therefore, a berm along Florin Road would not be required. Furthermore, as noted the residence along Eagles Nest Road has since been removed and unless a new structure is build the mitigation measure to construct a berm along Eagles Nest Road will not be required.

### **COMMENT 8-2**

Lighting is a concern

### **RESPONSE 8-2**

See Response 4-4.

### **COMMENT 8-3**

The additional truck traffic is concerning with the concrete and asphalt recycling. I was told that wouldn't add any additional truck traffic. Not sure how that works with the concrete/asphalt recycling. It says it had already been addressed in prior EIR. I don't recall them applying for an asphalt/concrete recycling plant at that time. But that was many years ago. I found the explanation in this EIR about haul trucks a bit confusing. Currently the mine has been very good about keeping trucks from coming down Eagles Nest Rd. We do appreciate that and hope that continues.

**RESPONSE 8-3**

See Response 4-7

**COMMENT 8-4**

After hours operation. This could significantly affect our quality of life. The idea of them out there at night while we're trying to enjoy the kind of lifestyle we've worked hard to build is a little upsetting. I'm still unclear of their exact hours of operations on weekends. I do know they can apply for a special permit to work outside those hours.

**RESPONSE 8-4**

See response 4-2

**COMMENT 8-5**

Water quality. We're very concerned about possible ground water contamination. Could you address this? I know the county periodically monitors my well but I'm not sure if that is because of the mine or another reason.

**RESPONSE 8-5**

Please see Response 4-6. The Environmental Management Wells Program is responsible for oversight of the construction, modification, repair, inactivation and destruction of wells in Sacramento County. The Wells Program regulates Water Supply Wells, Monitoring Wells, Exploratory Soil Borings, Geothermal Heat Exchange Wells, Cathodic Protection Wells, and other special use wells. Any monitoring done by the Environmental Management Department is associated with its regulation of wells rather than surrounding mining activities.

**COMMENT 8-6**

Dust and possible disturbance of asbestos. I thought I read something about potential asbestos in the soil, but I couldn't find it again. Could you address?

**RESPONSE 8-6**

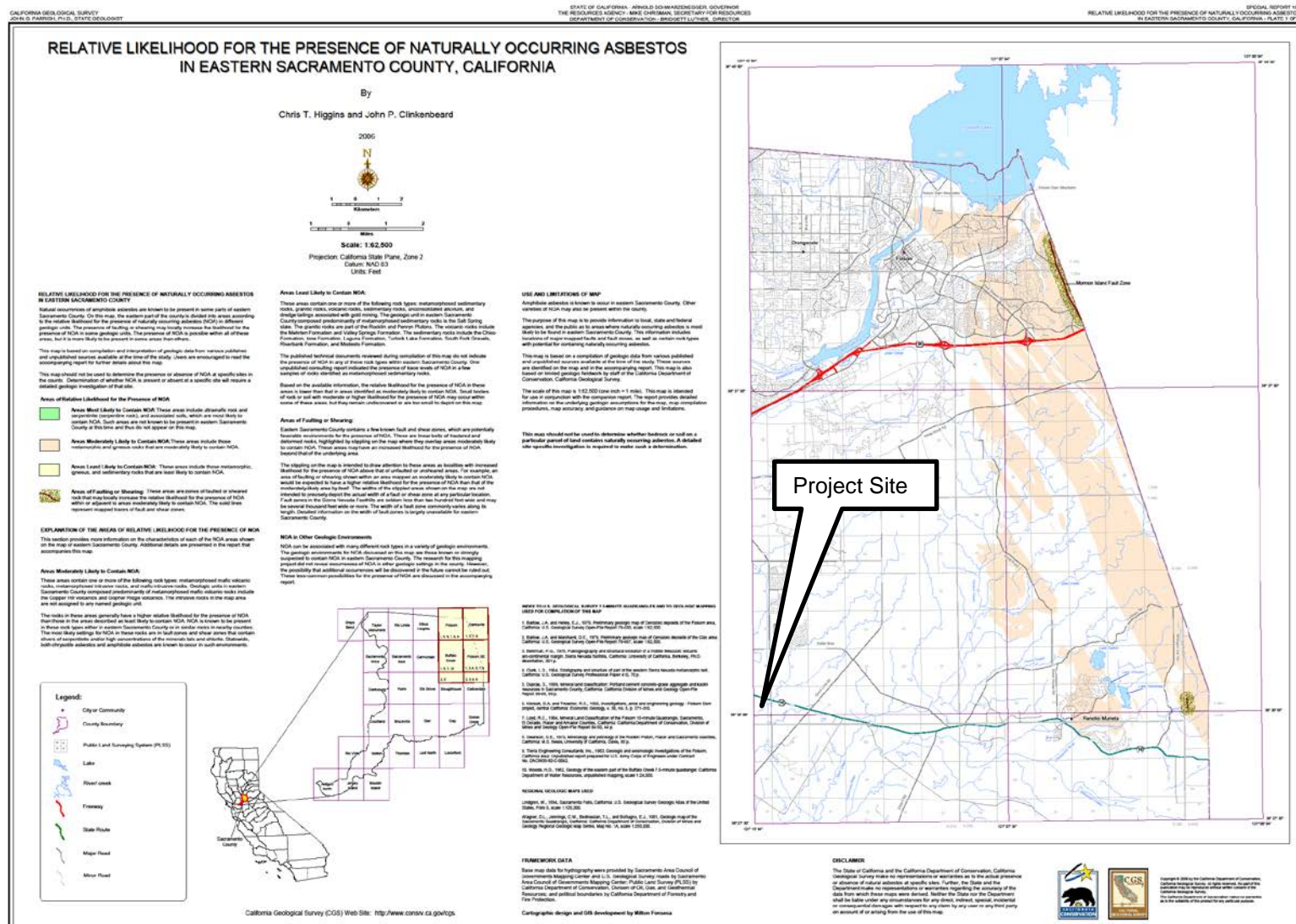
Naturally occurring asbestos (NOA) minerals occur in several types of rocks and the presence of such is dependent on the chemistry and different geologic processes that

have acted on those rocks through time (CGS, 2006). Eastern Sacramento County has some geologic settings that are favorable for NOA. These settings include the mapped geologic formations of the unnamed igneous intrusive rocks (referred to quartz diorite on the Applicant's geologic maps), Copper Hill Volcanics (metamorphosed mafic rocks), and the Gopher Ridge Volcanics (metamorphosed mafic rocks). According to the California Geologic Society, naturally occurring asbestos is known to be present in eastern Sacramento County. NOA had previously been discovered in El Dorado County, just east of the Sacramento County line, and in the Folsom area. The CGS was commissioned by the Sacramento Metropolitan Air Quality Management District (SMAQMD) to develop a map identifying areas that may contain NOA within the county (SMAQMD, 2006). The results of the CGS study are published in Special Report 192, which provides information about NOA and a map showing areas that are likely to contain NOA.

The map included in Special Report 192 shows color shaded areas based on their relative likelihood for the presence of NOA. Plate RTC-2, Natural Occurring Asbestos, shows the Project site location in relation to areas that may contain NOA, according to the Special Report 192.

According to the map, the project site is outside of the area mapped as having a likelihood for asbestos. Therefore, dust generated by mining activities on the project would not contain asbestos.

# Plate RTC-3: Presence of Naturally Occurring Asbestos



## **Appendix RTC**

1565 Hotel Circle South, Suite 370 • San Diego, California 92108

Date: June 17, 2020

To: Kevin Torell, Vulcan Materials Company

From: Scott D. Cohen, P.E., C.I.H.

Cc: John Hecht, P.E. and Brian Anderson, P.G., Sespe Consulting

Re: **Response to Comment – Greenfield Baseline  
Carli Mine Expansion Project, Sacramento County, California**

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This memo presents health risk assessment (HRA) results assuming a greenfield baseline condition for the subject project. The additional HRA provided herein was prepared as discussed in the memo responding to Sacramento Metro Air Quality Management District (SMAQMD) comments (Sespe, 6/15/2020) transmitted to the County in your email on June 16, 2020. For completeness and to provide context, Response to Comment 2 is repeated below followed by discussion of the additional HRA and presentation of the results.

