Draft Environmental Impact Report
SCH No. 2018051029

Revision No. 2 to Surface Mining Permit No. 159R2

Riverside County, California

Lead Agency

Riverside County
4080 Lemon Street, 12th Floor
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Appendix D: Terracon Consultants, Inc. 2019. *Slope Stability Investigation Report Proposed Expansion, Chandler Gilman Spring Pit*. April 19, 2019.

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Appendix F: Brian F. Smith and Associates. 2019. *A Phase I Cultural Resources Assessment for the Surface Mining Permit No. 159, Amendment No.2 Project*. April 23, 2019.

Appendix G1: Joseph E. Bonadiman and Associates, Inc. 2019. *Preliminary Hydrology and Hydraulics Report*. August 2019.

Appendix G2: Chandler Aggregates Gilman Spring, Inc. 2018. *Storm Water Pollution Prevention Plan (SWPPP).* January 31, 2018.

Appendix H1: Urban Crossroads, Inc. 2020c. *Gilman Springs Mine Noise Impact Analysis County of Riverside*. January 9, 2020.

Appendix H2: Urban Crossroads, Inc., 2019b. *Gilman Springs Mine Supplemental Noise Assessment*. April 17, 2019.

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Appendix J2: Urban Crossroads, Inc. 2019c. *Gilman Springs Mine Supplemental Traffic Assessment*. March 29, 2019.

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
§	Section
>	greater than
≥	greater than or equal to
a.m.	Ante Meridiem (between the hours of midnight and noon)
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1327	California Solid Waste Reuse and Recycling Act
AB 939	California Solid Waste Integrated Management Act
AB 1881	California Assembly Bill 1881, California Water Conservation Act of 2006
AC	Acres
ACM	Alternative Calculation Method
ACOE	Army Corps of Engineers
ACHP	Advisory Council on Historic Preservation
ACT	Application to Construct
A.D.	Anno Domini
ADOE	Archaeological Determinations of Eligibility
ADT	Average Daily Traffic
AEP	Association of Environmental Professionals
AER	Annual Emission Reporting
AFY	Acre Feet per Year
AIA	Airport Influence Area
AIRFA	American Indian Religious Freedom Act
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	Above Mean Sea Level
ANSI	American National Standards Institute
APS	Alternative Planning Strategy
APN	Assessor Parcel Number
APZ	Alquist-Priolo Earthquake Fault Zone
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
ASTs	Above ground storage tanks
Av.	Avenue
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technologies
BAU	Business as Usual
B.C.	Before Christ
bgs	Below ground surface
Blvd.	Boulevard

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
BMPs	Best Management Practices
BLM	Bureau of Land Management
BO	Biological Opinion
BSA	Biological Study Area
BTU	British Thermal Unit
CA MUTCD	California Manual on Uniform Traffic Control Devices
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
CA	California
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CA H2 Net	California Hydrogen Highway Network
CalEEMod™	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CAPSSA	Criteria Area Plant Species Survey Area
CARB	California Air Resources Board
CASSA	Criteria Area Species Survey Area
CAT	Climate Action Team
CBC	California Building Code
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDD	Community Development Director
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CETAP	Community & Environmental Transportation Acceptability Process
CFC	California Fire Code
CFCs	Chlorofluorocarbons
C2F6	Hexaflouroethane
CF4	Tetraflouromethane
CF3CH2F	HFC-134a
CFR	Code of Federal Regulations

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
CFS	Cubic Feet per Second
CGS	California Geologic Survey
CH	Conservation Habitat
C2H6	Ethane
CH4	Methane
CH3CHF2	HFC-152a
CHF3	HFC-23
CHP	combined heat and power
CHRIS	California Historic Resources Information System
CIWMB	California Integrated Waste Management Board
CLCA	California Land Conservation Act
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
COG	Council of Governments
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
COHb	carboxyhemoglobin
CPUC	California Public Utilities Commission
CSA	Community Service Area
CWA	Clean Water Act
CWC	California Water Code
CY	Cubic Yards
CZ	Change of Zone
dB	Decibel
dBA	A-weighted Decibels
DEH	Department of Environmental Health
DIF	Development Impact Fee
DMV	Department of Motor Vehicles
DP	Development Permit
DPM	Diesel Particulate Matter
DRC	Design Review Committee
DTSC	Department of Toxic Substances Control
DU	Dwelling Unit
DU/AC	Dwelling units per acre
DWR	Department of Water Resources
e/o	East of
EA	Environmental Assessment

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
EA	Existing plus Ambient Growth
EAC	Existing plus Cumulative
E+A+P	Existing plus Ambient Growth plus Project Conditions
E+A+P+C	Existing plus Ambient Growth plus Project Conditions plus Cumulative Conditions
E+P	Existing plus Project Conditions
EDA	Expanded Disturbance Area
EIR	Environmental Impact Report
EMFAC	Emission Factor Model
EMWD	Eastern Municipal Water District
EO	Executive Order
EPA	Environmental Protection Agency
EPS	Emission Performance Standard
ESA	Environmental Site Assessment
ESA	Endangered Species Act
et seq.	et sequentia, meaning "and the following"
F	Fahrenheit
FAA	Federal Aviation Administration
FAR	floor area ratio
FAR	Federal Aviation Regulations
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FICON	Federal Interagency Committee on Noise
FIRM	Flood Insurance Rate Map
FHA	Federal Housing Administration
FHWA	Federal Highway Administration
FIA	Fiscal Impact Analysis
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GBN	Ground-Based Noise
GBV	Ground-Based Vibration
GCC	Global Climate Change
GHG	Greenhouse Gas
GHGA	Greenhouse Gas Analysis
GIS	Geographic Information System
GgCO2e	Gigagrams of carbon dioxide equivalent
GMP	Groundwater Management Plan
GMZ	Groundwater Management Zone
GPCD	Gallon per Capita per Day

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
gpd	Gallons per Day
GSAs	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
GWP	Global Warming Potential
GWh	gigawatt-hours
H2O	Water Vapor
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HCS+	Highway Capacity Software Plus
HFCs	Hydrofluorocarbons
HHD	heavy-heavy duty trucks
hhpd	horsepower hours per day
HI	Hazard Index
HMMP	Hazardous Materials Management Plan
HPD	Historic Property Data
HSC	Health and Safety Code
I	Interstate
i.e.	that is
ID	Identification
IDEFO	Inert Debris Engineered Fill Operation
IEPR	Integrated Energy Policy Report
IPCC	Intergovernmental Panel on Climate Change
IRWMP	Integrated Regional Water Management Plan
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
IWMA	Integrated Waste Management Act
kg	kilogram
kWh	kilowatt-hour
lbs	pounds
LCFS	low carbon fuel standard
LDA	light duty autos
Leq	equivalent continuous sound level
LOS	Level of Service
LSAA	Lake and Streambed Alteration Agreement
LSTs	Localized Significance Thresholds
M3	Cubic Meter
MBTA	Migratory Bird Treaty Act

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
MC	Municipal Code
mg	milligrams
MGD	million gallons per day
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMTs	million metric tons
MMTCO2e	million metric tons of carbon dioxide equivalent
Mph	Miles per hour
MPO	Metropolitan Planning Organization
MSHCP	Multiple Species Habitat Conservation Plan
MT	metric ton
MTCO2e	Metric Tons of Carbon Dioxide Equivalent
MUTCD	Manual on Uniform Traffic Control Devices
MWD	Metropolitan Water District
MWh	megawatt-hour
Myo	million-year-old
N/A	Not Applicable
n/o	North of
N_2	Nitrogen
n.d.	no date
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Grave Protection and Repatriation Act
NALMS	North American Land Mammal Stage
NB	Northbound
NEPSSA	Narrow Endemic Plant Species Survey Area
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHL	National Historic Landmark
NIA	Noise Impact Analysis
NIOSH	National Institute for Occupational Safety and Health
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
No.	Number
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
N_2	Nitrogen
N_2O	Nitrous Oxide
NOP	Notice of Preparation

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
NOI	Notice of Intent
NPA	No Project Alternative
NPDES	National Pollutant Discharge Elimination System
n.p.	No page
NPS	Non-Point Source
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTR	National Toxics Rule
O_2	Oxygen
O_3	Ozone
OD	Officially Designated
OHP	Office of Historic Preservation
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
Ord.	Ordinance
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCBs	Polychlorinated biphenyls
PCEs	Passenger Car Equivalents
PDF	Project Design Feature
PEL	permissible exposure limit
PeMS	Caltrans' Performance System Website
PF	Public Facilities land use designation
PFCs	Perfluorocarbons
PG&E	Pacific Gas and Electric
PHF	peak hour factor
PHI	Points of Interest
p.m.	Post Meridiem (between the hours of noon and midnight)
PM	Particulate Matter
PM2.5	Fine Particulate Matter (2.5 microns or smaller)
PM10	Fine Particulate Matter (10 microns or smaller)
Porter-Cologne	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
PRIMP	Paleontological Resource Impact Mitigation Program
ppb	parts per billion
ppm	parts per million
ppv	peak particle velocity
pp.	pages
ppt	parts per trillion

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
PQP	Publi/Quasi-Public
PRPA	Paleontological Resources Preservation Act
PTO	Permit to Operate
RAP	Remedial Action Plan
RCALUC	Riverside County Airport Land Use Commission
RCALUP	Riverside County Airport Land Use Plan
RCBAP	Reche Canyon/Badlands Area Plan
RCCDR	Riverside County Center for Demographic Research
RCDWR	Riverside County Department of Waste Resources
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCHWMP	Riverside County Hazardous Waste Management Plan
RCIP	Riverside County Integrated Project
RCIT	Riverside County Information Technology
RCTC	Riverside County Transportation Commission
RCTD	Riverside County Transportation Department
Rd.	Road
REC	Recognized environmental Concerns
REMEL	Reference Mean Emission Level
RMP	Resource Management Plan
RMS	Root Mean Square
ROGs	Reactive Organic Gasses
ROW	Right of Way
RPS	Renewable Portfolio Standards
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
RWRF	Regional Water Reclamation Faclilites
s/o	south of
SANBAG	San Bernardino Associated Governments
SB	Southbound
SB	Senate Bill
SBFD	San Bernardino Fire Department
SBTAM	San Bernardino Transportation Analysis Model
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAQMP	South Coast Air Quality Management Plan
SCE	Southern California Edison

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
SCH	California State Clearinghouse (Office of Planning and Research)
SDAB	San Diego Air Basin
SDG&E	San Diego Gas & Electric
SF/s.f.	square foot or square feet
SF_6	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazards Mapping Act
SHPO	State Historic Preservation Officers
SHS	State Highway System
SIP	State Implementation Plan
SJGB	San Jacinto Groundwater Basin
SJVAP	San Jacinto Valley Area Plan
SKR	Stephens' Kangaroo Rat
SKR HCP	Stephens Kangaroo Rat Habitat Conservation Plan
SLA	Sacred Lands File
SLPS	Short-Lived Climate Pollutant Strategy
SMARA	Surface Mining Reclamation Act
SMGB	State Mining and Geology Board
SMP	Surface Mining Permit
SOC	Statement of Overriding Considerations
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SOI	Sphere of Influence
SP	Specific Plan
SR	State Route
St.	Street
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Regional Control Board
SWRCB	Storm Water Resources Control Board
TBD	To be determined
TEA	Transportation Equity Act
TIA	Traffic Impact Analysis
tpd	tons of material per day
tpy	tons per year
tpy	tons per year
TS	Traffic Signal
TSF	Thousand Square Feet
TUMF	Transportation Uniform Mitigation Fee
µg	microgram
UBC	Uniform Building Code

ACRONYMS AND ABBREVIATIONS (CONT'D)

Acronym	Definition
UCMP	University of California Museum of Paleontology
UNFCCC	United Nations' Framework Convention on Climate Change
U.S.	United States
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USDA	U.S. Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United Stated Geological Society
USTs	Underground storage tanks
UWMP	Urban Water Management Plan
V/C	Volume to Capacity Ratio
VdB	Decibel notation
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
VPH	Vehicles per Hour
VWRPD	Valley Wide Recreation & Park District
WDID	Waste Discharger Identification
WDR	Waste Discharge Requirements
WMI	Watershed Management Initiative
w/o	West of
WQMP	Water Quality Management Plan
WRF	Water Reclamation Facility
WRP	Water Reclamation Plant
YBP	Years before Present
ZEV	Zero Emissions Vehicle
ZORI	Zone of Required Investigation

S.0 EXECUTIVE SUMMARY

S.1 INTRODUCTION

The California Environmental Quality Act (CEQA), Public Resources Code § 21000, et seq. requires that before a public agency makes a decision to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

This Draft Environmental Impact Report (EIR), having California State Clearinghouse (SCH) No. 2018051029 was prepared in accordance with CEQA Guidelines Article 9, § 15120 to § 15132, to evaluate the potential environmental impacts associated with the proposed Surface Mining Permit No. 159, Revision No. 2 (SMP 159R2) project (hereafter, "Project" or "proposed Project"). This EIR does not recommend approval, approval with modification, or denial of the proposed Project; rather, this EIR is a source of factual information regarding potential impacts that the Project may cause to the physical environment. The Draft EIR will be available for public review for a minimum period of 45 days. After consideration of public comment, the County of Riverside will prepare and publish responses to comments it received on the environmental effects of the proposed Project.

The Riverside County Planning Commission will consider certifying the Final EIR and adopting required findings in conjunction with its decision to approve, approve with conditions, or deny approval of the proposed Project. In the case that there are any adverse environmental impacts that cannot be mitigated to below a level of significance, Riverside County must adopt a Statement of Overriding Considerations, stating why the County is taking action to approve the Project with or without modification despite its unavoidable impacts. In addition, the County must adopt a Mitigation, Monitoring, and Reporting Program (MMRP), which describes the process to ensure implementation of the mitigation measures identified in the Final EIR. The MMRP will ensure CEQA compliance during Project construction and operation.

This Executive Summary complies with CEQA Guidelines § 15123, "Summary." This EIR document includes a description of the proposed Project and evaluates the physical environmental effects that could result from Project implementation. The County of Riverside determined that the scope of this EIR should cover 12 subject areas. The scope was determined through an Initial Study drafted for the proposed Project, and the consideration of public comment received by the County in response to this EIR's Notice of Preparation (NOP), which was distributed for public review on May 16, 2018. The Initial Study, NOP, and written comments received by the County in response to the NOP, are attached to this EIR as *Technical Appendix A*. As determined by Riverside County and in consideration of public comment on the NOP and the December 2018 updates to the CEQA Guidelines, the 13 environmental subject areas that could be reasonably and significantly affected by the proposed Project are analyzed herein, including:

1. Aesthetics
2. Air Quality
8. Hydrology and Water Quality
9. Noise

3. Biological Resources
4. Energy
5. Geology and Soils
6. Greenhouse Gas Emissions
7. Historic and Archaeological Resources
10. Paleontological Resources
11. Transportation and Traffic
12. Tribal Cultural Resources
13. Utilities and Service Systems

Refer to EIR Section 4.0, *Environmental Analysis*, for a full account and analysis of the subject matters listed above. Subject areas for which were concluded that impacts would be clearly less than significant and that do not warrant detailed analysis in this EIR are addressed in EIR Section 5.0, *Other CEQA Considerations*.

For each of the 13 subject areas analyzed in detail in Section 4.0, this EIR describes: 1) the physical conditions that existed at the approximate time this EIR's NOP was filed with the California State Clearinghouse (May 16, 2018); 2) discloses the type and magnitude of potential environmental impacts resulting from Project-related mining activities; and 3) if warranted, recommends feasible mitigation measures that would reduce or avoid significant adverse environmental impacts that the proposed Project may cause. A summary of the proposed Project's significant environmental impacts ad the mitigation measures imposed by Riverside County on the Project to lessen or avoid those impacts is included in this Executive Summary as Table S-3, *Mitigation Monitoring and Reporting Program*. Riverside County applies mitigation measures which it determines 1) are feasible and practical for project applicants to implement, 2) are feasible and practical for the County to monitor and enforce, 3) are legal for the County to impose, 4) have an essential nexus to the Project's impacts, and 4) would result in a benefit to the physical environment. CEQA does not require the Lead Agency to analyze an exhaustive list of every imaginable mitigation measure, or measures that are duplicative of mandatory regulatory requirements.

This EIR also discusses alternatives to the proposed Project. Alternatives are described that would attain most of the Project's objectives while avoiding or substantially lessening the proposed Project's significant adverse environmental effects. A full discussion of Project alternatives is found in Section 6.0, Alternatives.

S.2 PROJECT OVERVIEW

S.2.1 LOCATION AND REGIONAL SETTING

The Gilman Springs Mine (herein, "Mine") encompasses approximately 1,021.4 acres located 2.4 miles southeast of Moreno Valley and 2.6 miles north of the City of San Jacinto within the Inland Empire region of southern California. State Route 79 (SR-79) is located approximately 1.2 miles southeast of the Project site, State Route 60 (SR-60) is located approximately 4.0 miles north of the Project site, and Interstate 215 (I-215) occurs approximately 11.7 miles west of the Project site. Specifically, the Project site occurs northeast of Gilman Springs Road, with the entrance to the Project site located along Gilman Springs Road, approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street (refer to Figure 2-2, *Vicinity Map*, in EIR Section 3.0, *Project Description*, of this EIR).

The prevailing planning document for the Project site and its surrounding area is the Riverside County General Plan, which was most recently updated in April 16, 2019 As depicted on Figure 2-4, *Existing General Plan*

Land Use Designations, the Riverside General Plan and the San Jacinto Valley Area Plan land use designations for the Mine's property is "Open Space – Rural (OS-RUR)" and "Open Space – Mineral Resource (OS-MR)." The OS-RUR land use designation allows for one single-family residence and/or for extraction of mineral resources subject to a Surface Mining Permit (SMP) provided that scenic resources and views are protected. The OS-MR land use designation allows for mineral extraction and processing facilities.

Refer to Section 2.0, *Environmental Setting*, of this EIR for more information related to the regional and local setting of the Project site.

S.3 PROJECT OBJECTIVES

The Project's fundamental purpose is to increase the availability of high-quality aggregate resources within the local area in order to help meet the regional demand for aggregate material. The primary objective of the proposed Project is to expand areas for mining by adding approximately 54.5 acres to the currently approved 150.4 acres of mining area and to adjust the operational restrictions at the Mine. The following is a list of specific objectives that the proposed Project is intended to achieve.

A. To increase the availability of high-quality aggregate reserves within the local area in order to help meet the regional demand for aggregate material and make the best use of the Mine's aggregate resources by revising approved SMP 159R1 to accommodate an expansion of the approved limits of aggregate mining activities.

B. To facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary.

C. To establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity.

D. To reclaim the 204.9 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County.

E. To assist Riverside County in achieving the conservation objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

F. To establish updated standards for operational mining activities at the Gilman Springs Mine site that provide flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands.

S.4 PROJECT SUMMARY DESCRIPTION

The existing Gilman Springs Mine ("Mine") occupies 1,021.4 acres located along Gilman Springs Road, approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street. Activities at the Mine are subject to the approved Surface Mining Permit No. 159, Revision No. 1 (SMP 159R1). Under existing conditions, areas permitted for mining encompass approximately 150.4 acres of the Mine. The 150.4-acre mining disturbance area primarily consists of stockpiles, excavated mining pits, interior unpaved roads,

and support equipment for aggregate mining operations, with several drainage basins located in the southern portion of the site. Existing management offices are located north of the entrance to the Mine, which is approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street along Gilman Springs Road. The remaining approximately 871.0 acres of the property consist of open space.