**Comment 2 (SMAQMD, 5/19/2020)**

*Table AQ-15 “Project Health Risk Impacts After Mitigation” inappropriately presents cancer risk due to the project as negative values. The table appears to convey the difference in risk from the originally approved project in 2008 to the currently proposed project. The DEIR can certainly report the estimated change in health risk, but this must be clearly labeled as such, and the actual health risk due to the currently proposed project must be clearly disclosed.*

**Response to Comment 2 (Sespe 6/15/2020)**

The risk is appropriately presented to take into account the existing setting to evaluate the current ‘project’ and the resulting change in the environment. The purpose of CEQA is to understand the effect of a project on the environment. Describing the effect of mitigating existing sources to show a negative value is appropriate because that is how the environment would change. AQMD’s suggestion that the future cancer risk with the Project would be more appropriate to present doesn’t comport with the requirements of CEQA which are to understand the change in the environment. In fact, the threshold of significance (i.e., 10 excess cancer cases per 1 million individuals exposed) is clearly an incremental value or the amount of increase that is cumulatively considerable.

Conversely, when comparing modeled criteria pollutant concentrations to ambient air quality standards (AAQS) the comparison determines whether the AAQS would be exceeded and, in that case, requires addition of background concentration so that their sum can be compared to the AAQS which is an amount not to be exceeded more than a small percentage of the time (e.g., PM<sub>10</sub> is evaluated based on the 98<sup>th</sup> percentile highest day). A similar approach could be taken for health risk if AQMD were to make existing health risk estimates publicly available and adopt a significance threshold for that purpose.

Although the suggested analysis may not be appropriate for CEQA significance, additional HRA will be prepared. Results obtained using the suggested HRA method will be provided for disclosure in a supplemental response to this comment. A change to the circumstances surrounding the Project has occurred in the demolition of the closest receptor located on Eagles Nest Road adjacent to the western boundary of the Project site. Photographs documenting the change are. The change will be incorporated into the updated results provided and mitigation measures that reduce impacts at the former receptor will be reworded such that they would come into effect if the residence were to be reconstructed in the future.

### **Additional HRA Methodology and Results**

As discussed in the Air Quality and Climate Change Impact Assessment (AQCCIA, 4/18/2020), the CEQA HRA presented the change in the environment that would occur with the Project and proposed mitigations that would reduce non-cancer health risk impacts to less than significant levels, and cancer risk impacts to less than exist in the baseline condition (i.e., cancer risk values are less than zero or negative values). HRA modeling consisted of Project sources assigned positive emissions values and Baseline sources assigned negative emissions values to produce health risk values incorporating effects of both new and former sources that would result from the Project and Mitigated Project. Health risk impacts from the Mitigated Project are reproduced from Table 28 in the AQCCIA (Sespe, 4/19/2020) below in Table 1.

As suggested by SMAQMD in Comment 2 (above), the Additional HRA removed Baseline sources from the AQCCIA HRA model and calculated health effects from only new Project sources assuming a typical “greenfield” baseline condition. The Project would only last sixteen (16) years at the proposed mining rate. Nevertheless, both the AQCCIA and this Additional HRA included a thirty (30) year project scenario to allow comparison with other HRAs for projects under CEQA which normally assume a thirty (30) year or seventy (70) year exposure duration as recommended in the AB 2588 Health Risk Assessment Guidelines document (Guidelines).<sup>1</sup>

The Guidelines also adjust cancer risk for age because children are disproportionately affected. Specifically, the third trimester up to age two (2) are weighted by a factor of ten (10), age two (2) up to age sixteen (16) are weighted by a factor of three (3), and age sixteen (16) and above are weighted by a factor of one (1). Total cancer risk for a project is the sum of cancer risk for each year of exposure. Accordingly, the AQCCIA HRA consisted of three modeled scenarios. One run for life before two (2) years of age with Project sources in locations that would occur in the first couple years of operation and another run for source locations during the remainder of the Project (i.e., until Year 16) that was extended to thirty (30) years for disclosure purposes. Locations of sources and receptors presented in Figures 4 and 5 of the AQCCIA are also attached hereto for convenience. It is important to note that neither greenfield baseline nor 30-year exposure would be possible. Compounding of these assumptions results in produces cancer risk values that exceed the evaluation criteria, but which are also inappropriate to compare with the evaluation criteria due to these overly conservative and not reasonably foreseeable assumptions.

As shown in Table 2, even with the greenfield baseline condition assumption requested by SMAQMD Comment 2, Mitigated Project health risk impacts remain less than the evaluation criteria. The health risk values in Table 2 are presented in response to Comment 2 for disclosure purposes and do not represent CEQA analysis because of the underlying assumptions. As discussed above, CEQA analysis in the AQCCIA follows an appropriate methodology and the health risk results are reproduced in Table 1 below. Additional HRA documentation supporting new results presented in Table 2 is attached and available electronically on-line at <https://bit.ly/2I5IzQM>.

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<sup>1</sup> 30 years is the 95<sup>th</sup> percentile of time spent living in one house and 70 years is used to represent a lifetime.

**Table 1. AQCCIA HRA Results for Mitigated Project**

Model Receptor # – Type	16 Year Excess Cancer Cases per Million People Exposed	30 Year Excess Cancer Cases per Million People Exposed	Chronic Hazard Index	Acute Hazard Index
1 - Residence	-22	-25	0.19	0.68
2 - Residence	-90	-99	0.033	0.43
3 - Residence	-157	-173	0.031	0.17
4 - Residence	-53	-58	0.017	0.27
5 - Residence	-16	-18	0.04	0.2
33 - Fence line	N/A	N/A	N/A	0.92
Significance Threshold	10	10	1	1
Threshold Exceeded?	No	No	No	No

Source: AQCCIA Table 28.

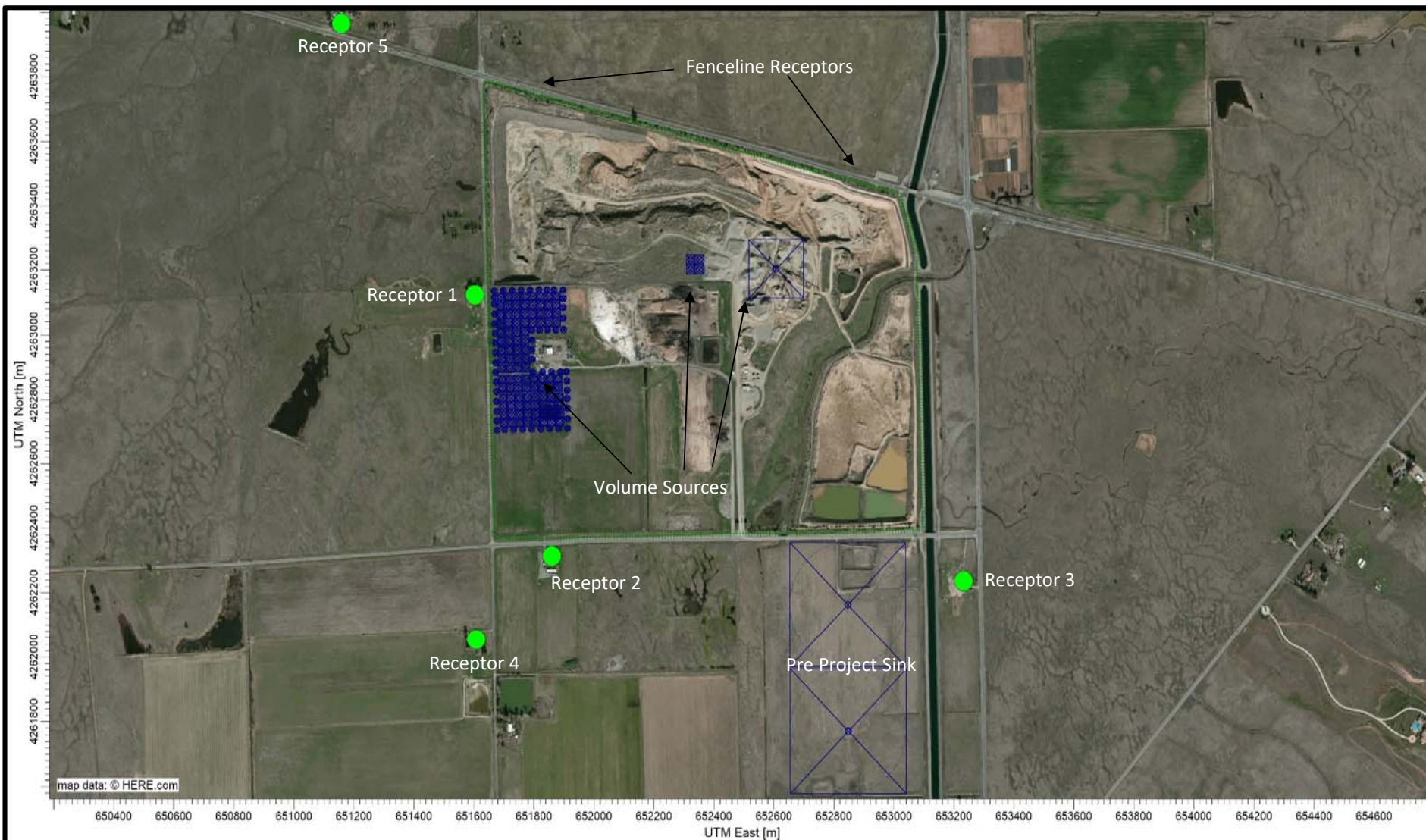
**Table 2. Additional HRA for the Mitigated Project and Greenfield Baseline**

Model Receptor # – Type	16 Year Excess Cancer Cases per Million People Exposed	30 Year Excess Cancer Cases per Million People Exposed	Chronic Hazard Index	Acute Hazard Index
1 – Residence <sup>a</sup>	20.2	21.4	0.22	0.88
2 – Residence	9.3	10.4	0.08	0.59
3 – Residence	3.5	3.8	0.05	0.35
4 – Residence	2.9	3.2	0.03	0.38
5 – Residence	4.5	4.9	0.06	0.34
407 – Fence line	n/a	n/a	n/a	1.29
Evaluation Criteria	10	10	1	1
Exceeds Criteria	No	No <sup>b</sup>	No	No

Source: See Additional HRA results attached.

Notes: greyed cells are presented for disclosure purposes but excluded from comparison with evaluation criteria for the following reasons:

- Residence located at Receptor 1 has been demolished and is not included in evaluation of criteria.
- Neither greenfield baseline nor 30-year exposure would be physically possible. Compounding of these assumptions results in produces cancer risk values that exceed the evaluation criteria, but which are also inappropriate to compare with the evaluation criteria due to these overly conservative and not reasonably foreseeable assumptions



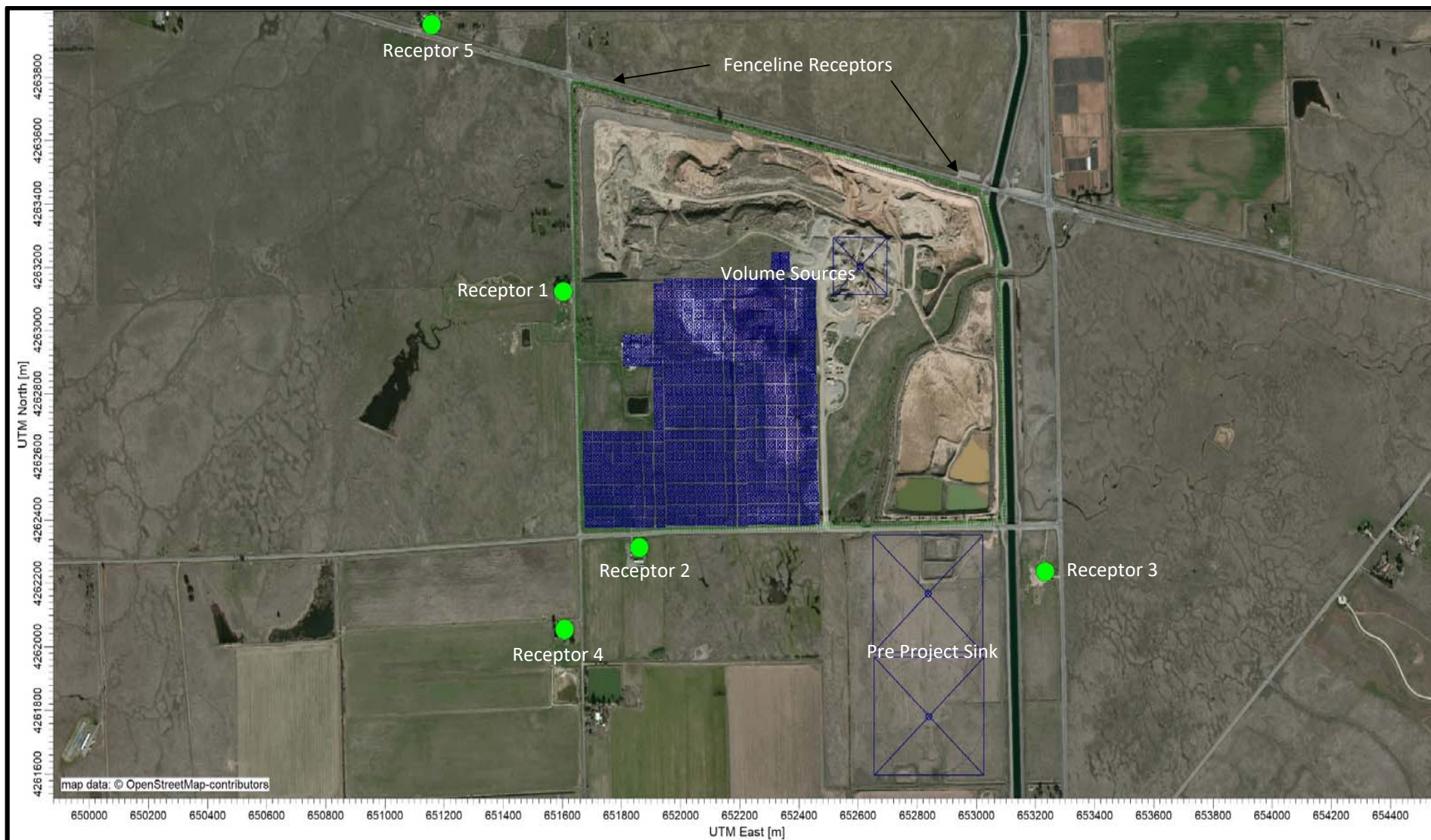
**SESPE**  
CONSULTING, INC.