This EIR analyzes the physical environmental effects associated with all components of the proposed Project, including planning and ongoing operation. The governmental approval requested from the County of Riverside to implement the Project consists of Revision No. 2 to Surface Mining Permit No. 159 (SMP 159R2), which proposes to: 1) expand areas for mining by adding approximately 54.5 acres to the currently approved 150.4 acres of mining area, resulting in approximately 204.9 acres of mining area; 2) increase the total tonnage of minable aggregate from approximately 14,000,000 tons to 44,000,000 tons, an increase of approximately 30,000,000 tons; 3) allow for the operation of an IDEFO to facilitate ultimate site reclamation; 4) to establish a revised reclamation plan in compliance with the Surface Mining and Reclamation Act of (SMARA, Public Resources Code § 2710 et seq.) and Riverside County Ordinance No. 555 (Surface Mining Reclamation Act) (Riverside County, 2012); and 5) to revise the Mine's timing restrictions for mining activities within 300 feet of the Mine's boundaries from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays, to 24 hours per day, seven days per week including Sundays and federal holidays. The proposed Project also refers to the changes that would result from approval of the proposed Project, such as increased traffic and additional employees, pursuant to CEQA's requirements for evaluating revisions to on-going permits.

Refer to EIR Section 3.0, *Project Description*, for a detailed description of the proposed Project.

S.5 Areas of Controversy and Issues to be Resolved

CEQA Guidelines § 15123(b)(2) requires that areas of controversy known to the Lead Agency (Riverside County) be identified in the Executive Summary. The Lead Agency has not identified any issues of controversy associated with the proposed Project.

Regarding issues to be resolved, this EIR addresses the environmental issues that are known by the County and identified during the Initial Study process. The EIR also addresses issues that were identified in the comment letters that Riverside County received on this EIR's NOP (refer to *Technical Appendix A*). Environmental topics raised in comments to the NOP are summarize in Table 1-1, *Summary of NOP Comments*, in Section 1.0, *Introduction*, of this EIR and include, but are not limited, to the topics of air quality; biological resources; transportation and traffic; public services; and utilities and service systems.

S.6 Project Alternatives

In compliance with CEQA Guidelines § 15126.6, an EIR must describe a range of reasonable alternatives to the Project or to the location of the Project. Each alternative must be able to feasibly attain most of the Project's objectives and avoid or substantially lessen the Project's significant effects on the environment. A detailed description of each alternative evaluated in this EIR, as well as an analysis of the potential environmental impacts associated with each alternative, is provided in EIR Section 6.0, *Alternatives*. Also described in

Section 6.0 is a list of alternatives that were considered but rejected from further analysis. The alternatives considered by this EIR include those summarized below.

S.6.1 No Project Alternative (NPA)

The No Project Alternative (herein, "NPA") considers no mining activities within the Expanded Disturbance Area (EDA). Mining would be allowed to continue within the approximately 150.4 acres of the approximately 1,021.4-acre Mine property that are permitted for mining activities under the existing Amendment No. 1 to Surface Mining Permit No. 159 (SMP 159R1). This alternative was selected by the Lead Agency for the purpose of conducting a comparative analysis of the environmental effects of the proposed Project to the environmental effects of the NPA which would leave the EDA in its existing condition. If the Project were not approved, it is reasonable to expect that the EDA's undeveloped property would remain vacant and no mining would occur within the EDA.

Implementation of the NPA would not result in any new impacts to the 54.5-acre EDA, and as evaluated herein would result in a substantial reduction in the amount of resources that are extracted and exported from the site. Almost all of the Project's impacts would be reduced or would be similar under this alternative, with exception of water supply which would slightly increase under the NPA. The NPA would not meet most of the Project Objectives. Refer to Table 6-1, *Alternatives to the Proposed Project – Comparison of Environmental Impacts*, for more information.

S.6.2 Historical Baseline Alternative (HBA)

The Historical Baseline Alternative (HBA) considers a scenario where the approved mining limits would be expanded by 54.5 acres, consistent with the proposed Project, but with a reduced limit on annual tonnage that is commensurate with the historical baseline average tonnage produced at the Mine. As indicated in EIR Table 2-1, between 2003 and 2017 the Mine produced an average of 377,675 tons per year (tpy). Thus, under the HBA, while the mining limits would increase by 54.5 acres, the annual tonnage would be capped at 377,675 tpy, rather than the 1,000,000 tpy proposed by the Project. All other components of the HBA would be identical to the proposed Project. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would not result in any new air quality emissions or traffic as compared to existing conditions.

S.6.3 Reduced Mining Alternative (RMA)

The Reduced Mining Alternative (RMA) considers an expansion of mining activities similar to the proposed Project, but with a reduced annual tonnage limit that still exceeds the historical baseline average for aggregate material produced at the site but that is less than the annual tonnage that would be associated with the proposed Project. Specifically, under the RMA a maximum of 688,838 tpy would be allowed to be mined at the site, or approximately half of the increase in annual tonnage proposed by the Project. Thus, under the RMA there would be an increase of 311,163 tpy as compared to the historical baseline average of 377,765 tpy. As with the proposed Project, the areas subject to mining would be increased under the RMA by 54.5 acres. All other components of the RMA would be similar to the proposed Project. This alternative was selected for

consideration to compare the environmental effects of the proposed Project with an alternative that would result in reduced tonnage, and thus reduced operational impacts to air quality or traffic.

S.7 SUMMARY OF IMPACTS, MITIGATION MEASURES, AND CONCLUSIONS

S.7.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

The scope of detailed analysis in this EIR includes 13 subject areas determined by the County of Riverside through the consideration of public comments received by the County on this EIR's Initial Study and NOP. The Initial Study, NOP, and public comments received in response to the NOP, are attached to this EIR as *Technical Appendix A*. Seven subject areas were determined by the County of Riverside to have less-than-significant impacts requiring no further analysis in this EIR: Agriculture and Forest Resources; Hazards and Hazardous Materials; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; and Recreation. This EIR addresses these topics in EIR Subsection 5.0, *Other CEQA Considerations*.

S.7.2 IMPACTS OF THE PROPOSED PROJECT

Table S-3, *Mitigation Monitoring and Reporting Program*, provides a summary of the proposed Project's environmental impacts, as required by CEQA Guidelines § 15123(a). Also presented are the mitigation measures recommended by Riverside County to further avoid adverse environmental impacts or to reduce their level of significance. After the application of all feasible mitigation measures, the Project would result in significant and unavoidable environmental effects, as summarized below.

- Air Quality Threshold a: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Operational-source emissions with implementation of Mitigation Measure MM 4.2-2 would continue to exceed the SCAQMD regional thresholds for NO_X, PM_{10}, and $PM_{2.5}$. Although the required mitigation would reduce the Project's impacts, it is important to note that more than 50 percent of the Project's NO_X emissions would be derived from vehicular activity and more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, because mitigation is not available to reduce the Project's operational emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD regional thresholds, the Project would result in a conflict with the SCAQMD AQMP. The Project's impacts due to a conflict with the AQMP would be significant and unavoidable on a direct and cumulatively-considerable basis.

- Air Quality Threshold b: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Even with implementation of the recommended mitigation measures and compliance with SCAQMD Rules 402, 403, and 1157, the Project still would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. No feasible mitigation measures exist to reduce the Project's emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below a level of significance beyond the mitigation measures and regulatory requirements already identified in subsection 4.2.8. More than 50% of the Project's NO_X emissions are associated with on-site mobile operational equipment and haul

truck trips (i.e., combustible engines), and the Project Applicant does not have the regulatory authority to control tailpipe emissions; thus, no additional feasible mitigation measures exist that would reduce the Project's NO_X emissions to levels that are less than significant. Additionally, more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, the Project's operational emissions of NO_X, PM_{10}, and $PM_{2.5}$ represent a significant and unavoidable direct and cumulatively-considerable impact for which additional feasible mitigation is not available.

- Greenhouse Gas Emissions Threshold a: Significant and Unavoidable Cumulatively-Considerable Impact. The total amount of net new Project-related GHG emissions would total 4,975.49 MTCO2e per year. Although the Project's level of GHG emissions would not exceed the SCAQMD's industrial screening threshold of 10,000 MTCO2e per year, for purposes of analysis herein it is assumed that GHG emission impacts would be significant if the Project were to emit more than 3,000 MTCO2e/yr, in accordance with the SCAQMD Tier 3 screening threshold for mixed-use developments. Therefore, and based on SCAQMD's mixed-use screening threshold of 3,000 MTCO2e/yr, the Project's impacts associated with GHG emissions would be cumulatively considerable. EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.25, *Air Quality*, would apply and would help reduce the Project's GHG emissions but not to below a level of significance. However, more than 50 percent of the Project's GHG emissions are derived from vehicle usage. Since neither the Project Applicant nor the County have regulatory authority to control tailpipe emissions, no additional feasible mitigation measures exist that would reduce GHG emissions to levels that are less-than-significant. As such, Project impacts due to GHG emissions would be significant and unavoidable on a cumulatively-considerable basis.

- Greenhouse Gas Emissions Threshold b.: Significant and Unavoidable Direct and Cumulatively-Considerable Impact. It is not possible to reduce the Project's level of GHG emissions to below the 3,000 $MTCO_2e$/yr screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it is not possible for the Project to achieve a minimum of 100 points pursuant to the County's CAP Screening Tables, and no feasible mitigation measures exist that would result in Project consistency with the CAP. Therefore, the Project would result in a significant and unavoidable direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.

- Transportation and Traffic Threshold a.: Cumulatively-Considerable and Unavoidable Impact. Table S-1, *Summary of Project Intersection Impacts by Study Scenario*, provides a summary of the Project's impacts to study area intersections under Existing Plus Ambient Plus Project (EAP) 2019 and Existing Plus Ambient Plus Project Plus Cumulative (2019) conditions. Table S-2, *Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario*, provides a summary of the Project's impacts due to

traffic signal warrants. Mitigation is proposed for Project impacts to study area intersections, including payment of Development Impact Fee (DIF) fees, Transportation Uniform Mitigation Fee (TUMF) fees, and fair-share monetary contributions for required improvements. However, because it cannot be assured that improvements needed to achieve an acceptable level of service at study area intersections and due to traffic signal warrants would be in place prior to commencement of expanded mining activities as proposed by the Project, the Project's impacts to the facilities identified in Table S-1 and Table S-2 would be significant and unavoidable in the near-term prior to construction of the required improvements.

Table S-1 Summary of Project Intersection Impacts by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	--	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	C*
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	C*	C*
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Table S-2 Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	C*	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	--
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	--	--
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Table S-3 Mitigation Monitoring and Reporting Program

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
4.1 Aesthetics				
Threshold a.): Mining activities within the EDA, as would be allowed by the Project, would not be visible from any officially designated State or County highways. Mining activities within the EDA also would not be prominently visible from nearby segments of SR-74, a "Eligible State Scenic Highway – Not Officially Designated," due to the distance between this roadway facility and the Project site (8.3 miles). Mining activities within the proposed EDA also would not be prominently visible from nearby "County Eligible" highways. Impacts to scenic highways corridors would be less than significant. **Threshold b)**: The Project would not result in damage to any scenic resources on-site that are visually prominent from off-site locations. The Project also would not obstruct distant views of hills and mountains that frame the Project's viewshed. The Project would not result in the creation of an aesthetically offensive site open to public view. **Threshold c.)** Mining within the proposed EDA would not be prominently visible from public viewing locations offsite, and the visual impact of mining within the EDA would be reduced over time as elevations within the EDA are reduced to below that of surrounding topography. As such, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings and impacts would be less than significant. **Threshold d.)** Intervening topography due to ongoing mining activities and mandatory compliance with the lighting	Less than Significant Less than Significant Less than Significant Less than Significant	**CRDR 4.1-1** The Project is required to comply with Riverside County Ordinance No. 655, which is intended to restrict the permitted use of certain light fixtures emitting light into the night sky which could have a detrimental effect on astronomical observation and research. Ordinance No. 655 sets forth requirements for lamp source and shielding of light emissions for outdoor fixtures to reduce "skyglow" or light pollution that affects day or nighttime views from the Mount Palomar Observatory (located approximately36.5 miles south of the Project site in northern San Diego County). Pursuant to the requirements of Ordinance No. 655, all lighting shall consist of low-pressure sodium lighting, or other lamp types that emit 4050 lumens or less. If light fixtures are proposed above 4050 lumens, then the lighting shall be fully shielded in conformance with the requirements of Ordinance No. 655. **CRDR 4.1-2** The Project is required to comply with Riverside County Ordinance No. 915, which is intended to provide minimum requirements for outdoor lighting in order to reduce light trespass. Ordinance No. 915 provides regulations on adequate lighting shielding, glare, and light trespass in order to ensure all development in Riverside County installs lighting in a way that does not jeopardize the health, safety, or general welfare of Riverside County residents and degrade their quality of life.	Project Applicant/ Building & Safety Department Project Applicant/ Building & Safety Department	Prior to issuance of building permits Prior to issuance of building permits

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
provisions provided in Riverside County Ordinance No. 655 would ensure that the Project's lighting elements do not adversely affect nighttime use of the Mt. Palomar Observatory. **Threshold e.):** Intervening topography due to ongoing mining activities and mandatory compliance with the lighting provisions provided County Ordinance Nos. 655 and 915 would ensure that the Project would not create a new source of substantial light or glare. An adverse effect to daytime and nighttime views in the area would be less than significant. **Threshold f.):** The proposed Project would not expose residential property to unacceptable light levels. Lighting elements within the proposed EDA would be shielded and directed onto active mining/processing areas, and there would be a minimum of 0.7 mile between any lighting elements in the EDA and the nearest residential home. Mandatory compliance with County Ordinances No. 655 and No. 915 would further ensure that residential uses would not be exposed to unacceptable light levels.	Less than Significant Less than Significant			
4.2 Air Quality				
Threshold a.): Operational-source emissions with implementation of Mitigation Measures MM 4.2-1 and MM 4.2-2 would continue to exceed the SCAQMD regional thresholds for NO_X, PM_{10}, and $PM_{2.5}$. Although the required mitigation would reduce the Project's impacts, it is important to note that more than 50 percent of the Project's NO_X emissions would be derived from vehicular activity and more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive	Significant and Unavoidable Impact	**MM 4.2-1** Prior to any mining activities within the 54.5-acre Expanded Disturbance Area (EDA), the Mine Operator shall provide evidence to the Riverside County Planning Department that signs stating the following (or equivalent) have been posted at the truck access gates and aggregate loading areas: • "Truck Drivers shall turn off engines when not in use." • "Truck drivers to shut down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to 'neutral' or 'park,' and the parking	Project Applicant or Mine Operator/ Planning Department	Prior to mining activities within the 54.5-acre EDA

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
dust-related emissions. Accordingly, because mitigation is not available to reduce the Project's operational emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD regional thresholds, the Project would result in a conflict with the SCAQMD AQMP. The Project's impacts due to a conflict with the AQMP would be significant and unavoidable on a direct and cumulatively-considerable basis. **Threshold b.):** Even with implementation of the recommended mitigation measures and compliance with SCAQMD Rules 402, 403, and 1157, the Project still would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. No feasible mitigation measures exist to reduce the Project's emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below a level of significance beyond the mitigation measures and regulatory requirements already identified in EIR subsection 4.2.8. More than 50% of the Project's NO_X emissions are associated with on-site mobile operational equipment and haul truck trips (i.e., combustible engines), and the Project Applicant does not have the regulatory authority to control tailpipe emissions; thus, no additional feasible mitigation measures exist that would reduce the Project's NO_X emissions to levels that are less than significant. Additionally, more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. Accordingly, the Project's operational emissions of NO_X, PM_{10}, and $PM_{2.5}$ represent a significant and unavoidable direct and cumulatively-considerable impact for which additional feasible mitigation is not available.	Significant and Unavoidable Impact	brake is engaged." • Telephone numbers for the Mine Operator and the CARB also shall be posted to allow for reporting of violations. **CRDR 4.2-1** The Project is required to comply with the provisions of SCAQMD Rule 402, "Nuisance" which requires that a person shall not discharge air contaminants or other materials that would cause health or safety hazards to any considerable number of persons or the public. **CRDR 4.2-2** The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust" by implementing the following dust control measures during ground disturbing activities, as applicable: • All new ground disturbing activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions. • The Mine Operator shall ensure that all disturbed unpaved roads and disturbed areas within the Mine are either subject to soil stabilization or are watered at least three (3) times daily during dry weather. Soil stabilization shall occur pursuant to manufacturer's specifications, while watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the midmorning, afternoon, and after work is done for the day. • The Mine Operator shall ensure that traffic speeds on unpaved roads a are reduced to 15 mph or less. **CRDR 4.2-3** The Project shall comply with SCAQMD Rule 1157, as applicable, which requires the following: • No visible dust more than 100 feet from any activity,	Project Applicant or Mine Operator/ SCAQMD Project Applicant or Mine Operator/ SCAQMD Project Applicant or Mine Operator/ SCAQMD	During all mining activities on site During all mining activities on site During all mining activities on site

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Threshold c.): The Project would not result in or contribute to a CO "hot spot," and Project operational emissions would be below the LST thresholds established by the SCAQMD's at the nearest sensitive receptor. Accordingly, the Project would not have the potential to expose sensitive receptors near the Project site to substantial point source emissions, and impacts would be less than significant. **Threshold d.):** The proposed Project does not contain land uses typically associated with emitting objectionable odors. The proposed Project also would be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project would be less than significant and no mitigation is required.	Less than Significant Less than Significant	equipment, storage pile, or disturbed area anywhere onsite; • No dust emissions from any source exceeding 20 percent opacity (average of 12 readings); • Prompt cleanup of any spilled material and stabilization of any spilled material storage piles at a minimum at the end of each workday; • Dust suppressants or other dust control methods on conveyors, loading, unloading, or transferring activities; • Baghouse emission controls on screening and crushing activities or other dust control measures to meet the visible emission limits; • Chemical stabilization and covering storage piles; • Chemical stabilization of unpaved haul roads; • Sweeping of paved roads once each shift with SCAQMD-certified sweepers, when required; • Covered or otherwise stabilized aggregate loads (i.e. loads to remain 6 inches from the upper edge of the container area) to avoid dust emissions from product transport trucks in compliance with California Vehicle Code No. 23114; and • Wheel washers, rumble grate, and paving of internal plant roads to eliminate track out.		
4.3 Biological Resources				
Threshold a.): Implementation of Mitigation Measure MM 4.3-1, as well as Mitigation Measures MM 4.3-2 and MM 4.3-3, would represent a biologically equivalent or superior alternative to avoidance of MSHCP Riparian/Riverine resources because the Project would be required to mitigate impacts at a minimum 3:1 ratio through off-site purchase of credits from an approved Mitigation Bank(s). Implementation of Mitigation Measure MM 4.3-1 would ensure Project consistency with MSHCP Section 6.1.2 and would reduce project impacts to less-than-significant levels.	Less than Significant with Mitigation	**MM 4.3-1** To mitigate impacts to 0.36 acre of Riparian/Riverine resources (0.21 acre of ephemeral stream and 0.15 acre of tamarisk scrub), the Project Applicant shall mitigate impacts at a minimum 3:1 ratio. A total of 1.08 acres of mitigation shall occur via off-site purchase of credits from the Riverpark Mitigation Bank or other approved bank. Mitigation for the unavoidable impacts to Riparian/Riverine resources shall be at least biologically equivalent to the resources being impacted by the proposed mine expansion. Evidence of that 0.36-acre of Riparian/Riverine resources (0.21 acre of ephemeral stream and	Project Applicant/ Riverside County Environmental Programs Department (EPD), Planning Department	Prior to any mining activities within the portions of the 54.5-acre EDA that contain Riparian/Riverine resources