**FIGURE**

**4**

**Sources, Receptors: Project Year 0 - 2**  
Carli Expansion Project  
11501 Florin Road, Sacramento CA

PROJECT #:	VU01.16.68	DATE:	6/11/18
SCALE:	Shown	DRAWN BY:	ADA



**SESPE**  
CONSULTING, INC.

**FIGURE**

**5**

**Sources, Receptors: Project Year 3+**  
Carli Expansion Project  
11501 Florin Road, Sacramento CA

PROJECT #:	VU01.16.68	DATE:	6/11/18
SCALE:	Shown	DRAWN BY:	ADA

REC	X	Y	AcuteRisk	ChronicRisk	16YearCancerRisk	30YearCancerRisk
1	651603	4263124	0.882	0.219	2.02E-05	2.14E-05
2	651860	4262315	0.585	0.075	9.30E-06	1.04E-05
3	653232	4262237	0.346	0.052	3.50E-06	3.80E-06
4	651608	4262055	0.381	0.031	2.90E-06	3.20E-06
5	651158	4263965	0.341	0.059	4.50E-06	4.90E-06
6	651647	4263150	0.932	0.284	2.56E-05	2.70E-05
7	651669	4262368	0.515	0.070	8.20E-06	9.20E-06
8	653094	4262395	0.423	0.067	4.40E-06	4.90E-06
9	653077	4263249	0.651	0.045	3.10E-06	3.40E-06
10	653020	4263438	0.777	0.056	3.60E-06	4.00E-06
11	651633	4263786	0.620	0.134	9.50E-06	1.04E-05
12	651647	4263140	0.936	0.299	2.68E-05	2.82E-05
13	651647	4263130	0.947	0.311	2.77E-05	2.91E-05
14	651648	4263121	0.945	0.319	2.84E-05	2.97E-05
15	651648	4263111	0.934	0.323	2.86E-05	3.00E-05
16	651648	4263101	0.949	0.329	2.92E-05	3.05E-05
17	651648	4263091	0.950	0.331	2.92E-05	3.06E-05
18	651649	4263081	0.963	0.333	2.95E-05	3.09E-05
19	651649	4263071	0.995	0.339	3.01E-05	3.15E-05
20	651649	4263061	1.000	0.338	3.00E-05	3.14E-05
21	651649	4263051	1.013	0.339	3.02E-05	3.17E-05
22	651650	4263041	1.017	0.342	3.06E-05	3.21E-05
23	651650	4263031	1.007	0.339	3.04E-05	3.18E-05
24	651650	4263021	0.998	0.340	3.06E-05	3.21E-05
25	651651	4263012	0.977	0.340	3.07E-05	3.22E-05
26	651651	4263002	0.971	0.337	3.05E-05	3.19E-05
27	651651	4262992	0.991	0.338	3.07E-05	3.22E-05
28	651651	4262982	0.999	0.338	3.08E-05	3.23E-05
29	651652	4262972	1.008	0.335	3.05E-05	3.20E-05
30	651652	4262962	1.024	0.336	3.07E-05	3.21E-05
31	651652	4262952	1.016	0.334	3.07E-05	3.22E-05
32	651653	4262942	1.022	0.332	3.04E-05	3.19E-05
33	651653	4262932	1.028	0.332	3.05E-05	3.21E-05
34	651653	4262922	1.011	0.329	3.05E-05	3.20E-05
35	651653	4262913	1.019	0.327	3.03E-05	3.18E-05
36	651654	4262903	1.014	0.327	3.04E-05	3.19E-05
37	651654	4262893	1.007	0.324	3.03E-05	3.18E-05
38	651654	4262883	1.016	0.324	3.03E-05	3.18E-05
39	651655	4262873	1.013	0.324	3.03E-05	3.19E-05
40	651655	4262863	1.007	0.320	3.03E-05	3.19E-05
41	651655	4262853	1.002	0.315	3.00E-05	3.15E-05
42	651655	4262843	1.002	0.311	2.98E-05	3.14E-05
43	651656	4262833	0.985	0.305	2.96E-05	3.12E-05
44	651656	4262823	0.980	0.297	2.91E-05	3.07E-05
45	651656	4262813	0.972	0.291	2.89E-05	3.05E-05
46	651657	4262804	0.953	0.282	2.86E-05	3.02E-05
47	651657	4262794	0.936	0.272	2.79E-05	2.96E-05
48	651657	4262784	0.912	0.261	2.75E-05	2.91E-05
49	651657	4262774	0.874	0.248	2.68E-05	2.85E-05
50	651658	4262764	0.867	0.235	2.62E-05	2.79E-05

51	651658	4262754	0.828	0.217	2.53E-05	2.71E-05
52	651658	4262744	0.794	0.201	2.46E-05	2.65E-05
53	651659	4262734	0.773	0.182	2.37E-05	2.56E-05
54	651659	4262724	0.736	0.162	2.28E-05	2.48E-05
55	651659	4262714	0.724	0.146	2.25E-05	2.45E-05
56	651659	4262705	0.714	0.133	2.22E-05	2.43E-05
57	651660	4262695	0.701	0.137	2.21E-05	2.44E-05
58	651660	4262685	0.688	0.143	2.25E-05	2.50E-05
59	651660	4262675	0.685	0.149	2.30E-05	2.56E-05
60	651661	4262665	0.681	0.149	2.26E-05	2.52E-05
61	651661	4262655	0.678	0.148	2.22E-05	2.48E-05
62	651661	4262645	0.676	0.152	2.25E-05	2.53E-05
63	651661	4262635	0.671	0.155	2.27E-05	2.55E-05
64	651662	4262625	0.665	0.153	2.22E-05	2.50E-05
65	651662	4262615	0.653	0.153	2.21E-05	2.49E-05
66	651662	4262605	0.640	0.155	2.22E-05	2.51E-05
67	651662	4262596	0.623	0.153	2.18E-05	2.46E-05
68	651663	4262586	0.616	0.150	2.13E-05	2.40E-05
69	651663	4262576	0.604	0.153	2.17E-05	2.45E-05
70	651663	4262566	0.589	0.153	2.16E-05	2.45E-05
71	651664	4262556	0.594	0.147	2.06E-05	2.33E-05
72	651664	4262546	0.595	0.148	2.07E-05	2.34E-05
73	651664	4262536	0.590	0.148	2.06E-05	2.33E-05
74	651664	4262526	0.594	0.142	1.97E-05	2.23E-05
75	651665	4262516	0.593	0.139	1.92E-05	2.17E-05
76	651665	4262506	0.590	0.142	1.96E-05	2.22E-05
77	651665	4262497	0.587	0.141	1.94E-05	2.20E-05
78	651666	4262487	0.579	0.134	1.82E-05	2.06E-05
79	651666	4262477	0.572	0.131	1.77E-05	2.00E-05
80	651666	4262467	0.570	0.128	1.72E-05	1.95E-05
81	651666	4262457	0.563	0.121	1.61E-05	1.82E-05
82	651667	4262447	0.554	0.118	1.57E-05	1.78E-05
83	651667	4262437	0.551	0.118	1.57E-05	1.78E-05
84	651667	4262427	0.546	0.113	1.49E-05	1.68E-05
85	651668	4262417	0.540	0.107	1.40E-05	1.59E-05
86	651668	4262407	0.537	0.105	1.36E-05	1.53E-05
87	651668	4262397	0.531	0.098	1.25E-05	1.42E-05
88	651668	4262388	0.525	0.085	1.06E-05	1.19E-05
89	651669	4262378	0.522	0.076	9.00E-06	1.02E-05
90	651679	4262368	0.517	0.075	8.90E-06	1.00E-05
91	651689	4262368	0.518	0.080	9.80E-06	1.10E-05
92	651699	4262368	0.514	0.088	1.10E-05	1.24E-05
93	651709	4262369	0.516	0.093	1.16E-05	1.31E-05
94	651719	4262369	0.517	0.095	1.20E-05	1.35E-05
95	651729	4262369	0.518	0.100	1.27E-05	1.44E-05
96	651739	4262369	0.527	0.104	1.34E-05	1.51E-05
97	651749	4262369	0.534	0.104	1.35E-05	1.52E-05
98	651759	4262369	0.542	0.108	1.40E-05	1.59E-05
99	651769	4262370	0.550	0.112	1.46E-05	1.65E-05
100	651779	4262370	0.556	0.110	1.45E-05	1.64E-05
101	651789	4262370	0.560	0.110	1.44E-05	1.64E-05

102	651799	4262370	0.561	0.114	1.51E-05	1.71E-05
103	651809	4262370	0.563	0.116	1.54E-05	1.75E-05
104	651818	4262371	0.566	0.115	1.54E-05	1.74E-05
105	651828	4262371	0.568	0.119	1.59E-05	1.80E-05
106	651838	4262371	0.571	0.121	1.64E-05	1.86E-05
107	651848	4262371	0.578	0.120	1.62E-05	1.83E-05
108	651858	4262371	0.587	0.122	1.65E-05	1.87E-05
109	651868	4262372	0.604	0.125	1.71E-05	1.93E-05
110	651878	4262372	0.620	0.123	1.67E-05	1.89E-05
111	651888	4262372	0.632	0.124	1.67E-05	1.89E-05
112	651898	4262372	0.648	0.129	1.76E-05	1.99E-05
113	651908	4262372	0.655	0.127	1.73E-05	1.96E-05
114	651918	4262373	0.652	0.123	1.66E-05	1.88E-05
115	651928	4262373	0.646	0.126	1.71E-05	1.93E-05
116	651938	4262373	0.639	0.132	1.80E-05	2.03E-05
117	651948	4262373	0.630	0.129	1.75E-05	1.98E-05
118	651958	4262373	0.621	0.124	1.67E-05	1.88E-05
119	651968	4262374	0.618	0.123	1.65E-05	1.86E-05
120	651978	4262374	0.623	0.125	1.69E-05	1.91E-05
121	651988	4262374	0.624	0.125	1.69E-05	1.91E-05
122	651998	4262374	0.627	0.125	1.68E-05	1.90E-05
123	652008	4262374	0.630	0.128	1.73E-05	1.95E-05
124	652018	4262375	0.633	0.129	1.74E-05	1.96E-05
125	652028	4262375	0.638	0.127	1.72E-05	1.94E-05
126	652038	4262375	0.637	0.129	1.75E-05	1.98E-05
127	652048	4262375	0.632	0.130	1.77E-05	2.00E-05
128	652058	4262375	0.624	0.127	1.72E-05	1.95E-05
129	652068	4262375	0.615	0.126	1.71E-05	1.93E-05
130	652078	4262376	0.604	0.128	1.76E-05	1.99E-05
131	652088	4262376	0.586	0.128	1.76E-05	1.99E-05
132	652098	4262376	0.581	0.127	1.73E-05	1.96E-05
133	652108	4262376	0.583	0.129	1.78E-05	2.01E-05
134	652118	4262376	0.578	0.130	1.79E-05	2.03E-05
135	652127	4262377	0.583	0.127	1.76E-05	1.99E-05
136	652137	4262377	0.605	0.129	1.79E-05	2.02E-05
137	652147	4262377	0.619	0.131	1.82E-05	2.06E-05
138	652157	4262377	0.625	0.127	1.77E-05	2.00E-05
139	652167	4262377	0.641	0.127	1.76E-05	1.99E-05
140	652177	4262378	0.657	0.131	1.82E-05	2.07E-05
141	652187	4262378	0.664	0.129	1.78E-05	2.02E-05
142	652197	4262378	0.664	0.124	1.72E-05	1.94E-05
143	652207	4262378	0.656	0.127	1.75E-05	1.98E-05
144	652217	4262378	0.640	0.132	1.83E-05	2.08E-05
145	652227	4262379	0.614	0.129	1.78E-05	2.02E-05
146	652237	4262379	0.614	0.126	1.73E-05	1.96E-05
147	652247	4262379	0.614	0.128	1.76E-05	2.00E-05
148	652257	4262379	0.602	0.128	1.74E-05	1.98E-05
149	652267	4262379	0.624	0.124	1.68E-05	1.90E-05
150	652277	4262380	0.648	0.125	1.68E-05	1.90E-05
151	652287	4262380	0.659	0.128	1.73E-05	1.96E-05
152	652297	4262380	0.674	0.127	1.71E-05	1.93E-05

153	652307	4262380	0.671	0.127	1.70E-05	1.92E-05
154	652317	4262380	0.663	0.130	1.75E-05	1.98E-05
155	652327	4262381	0.652	0.130	1.73E-05	1.96E-05
156	652337	4262381	0.625	0.128	1.70E-05	1.92E-05
157	652347	4262381	0.606	0.132	1.75E-05	1.98E-05
158	652357	4262381	0.593	0.133	1.75E-05	1.99E-05
159	652367	4262381	0.577	0.129	1.68E-05	1.91E-05
160	652377	4262381	0.562	0.132	1.71E-05	1.94E-05
161	652387	4262382	0.561	0.136	1.76E-05	2.00E-05
162	652397	4262382	0.567	0.132	1.68E-05	1.91E-05
163	652407	4262382	0.556	0.129	1.61E-05	1.83E-05
164	652417	4262382	0.572	0.135	1.68E-05	1.90E-05
165	652427	4262382	0.601	0.140	1.74E-05	1.97E-05
166	652436	4262383	0.615	0.135	1.63E-05	1.85E-05
167	652446	4262383	0.642	0.133	1.58E-05	1.78E-05
168	652456	4262383	0.672	0.136	1.60E-05	1.81E-05
169	652466	4262383	0.690	0.132	1.52E-05	1.72E-05
170	652476	4262383	0.698	0.124	1.37E-05	1.54E-05
171	652486	4262384	0.700	0.118	1.25E-05	1.41E-05
172	652496	4262384	0.700	0.114	1.17E-05	1.32E-05
173	652506	4262384	0.693	0.110	1.11E-05	1.25E-05
174	652516	4262384	0.684	0.108	1.06E-05	1.19E-05
175	652526	4262384	0.686	0.105	1.02E-05	1.14E-05
176	652536	4262385	0.681	0.103	9.80E-06	1.10E-05
177	652546	4262385	0.665	0.102	9.50E-06	1.07E-05
178	652556	4262385	0.656	0.099	9.20E-06	1.03E-05
179	652566	4262385	0.669	0.098	9.00E-06	1.00E-05
180	652576	4262385	0.664	0.097	8.80E-06	9.80E-06
181	652586	4262386	0.660	0.096	8.60E-06	9.60E-06
182	652596	4262386	0.656	0.095	8.40E-06	9.30E-06
183	652606	4262386	0.644	0.094	8.20E-06	9.10E-06
184	652616	4262386	0.642	0.094	8.10E-06	9.00E-06
185	652626	4262386	0.612	0.091	7.70E-06	8.60E-06
186	652636	4262386	0.585	0.090	7.50E-06	8.40E-06
187	652646	4262387	0.637	0.093	7.70E-06	8.50E-06
188	652656	4262387	0.651	0.093	7.60E-06	8.40E-06
189	652666	4262387	0.655	0.093	7.50E-06	8.30E-06
190	652676	4262387	0.653	0.093	7.40E-06	8.20E-06
191	652686	4262387	0.650	0.093	7.30E-06	8.20E-06
192	652696	4262388	0.645	0.093	7.30E-06	8.10E-06
193	652706	4262388	0.641	0.094	7.20E-06	8.00E-06
194	652716	4262388	0.639	0.094	7.10E-06	7.90E-06
195	652726	4262388	0.640	0.094	7.10E-06	7.80E-06
196	652736	4262388	0.632	0.094	7.00E-06	7.80E-06
197	652745	4262389	0.628	0.094	6.90E-06	7.70E-06
198	652755	4262389	0.628	0.094	6.90E-06	7.60E-06
199	652765	4262389	0.623	0.094	6.80E-06	7.50E-06
200	652775	4262389	0.614	0.093	6.80E-06	7.50E-06
201	652785	4262389	0.606	0.093	6.70E-06	7.40E-06
202	652795	4262390	0.609	0.093	6.60E-06	7.30E-06
203	652805	4262390	0.611	0.093	6.60E-06	7.30E-06