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Implementation of Mitigation Measure MM 4.3-5 would ensure that Project lighting does not result in indirect impacts to the MSHCP conservation areas. Mitigation Measure MM 4.3-6 would ensure dust impacts are reduced by imposing a maximum 10 mile per hour speed limit on site. Additionally, the Project would be subject to stormwater requirements through the Project's NPDES permit. Furthermore, the Project would be required to comply with the reclamation seed mix as set forth by SMP 159R2, which would preclude potential indirect impacts associated with invasive species. Mitigation Measure MM 4.3-8 would ensure that Project-related operational noise does not expose the proposed MSHCP Conservation Areas to noise levels exceeding 65 dBA Leq. With implementation of the required mitigation and compliance with regulatory requirements and the provisions of proposed SMP 159R2, the Project's indirect impacts to the MSHCP conservation areas would be less than significant. Implementation of Mitigation Measure MM 4.3-7 would ensure that pre-construction surveys are conducted for the burrowing owl prior to any new vegetation clearing, thereby reducing impacts to less-than-significant levels. **Thresholds b.) and c.):** Implementation of Mitigation Measure MM 4.3-4 would ensure that the Project does not directly impact nesting birds during the nesting season. Implementation of Mitigation Measure MM 4.3-7 would ensure that potential impacts to burrowing owls that may occupy the site prior to mining activities commencing within the EDA are reduced to less-than-significant levels. Moreover, the Project would be subject to compliance with Riverside County Ordinance No. 810, which requires payment of fees in order to provide coverage for impacts to sensitive	Less than Significant with Mitigation	0.15 acre of tamarisk scrub) have been appropriately mitigated shall be supplied to the Riverside County Environmental Programs Department (EPD) prior to any mining activities within the portions of the 54.5-acre Expanded Disturbance Area (EDA) that contain Riparian/Riverine resources. **MM 4.3-2** Prior to mining activities within the 54.5-acre Expanded Disturbance Area that affects jurisdictional drainages, the Project Applicant shall obtain a Section 404 Permit from the U.S. Army Corps of Engineers (ACOE) and a Section 401 Permit from the Regional Water Quality Control Board (RWQCB) for impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland Waters of the United States. **MM 4.3-3** Prior to mining activities within the 54.5-acre Expanded Disturbance Area that affects jurisdictional drainages, the Project Applicant shall obtain a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) for impacts to 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat. **MM 4.3-4** All vegetation clearing activities within the 54.5-acre Expanded Disturbance Area (EDA) shall occur outside of the bird breeding season (February 15 through August 31), unless a qualified biologist demonstrates to the satisfaction of the County that all nesting is complete through completion of a Nesting Bird Clearance Survey. Surveys shall be conducted no more than three (3) days prior to scheduled vegetation clearing activities within the EDA. If active nests are identified, the biologist shall establish buffers around the vegetation containing the active nest (300 feet for the California gnatcatcher and raptors; 100 feet for	Project Applicant/ ACOE, RWQCB, Riverside County EPD, Planning Department Project Applicant/ CDFW, Riverside County EPD, Planning Department Project Applicant, Project Biologist/ Riverside County EPD, Planning Department	Prior to any mining activities within the portions of the 54.5-acre EDA that contain jurisdictional drainages Prior to any mining activities within the 54.5-acre EDA Within three (3) days of initial vegetation clearing activities

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
species that are fully covered by the MSHCP. The Project also is subject to Riverside County Ordinance No. 663, which requires payment of fees to support the SKR HCP. With implementation of the required mitigation and with standard regulatory compliance, Project impacts to endangered, threatened, candidate, sensitive, or special status species would be reduced to less-than-significant levels. **Threshold d.):** Implementation of Mitigation Measure MM 4.3-4 would ensure that vegetation clearing within the EDA does not result in impacts to nesting birds during the breeding season. With implementation of the required mitigation, Project impacts to migratory birds would be reduced to less-than-significant levels. **Thresholds e.) and f.):** Implementation of Mitigation Measure MM 4.3-1, as well as Mitigation Measures MM 4.3-2 and MM 4.3-3, would ensure that Project impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS and regulated by the Army Corps of Engineers, and 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat, are mitigated at a minimum 3:1 ratio off-site through purchase of credits from an approved Mitigation Bank(s). Implementation of the required mitigation would reduce Project impacts to these jurisdictional features to below a level of significance. **Threshold g.):** Other than the Western Riverside County MSHCP which is addressed under Threshold a., the Project would not conflict with any policies or ordinances protecting biological resources, including Riverside County Ordinance	Less than Significant with Mitigation Less than Significant with Mitigation No Impact	other non-raptors). The vegetation containing the active nest shall not be removed, and no ground-disturbing activities shall occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within three days of a negative survey, the nesting survey shall be repeated to confirm the absence of nesting birds. A Nesting Bird Clearance Survey report shall be submitted to the County for review and approval prior to any new vegetation clearing and grubbing during the breeding season. Clearing of vegetation outside of the avian breeding season shall not require a Nesting Bird Clearance Survey. The Mine operator shall keep records of: a) all new clearing activities that occur during the general avian breeding season; b) the results of all pre-construction nesting surveys; c) mitigation or avoidance measures that were undertaken during the breeding season; d) areas within the EDA that have been disturbed outside of the general avian breeding season; and e) copies of the approved Nesting Bird Clearance Survey report(s). These records shall be maintained on site at all times and made available for City inspection upon request. **MM 4.3-5** All lighting shall be selectively placed, directed, and shielded away from habitats around the periphery of the active mining areas. In addition, large spotlight-type lighting directed into areas outside the actively-mined areas shall be prohibited. Operational lighting shall be shielded and focused to reduce impacts to wildlife. **MM 4.3-6** Prior to mining activities within the proposed Expanded Disturbance Area (EDA), signs shall be posted along internal roadways restricting speeds to 10 miles per hour or less.	Project Applicant/ Building & Safety Department Project Applicant or Mine Operator/ Planning	During mining operations Prior to mining activities within the EDA

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
No. 559; the SKR HCP and Riverside County Ordinance No. 663; and the Riverside County Oak Tree Management Guidelines. No impact would occur.			Department	
		MM 4.3-7 Prior to commencement of mining activities pursuant to SMP 159R2, the Project Applicant shall construct a 765-foot long 12-foot high berm between the proposed MSHCP Conservation Area and the existing mining operations on site, as depicted on EIR Figure 4.3-4, Proposed MSHCP Conservation Area Noise Receiver Locations.	Project Applicant/ Riverside County EPD, Planning Department	Prior to commencement of mining activities pursuant to SMP 159R2
		MM 4.3-8 Pursuant to Objectives 5, 6, and 7 of the Species Account for the Burrowing Owl included in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within 30 days prior to removal of any vegetation within the 54.5-acre Expanded Disturbance Area (EDA), a pre-construction presence/absence survey for the burrowing owl shall be conducted by a qualified biologist who holds a Memorandum of Understanding (MOU) with the County. The survey results shall be provided in writing to the Environmental Programs Department/County Biologist. If the vegetation clearing does not occur within 30 days of the survey, a new survey shall be required. If it is determined that the Project site is occupied by the burrowing owl, take of "active" nests shall be avoided pursuant to the MSHCP and the Migratory Bird Treaty Act (MBTA). Burrowing Owl relocation shall only be allowed to take place outside of the burrowing owl nesting season (March 1 through August 31) and is required to be performed by a qualified biologist familiar with relocation methods. The County Biologist shall be consulted to determine appropriate type of relocation (active or passive) and potential translocation sites. Burrowing Owl Protection and Relocation Plans and Biological Monitoring Plans are required to be reviewed and approved by the California Department of Fish and Wildlife (CDFW).	Project Applicant, Project Biologist/ Riverside County EPD, Planning Department	Within 30 days prior to removal of any vegetation within the EDA

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
		If it is determined during the 30-day preconstruction survey that burrowing owls have colonized the Project site prior to initiation of vegetation clearing activities, the Project Proponent will immediately inform the Riverside County Biologist, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Regional Conservation Authority, and would need to retain a Biologist that holds a Memorandum of Understanding (MOU) with the County of Riverside to prepare a Burrowing Owl Protection and Relocation Plan for approval by the County of Riverside and Wildlife Agencies prior to initiating ground disturbance. The relocation plan will include the following: • The locations of the nests and owls proposed for relocation. • The locations of the proposed relocation sites. • The numbers of adult owls and juveniles proposed for relocation. • The time of year when relocation is proposed to take place, • The name of the biologist proposed to supervise the relocation, and the details of his/her previous experience capturing, handling, and relocating borrowing owls, including the outcomes of the previous relocation efforts (survival/mortality rates and site-fidelity rates of the relocated owls), and relevant permits held. • A detailed description of the proposed method of capture, transport, and acclimation of the current project's owls on the proposed relocation site. • A detailed description of relocation site preparations (e.g., the design and dimensions of the artificial release burrows and hacking cage, duration of hacking activities (including food and water provision). • Description of the monitoring methods and monitoring duration to be employed to verify survival of the relocated		

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
		owls and their long-term retention on the relocation site.		
		CRDR 4.3-1 The Project Applicant shall comply with County of Riverside Ordinance No. 810 (Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Fee Program Ordinance), which requires a per-acre local development impact and mitigation fee payment.	Project Applicant/ Riverside County EPD, Planning Department	Prior to commencement of mining activities within the EDA
		CRDR 4.3-2 The Project Applicant shall comply with County of Riverside Ordinance No. 663 (Stephens' Kangaroo Rat Mitigation Fee Ordinance) which requires a per-acre local development and mitigation fee payment prior to the issuance of a grading permit.	Project Applicant/ Riverside County EPD, Planning Department	Prior to commencement of mining activities within the EDA
		CRDR 4.3-3 The Project Applicant shall incorporate measures required through National Pollutant Discharge Elimination System (NPDES). Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area.	Project Applicant/ Riverside County EPD, Planning Department	Prior to commencement of mining activities within the EDA
		CRDR 4.3-4 The Project is required pursuant to Amendment No. 2 to Reclamation Plan No. 159 (SMP 159R2) to implement the approved reclamation seed mix as part of any revegetation or reclamation activities. Only species on the approved reclamation seed mix (refer to EIR Table 3-4) shall be allowed. The reclamation seed mix does not include any plants included on the California Invasive Plant Council's list of invasive species (or in Table 6-2 of the MSHCP).	Project Applicant/ Riverside County EPD, Planning Department	During reclamation activities
		CRDR 4.3-5 Prior to commencement of mining activities within	Project Applicant/	Prior to

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
		the proposed EDA, the Project Applicant shall convey to the Riverside Conservation Authority (RCA) 184.73 acres of the Mine located within MSHCP Cell Group B, 230.47 acres of the Mine located within MSHCP Cell Group C, and 14.81 acres of the Mine located within MSHCP Cell Group D. The required dedications, all of which occur outside of the existing mining limits and the proposed EDA, would assist the RCA in achieving the conservation objectives for Cell Groups B, C, and D.	Riverside County EPD, Planning Department	commencement of mining activities within the EDA
4.4 Energy				
Threshold a.): Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. As such, Project impacts due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant requiring no mitigation. **Threshold b.):** Energy consumed by the Project's operation is calculated to be comparable to, or less than, energy consumed by other mining operations of similar scale and intensity that are operating in California. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.	Less than Significant Less than Significant	**CRDR 4.4-1** The following regulations have been adopted to improve energy efficiency, and would serve to reduce the Project's level of energy consumption: • Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles. • Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.	N/A	N/A
4.5 Geology and Soils				
Thresholds a.) and c.): The proposed EDA is not located within or immediately adjacent to an Alquist-Priolo	Less than Significant	**CRDR 4.5-1** As a standard condition of Project approval, the Project will be required to comply with the site-specific	Project Applicant or Mine	During all mining activities within

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Earthquake Fault Zone (APZ) designated by the State of California or fault hazard zones designated by the County of Riverside to include traces of suspected active faulting. The Project is subject to seismic ground shaking associated with earthquakes. With implementation of the recommendations contained in the Project's Slope Stability Investigation (Technical Appendix D), as would be required through standard conditions of Project approval, impacts associated with ground-shaking would be further reduced to a less-than-significant level.		recommendations contained in the Project's Slope Stability Investigation (Technical Appendix D). **CRDR 4.5-2** The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust" by implementing the following dust control measures during ground disturbing activities, as applicable: • All new ground disturbing activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions. • The Mine Operator shall ensure that all disturbed unpaved roads and disturbed areas within the Mine are either subject to soil stabilization or are watered at least three (3) times daily during dry weather. Soil stabilization shall occur pursuant to manufacturer's specifications, while watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the midmorning, afternoon, and after work is done for the day. • The Mine Operator shall ensure that traffic speeds on unpaved roads a are reduced to 15 mph or less.	Operator/ Building & Safety Department Project Applicant or Mine Operator/ SCAQMD, Planning Department	the EDA During all mining activities within the EDA
Threshold b.): Terracon concluded, based on the presence of non-liquefiable bedrock, that the potential for liquefaction and other shallow groundwater-related hazards at the site is considered to be very low. The County of Riverside would impose the recommendations of the site-specific slope stability investigation (Technical Appendix D) as a standard condition of Project approval to further reduce the risk associated with seismic-related ground failure, including liquefaction. Accordingly, a less-than-significant impact would occur.	Less than Significant			
Thresholds d.) and e.): With implementation of the site-specific slope stability investigation (Technical Appendix D) as a standard condition of Project approval, the Project would result in less-than-significant impacts associated with on- or off-site landslide, lateral spreading, collapse, rockfall hazards, and ground subsidence.	Less than Significant			
Threshold f.): The Project would not be subject to seiches or volcanic hazards. Mudflow hazards are not likely to occur on site due to the shallow depth to bedrock and the nature of on-site soils. Additionally, as recommended in the Project's	Less than Significant			

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
site-specific Slope Stability Investigation (Technical Appendix D), slopes and benches would be protected with perimeter berms and/or levees as necessary to prevent slope erosion and surface flow incursion in the areas where natural slopes drain toward mining and/or reclaimed slopes. The County of Riverside would impose the recommendations of the site-specific Slope Stability Investigation (Technical Appendix D) as a standard condition of Project approval to further reduce the risk associated with mudflow. As such, implementation of the Project would result in a less-than-significant impact associated with mudflow.				
Thresholds g.) and h.): With mandatory compliance to the site-specific Slope Stability Investigation (Technical Appendix D) as required by standard conditions of Project approval, impacts due to changes in topography or ground surface features, as well as impacts associated with cut slopes steeper than 2:1 and higher than 10 feet in height, would be less than significant.	Less than Significant			
Thresholds i.) and l.): Under existing conditions there are no existing subsurface sewage disposal systems on the property, as all wastewater is handled via portable toilets. Additionally, all wastewater generated at the Mine would be handled via portable toilet facilities, and no subsurface sewage disposal systems are proposed as part of the Project. Thus, no impact would occur to existing subsurface sewage disposal systems, and no impact would occur due to proposed septic tanks or alternative waste water disposal systems.	No Impact			
Thresholds j.) and m.): The Project would not result in substantial soil erosion or the loss of topsoil. The Project Applicant is required to obtain a National Pollutant Discharge	Less than Significant			

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Elimination System (NPDES) permit, as well as adhere to a Water Quality Management Plan (WQMP) and South Coast Air Quality Management District (SCAQMD) Rule 403. With mandatory compliance to these regulatory requirements, the potential for soil erosion impacts would be less than significant. **Threshold k.):** The Project consists of a proposed expansion to an existing aggregate quarry. No buildings or permanent structures are proposed as part of the Project. Additionally, slopes created as part of the Project would consist of bedrock materials suitable for aggregate mining, and no expansive soils are anticipated. As such, no impacts due to expansive soils would occur.	No Impact			
4.6 Greenhouse Gas Emissions				
Threshold a.): The total amount of net new Project-related GHG emissions would total 4,975.49 $MTCO_2e$ per year. Although the Project's level of GHG emissions would not exceed the SCAQMD's industrial screening threshold of 10,000 MTCO2e per year, for purposes of analysis herein it is assumed that GHG emission impacts would be significant if the Project were to emit more than 3,000 $MTCO_2e$/yr, in accordance with the SCAQMD Tier 3 screening threshold for mixed-use developments. EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.2, *Air Quality*, would apply and would help reduce the Project's GHG emissions but not to below a level of significance. However, more than 50 percent of the Project's GHG emissions are derived from vehicle usage. Since neither the Project Applicant nor the County have regulatory authority to control tailpipe emissions, no additional feasible mitigation measures exist that would reduce GHG emissions to levels that are less-than-significant. As such, Project impacts due to GHG emissions	Significant and Unavoidable Impact	Mitigation Measure MM 4.2-1 shall apply. **CRDR 4.6-1** The Project would be required to comply with all mandates imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions are listed below: • Global Warming Solutions Act of 2006 (AB32) • Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles. • Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California	As specified above for Mitigation Measure MM 4.2-1 N/A	As specified above for Mitigation Measure MM 4.2-1 N/A

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
would be significant and unavoidable on a cumulatively-considerable basis **Threshold b.):** The Project would emit more than 3,000 $MTCO_2e$ of GHGs, which exceeds the screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it would not be possible for the Project to achieve 100 points pursuant to the CAP Screening Tables, and no feasible mitigation measures exist that would result in Project consistency with the CAP. Therefore, the Project would result in a significant and unavoidable direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.	Significant and Unavoidable Impact	to be 10% less by 2020. • Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions. • Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020. • Senate Bill 32 (SB 32). Requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15.		
4.7 Historic and Archaeological Resources				
Thresholds a.) and b.): The proposed Project would not alter or destroy a historic site and would not cause a substantial change in the significance of a historical resource as defined in California Code of Regulations § 15064.5. Impacts would be less than significant. **Thresholds c.) and d.):** The proposed Project would not alter or destroy an archaeological site and would not cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations § 15064.5. Impacts would be less than significant.	Less than Significant Less than Significant	**MM 4.7-1** If human remains are encountered during mining activities on site, compliance with California Health and Safety Code § 7050.5 and Public Resources Code § 5097 et. seq. shall be required. State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours).	Project Applicant or Mine Operator, Project Archaeologist/ County Coroner, Planning Department	In the event human remains are discovered

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Threshold e.): The Project site does not contain a cemetery and no known cemeteries are located within the immediate site vicinity. Although the Project Applicant would be required to comply with the applicable provisions of California Health and Safety Code § 7050.5 and California Public Resources Code § 5097 et. seq., the Project's potential impacts to buried human remains would be significant on a direct and cumulatively-considerable basis prior to mitigation. With implementation of Mitigation Measure 4.7-1, impacts would be reduced to less-than-significant levels.	Less than Significant with Mitigation	Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. Evidence of compliance with this mitigation measure, if human remains are found, shall be provided to Riverside County Planning Department upon the completion of a treatment plan and final report detailing the significance and treatment finding. **CRDR 4.7-1** Unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code Section 6254 (r), parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).	Project Applicant or Mine Operator, Project Archaeologist/ County Coroner, Planning Department	In the event human remains are discovered
4.8 Hydrology and Water Quality				
Threshold a.): The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, and impacts would be less than significant. **Threshold b.):** Under the proposed Project, there would be a reduced demand for groundwater resources as compared to existing conditions. Thus, the Project would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be less than significant. Additionally, because all runoff from the Mine would be conveyed off-site towards the San Jacinto Upper	Less than Significant Less than Significant	**CRDR 4.8-1** The Project is required to comply with the provisions of the County's National Pollutant Discharge Elimination System (NPDES) Permit (Order No. R8-2013-0024, NPDES Permit No. CAS618033) and the Project's Storm Water Pollution Prevention Program (SWPPP).	Project Applicant or Mine Operator/ Riverside County Transportation and Land Management Agency	During all mining activities within the EDA