204	652815	4262390	0.617	0.092	6.50E-06	7.20E-06
205	652825	4262390	0.628	0.092	6.50E-06	7.10E-06
206	652835	4262390	0.641	0.092	6.40E-06	7.10E-06
207	652845	4262391	0.650	0.091	6.30E-06	7.00E-06
208	652855	4262391	0.648	0.091	6.30E-06	6.90E-06
209	652865	4262391	0.638	0.090	6.20E-06	6.90E-06
210	652875	4262391	0.620	0.090	6.20E-06	6.80E-06
211	652885	4262391	0.594	0.089	6.10E-06	6.70E-06
212	652895	4262392	0.567	0.088	6.10E-06	6.70E-06
213	652905	4262392	0.548	0.088	6.00E-06	6.60E-06
214	652915	4262392	0.525	0.087	5.90E-06	6.60E-06
215	652925	4262392	0.517	0.086	5.80E-06	6.40E-06
216	652935	4262392	0.515	0.085	5.70E-06	6.30E-06
217	652945	4262392	0.512	0.085	5.70E-06	6.30E-06
218	652955	4262393	0.516	0.084	5.60E-06	6.20E-06
219	652965	4262393	0.512	0.083	5.60E-06	6.10E-06
220	652975	4262393	0.500	0.082	5.50E-06	6.00E-06
221	652985	4262393	0.486	0.081	5.40E-06	6.00E-06
222	652995	4262393	0.474	0.080	5.30E-06	5.80E-06
223	653005	4262394	0.456	0.079	5.20E-06	5.70E-06
224	653015	4262394	0.446	0.078	5.20E-06	5.70E-06
225	653025	4262394	0.441	0.077	5.10E-06	5.60E-06
226	653035	4262394	0.435	0.075	5.00E-06	5.50E-06
227	653044	4262394	0.434	0.074	4.90E-06	5.40E-06
228	653054	4262395	0.436	0.073	4.80E-06	5.30E-06
229	653064	4262395	0.437	0.072	4.70E-06	5.20E-06
230	653074	4262395	0.433	0.070	4.70E-06	5.10E-06
231	653084	4262395	0.428	0.069	4.50E-06	5.00E-06
232	653094	4262405	0.430	0.068	4.40E-06	4.90E-06
233	653094	4262415	0.432	0.068	4.40E-06	4.90E-06
234	653094	4262425	0.437	0.068	4.40E-06	4.90E-06
235	653094	4262435	0.453	0.068	4.40E-06	4.90E-06
236	653093	4262445	0.466	0.068	4.40E-06	4.90E-06
237	653093	4262455	0.478	0.068	4.40E-06	4.90E-06
238	653093	4262465	0.495	0.068	4.40E-06	4.90E-06
239	653093	4262475	0.508	0.068	4.40E-06	4.90E-06
240	653092	4262485	0.516	0.069	4.40E-06	4.90E-06
241	653092	4262495	0.519	0.069	4.40E-06	4.90E-06
242	653092	4262505	0.522	0.069	4.50E-06	4.90E-06
243	653092	4262515	0.525	0.069	4.50E-06	4.90E-06
244	653092	4262524	0.523	0.070	4.50E-06	4.90E-06
245	653091	4262534	0.527	0.070	4.50E-06	4.90E-06
246	653091	4262544	0.535	0.071	4.60E-06	5.00E-06
247	653091	4262554	0.540	0.071	4.60E-06	5.10E-06
248	653091	4262564	0.550	0.071	4.60E-06	5.10E-06
249	653091	4262574	0.558	0.072	4.60E-06	5.10E-06
250	653090	4262584	0.569	0.072	4.60E-06	5.10E-06
251	653090	4262594	0.578	0.073	4.60E-06	5.10E-06
252	653090	4262604	0.582	0.073	4.70E-06	5.10E-06
253	653090	4262614	0.583	0.073	4.70E-06	5.10E-06
254	653090	4262624	0.579	0.074	4.70E-06	5.10E-06

255	653089	4262634	0.571	0.074	4.70E-06	5.10E-06
256	653089	4262644	0.557	0.074	4.70E-06	5.10E-06
257	653089	4262654	0.541	0.074	4.70E-06	5.10E-06
258	653089	4262664	0.531	0.074	4.70E-06	5.10E-06
259	653089	4262673	0.517	0.074	4.70E-06	5.10E-06
260	653088	4262683	0.509	0.074	4.70E-06	5.10E-06
261	653088	4262693	0.513	0.074	4.70E-06	5.10E-06
262	653088	4262703	0.518	0.074	4.70E-06	5.10E-06
263	653088	4262713	0.534	0.074	4.70E-06	5.10E-06
264	653088	4262723	0.558	0.074	4.60E-06	5.10E-06
265	653087	4262733	0.583	0.074	4.60E-06	5.10E-06
266	653087	4262743	0.607	0.074	4.60E-06	5.10E-06
267	653087	4262753	0.632	0.074	4.60E-06	5.10E-06
268	653087	4262763	0.646	0.074	4.60E-06	5.10E-06
269	653087	4262773	0.662	0.074	4.60E-06	5.10E-06
270	653086	4262783	0.671	0.074	4.60E-06	5.10E-06
271	653086	4262793	0.684	0.074	4.60E-06	5.00E-06
272	653086	4262803	0.695	0.073	4.60E-06	5.00E-06
273	653086	4262812	0.698	0.072	4.50E-06	5.00E-06
274	653086	4262822	0.704	0.071	4.50E-06	5.00E-06
275	653085	4262832	0.697	0.070	4.40E-06	4.80E-06
276	653085	4262842	0.675	0.069	4.30E-06	4.80E-06
277	653085	4262852	0.640	0.068	4.30E-06	4.70E-06
278	653085	4262862	0.594	0.067	4.20E-06	4.70E-06
279	653085	4262872	0.540	0.066	4.10E-06	4.50E-06
280	653084	4262882	0.488	0.065	4.10E-06	4.50E-06
281	653084	4262892	0.442	0.064	4.00E-06	4.40E-06
282	653084	4262902	0.402	0.063	4.00E-06	4.40E-06
283	653084	4262912	0.381	0.063	4.00E-06	4.40E-06
284	653084	4262922	0.386	0.063	4.00E-06	4.40E-06
285	653083	4262932	0.413	0.063	4.00E-06	4.40E-06
286	653083	4262942	0.448	0.064	4.00E-06	4.40E-06
287	653083	4262952	0.497	0.064	4.00E-06	4.40E-06
288	653083	4262961	0.554	0.065	4.00E-06	4.40E-06
289	653083	4262971	0.608	0.066	4.10E-06	4.50E-06
290	653082	4262981	0.662	0.066	4.20E-06	4.60E-06
291	653082	4262991	0.708	0.067	4.20E-06	4.60E-06
292	653082	4263001	0.740	0.067	4.20E-06	4.60E-06
293	653082	4263011	0.762	0.067	4.20E-06	4.60E-06
294	653082	4263021	0.775	0.067	4.20E-06	4.60E-06
295	653081	4263031	0.786	0.066	4.20E-06	4.60E-06
296	653081	4263041	0.779	0.065	4.00E-06	4.40E-06
297	653081	4263051	0.755	0.064	4.00E-06	4.40E-06
298	653081	4263061	0.744	0.062	3.90E-06	4.30E-06
299	653080	4263071	0.761	0.060	3.90E-06	4.20E-06
300	653080	4263081	0.758	0.059	3.70E-06	4.10E-06
301	653080	4263091	0.745	0.057	3.60E-06	4.00E-06
302	653080	4263100	0.753	0.056	3.60E-06	3.90E-06
303	653080	4263110	0.751	0.054	3.40E-06	3.80E-06
304	653079	4263120	0.742	0.053	3.40E-06	3.70E-06
305	653079	4263130	0.760	0.052	3.40E-06	3.70E-06