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Pressure GMZ and/or would be allowed to infiltrate into the groundwater table, the Project would not adversely affect groundwater recharge under interim mining operations. Under post-reclamation conditions, because all runoff from the site under post-mining and reclamation activities would contribute to groundwater within the San Jacinto Upper Pressure GMZ, the Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level and impacts would be less than significant.				
Thresholds c.), e.), and f.): The Project would not substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, and would not introduce substantial amounts of new impervious surfaces. Additionally, under both interim and post-reclamation conditions, the total amount of runoff leaving the site would be similar to existing conditions, and would therefore not result in increased flood hazards on- or off-site. Additionally, because the rate and amount of runoff would be similar to existing conditions, the Project would not exceed the capacity of existing or planned stormwater drainage systems. Furthermore, because all runoff from disturbed portions of the site would be detained on site or treated by sedimentation basins prior to discharge from the site, the Project would not provide substantial additional sources of polluted runoff. Impacts would be less than significant.	Less than Significant			
Threshold d.): All runoff in the disturbed portions of the site would either be fully detained on site or would be treated by sedimentation basins prior to discharge from the site.	Less than Significant			

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Additionally, dust control measures, including watering and the use of gravel stabilization, would reduce the amount of dust generated in the actively mined portions of the site. As such, the Project would not result in substantial erosion or siltation on- or off-site, and impacts would be less than significant.				
Threshold g.): The Project is not located within a mapped flood zone and would not impede or redirect flood flows. Impacts would be less than significant.	Less than Significant			
Threshold h.): The Project site is not located in an area that is subject to inundation due to tsunamis, flood hazards, or seiches, and not impact would occur.	No Impact			
Threshold h.): The Project would be fully consistent with the Santa Ana River Basin Plan and the West San Jacinto GMP. As such, Project impacts due to a conflict with a water quality control plan or sustainable groundwater management plan would be less than significant.	Less than Significant			
4.9 Noise				
Thresholds a.) and b.): The Project would not expose people residing or working in the area to excessive noise levels associated with public or private airports, as there are no airports within two miles of the Project site.	Less than Significant	**CRDR 4.9-1** Pursuant to Riverside County Ordinance No. 787, the Project Applicant shall obtain a blasting permit from the Riverside County Sheriff prior to each blasting event.	Project Applicant or Mine Operator/ Riverside County Sheriff's Department	Prior to any blasting events
Threshold c.): The Project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies. Impacts associated with site operations, Project-related traffic, and blasting activities would be less than significant.	Less than Significant			

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Threshold d.): Vibration levels associated with Project-related blasting and truck haul trips would be below applicable thresholds of significance. Thus, the Project would not cause the exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels, and impacts would be less than significant.	Less than Significant			
4.10 Paleontological Resources				
Threshold a.): Implementation of Mitigation Measures MM 4.10-1 through MM 4.10-4 would ensure the proper identification and subsequent treatment of any paleontological resources that may be encountered in the northern and northeastern portions of the proposed EDA during ground-disturbing activities associated with implementation of the proposed Project. Therefore, with implementation of Mitigation Measures MM 4.10-1 through MM 4.10-4, the Project's direct and cumulative impacts to paleontological resources would be reduced to less-than-significant levels.	Less than Significant with Mitigation	**MM 4.10-1** Prior to the commencement of ground-disturbing activities within the EDA, a pre-construction meeting shall be held and attended by the Project Paleontologist, Project Applicant, and a representative of the Lead Agency (County of Riverside). The nature of potential paleontological resources shall be discussed, as well as the protocol that is to be implemented following the discovery of any fossiliferous materials. The Mine Operator shall be responsible for monitoring for compliance with this requirement, and shall document the date, time, location, and attendees who participated at this meeting. Complete grading plans shall be made available to the Project Paleontologist or Paleontological Monitor prior to the start of any earthmoving activities. **MM 4.10-2** Prior to commencement of mining activities within the EDA, the Project Applicant shall provide evidence to Riverside County that mass grading and excavation activities in areas identified as likely to contain paleontological resources will be monitored by a qualified paleontologist or paleontological monitor shall occur. Monitoring shall be conducted full-time in all areas of grading or excavation in undisturbed Mount Eden formation sediments ("Area B" on EIR Figure 4.10-2) located in the northern and northeastern portions of the proposed EDA as well as locations where over-excavation of surficial alluvial sediments will encounter these formational sediments in the shallow subsurface. Paleontological monitors will be equipped to	Project Applicant or Mine Operator, Project Paleontologist/ Planning Department Project Applicant or Mine Operator, Project Paleontologist/ Planning Department	Prior to commencement of ground-disturbing activities within the EDA Prior to commencement of mining activities within the EDA

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
		salvage fossils as they are unearthed to avoid operational delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontological personnel to have a low potential to contain fossil resources. Evidence of compliance with this mitigation measure shall be provided to Riverside County prior to commencement of mining activities within the EDA. **MM 4.10-3** If a paleontological resource is discovered on the property, discovered fossils or samples of such fossils shall be collected and identified by a qualified paleontologist. Preparation of recovered specimens to a point of identification and permanent preservation (not display), including screen-washing sediments to recover small invertebrates and vertebrates, if indicated by the results of test sampling. Evaluation and museum-level preparation of discovered fossils shall be overseen by a qualified paleontologist. Any and all fossils encountered during Project grading activities will be deposited at the Western Science Center Museum on Searl Parkway in Hemet, Riverside County, California. All costs of the paleontological monitoring and mitigation program, including any one-time charges by the receiving institution, are the responsibility of the Project Applicant. The Project Applicant shall provide evidence of compliance with this mitigation measure to Riverside County within 60 days of completion of grading activities within the "High" paleontological sensitivity area of the Project site, if such resources are found on-site.	Project Applicant or Mine Operator, Project Paleontologist/ Planning Department	Upon discovery of paleontological resources

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
		MM 4.10-4 Within 90 days of completion of paleontological monitoring activities within the "High" paleontological sensitivity area of the Project site ("Area B" on EIR Figure 4.10-2), the Project Applicant shall prepare a final monitoring and mitigation report of findings and significance, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. A letter documenting receipt and acceptance of all fossil collections by the receiving institution must be included in the final report. The report, when submitted to (and accepted by) the appropriate lead agency (Attn: Riverside County Transportation and Land Management Agency, Planning Department, 4080 Lemon Street, Riverside, California 92502), shall signify satisfactory completion of the Project's monitoring and mitigation program with respect to nonrenewable paleontological resources.	Project Applicant or Mine Operator, Project Paleontologist/ Planning Department	Within 90 days of completion of paleontological monitoring activities
4.11 Transportation and Traffic				
Threshold a.): Required payment of DIF and TUMF fees as well as implementation of Mitigation Measures MM 4.11-1 and 4.11-2 would reduce the Project's traffic impacts. However, because the Project Applicant would only contribute fair-share fees and DIF/TUMF fee payments, it cannot be assured that the required improvements would be in place at the time mining activities under the proposed Project are expected to commence. As such, impacts would be significant and unavoidable on a cumulatively-considerable basis in the near term until the required improvements are in place. Refer to EIR Tables 4.11-28 and 4.11-29 for a summary of the Project's cumulatively-considerable impacts to study area facilities.	Significant and Unavoidable Impact	**MM 4.11-1** Prior to commencement of mining activities as authorized under SMP 159R2, the Project Applicant shall make a fair-share monetary contribution to the County of Riverside, to be held in trust, for the installation of a traffic signal at the intersection of Jack Rabbit Trail. & Gilman Springs Rd. (#3). The Project's fair share of the required improvement is 35.5%. **MM 4.11-2** Prior to commencement of mining activities as authorized under SMP 159R2, the Project Applicant shall make a fair-share monetary contribution to the County of Riverside, to be held in trust, for the installation of a traffic signal at the intersection of the Project's Driveway & Gilman Springs Rd. (#5). The Project's fair share of the required improvement is 54.7%.	Project Applicant/ Transportation Department Project Applicant/ Transportation Department	Prior to commencement of mining activities within the EDA Prior to commencement of mining activities within the EDA
Threshold b.): The Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand	Less than Significant	**CRDR 4.11-1** Prior to commencement of mining activities as authorized under Amendment No. 2 to Surface Mining Permit No. 159 (SMP 159R2), the Project Applicant shall pay appropriate	Project	Prior to

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
measures, or other standards established by the county congestion management agency for designated roads or highways, and impacts would be less than significant. **Threshold c.):** The Project would not substantially increase hazards due to a design feature or incompatible uses, and impacts would be less than significant. **Threshold d.):** There are no components of the proposed Project that would result in or require a substantial increase in expenditures by Riverside County for public road maintenance such that environmental impacts would result. As such, Project impacts would be less than significant. **Threshold e.):** The Project proposes to expand areas approved for mining on site, and the Project does not propose any roadway or intersection improvements and the Project would not involve a construction phase. As such, the Project would not cause an effect upon circulation during the Project's construction, and no impact would occur. **Threshold f.):** The Project would not result in inadequate emergency access or access to nearby uses, and impacts would be less than significant. **Threshold g.):** The Project does not propose nor require the construction or expansion of a bike system or bike lanes, and no impact would occur.	Less than Significant Less than Significant No Impact Less than Significant No Impact	Development Impact Fee Program (DIF) fees at the rates then in effect in accordance with Riverside County Ordinance No. 659. **CRDR 4.11-2** Prior to commencement of mining activities as authorized under Amendment No. 2 to Surface Mining Permit No. 159 (SMP 159R2), the Project Applicant shall pay appropriate Western Riverside County Transportation Uniform Mitigation Fee Program Ordinance (TUMF) fees at the rates then in effect in accordance with Riverside County Ordinance No. 824.	Applicant/ Transportation Department Project Applicant/ Transportation Department	commencement of mining activities within the EDA Prior to commencement of mining activities within the EDA
4.12 Tribal Cultural Resources				
Threshold a.): The proposed Project was subject to consultation efforts between Riverside County and local tribes, as required by AB 52. As a result of this consultation effort, no tribal cultural resources were identified.	Less than Significant	Mitigation Measure MM 4.7-1 shall apply.	As specified above for Mitigation Measure MM 4.7-1	As specified above for Mitigation Measure MM 4.7-1

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
Accordingly, Project impacts to tribal cultural resources would be less than significant.		City Regulation and Design Requirement MM 4.7-1 shall apply.	1 As specified above for MM 4.7-1	 As specified above for MM 4.7-1
4.13 Utilities and Service Systems				
Thresholds a.) and b.): Overall water demand at the Mine would be reduced approximately 16.1% under the Project as compared to existing/baseline conditions. The existing wells on-site provide adequate water supplies for dust control under existing conditions, and because less water would be needed for dust control under the Project as compared to existing conditions, it can therefore be concluded that the existing wells would adequately serve the proposed Project without the need for new or expanded water supply facilities. No new water facilities would be required to serve the proposed Project. Additionally, all wastewater generated by the Mine under existing and proposed conditions is handled via portable toilets that would regularly be emptied by a service company. As such, the Project would not result in impacts due to the need for new or expanded wastewater treatment facilities. Additionally, impacts associated with storm drainage facilities are evaluated throughout this EIR, and would be less than significant or reduced to less-than-significant levels with implementation of the mitigation measures identified in this EIR. **Thresholds c.) and d.):** The Project would not require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects. Additionally, all wastewater from the site would be handled	Less than Significant No Impact	**CRDR 4.13-1** The Project is required to comply with the Riverside Countywide Integrated Waste Management Plan (CIWMP). The CIWMP requires up to 50 percent of its solid waste needs to be diverted from area landfills. In conformance with the CIWMP, the Project Applicant is required to work with future contract refuse haulers to implement recycling and waste reduction programs for solid wastes. The CIWMP outlines goals, policies, and programs that comply with the provisions of AB 939 and its diversion mandates. **CRDR 4.13-2** The Project is required to comply with the provisions of the California Solid Waste Integrated Waste Management Act, (AB 939, 1989) which mandates a reduction of disposed waste throughout California. **CRDR 4.13-3** The Project is required to comply with the provisions of the Mandatory Commercial Recycling Program (AB 341). AB 341 made a legislative declaration that it is the policy goal of the state that not less than 75% of solid waste generated be source reduced, recycled, or composted by the year 2020, and required the Department of Resources Recycling and Recovery, by January 1, 2014, to provide a report to the Legislature that provides strategies to achieve that policy goal and also includes other specified information and recommendations.	N/A N/A N/A	N/A N/A N/A

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
via portable toilets and would be disposed of by the rental service company in accordance with all applicable regulatory requirements. The rental service company would be required to dispose of wastewater at a facility that has adequate capacity. Thus, no impact would occur.				
Threshold e.): The Project would generate a nominal increase in the amount of solid waste produced on-site due to the addition of eight (8) new employees. This nominal increase in solid waste generation would not result in the generation of solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure. There are also no components of the Project that would impair the attainment of solid waste reduction goals. Impacts would be less than significant.	Less than Significant			
Threshold f.): The Project would comply with all applicable federal, State, and local statutes and regulations related to solid waste disposal, reduction, and recycling, and impacts would be less than significant.	Less than Significant			
Threshold g.): The Project would not result in or require the construction or expansion of electrical, natural gas, or telecommunication facilities, and does not propose or require the installation of new street lighting. The Project would not affect other government facilities. Although the Project would result in an increased need for roadway maintenance in the long term, costs associated with such increased maintenance would not affect existing or future County plans or programs that protect the environment. Although the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions, the Project would not result in the inefficient or wasteful use	Less than Significant			

Potential Environmental Impact	Significance Determination	Mitigation Measures (MM) and City Regulations & Design Requirements (CRDR)	Responsible/ Monitoring Parties	Implementation Stage
of energy. Additionally, the Project would not result in or require the construction or expansion of new electrical facilities. Impacts would be less than significant.				

1.0 INTRODUCTION

1.1 PURPOSE AND LEGAL AUTHORITY

This Environmental Impact Report (EIR) was prepared in full compliance with the California Environmental Quality Act (Public Resources Code § 2100 et. seq.) ("CEQA"), as amended, and the CEQA State Guidelines (Title 14 California Code of Regulations § 15000 et. seq.) ("CEQA Guidelines"), as amended most recently in December 2018. As stated by CEQA Guidelines § 15002(a), the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed government actions (including the discretionary approval of land entitlement applications submitted by private parties);
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if a project will be approved involving significant environmental effects.

The public agency with the principal responsibility for carrying out or approving a project or the first public agency to make a discretionary decision to proceed with a proposed project should ordinarily act as the "Lead Agency" pursuant to CEQA Guidelines §§ 15050-15051. Riverside County is the Lead Agency for the proposed Project evaluated in this EIR.

Under CEQA if a Lead Agency determines that there is substantial evidence in light of the whole record that a project may have a significant effect on the environment, the agency must prepare an EIR (CEQA Guidelines § 15064(a)(1)). The purpose of an EIR is to inform public agency decision-makers and the public of the potentially significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project (CEQA Guidelines § 15121(a)).

This EIR is an informational document that represents the independent judgement of Riverside County (as the Lead Agency) regarding the physical environmental effects that could result from the proposed Project. The "Project" or "proposed Project" is herein defined as approval of Amendment No. 2 to Surface Mining Permit SMP 159 (SMP 159R2) for an existing aggregate mining site known as the Gilman Springs Mine (CA Mine ID # 91-33-0019), as well as other related discretionary and administrative actions that are required for Project implementation, as described in Section 3.0, *Project Description*.

As a first step in the CEQA compliance process, an Initial Study was prepared by Riverside County pursuant to CEQA Guidelines § 15063 to determine if the Project could have a significant effect on the environment.

The Initial Study determined that implementation of the Project has the potential to result in significant environmental effects, and a Project EIR, as defined by CEQA Guidelines § 15161, is required. Pursuant to CEQA Guidelines § 15161, a Project EIR should "…focus primarily on the changes in the environment that would result from the development project," and "…examine all phases of the project including planning, construction, and operation." Accordingly, and in conformance with CEQA Guidelines § 15121(a), the purposes of this EIR are to: (1) disclose information by informing public agency decision makers and the public generally of the significant environmental effects associated with all phases of the Project, (2) identify possible ways to minimize or avoid those significant effects, and (3) to describe a reasonable range of alternatives to the Project that would feasibly attain most of the basic Project objectives but would avoid or substantially lessen its significant environmental effects.

1.2 DEFINITION OF TERMS

The proposed Project consists of Amendment No. 2 to Surface Mining Permit No. 159 (SMP 159R2). The Project proposes 1) an expansion in areas permitted for mining by 54.5 acres, resulting in approximately 204.9 acres permitted for mining activities; 2) an increase mining reserves from approximately 14,000,000 tons to 44,000,000 tons, representing an increase of approximately 30,000,000 tons; 3) the operation of an Inert Debris Engineered Fill Operation (IDEFO) to facilitate ultimate site reclamation; 4) to establish a revised reclamation plan in compliance with the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code § 2710 et seq.) and Chapter 5.48, *Surface Mining Operations*, of the Riverside County Code (Riverside County, 1995); and 5) to revise the Mine's timing restrictions for mining activities within 300 feet of the Mine's boundaries from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays, to 24 hours per day, seven days per week including Sundays and federal holidays. In accordance with CEQA's requirements for evaluating projects involving modifications to an on-going permit, provided below are definitions of various aspects of the Project as will be used throughout this EIR document.

- **"Expanded Disturbance Area (EDA)"** refers to the proposed approximately 54.5-acre increase in the approved disturbance limits for the Gilman Springs Mine.
- **"Existing Approved Mining Limits"** refers to the approximately 150.4 acres that are currently approved for mining operations pursuant to SMP 159R1.
- **"Historical Baseline"** refers to the average operational characteristics of the Gilman Springs Mine over the operational period from 2003 through 2017 (refer to EIR Subsection 3.3.2).
- **"Gilman Springs Mine" or "Mine"** refers to the approximately 1,021.4-acre mine, of which 150.4 acres are currently subject to mining activities pursuant to the existing approved SMP 159R1.
- **"Project" or "proposed Project"** refers to the proposed revisions to the existing approved SMP 159 to include an expansion in the approved mining limits by 54.5 acres; an increase to mining reserves to by approximately 30,000,000 tons, resulting in total reserves of approximately 44,000,000 tons; an increase to equipment operational hours within 300 feet of the approved mining limits to seven days per week, twenty-four hours per day, including holidays; operation of an IDEFO to facilitate ultimate site reclamation; and identification of ultimate site reclamation conditions.