306	653079	4263140	0.765	0.051	3.30E-06	3.70E-06
307	653079	4263150	0.764	0.050	3.30E-06	3.60E-06
308	653079	4263160	0.790	0.049	3.20E-06	3.50E-06
309	653078	4263170	0.783	0.049	3.20E-06	3.50E-06
310	653078	4263180	0.732	0.047	3.10E-06	3.40E-06
311	653078	4263190	0.798	0.048	3.10E-06	3.40E-06
312	653078	4263200	0.787	0.047	3.10E-06	3.40E-06
313	653078	4263210	0.760	0.047	3.10E-06	3.40E-06
314	653077	4263220	0.769	0.046	3.10E-06	3.40E-06
315	653077	4263230	0.751	0.046	3.10E-06	3.40E-06
316	653077	4263239	0.711	0.046	3.10E-06	3.40E-06
317	653074	4263259	0.582	0.045	3.10E-06	3.40E-06
318	653071	4263268	0.571	0.045	3.10E-06	3.40E-06
319	653068	4263278	0.567	0.046	3.10E-06	3.40E-06
320	653065	4263287	0.551	0.046	3.10E-06	3.40E-06
321	653063	4263296	0.583	0.047	3.10E-06	3.50E-06
322	653060	4263306	0.626	0.048	3.20E-06	3.50E-06
323	653057	4263315	0.653	0.048	3.20E-06	3.50E-06
324	653054	4263325	0.666	0.049	3.20E-06	3.60E-06
325	653051	4263334	0.678	0.050	3.40E-06	3.70E-06
326	653048	4263344	0.678	0.051	3.40E-06	3.80E-06
327	653045	4263353	0.662	0.052	3.40E-06	3.80E-06
328	653043	4263362	0.644	0.053	3.50E-06	3.80E-06
329	653040	4263372	0.630	0.053	3.50E-06	3.90E-06
330	653037	4263381	0.641	0.054	3.50E-06	3.90E-06
331	653034	4263391	0.639	0.054	3.60E-06	3.90E-06
332	653031	4263400	0.648	0.055	3.60E-06	3.90E-06
333	653028	4263409	0.700	0.055	3.60E-06	4.00E-06
334	653025	4263419	0.736	0.055	3.60E-06	4.00E-06
335	653023	4263428	0.763	0.056	3.60E-06	4.00E-06
336	653010	4263440	0.786	0.057	3.80E-06	4.20E-06
337	653000	4263443	0.786	0.058	3.90E-06	4.30E-06
338	652991	4263445	0.778	0.060	3.90E-06	4.30E-06
339	652981	4263447	0.758	0.061	4.00E-06	4.40E-06
340	652971	4263450	0.728	0.062	4.20E-06	4.60E-06
341	652962	4263452	0.694	0.063	4.20E-06	4.60E-06
342	652952	4263455	0.659	0.065	4.30E-06	4.70E-06
343	652942	4263457	0.623	0.066	4.40E-06	4.80E-06
344	652932	4263460	0.596	0.068	4.60E-06	5.00E-06
345	652923	4263462	0.573	0.070	4.60E-06	5.10E-06
346	652913	4263465	0.554	0.072	4.70E-06	5.20E-06
347	652903	4263467	0.544	0.074	4.90E-06	5.40E-06
348	652894	4263469	0.536	0.076	5.00E-06	5.50E-06
349	652884	4263472	0.550	0.078	5.10E-06	5.70E-06
350	652874	4263474	0.567	0.081	5.40E-06	5.90E-06
351	652865	4263477	0.592	0.084	5.50E-06	6.10E-06
352	652855	4263479	0.613	0.087	5.70E-06	6.30E-06
353	652845	4263482	0.634	0.090	5.90E-06	6.50E-06
354	652836	4263484	0.650	0.094	6.10E-06	6.70E-06
355	652826	4263486	0.664	0.097	6.40E-06	7.00E-06
356	652816	4263489	0.672	0.101	6.50E-06	7.20E-06

357	652806	4263491	0.672	0.105	6.80E-06	7.50E-06
358	652797	4263494	0.675	0.110	7.10E-06	7.80E-06
359	652787	4263496	0.684	0.115	7.40E-06	8.20E-06
360	652777	4263499	0.693	0.120	7.80E-06	8.50E-06
361	652768	4263501	0.719	0.126	8.10E-06	8.90E-06
362	652758	4263504	0.763	0.133	8.50E-06	9.30E-06
363	652748	4263506	0.805	0.140	8.90E-06	9.80E-06
364	652739	4263508	0.863	0.148	9.40E-06	1.03E-05
365	652729	4263511	0.912	0.157	9.90E-06	1.09E-05
366	652719	4263513	0.958	0.166	1.04E-05	1.14E-05
367	652709	4263516	1.006	0.178	1.10E-05	1.21E-05
368	652700	4263518	1.018	0.189	1.16E-05	1.28E-05
369	652690	4263521	1.036	0.201	1.24E-05	1.36E-05
370	652680	4263523	1.062	0.214	1.31E-05	1.44E-05
371	652671	4263525	1.056	0.229	1.40E-05	1.53E-05
372	652661	4263528	1.081	0.243	1.48E-05	1.62E-05
373	652651	4263530	1.103	0.259	1.56E-05	1.71E-05
374	652642	4263533	1.090	0.275	1.65E-05	1.81E-05
375	652632	4263535	1.116	0.292	1.74E-05	1.91E-05
376	652622	4263538	1.125	0.308	1.84E-05	2.02E-05
377	652613	4263540	1.113	0.326	1.94E-05	2.12E-05
378	652603	4263543	1.147	0.343	2.03E-05	2.22E-05
379	652593	4263545	1.150	0.361	2.12E-05	2.33E-05
380	652583	4263547	1.165	0.379	2.23E-05	2.44E-05
381	652574	4263550	1.162	0.396	2.32E-05	2.55E-05
382	652564	4263552	1.185	0.414	2.42E-05	2.65E-05
383	652554	4263555	1.164	0.432	2.52E-05	2.76E-05
384	652545	4263557	1.192	0.448	2.61E-05	2.86E-05
385	652535	4263560	1.210	0.464	2.70E-05	2.96E-05
386	652525	4263562	1.225	0.479	2.77E-05	3.04E-05
387	652516	4263564	1.224	0.491	2.85E-05	3.12E-05
388	652506	4263567	1.246	0.503	2.91E-05	3.19E-05
389	652496	4263569	1.255	0.513	2.97E-05	3.25E-05
390	652486	4263572	1.236	0.520	3.01E-05	3.29E-05
391	652477	4263574	1.240	0.526	3.05E-05	3.34E-05
392	652467	4263577	1.254	0.529	3.06E-05	3.35E-05
393	652457	4263579	1.250	0.531	3.08E-05	3.37E-05
394	652448	4263582	1.243	0.531	3.08E-05	3.37E-05
395	652438	4263584	1.254	0.529	3.08E-05	3.37E-05
396	652428	4263586	1.242	0.527	3.06E-05	3.35E-05
397	652419	4263589	1.234	0.524	3.05E-05	3.34E-05
398	652409	4263591	1.220	0.520	3.03E-05	3.32E-05
399	652399	4263594	1.193	0.516	3.02E-05	3.30E-05
400	652390	4263596	1.224	0.511	2.99E-05	3.28E-05
401	652380	4263599	1.187	0.504	2.96E-05	3.24E-05
402	652370	4263601	1.149	0.502	2.95E-05	3.23E-05
403	652360	4263604	1.228	0.500	2.95E-05	3.23E-05
404	652351	4263606	1.266	0.497	2.93E-05	3.20E-05
405	652341	4263608	1.201	0.464	2.75E-05	3.02E-05
406	652331	4263611	1.185	0.460	2.74E-05	3.00E-05
407	652322	4263613	1.287	0.481	2.86E-05	3.12E-05

408	652312	4263616	1.285	0.466	2.79E-05	3.06E-05
409	652302	4263618	1.218	0.459	2.74E-05	3.00E-05
410	652293	4263621	1.185	0.452	2.70E-05	2.96E-05
411	652283	4263623	1.170	0.428	2.58E-05	2.82E-05
412	652273	4263625	1.240	0.453	2.71E-05	2.96E-05
413	652263	4263628	1.143	0.410	2.48E-05	2.72E-05
414	652254	4263630	1.100	0.404	2.45E-05	2.69E-05
415	652244	4263633	1.179	0.401	2.44E-05	2.68E-05
416	652234	4263635	1.203	0.427	2.58E-05	2.83E-05
417	652225	4263638	1.146	0.390	2.39E-05	2.61E-05
418	652215	4263640	1.152	0.383	2.35E-05	2.57E-05
419	652205	4263643	1.163	0.378	2.32E-05	2.54E-05
420	652196	4263645	1.148	0.370	2.28E-05	2.50E-05
421	652186	4263647	1.150	0.361	2.23E-05	2.44E-05
422	652176	4263650	1.160	0.353	2.19E-05	2.40E-05
423	652167	4263652	1.126	0.344	2.15E-05	2.35E-05
424	652157	4263655	1.106	0.325	2.04E-05	2.23E-05
425	652147	4263657	1.089	0.315	1.99E-05	2.18E-05
426	652137	4263660	1.060	0.307	1.94E-05	2.13E-05
427	652128	4263662	1.039	0.301	1.91E-05	2.09E-05
428	652118	4263664	1.007	0.294	1.88E-05	2.05E-05
429	652108	4263667	1.003	0.291	1.86E-05	2.04E-05
430	652099	4263669	1.001	0.290	1.86E-05	2.03E-05
431	652089	4263672	1.001	0.297	1.89E-05	2.07E-05
432	652079	4263674	1.003	0.296	1.89E-05	2.07E-05
433	652070	4263677	0.989	0.292	1.87E-05	2.05E-05
434	652060	4263679	0.975	0.289	1.85E-05	2.02E-05
435	652050	4263682	0.979	0.288	1.85E-05	2.02E-05
436	652040	4263684	0.956	0.293	1.87E-05	2.05E-05
437	652031	4263686	0.960	0.279	1.79E-05	1.96E-05
438	652021	4263689	0.949	0.272	1.76E-05	1.92E-05
439	652011	4263691	0.948	0.268	1.74E-05	1.90E-05
440	652002	4263694	0.911	0.274	1.76E-05	1.93E-05
441	651992	4263696	0.901	0.264	1.71E-05	1.88E-05
442	651982	4263699	0.907	0.247	1.62E-05	1.78E-05
443	651973	4263701	0.892	0.240	1.58E-05	1.73E-05
444	651963	4263703	0.876	0.235	1.55E-05	1.69E-05
445	651953	4263706	0.858	0.227	1.51E-05	1.65E-05
446	651944	4263708	0.847	0.221	1.48E-05	1.62E-05
447	651934	4263711	0.833	0.217	1.45E-05	1.59E-05
448	651924	4263713	0.806	0.212	1.42E-05	1.55E-05
449	651914	4263716	0.786	0.204	1.38E-05	1.51E-05
450	651905	4263718	0.779	0.200	1.36E-05	1.48E-05
451	651895	4263721	0.768	0.196	1.33E-05	1.46E-05
452	651885	4263723	0.746	0.192	1.31E-05	1.43E-05
453	651876	4263725	0.755	0.188	1.29E-05	1.41E-05
454	651866	4263728	0.761	0.185	1.27E-05	1.39E-05
455	651856	4263730	0.730	0.193	1.31E-05	1.43E-05
456	651847	4263733	0.733	0.189	1.29E-05	1.41E-05
457	651837	4263735	0.728	0.186	1.26E-05	1.38E-05
458	651827	4263738	0.718	0.182	1.25E-05	1.37E-05