1.3 SUMMARY OF THE PROJECT EVALUATED BY THIS EIR

The existing Gilman Springs Mine (herein, "Mine") site comprises approximately 1,021.4 acres, and encompasses Assessor Parcel Numbers (APNs) 422-240-(007, 008), 423-240-(001, 018, 019, 020, 021, 022, 023, 024), and 424-190-(001, 002). The Mine is located northeast of the intersection of Gilman Springs Road and Bridge Street in unincorporated Riverside County, southeast of the City of Moreno Valley and north of the City of San Jacinto.

The proposed Project consists of approval of SMP 159R2, which would allow for the following: 1) an expansion in areas permitted for mining by 54.5 acres, resulting in approximately 204.9 acres permitted for mining activities; 2) an increase to mining reserves from approximately 14,000,000 tons to 44,000,000 tons, representing an increase of approximately 30,000,000 tons; 3) the operation of an Inert Debris Engineered Fill Operation (IDEFO) to facilitate ultimate site reclamation; 4) an expansion in the hours permitted for mining within 300 feet of the approved and proposed mining limits from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays, to 24-hour operations 7 days a week, including holidays; and 5) to establish a revised reclamation plan in compliance with SMARA (Public Resources Code, § 2710 et seq.) and Riverside County Ordinance No. 555 (Surface Mining and Reclamation Act) (Riverside County, 2012, Chapter 5.48). SMP 159R2 would not affect the annual tonnage limit at the Mine, which would remain capped at 1,000,000 tons per year (tpy).

1.4 LEGAL AUTHORITY

This EIR has been prepared in accordance with all criteria, standards, and procedures of CEQA (California Public Resource Code § 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, § 15000 et seq.).

Pursuant to CEQA § 21067 and CEQA Guidelines Article 4 and § 15367, Riverside County is the Lead Agency under whose authority this EIR has been prepared. "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Serving as the Lead Agency and before taking action to approve the Project, Riverside County has the obligations to: (1) ensure that this EIR has been completed in accordance with CEQA; (2) review and consider the information contained in this EIR as part of its decision-making process; (3) make a statement that this EIR reflects Riverside County's independent judgment; (4) ensure that all significant effects on the environment are eliminated or substantially lessened where feasible; and, if necessary (5) make written findings for each unavoidable significant environmental effect stating the reasons why mitigation measures or project alternatives identified in this EIR are infeasible and citing the specific benefits of the proposed Project that outweigh its unavoidable adverse effects (CEQA Guidelines §§ 15090 through 15093).

Pursuant to CEQA Guidelines § 15040 through § 15043, and upon completion of the CEQA review process, Riverside County will have the legal authority to do any of the following:

- Approve the proposed Project;

- Require feasible changes in any or all activities involved in the Project in order to substantially lessen or avoid significant effects on the environment;

- Disapprove the Project, if necessary, in order to avoid one or more significant effects on the environment that would occur if the Project was approved as proposed; or

- Approve the Project even though the Project would cause a significant effect on the environment if the County makes a fully informed and publicly disclosed decision that: 1) there is no feasible way to lessen the effect or avoid the significant effect; and 2) expected benefits from the Project will outweigh significant environmental impacts of the Project.

This EIR fulfills the CEQA environmental review requirements for proposed SMP No. 159R2 and all other governmental discretionary and administrative actions related to the Project.

1.5 RESPONSIBLE AND TRUSTEE AGENCIES

The California Public Resource Code (§ 21104) requires that all EIRs be reviewed by Responsible and Trustee agencies (see also CEQA Guidelines § 15082 and § 15086(a)). As defined by CEQA Guidelines § 15381, "the term 'Responsible Agency' includes all public agencies other than the Lead Agency which have discretionary approval power over the project." A Trustee Agency is defined in CEQA Guidelines § 15386 as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California."

For the proposed Project, the South Coast Air Quality Management District (SCAQMD), Santa Ana Regional Water Quality Control Board (RWQCB), Riverside County Flood Control & Water Conservation District (RCFCWCD), United States Army Corps of Engineers (USACE), California Department of Conservation (CDC), Western Riverside County Regional Conservation Authority (RCA), and United States Fish and Wildlife Service (USFWS) are considered Responsible Agencies. The California Department of Fish and Wildlife (CDFW) is a Trustee Agency for the proposed Project that is responsible for managing "…California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public" (CDFW, 2018). Table 3-5, M*atrix of Project Approvals/Permits*, in EIR Section 3.0, *Project Description*, lists the agencies that are expected to review this EIR and provides a summary of the subsequent actions associated with the Project.

1.6 EIR SCOPE, FORMAT AND CONTENT

1.6.1 EIR SCOPE

As a first step in complying with the procedural requirements of CEQA, Riverside County prepared an Initial Study to preliminarily identify the environmental issue areas that may be adversely impacted by the Project. Following completion of the Initial Study, the County filed a Notice of Preparation (NOP) with the California Office of Planning and Research (OPR) (State Clearinghouse) to indicate that an EIR would be prepared to evaluate the Project's potential to impact the environment. The NOP was filed with the State Clearinghouse

and distributed to property owners located within 2,400 feet of the property, Responsible Agencies, Trustee Agencies, and other interested parties on May 16, 2018, for a 30-day public review period. Riverside County also made copies of the NOP available to the general public for review at the Moreno Valley Library and San Jacinto Library. The County distributed the NOP for public review to solicit responses that may assist the County in identifying the full scope and range of potential environmental concerns associated with the Project so that these issues could be fully examined in this EIR.

As a result of the Initial Study and in consideration of all comments received by the County on the NOP, this EIR evaluates the Project's potential to cause adverse effects to the following environmental issue areas. It should be noted that the issue of "Energy" has been added as a result of the December 2018 updates to Appendix G to the CEQA Guidelines, and has been addressed in this EIR accordingly. Additionally, although the December 2018 CEQA Guidelines update added the subject of wildfire to the list of topics requiring analysis under CEQA, the Project's Initial Study/NOP determined that the Project's potential impacts due to wildfire hazards would be less than significant (refer to the discussion of Hazards and Hazardous Materials in the Project's Initial Study, which is included in *Technical Appendix A*). As such, the topic of wildfire hazards is not addressed in detail in this EIR. Accordingly, this EIR evaluates the following issue areas in detail:

- Aesthetics
- Air Quality
- Biological Resources
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Historic and Archaeological Resources
- Hydrology/Water Quality
- Noise
- Paleontological Resources
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities/Service Systems
- Mandatory Findings of Significance

The Initial Study, NOP, public review distribution list, and written comments received by the County during the NOP public review period are provided in Technical Appendix A to this EIR. Substantive issues raised in response to the NOP are summarized below in Table 1-1, *Summary of NOP Comments*. The purpose of this table is to present the primary environmental issues of concern raised during the NOP review period. The table is not intended to list every comment received by the County during the NOP review period. Regardless of whether or not a comment is listed in the table, all applicable comments received in response to the NOP are addressed in this EIR.

Table 1-1 Summary of NOP Comments

Commenter	Date	Comments	Location in this EIR where comment is addressed
California Department of Fish and Wildlife (CDFW)	June 5, 2018	• CDFW requests an assessment of potential impacts to biological resources, including impacts to habitat types; a general biological inventory of fish, amphibian, reptile, bird, and mammal species that could be impacted by the Project; an inventory of rare, threatened, endangered, and other sensitive species within the proposed impact areas; special status and	EIR Subsection 4.3, *Biological Resources*

Commenter	Date	Comments	Location in this EIR where comment is addressed
		sensitive natural communities surveys; and an analysis of direct, indirect, and cumulatively-considerable impacts to biological resources. • CDFW requests the identification of mitigation measures for impacts to biological resources. • CDFW requests a review of Project consistency with the California Endangered Species Act, Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and the lake and streambed alteration program.	
Department of California Highway Patrol	June 29, 2018	• The Department of California Highway Patrol (CHP) indicates concern regarding traffic congestion and safety, particularly along Gilman Springs Road.	EIR Subsection 4.11, *Transportation and Traffic*
South Coast Air Quality Management District (SQACMD)	June 5, 2018	• SCAQMD recommends the City use the CEQA Air Quality Handbook (1993) when preparing the air quality analysis. • SCAQMD recommends the City use the CalEEMod land use emissions software when preparing the air quality analysis. • SCAQMD indicates the City should identify any potential adverse air quality impacts that could occur from all phases of the project (including construction and operation) and all air pollutant sources related to the project. • SCAQMD requests that the City quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds. The SCAQMD also recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). • The SCAQMD also recommends the City perform a mobile source health risk assessment in the event the proposed Project generates or attracts vehicular trips. • In the event that significant adverse air quality impacts are identified in association with the Project, SCAQMD identifies consulting several sources for mitigation measures.	EIR Subsection 4.2, *Air Quality*
Riverside County Transportation Department (RCTD)	June 13, 2018	• Page 4-36 of the Initial Study incorrectly indicated that there would be "No Impact" under the threshold of whether the Project would result in "Changes in the amount of surface water in any water body." RCTD indicates this checkbox was marked incorrectly and should be studied in the EIR.	EIR Subsection 4.8, *Hydrology and Water Quality*
City of Moreno Valley	June 13, 2018	• Moreno Valley requests that the subject of air quality be evaluated and impacts should be mitigated. • Moreno Valley requests dispersion modeling of potential pollutants. • Moreno Valley requests an analysis of potential noise impacts, including impacts due to expanded hours of operation, and noise impacts associated with blasting. • Moreno Valley requests an analysis of construction and operational noise impacts.	EIR Subsection 4.2, *Air Quality*. EIR Subsection 4.9, *Noise*. It should be noted that as a mining operation, the Project does not involve a construction phase that would warrant additional analysis.

Commenter	Date	Comments	Location in this EIR where comment is addressed
		• Moreno Valley requests an analysis of potential traffic impacts, including impacts along Gilman Springs Road and at the interchange with State Route 60.	EIR Subsection 4.11, *Transportation and Traffic*
Sierra Club	June 17, 21018	• Sierra Club requests an analysis of on- and off-site impacts to biological resources.	EIR Subsection 4.3, *Biological Resources.*
		• Sierra Club indicates concern over noise, light, vibration, runoff from operations as well as storms, wind patterns causing significant dust/pollution, reduced food/habitat for raptors, ground water resources and vehicle movement.	EIR Subsections 4.9 (*Noise*), 4.1 (*Aesthetics*), 4.8 (*Hydrology and Water Quality*), 4.2 (*Air Quality*), 4.3 (*Biological Resources*), and 4.11 (*Transportation and Traffic*)
		• Sierra Club queries as to whether CARB Tier 4 off road equipment will be required, whether solar will be required, whether equipment will be electric, and whether equipment will be required to be upgraded per CARB requirements.	Section 3.0 (*Project Description*), Subsections 4.2 (*Air Quality*) and 4.6 (*Greenhouse Gas Emissions*)
		• Sierra Club requests that the World Logistic Center project be considered in the cumulative traffic analysis.	Subsections 4.0 (*Environmental Analysis*) and 4.11 (*Transportation and Traffic*)
		• Sierra Club requests information regarding potential future expansions of the Mine.	EIR Subsection 3.0, *Project Description*. It should be noted that there are no plans at this time for further expansion of the Mine
Alonzo Ledezma	May 29, 2018	• Indicates concern over 24-hour operations, particularly related to potential dust and noise.	EIR Subsections 4.2, *Air Quality*, and 4.9, *Noise*.
Francisco Ramirez	May 31, 2018	• Indicates concern over noise and dust, including health risks associated with dust.	EIR Subsections 4.2, *Air Quality*, and 4.9, *Noise*.

1.6.2 USE OF THIS EIR

This EIR will be made available for review by the public and public agencies for a minimum period of 45 days to provide comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (CEQA Guidelines § 152049(a)). During the decision-making process, the Project and its design features, objectives, merits, environmental consequences, and socioeconomic factors, among other information contained in the Project's administrative record, will be considered by Riverside County decision-makers. If the Final EIR is certified and the Project approved, other public agencies with permitting authority over all, or portions, of the Project will be able to use the Final EIR as part of their permitting processes to evaluate the environmental effects of the Project as they pertain to the approval or denial of applicable permits.

1.6.3 Content and Organization of this EIR

This EIR contains all of the information required to be included in an EIR as specified by the CEQA Statutes and Guidelines (California Public Resources Code, § 21000 et. seq. and California Code of Regulations, Title 14, Chapter 5). This EIR is organized in the following manner:

- **Section S.0, Executive Summary,** provides an overview of the EIR document and CEQA process. The Project, including its objectives, is described, and the location and regional setting of the Project site is documented. In addition, the Executive Summary discloses potential areas of controversy related to the Project, including those issues identified by other agencies and the public, and identifies potential alternatives to the proposed Project that would reduce or avoid significant impacts, as required by CEQA. Finally, the Executive Summary provides a summary of the Project's impacts, mitigation measures, and conclusions, in a table that forms the basis of the EIR's Mitigation Monitoring and Reporting Program.

- **Section 1.0, Introduction,** provides introductory information about the CEQA process and the responsibilities of Riverside County, serving as the Lead Agency for this EIR; a brief description of the Project; the purpose of the EIR; a list of applications proposed by the Project Applicant that would require discretionary County approvals; permits and approvals required by other agencies; and an overview of the EIR format.

- **Section 2.0, Environmental Setting,** describes the environmental setting, including an overview of the regional and local setting, as well as descriptions of the Project site's physical conditions and surrounding context. The existing setting is defined as the condition of the Project site and surrounding area at the approximate date this EIR's NOP was released for public review (May 16, 2018). The setting discussion also addresses the relevant regional planning documents that apply to the Project site and vicinity.

- **Section 3.0, Project Description,** serves as the EIR's Project Description for purposes of CEQA and contains a level of specificity commensurate with the level of detail proposed by the Project, including the summary requirements pursuant to CEQA Guidelines § 15123. This section provides a detailed description of the Project, including its purpose and main objectives. In addition, the discretionary actions required of Riverside County and other government agencies to implement the Project are discussed.

- **Section 4.0, Environmental Analysis,** provides an analysis of the potential direct, indirect, and cumulative impacts that may occur from implementing the proposed Project. The topics analyzed in this section include the topics summarized above under Section 1.6.1. Topics that were found to have no potential of being significantly impacted are discussed in Section 5.0, *Other CEQA Considerations*. A conclusion concerning significance is reached for each discussion; mitigation measures are presented as warranted. The environmental changes identified in Section 4.0 and throughout this EIR are referred

to as "effects" or "impacts" interchangeably. The CEQA Guidelines also describe the terms "effects" and "impacts" as being synonymous (CEQA Guidelines § 15358).

In the environmental analysis subsections of Section 4.0, the existing conditions are disclosed that are pertinent to the subject area being analyzed, accompanied by a specific analysis of physical impacts that may be caused by implementing the proposed Project. Impacts are evaluated on a direct, indirect, and cumulative basis. Direct impacts are those that would occur directly as a result of the proposed Project. Indirect impacts represent secondary effects that would result from Project implementation. Cumulative effects are defined in CEQA Guidelines § 15355 as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

The analyses in Section 4.0 are based in part upon technical reports that are appended to this EIR. Information also is drawn from other sources of analytical materials that directly or indirectly relate to the proposed Project and are cited in Section 7.0, *References*. Where the analysis demonstrates that a physical adverse environmental effect may or would occur without undue speculation, feasible mitigation measures are recommended to reduce or avoid the significant effect. Mitigation measures must be fully enforceable, have an essential nexus to a legitimate governmental interest, and be "roughly proportional" to the impacts of the Project. The discussion then indicates whether the identified mitigation measures would reduce impacts to below a level of significance. In most cases, implementation of the mitigation measures would reduce the adverse environmental impacts to below a level of significance. If mitigation measures are not available or feasible to reduce an identified impact to below a level of significance, the environmental effect is identified as a significant and unavoidable adverse impact, for which a Statement of Overriding Considerations (SOC) would need to be adopted by Riverside County pursuant to CEQA Guidelines § 15093.

- **Section 5.0, Other CEQA Considerations,** includes specific topics that are required by CEQA. These include a summary of the Project's significant and unavoidable environmental effects, a discussion of the significant and irreversible environmental changes that would occur should the Project be implemented, as well as potential growth-inducing impacts of the proposed Project. Section 5.0 also includes a discussion of the potential environmental effects that were found not be significant during as part of the Project's Initial Study/NOP.

- **Section 6.0, Project Alternatives,** describes and evaluates alternatives to the proposed Project that could reduce or avoid the Project's adverse environmental effects. CEQA does not require an EIR to consider every conceivable alternative to the Project but rather to consider a reasonable range of alternatives that will foster informed decision making and public participation. A range of three (3) alternatives is presented in Section 6.0.

- **Section 7.0, References,** cites all reference sources used in preparing this EIR and lists the agencies and persons that were consulted during preparation of this EIR. Section 7.0 also lists the persons who authored or participated in preparing this EIR.

- **Technical Appendices.** CEQA Guidelines § 15147 states that the "information contained in an EIR shall include summarized…information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public," and that the "placement of highly technical and specialized analysis and data in the body of an EIR shall be avoided." Therefore, the detailed technical studies, reports, and supporting documentation that were used in preparing this EIR are bound separately as Technical Appendices. The Technical Appendices are available for review at Riverside County Planning Department; 4080 Lemon Street, 12th Floor, Riverside, California 92502 during the County's regular business hours or can be requested in electronic form by contacting the County Planning Department. The individual technical studies, reports, and supporting documentation that comprise the Technical Appendices are as follows:

  A. Initial Study, Notice or Preparation, and Written Comments on the NOP
  B1. Air Quality Impact Analysis
  B2. Supplemental Air Quality and Greenhouse Gas Assessment
  C1. Biological Resources Assessment
  C2. Jurisdictional Delineation
  C3. Determination of Biological Equivalent or Superior Preservation
  D. Slope Stability Investigation
  E. Greenhouse Gas Analysis
  F. Archaeological Resources Report
  G1. Preliminary Hydrology Study
  G2. Storm Water Pollution Prevention Plan
  H1. Noise Study
  H2. Supplemental Noise Assessment
  I. Paleontological Resource Impact Mitigation Program
  J1. Traffic Impact Analysis
  J2. Supplemental Traffic Assessment
  J3. Driveway Queuing Analysis
  K. Energy Analysis

CEQA requires that an EIR contain, at a minimum, certain specified content. Table 1-2, *Location of CEQA Required Topics*, provides a quick reference in locating the CEQA-required content within this document.

1.6.4 Incorporation by Reference

CEQA Guidelines § 15147 states that the "information contained in an EIR shall include summarized… information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public," and that the "placement of highly technical and specialized analysis and data in the body of an EIR shall be avoided." CEQA Guidelines § 15150 allows for the incorporation "by reference all or portions of another document… [and is] most appropriate for including long, descriptive, or technical materials that provide general background but do not contribute directly to the analysis of a problem at hand." The purpose of incorporation by reference is to assist the Lead Agency in limiting the length of this EIR. Where this EIR incorporates a document by reference, the document is identified in the body of the EIR, citing

the appropriate section(s) of the incorporated document and describing the relationship between the incorporated part of the referenced document and this EIR.