459	651817	4263740	0.718	0.180	1.23E-05	1.35E-05
460	651808	4263742	0.710	0.177	1.22E-05	1.33E-05
461	651798	4263745	0.699	0.173	1.20E-05	1.31E-05
462	651788	4263747	0.685	0.170	1.17E-05	1.28E-05
463	651779	4263750	0.682	0.168	1.17E-05	1.27E-05
464	651769	4263752	0.677	0.165	1.14E-05	1.25E-05
465	651759	4263755	0.671	0.162	1.13E-05	1.24E-05
466	651750	4263757	0.666	0.160	1.11E-05	1.21E-05
467	651740	4263760	0.665	0.158	1.10E-05	1.21E-05
468	651730	4263762	0.661	0.156	1.09E-05	1.19E-05
469	651720	4263764	0.654	0.153	1.07E-05	1.17E-05
470	651711	4263767	0.649	0.151	1.06E-05	1.16E-05
471	651701	4263769	0.644	0.149	1.05E-05	1.14E-05
472	651691	4263772	0.644	0.147	1.04E-05	1.13E-05
473	651682	4263774	0.637	0.145	1.03E-05	1.12E-05
474	651672	4263777	0.628	0.143	1.01E-05	1.10E-05
475	651662	4263779	0.621	0.141	1.00E-05	1.09E-05
476	651653	4263781	0.617	0.138	9.80E-06	1.07E-05
477	651643	4263784	0.619	0.136	9.70E-06	1.06E-05
478	651633	4263776	0.639	0.136	9.70E-06	1.06E-05
479	651634	4263766	0.654	0.138	9.80E-06	1.07E-05
480	651634	4263757	0.667	0.139	9.90E-06	1.09E-05
481	651634	4263747	0.680	0.141	1.00E-05	1.10E-05
482	651634	4263737	0.684	0.143	1.02E-05	1.12E-05
483	651634	4263727	0.681	0.146	1.03E-05	1.13E-05
484	651635	4263717	0.676	0.148	1.06E-05	1.15E-05
485	651635	4263707	0.666	0.151	1.08E-05	1.18E-05
486	651635	4263697	0.658	0.154	1.10E-05	1.20E-05
487	651635	4263687	0.656	0.158	1.12E-05	1.22E-05
488	651636	4263677	0.652	0.162	1.14E-05	1.25E-05
489	651636	4263667	0.659	0.167	1.18E-05	1.29E-05
490	651636	4263657	0.673	0.171	1.21E-05	1.32E-05
491	651636	4263647	0.696	0.177	1.24E-05	1.35E-05
492	651636	4263637	0.723	0.182	1.27E-05	1.39E-05
493	651637	4263627	0.763	0.188	1.30E-05	1.42E-05
494	651637	4263617	0.799	0.193	1.34E-05	1.47E-05
495	651637	4263607	0.831	0.198	1.37E-05	1.50E-05
496	651637	4263598	0.857	0.202	1.40E-05	1.53E-05
497	651637	4263588	0.870	0.206	1.43E-05	1.56E-05
498	651638	4263578	0.869	0.209	1.45E-05	1.58E-05
499	651638	4263568	0.853	0.210	1.47E-05	1.60E-05
500	651638	4263558	0.838	0.211	1.47E-05	1.61E-05
501	651638	4263548	0.827	0.211	1.49E-05	1.62E-05
502	651638	4263538	0.821	0.212	1.49E-05	1.63E-05
503	651639	4263528	0.833	0.211	1.49E-05	1.63E-05
504	651639	4263518	0.857	0.211	1.50E-05	1.64E-05
505	651639	4263508	0.880	0.210	1.50E-05	1.64E-05
506	651639	4263498	0.903	0.209	1.50E-05	1.64E-05
507	651640	4263488	0.921	0.208	1.51E-05	1.65E-05
508	651640	4263478	0.921	0.207	1.51E-05	1.65E-05
509	651640	4263468	0.912	0.207	1.52E-05	1.66E-05

510	651640	4263458	0.908	0.207	1.53E-05	1.66E-05
511	651640	4263448	0.906	0.207	1.54E-05	1.68E-05
512	651641	4263438	0.909	0.208	1.55E-05	1.69E-05
513	651641	4263429	0.914	0.209	1.57E-05	1.71E-05
514	651641	4263419	0.929	0.210	1.59E-05	1.73E-05
515	651641	4263409	0.954	0.212	1.60E-05	1.75E-05
516	651641	4263399	0.956	0.213	1.62E-05	1.76E-05
517	651642	4263389	0.955	0.215	1.64E-05	1.78E-05
518	651642	4263379	0.967	0.216	1.67E-05	1.81E-05
519	651642	4263369	0.956	0.217	1.68E-05	1.83E-05
520	651642	4263359	0.938	0.218	1.70E-05	1.84E-05
521	651642	4263349	0.941	0.219	1.72E-05	1.86E-05
522	651643	4263339	0.934	0.220	1.73E-05	1.88E-05
523	651643	4263329	0.906	0.220	1.75E-05	1.90E-05
524	651643	4263319	0.900	0.220	1.76E-05	1.91E-05
525	651643	4263309	0.917	0.221	1.78E-05	1.93E-05
526	651644	4263299	0.927	0.221	1.80E-05	1.95E-05
527	651644	4263289	0.946	0.221	1.82E-05	1.97E-05
528	651644	4263279	0.968	0.222	1.84E-05	1.99E-05
529	651644	4263270	0.976	0.222	1.87E-05	2.01E-05
530	651644	4263260	0.973	0.223	1.89E-05	2.04E-05
531	651645	4263250	0.971	0.225	1.92E-05	2.06E-05
532	651645	4263240	0.960	0.226	1.94E-05	2.08E-05
533	651645	4263230	0.935	0.228	1.97E-05	2.11E-05
534	651645	4263220	0.926	0.230	2.01E-05	2.15E-05
535	651645	4263210	0.927	0.232	2.05E-05	2.19E-05
536	651646	4263200	0.924	0.236	2.09E-05	2.23E-05
537	651646	4263190	0.907	0.241	2.15E-05	2.29E-05
538	651646	4263180	0.928	0.248	2.22E-05	2.36E-05
539	651646	4263170	0.931	0.257	2.32E-05	2.45E-05
540	651646	4263160	0.916	0.270	2.42E-05	2.56E-05

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