Table 1-2 Location of CEQA Required Topics

CEQA Required Topic	CEQA Guidelines Reference	Location in this EIR
Table of Contents	§ 15122	Table of Contents
Summary	§ 15123	Section S.0
Environmental Setting	§ 15125	Section 2.0
Project Description	§ 15124	Section 3.0
Consideration and Discussion of Environmental Impacts	§ 15126	Section 4.0
Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented	§ 15126.2(b)	Section 4.0 & Subsection 5.1
Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented	§ 15126.2(c)	Subsection 5.2
Growth-Inducing Impact of the Proposed Project	§ 15126.2(d)	Subsection 5.3
Analysis of the Project's Energy Conservation Measures	§ 151264(c)	Subsection 5.4
Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects	§ 15126.4	Section 4.0 & Table S-1
Consideration and Discussion of Alternatives to the Proposed Project	§ 15126.6	Section 6.0
Effects Not Found to be Significant	§ 15128	Subsection 5.5
Organizations and Persons Consulted	§ 15129	Section 7.0 & Technical Appendices
Discussion of Cumulative Impacts	§ 15130	Section 4.0

Therefore, the detailed technical studies, reports, and supporting documentation that were used in preparing this EIR are bound separately as Technical Appendices. The Technical Appendices are available for review at the Riverside County Planning Department, 4080 Lemon Street, 12th Floor, Riverside, CA 92502, during the County's regular business hours or can be requested in electronic form by contacting the County's Planning Department. The individual technical studies, reports, and supporting documentation that comprise the Technical Appendices are as follows:

A. Initial Study, Notice or Preparation, and Written Comments on the NOP
B1. Air Quality Impact Analysis
B2. Supplemental Air Quality and Greenhouse Gas Assessment
C1. Biological Resources Assessment
C2. Jurisdictional Delineation
C3. Determination of Biological Equivalent or Superior Preservation
D. Slope Stability Investigation
E. Greenhouse Gas Analysis
F. Archaeological Resources Report
G1. Preliminary Hydrology Study
G2. Storm Water Pollution Prevention Plan
H1. Noise Study
H2. Supplemental Noise Assessment
I. Paleontological Resource Impact Mitigation Program
J1. Traffic Impact Analysis
J2. Supplemental Traffic Assessment
J3. Driveway Queuing Analysis
K. Energy Analysis

Other reference sources that are incorporated into this EIR by reference are listed in Section 7.0, *References*, of this EIR. In most cases, documents or websites not included in the EIR's Technical Appendices are cited by a link to the online location where the document/website can be viewed by the public. All references relied upon by this EIR are included as part of Riverside County's Administrative Record pertaining to the proposed Project.

2.0 ENVIRONMENTAL SETTING

2.1 CEQA REQUIREMENTS FOR ENVIRONMENTAL SETTING AND BASELINE CONDITIONS

CEQA Guidelines § 15125 establishes requirements for defining the environmental setting to which the environmental effects of a proposed project must be compared. The environmental setting is defined as "…the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced…" (CEQA Guidelines § 15125[a]). As required under CEQA, aside from specifics related to the historic production averages for the operating Mine, as discussed in more detail below, the Project site's baseline physical conditions are set at the time the notice of preparation (NOP) for this EIR was published, which is May 16, 2018.

CEQA Guidelines § 15125 further clarifies that the environmental setting "…will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." California courts have held that using the qualifying term, "normally," CEQA Guidelines § 15125 recognizes that in appropriate situations a lead agency has the discretion to select a different baseline method that accounts for the circumstances presented. (See *Fat v. County of Sacramento (2002) 97 Cal.App.4th 1270, 1278*.) In the case of mining projects specifically, the courts have held that the established usage of the property (e.g., historic production averages for the operating Mine) may be considered to define the environmental setting. (See *San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cal.App.4th 645, pg. 659*.) Because the amount of material that mining operators quarry is driven by supply and demand market forces that vary from month to month and year to year, the courts have ruled that it is appropriate to consider conditions over a time period range to establish a production volume average. (*See Hansen Brothers Enterprises, Inc. v. Board of Supervisors (1996) 12 Cal.4th 533; Save Our Peninsula Committee v. Monterey County Bd. of Supervisors, 87 Cal.App.4th at p. 125*.) The environmental setting for a long-operating mine must take into account the historical averages, because using only a single year of production values would be "misleading and illusory." (See *Fairview Neighbors v. County of Ventura (1999) 70 Cal.App.4th 238*.) However, the existing baseline conditions must also be representative of the mine's actual operations (acknowledging latitude where operations fluctuate), and not be based merely on theoretical conditions, such as a theoretical maximum allowed under an approved permit that has not actually been realized based on historical data. (See *Communities for a Better Environment v. South Coast Air Quality Management District, et al. (2010) 48 Cal.4th 310*.)

In accordance with the provisions of CEQA Guidelines § 15125(a) and relevant CEQA case law, for proposed projects that seek to modify existing on-going mining permits, the operational characteristics of the "project" evaluated by the CEQA document are the characteristic differences between the proposed permit provisions (maximum quantity of materials that would be allowed to be mined) compared against the historical baseline average. Riverside County determined that 15 years of historical mine production data is an adequate and appropriate time span to determine average production volumes and calculate the historical average. In the case of this particular analysis, 15 years is appropriate because it spans a time period of 2003-2017, which includes a period of economic expansion, followed by the recession in 2008-2009, and then a recovery between

2010 and 2017. Thus, the 15-year baseline represents a full economic cycle and is therefore appropriate for the proposed Project. Table 2-1, *Annual Mine Tonnage (2002 through 2016)*, presents the annual tonnage for the Gilman Springs Mine for the years 2003 through 2017. Although proposed SMP 159R2 would not change the allowed maximum total annual tonnage material of 1,000,000 tpy (tons per year), historical data recorded by the Mine operator indicates that the Mine produced an average of approximately 377,675 tpy between 2003 through 2017. (Project Applicant, 2018)

Table 2-1 Annual Mine Tonnage (2002 through 2016)

Year	Production
2003	375,000 tpy
2004	1,237,417 tpy
2005	1,273,168 tpy
2006	596,908 tpy
2007	455,321 tpy
2008	307,943 tpy
2009	231,147 tpy
2010	35,666 tpy
2011	140,102 tpy
2012	48,698 tpy
2013	172,588 tpy
2014	269,970 tpy
2015	152,169 tpy
2016	113,104 tpy
2017	255,930 tpy
Total (2002-2016):	**5,665,131 tons**
Annual Average:	**377,675 tpy**

It is important to note that the Project Applicant is entitled to continue operating the Gilman Springs Mine under approved Surface Mining Permit No. 159R1 (SMP 159R1) until all reserves at the Mine are exhausted. Thus, consistent with CEQA and case law interpreting CEQA, the Project environmental impacts analyzed in this EIR are the incremental impacts beyond those associated with existing and fully permitted operations at the Mine.

2.2 REGIONAL SETTING AND LOCATION

The approximately 1,021.4-acre Gilman Springs Mine is located within unincorporated western Riverside County, California. Figure 2-1, *Regional Map*, depicts the regional locale of the Mine within the regional setting. As shown, the Project site is located 2.4 miles southeast of Moreno Valley and 2.6 miles north of the City of San Jacinto within the Inland Empire region of southern California. The Inland Empire is an approximate 28,000 square mile region comprising western Riverside County, western San Bernardino

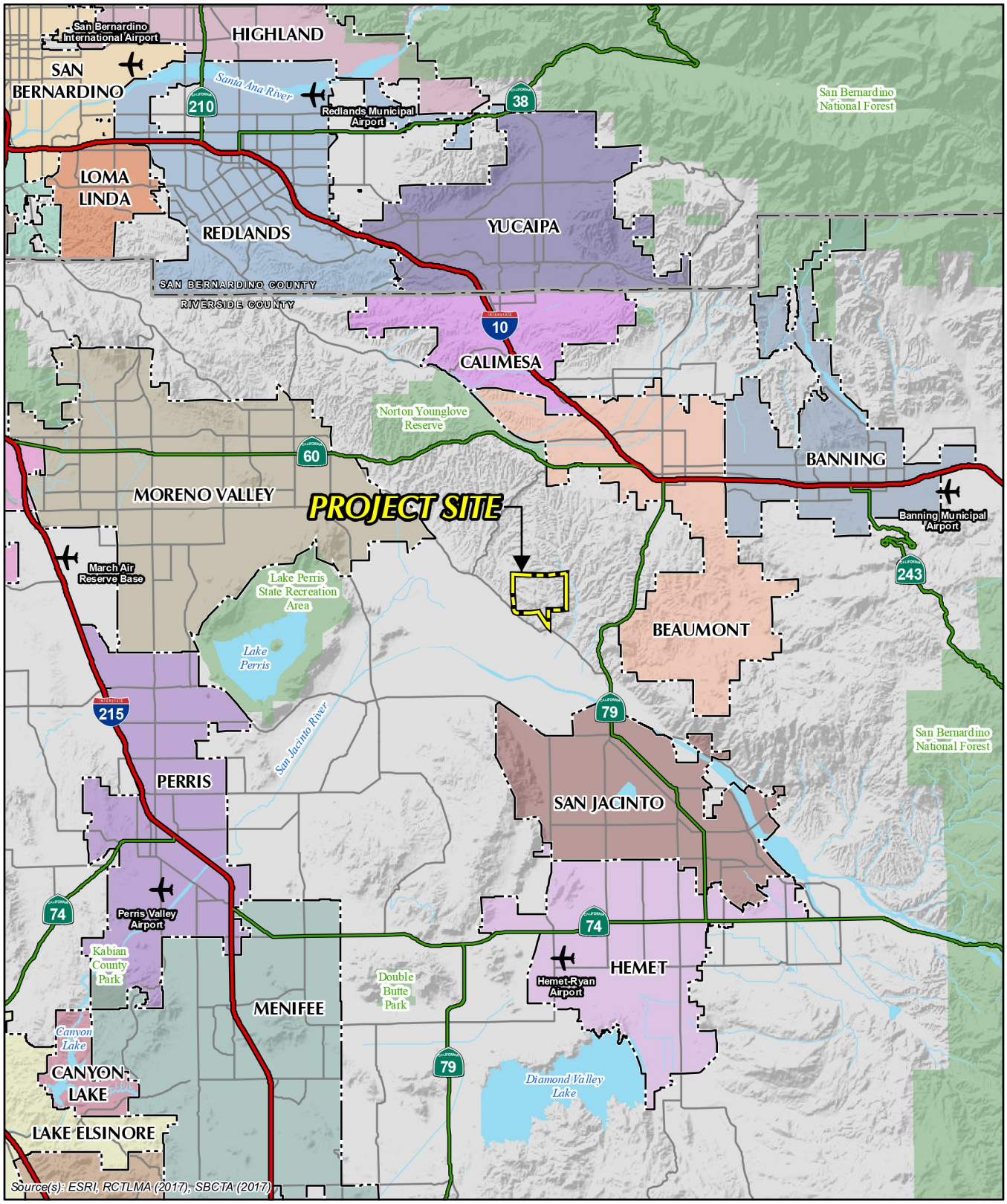


Figure 2-1

REGIONAL MAP

County, and the eastern reaches of Los Angeles County. The Southern California Association of Governments (SCAG) estimates that the majority of growth for the entire southern California region will take place in Riverside and San Bernardino Counties (SCAG, 2016). According to U.S. Census data, the 2010 population of Riverside County was 2,189,753 (USCB, 2015). SCAG forecast models predict that the population of Riverside County will grow to approximately 3,324,000 persons (an approximate 1.1 million persons increase) by the Year 2035 (SCAG, 2012).

2.3 LOCAL SETTING AND LOCATION

The Gilman Springs Mine (APNs 422-240-(007, 008), 423-240-(001, 018, 019, 020, 021, 022, 023, 024), and 424-190-(001, 002)) is located approximately 2.6 miles north of the City of San Jacinto, approximately 2.4 miles southeast of the City of Moreno Valley, and approximately 4.3 miles east of Lake Perris State Recreation Area. State Route 79 (SR-79) is located approximately 1.2 miles southeast of the Project site, State Route 60 (SR-60) is located approximately 4.0 miles north of the Project site, and Interstate 215 (I-215) occurs approximately 11.7 miles west of the Project site. The Project site encompasses portion of Section 25, Township 3 South, Range 2 West; Section 36, Township 3 South, Range 2 West; and Section 30 West, Township 3 South, Range 1 West, of the San Bernardino Baseline and Meridian. Specifically, the Project site occurs northeast of Gilman Springs Road, with the entrance to the Project site located along Gilman Springs Road, approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street, as depicted in Figure 2-2, *Vicinity Map*.

2.4 SURROUNDING LAND USES AND DEVELOPMENT

Land uses in the immediate vicinity of Gilman Springs Mine are depicted on Figure 2-3, *Surrounding Land Uses and Development.* As shown on Figure 2-3, located to the north is the Lockheed Propulsion company property; to the east is open space and the Lamb Canyon Landfill; immediately to the south is open space, beyond which is Gilman Springs Road and varying agricultural uses; and to the west is open space and Gilman Springs Road beyond which are varying agricultural uses and open space. The nearest residential home to the Mine's boundary is located approximately 1,030 feet to the west along Peppertree Lane.

2.5 AGGREGATE MINING CONTEXT IN THE SAN BERNARDINO PRODUCTION AREA

The Gilman Springs Mine extracts and exports aggregate material for use as construction material. According to Riverside County General Plan EIR No. 521, dated March 2014, classification of the region occurred in 1984 by Special Report No.143, Part VII from the California Department of Conservation, Division of Mines and Geology. In addition, the State Mining and Geology Board (SMGB) designated lands within the region as being of "regional significance" in 1987 with SMARA (Surface Mining and Reclamation Act) Designation Report No. 5. Material extracted from the region are exported to Riverside and San Bernardino Counties, as well as northern San Diego County. (Riverside County, 2015, pp. 4.14-5)

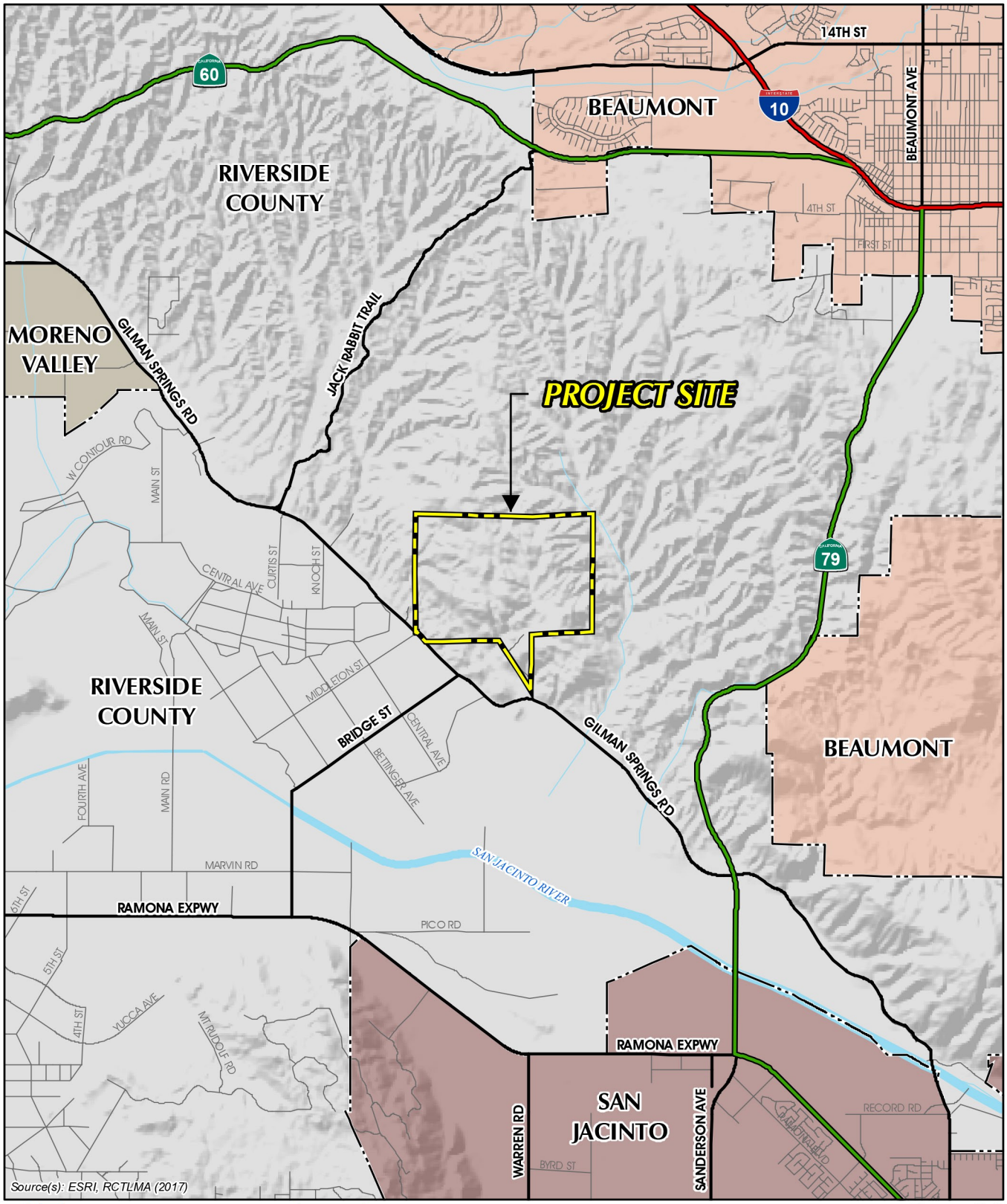


Figure 2-2

VICINITY MAP

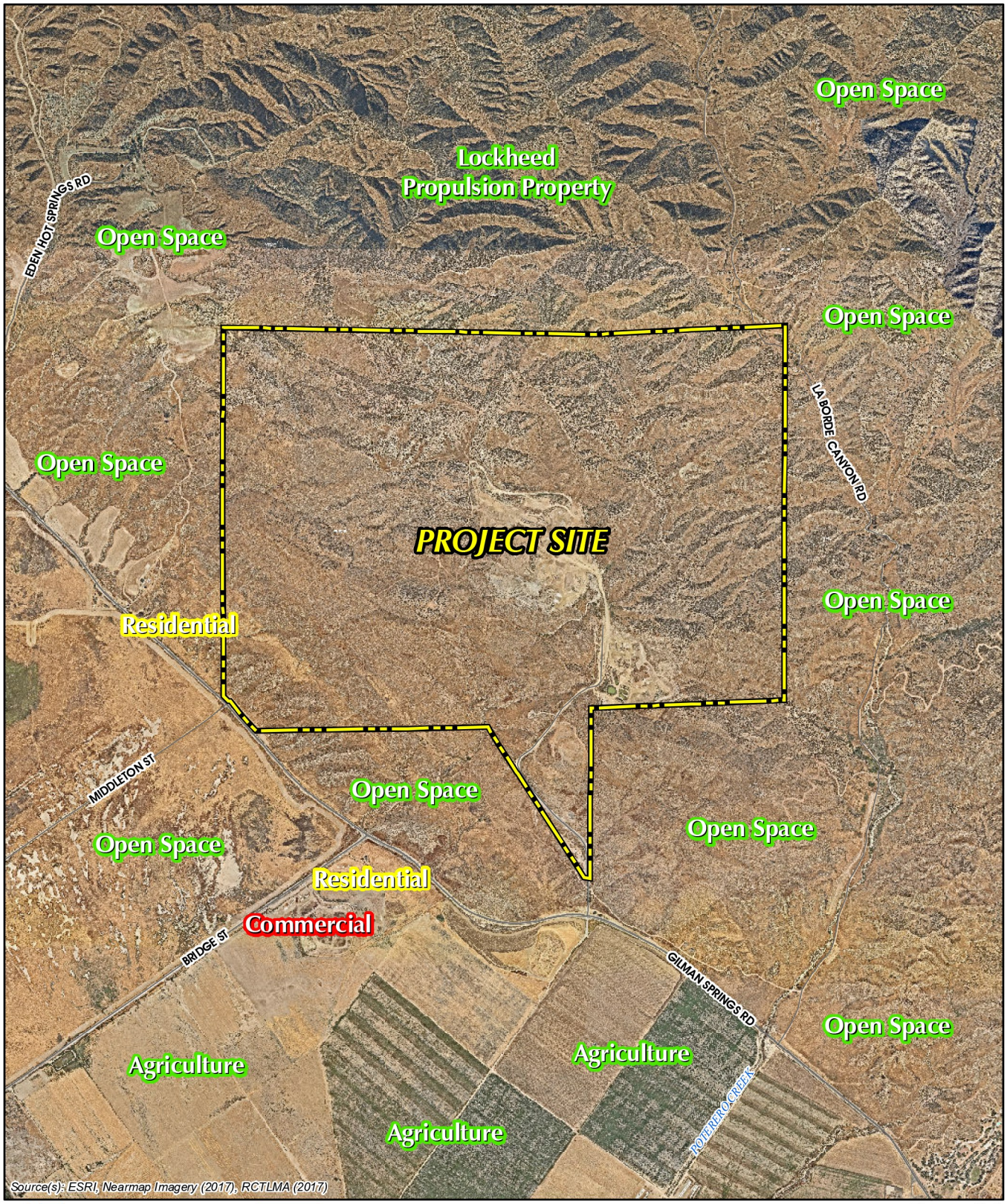


Figure 2-3

SURROUNDING LAND USES AND DEVELOPMENT

Department of Finance estimates show the population for the five-county area containing Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties is expected to increase by approximately 6.5 million people between 2010 and 2060. Of that approximately 6.5 million, Riverside County's population is expected to grow by 2 million persons and San Bernardino by about 1.4 million persons. Much of the future growth in these two counties will likely occur in the Inland Empire region served by the San Bernardino Production Area. Growth in Los Angeles, Orange, and San Diego counties is likely to increase demand for aggregate in those areas, creating additional demand for increased exports of aggregate from the production area. (CGS, 2014, p. 24)

2.6 LOCAL PLANNING CONTEXT

This Subsection provides a description of the subject property's land use designations, as applied by planning documents adopted by Riverside County, as discussed below.

2.6.1 SCAG REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS)

The Southern California Association of Governments (SCAG) is a regional agency established pursuant to California Government Code § 6500, also referred to as the Joint Powers Authority law. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). The Project site is within SCAG's regional authority. On April 7, 2016, SCAG adopted the *2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)* with goals to: 1) Align the plan investments and policies with improving regional economic development and competitiveness; 2) Maximize mobility and accessibility for all people and goods in the region; 3) Ensure travel safety and reliability for all people and goods in the region; 4) Preserve and ensure a sustainable regional transportation system; 5) Maximize the productivity of our transportation system; 6) Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking); 7) Actively encourage and create incentives for energy efficiency, where possible; 8) Encourage land use and growth patterns that facilitate transit and active transportation; and 9) Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies. Performance measures and funding strategies also are included to ensure that the adopted goals are achieved through implementation of the RTP. (SCAG, 2016, p. 74)

2.6.2 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR QUALITY MANAGEMENT PLAN

Currently, the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are exceeded in most parts of the South Coast Air Basin. In response, and in conformance with California Health & Safety Code § 40702 et seq. and the California Clean Air Act, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. Each version of the plan is an update of the previous plan and has a 20-year horizon with a revised baseline. The most recent AQMP was adopted by the AQMD Governing Board on March 3, 2017 ("2016 AQMP"). The 2016 AQMP incorporates the latest scientific and technological information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) and updated emission

inventory methodologies for various source categories. The 2016 AQMP is based on assumptions provided by the Emission FACtor model (EMFAC) developed by the California Air Resources Board (CARB) for motor vehicle information and assumptions provided by SCAG for demographics. The air quality levels projected in the 2016 AQMP are based on the assumption that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its *2016 RTP/SCS*. The 2016 AQMP also assumes that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. (SCAQMD, 2017c)

2.6.3 Riverside County General Plan and San Jacinto Valley Area Plan

Riverside County's prevailing planning document is the Riverside County General Plan, which was most recently updated on April 16, 2019. As depicted on Figure 2-4, *Existing General Plan Land Use Designations*, the Riverside General Plan and the San Jacinto Valley Area Plan land use designations for the Mine's property is "Open Space – Rural (OS-RUR)" and "Open Space – Mineral Resource (OS-MR)." The OS-RUR land use designation allows for one single-family residence and/or for extraction of mineral resources subject to a Surface Mining Permit (SMP) provided that scenic resources and views are protected. The OS-MR land use designation allows for mineral extraction and processing facilities.

2.6.4 Riverside County Zoning

The Riverside County Zoning Ordinance is intended to implement the Riverside County General Plan's Land Use Plan. As shown in Figure 2-5, *Existing Zoning Classifications*, the Mine's property is zoned M-R-A for "Mineral Resource & Related Manufacturing" and W-2 for "Controlled Development Areas." Both the M-R-A and W-2 zoning allow for mineral extraction provided a Surface Mining Permit has been granted pursuant to the California Surface Mining and Reclamation Act (SMARA) of 1975 and County Ordinance No. 555.

2.6.5 Western Riverside County Multiple Specific Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), a regional Habitat Conservation Plan (HCP), was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and participating entities, including Riverside County. The intent of the Western Riverside County MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP identifies Criteria Areas, in which habitat conservation efforts are targeted. The Gilman Springs Mine property encompasses multiple MSHCP Criteria Cells and Cell Groups: Cell Group A (Cell 1653), Cell Group B (Cells 1687 and 1784), Cell Group C (Cells 1688 and 1785), Cell Group H (Cells 1763 and 1881), and Cell Group I (Cell 4070). The Conservation Criteria for Cell Group A is to achieve 50%-60% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group B is to achieve 40%-50% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group C is to achieve 20%-30% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group H is to

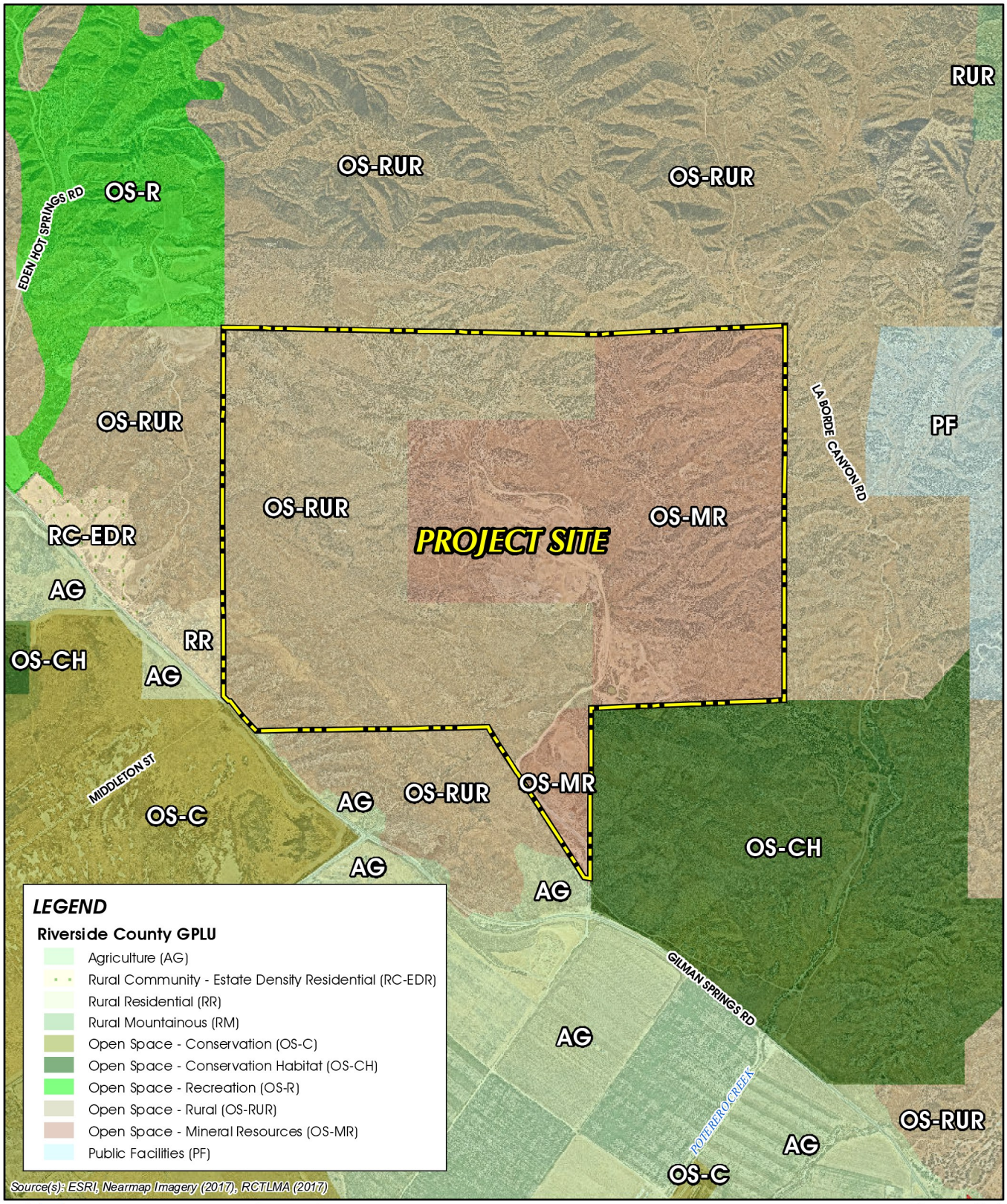


Figure 2-4

EXISTING GENERAL PLAN LAND USE DESIGNATIONS

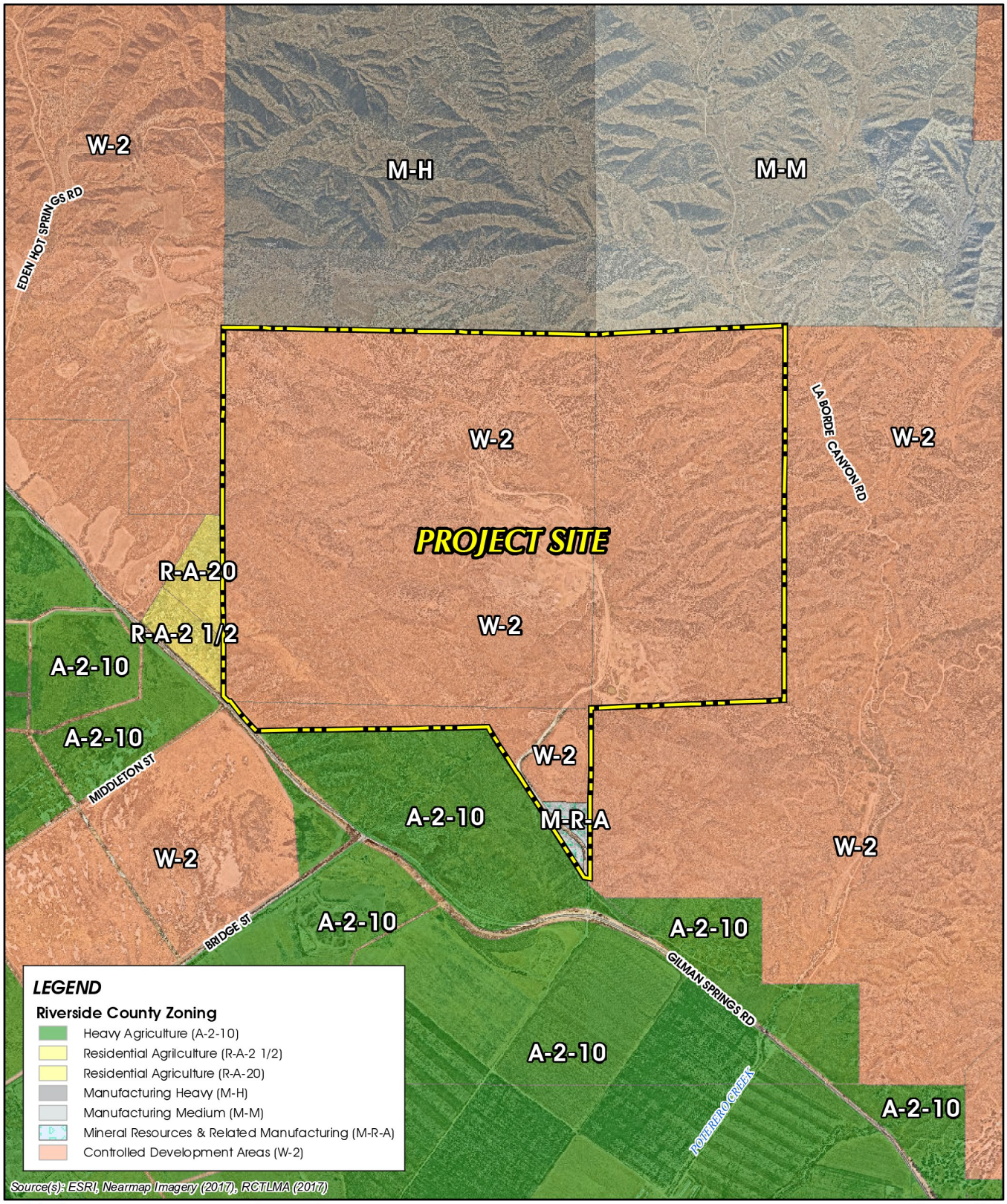


Figure 2-5

EXISTING ZONING CLASSIFICATONS

achieve 25%-35% of the Cell Group, focusing on the northern portion of the Cell Group. The Conservation Criteria for Cell Group I is to achieve 15%-25% of the Cell Group, focusing on the northern portion of the Cell Group. (RCIT, 2018) The Mine also is located within the Criteria Area Species Survey Area (CASSA) for the Burrowing Owl. The Project site is not located within the CASSA for any other species and is not located within the Narrow Endemic Plant Species Survey Area (NEPSSA). (Alden, 2018, pp. 20-26)

2.7 EXISTING PHYSICAL SITE CONDITIONS

For purposes of establishing the setting of an EIR, and pursuant to CEQA Guidelines § 15125, the physical condition of the environment as it existed at the time of the EIR's NOP was released for public review is used to establish the existing conditions on the Project site. The NOP for this EIR was released for public review on May 16, 2018. The following subsections provide a description of the Project site's physical environmental condition ("existing condition") as of that approximate date. The site's physical conditions are shown on Figure 2-6, *Aerial Photograph*. More detailed information regarding the Project's environmental setting as it relates to a specific environmental issue area is provided in the various subsections of EIR Section 4.0, *Environmental Analysis*.

2.7.1 LAND USE

Existing mining operations at the Gilman Springs Mine encompass approximately 150.4 acres of the approximately 1,021.4-acre Mine property. Under existing conditions, the mining disturbance area primarily consists of stockpiles, excavated mining pits, interior unpaved roads, and support equipment for aggregate mining operations, with several drainage basins located in the southern portion of the site. Existing management offices are located north of the entrance to the Mine, which is approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street along Gilman Springs Road. The remaining approximately 871.0 acres of the property consist of undeveloped lands.

2.7.2 TOPOGRAPHY

Figure 2-7, *USGS Topographic Map*, depicts the Project's topographic conditions. The Project site is characterized by steeply rolling hills with areas containing level ground. Elevations range from approximately 1,550 feet above mean sea level (amsl) near the entrance of the Mine along Gilman Springs Road along the southern boundary of the Project site to approximately 2,230 amsl near the northern boundary of the Project site (Google Earth, 2016).

2.7.3 AESTHETICS FEATURES

Open Space occurs to the immediate west, north, east, and south of the Mine's property. Although the Mine's property abuts Gilman Springs Road, the Mine's mining activities are approximately 3,200 feet from Gilman Springs Road. The Gilman Springs Mine is located approximately 8.5 miles north of State Route 74 (SR-74), which is designated as a "State Eligible" scenic highway, although the Mine is not prominently visible from SR-74 due to distance, intervening development, and topography (Caltrans, 2011; Google Earth, 2016). Refer to EIR Subsection 4.1, *Aesthetics*, for a more thorough discussion of the Project site's existing aesthetic setting.

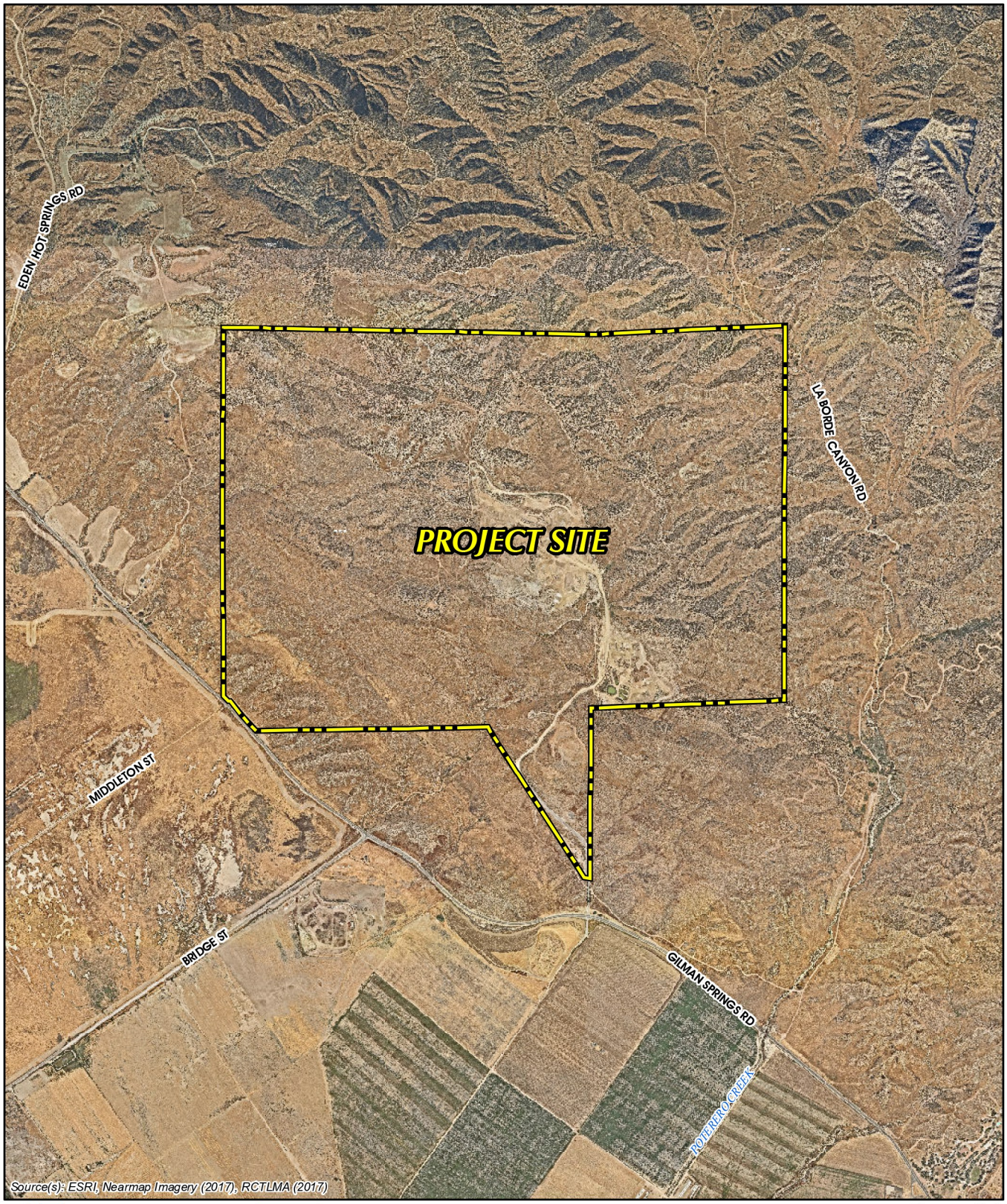
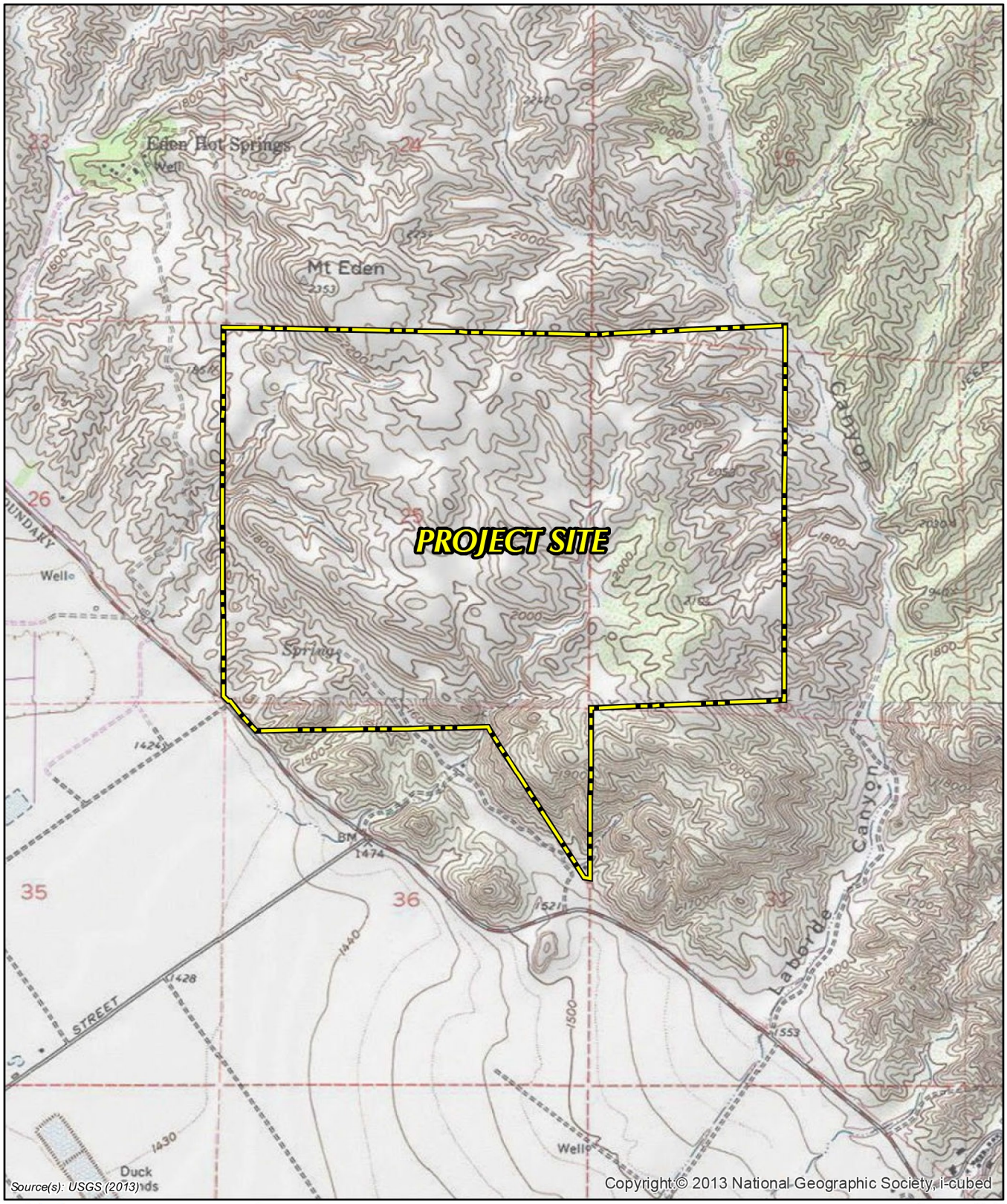


Figure 2-6

AERIAL PHOTOGRAPH



0 500 1,000 2,000 Feet

Figure 2-7

USGS TOPOGRAPHIC MAP

2.7.4 Air Quality and Climate

The Gilman Springs Mine is located in the 6,745-square-mile South Coast Air Basin (SCAB), which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, the San Jacinto Mountains to the north and east, and San Diego County to the south. The SCAB is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), the agency charged with bringing air quality in the SCAB into conformity with federal and state air quality standards. Although the climate of the SCAB is characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. More than 90% of the SCAB's rainfall occurs from November through April. Temperatures during the year range from an average minimum of 36°F in January to over 100°F maximum in the summer. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Ana[s]" each year. (Urban Crossroads, 2020a, p. 9)

The SCAB is a non-attainment area for various state and federal air quality standards including ozone (O_3), Inhalable Particulates (PM_{10}), and Ultra-Fine Particulates ($PM_{2.5}$) (CARB, 2017). The SCAQMD conducts in-depth analysis of toxic air contaminants and their resulting health risks for all of Southern California and compiles the data in a study, entitled, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV)*. Mates IV predicts an estimated lifetime carcinogenic risk ranging from 421.91 to 443.15 per one million for the vicinity of the Gilman Springs Mine site. (SCAQMD, 2018)

Under existing conditions, the Mine emits air pollutants from the mining and processing equipment utilized on-site and from the vehicles traveling to and from the Mine site. The Mine is subject to two separate SCAQMD Permits to Operate (PTO Permit No. G46950, A/N 595066; and PTO Permit No. G46949, A/N 595067). PTO Permit No. G46950 imposes standard conditions of approval on activities at the processing areas located in the southeastern areas of the Mine and prohibits on-site equipment from processing more than 70,400 tons of material per month (or approximately 2,707 tons per working day). PTO Permit No. G46949 also imposes standard conditions of approval on activities at the processing areas located in the northern portion of the Mine and prohibits on-site equipment from processing more than 88,000 tons of material per month (or approximately 3,385 tons per working day). Combined, these PTOs allow for up to 158,400 tons of material per month (or approximately 6,092 tons per working day). (SCAQMD, 2017a; SCAQMD, 2017b)

Refer to EIR Subsection 4.2, *Air Quality*, and Subsection 4.6, *Greenhouse Gas Emissions*, for a more thorough discussion of the existing air quality and climate setting.

2.7.5 Biological Resources

Existing mining operations at the Gilman Springs Mine encompass approximately 150.4 acres of the approximately 1,021.4-acre Mine property, which are mostly disturbed under existing conditions. Within the Project's proposed 54.5-acre Expanded Disturbance Area (EDA), vegetation communities primarily consist of a mixture of Riversidean Sage Scrub (*Encelia farinosa* dominated), chamise chaparral, and non-native grassland. Within the EDA, the following sensitive animal species were identified during field surveys: Bell's

sage sparrow (*Artemisiospiza belli belli*), loggerhead shrike (*Lanius ludovicianus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). (Alden, 2018, Figure 5)

The Gilman Springs Mine property encompasses multiple MSHCP Criteria Cell Groups: Cell Group A (Cell 1653), Cell Group B (Cells 1687 and 1784), Cell Group C (Cells 1688 and 1785), Cell Group H (Cells 1763 and 1881), and Cell Group I (Cell 4070). The Conservation Criteria for Cell Group A is to achieve 50%-60% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group B is to achieve 40%-50% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group C is to achieve 20%-30% of the Cell Group, focusing on the southern portion of the Cell Group. The Conservation Criteria for Cell Group H is to achieve 25%-35% of the Cell Group, focusing on the northern portion of the Cell Group. The Conservation Criteria for Cell Group I is to achieve 15%-25% of the Cell Group, focusing on the northern portion of the Cell Group. (RCIT, 2018) The Mine also is located within the Criteria Area Species Survey Area (CASSA) for the Burrowing Owl. The Project site is not located within the CASSA for any other species and is not located within the Narrow Endemic Plant Species Survey Area (NEPSSA). (Alden, 2018, pp. 19-25)

Refer to EIR Subsection 4.3, *Biological Resources,* for a more thorough discussion of the Project site's existing biological setting.

2.7.6 GEOLOGY AND SOILS

The site is situated in an elevated and dissected badlands terrain in the northern Peninsular Ranges geomorphic province. The Peninsular Ranges include plutonic and metamorphic crystalline rocks of Cretaceous and older age. The crystalline basement rocks are locally mantled by residual soils and capped by isolated alluvial/sedimentary remnants. The site is not located within or immediately adjacent to an Alquist-Priolo Earthquake Fault Zone (APZ) designated by the State of California or fault hazard zones designated by the County of Riverside to include traces of suspected active faulting. The closest APZ boundary, designated for the San Jacinto fault, is located approximately two-tenths of a mile southwest of the proposed EDA. (Terracon, 2018, pp. 4-6) Refer to EIR Subsection 4.5, *Geology and Soils*, for a more thorough discussion of the Project site's existing geologic setting.

2.7.7 HYDROLOGY

Under existing conditions, the areas subject to mining activities are located in two separate drainage basins. The primary drainage basin conveys runoff from active mining areas in the north to a detention/siltation pond, where runoff is then conveyed off-site near the Mine's southern boundary. The second drainage area drains to a series of detention basins in the southern portion of the Mine and is then conveyed off site to the south. Natural drainage courses tributary to the site are conveyed through the Mine via existing natural drainage channels. Runoff within the areas subject to mining under existing conditions is addressed by the site's existing Stormwater Pollution Prevention Plan (SWPPP). According to Riverside County General Plan EIR Figure 4.11.1, *Flood Prone Areas*, the 1,021.4-acre Gilman Springs Mine is not located within a 100-year flood zone (Riverside County, 2015, p. 4.11-9).

2.7.8 TRANSPORTATION

Major travel routes in the vicinity of the Gilman Springs Mine site include Gilman Springs Road, which abuts the southern portion of the Mine; SR-79, located 1.1 mile east of the mine; SR-60, located 3.0 miles north of the Mine; and I-215, located approximately 11.5 miles west of the Mine (Google Earth, 2016). Under existing conditions, access to the Gilman Springs Mine is provided from a private access road extending from Gilman Springs Road. Refer to EIR Subsection 4.11, *Transportation and Traffic*, for a more thorough discussion of the Project's existing transportation and traffic setting.

2.7.9 PUBLIC SERVICES

Fire protection services are primarily provided by the Riverside County Fire Department. The nearest fire station to the Project site is Riverside County Fire Station No. 78 located approximately 6.6 roadway miles to the south within the City of San Jacinto. Fire Stations No. 3 is located approximately 7.7 roadway miles to the southwest of the Mine's property and Fire Station No. 25 is located approximately 7.7 roadway miles to the southeast of the Mine's property.

Police protection services are provided by the Riverside County Sheriff's Department via the Perris Sheriff's Station located approximately 12.5 miles, or approximately 15.2 roadway miles, to the Mine's property.

There are no existing or planned schools or libraries within the Project vicinity.

2.7.10 UTILITIES AND SERVICE SYSTEMS

A. Water Service

Under existing conditions, water used for aggregate processing and dust control at the Mine is obtained from groundwater wells on-site. The Project site is within the service area of the Eastern Municipal Water District (EMWD), which has a 55 square mile service area that includes seven incorporated cities in addition to unincorporated areas in the County of Riverside. Water supplies within the EMWD are obtained from recycled water, potable groundwater, and desalinated groundwater. (EMWD, 2016, pp. 3-1 and 6-1)

B. Sewer Service

Under existing conditions, wastewater treatment at the Mine is handled by portable toilets, which are regularly emptied by a rental service company. Waste from these portable toilets is disposed of in accordance with all applicable regulatory requirements.

C. Solid Waste Service

Solid waste disposal services are provided by Waste Management Inc. of the Inland Empire, a private company under franchise agreement with the Riverside County Department of Waste Resources. Solid waste in the Project area is disposed of at one of three landfill facilities in Riverside County: Badlands, Lamb Canyon, and/or El Sobrante.

2.7.11 Rare and Unique Resources

As required by CEQA Guidelines Section 15125(c), the environmental setting should identify any inconsistencies between a proposed project and applicable general, specific, or regional plans, and place special emphasis on resources that are rare or unique to that region and would be affected by the project. The Project proposed to expand existing mining activities from approximately 150.4 acres to 204.9 acres, an increase of 54.5 acres. The principal discretionary actions required of Riverside County to implement the Project are described in detail in Section 3.0, *Project Description*, and are listed in Table 3-5, *Matrix of Project Approvals/Permits*.

Based on the existing conditions of the Project site and surrounding area described above and discussed in more detail in Section 4.0, *Environmental Analysis*, the Project site does not contain any rare or unique resources. Although the Mine contains rolling hills with rock outcroppings, the topographic features within the Project's EDA are not uncommon within the local area. Similarly, vegetation on site is typical of the region, and important habitats would be created or preserved through the Project's participation in the MSHCP. Additionally, the Project site does not contain any trees that would be considered part of a forest. Based on a review of the site's existing conditions, there are no rare or unique resources on the Project site.

3.0 PROJECT DESCRIPTION

This Section provides all of the information required of an Environmental Impact Report (EIR) Project Description by CEQA Guidelines § 15124, including a description of the Project's precise location and boundaries; a statement of the Project's objectives; a description of the Project's technical, economic, and environmental characteristics; and a description of the intended uses of this EIR, including a list of the government agencies that are expected to use this EIR in their decision-making processes, a list of the permits and approvals that are required to implement the Project, and a list of related environmental review and consultation requirements.

The existing Gilman Springs Mine (herein, "Mine") site comprises approximately 1,021.4 acres located northeast of Gilman Springs Road in unincorporated Riverside County, east of the City of Moreno Valley and north of the City of San Jacinto (herein, "Project site"). Specifically, the entrance to the Project site occurs along Gilman Springs Road, approximately 0.6 mile southeast of the intersection of Bridge Street and Gilman Springs Road. Approximately 150.4 acres of the Project site are subject to the approved Surface Mining Permit No. 159 (SMP 159) that allows for mining and associated activities (CA Mine ID # 91-33-0019). The project evaluated by this EIR (herein, "Project" or "proposed Project") proposes the Second Revision to SMP 159 (SMP 159R2), which would expand areas permitted for mining by approximately 54.5 acres (Expanded Disturbance Area, or "EDA") and alter the operational characteristics of the Mine.

This EIR analyzes the physical environmental effects associated with all components of the Project, including planning and ongoing operation. The governmental approval requested from Riverside County to implement the Project is limited to the proposed SMP 159R2, which would allow for the following: 1) an expansion in areas permitted for mining by 54.5 acres, resulting in approximately 204.9 acres permitted for mining activities; 2) an increase mining reserves from approximately 14,000,000 tons to 44,000,000 tons, representing an increase of approximately 30,000,000 tons; 3) the operation of an Inert Debris Engineered Fill Operation (IDEFO) to facilitate ultimate site reclamation; 4) to establish a revised reclamation plan in compliance with the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code § 2710 et seq.) and Chapter 5.48, *Surface Mining Operations*, of the Riverside County Code (Riverside County, 1995); and 5) to revise the Mine's timing restrictions for mining activities within 300 feet of the Mine's boundaries from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays, to 24 hours per day, seven days per week including Sundays and federal holidays.

The application for SMP159R2, as submitted to Riverside County by the Project Applicant, is herein incorporated by reference pursuant to CEQA Guidelines § 15150 and is available for review at Riverside County Planning office at 4080 Lemon Street, 12th Floor, Riverside, California, 92502. All other discretionary and administrative approvals that would be required by Riverside County or other government agencies are also within the scope of the Project analyzed in this EIR.

3.1 PROJECT LOCATION

The Gilman Springs Mine comprises approximately 1,021.4 acres and consists of Assessor Parcel Numbers (APNs) 422-240-(007, 008), 423-240-(001, 018, 019, 020, 021, 022, 023, 024), and 424-190-(001, 002). The Project site encompasses portion of Section 25, Township 3 South, Range 2 West; Section 36, Township 3 South, Range 2 West; and Section 30 West, Township 3 South, Range 1 West, of the San Bernardino Baseline and Meridian. From a regional perspective, and as previously shown on EIR Figure 2-1, the Project site is located in the northwestern portion of unincorporated Riverside County approximately 2.6 miles north of the City of San Jacinto, approximately 2.4 miles southeast of the City of Moreno Valley, and approximately 4.3 miles east of Lake Perris State Recreation Area. State Route 79 (SR-79) is located approximately 1.2 miles southeast of the Project site, State Route 60 (SR-60) is located approximately 4.0 miles north of the Project site, and Interstate 215 (I-215) is located approximately 11.7 miles west of the Project site. Specifically, the Project site occurs northeast of Gilman Springs Road, with the entrance to the Project site located approximately 0.6 mile southeast of the intersection of Bridge Street and Gilman Springs Road, as previously depicted on EIR Figure 2-2.

Refer to EIR Section 2.0, *Environmental Setting*, for more information related to the regional and local setting of the Mine.

3.2 STATEMENT OF OBJECTIVES

The Project's fundamental purpose is to increase the availability of high-quality aggregate resources within the local area in order to help meet the regional demand for aggregate material. The primary objective of the proposed Project is to expand areas for mining by adding approximately 54.5 acres to the currently approved 150.4 acres of mining area and to adjust the operational restrictions at the Mine. The following is a list of specific objectives that the proposed Project is intended to achieve.

A. To increase the availability of high-quality aggregate reserves within the local area in order to help meet the regional demand for aggregate material and make the best use of the Mine's aggregate resources by revising approved SMP 159R1 to accommodate an expansion of the approved limits of aggregate mining activities.

B. To facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary.

C. To establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity.

D. To reclaim the 204.9 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County.

E. To assist Riverside County in achieving the conservation objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

F. To establish updated standards for operational mining activities at the Gilman Springs Mine site that provide flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands.

3.3 PROJECT'S COMPONENT PARTS

The proposed Project consists of the Second Revision to a Surface Mining Permit No. 159 (SMP 159R2) for an existing aggregate mining site (Gilman Springs Mine). SMP159R2 proposes the following: 1) expand areas for mining by adding approximately 54.5 acres to the currently approved 150.4 acres of mining area, resulting in approximately 204.9 acres of mining area; 2) increase the total tonnage of minable aggregate from approximately 14,000,000 tons to 44,000,000 tons, an increase of approximately 30,000,000 tons; 3) allow for the operation of an IDEFO to facilitate ultimate site reclamation; 4) to establish a revised reclamation plan in compliance with the Surface Mining and Reclamation Act of (SMARA, Public Resources Code § 2710 et seq.) and Chapter 5.48, *Surface Mining Operations*, of the Riverside County Code (Riverside County, 1995); and 5) to revise the Mine's timing restrictions for mining activities within 300 feet of the Mine's boundaries from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays, to 24 hours per day, seven days per week including Sundays and federal holidays. The proposed Project also refers to the changes that would result from approval of the proposed Project, such as increased traffic and additional employees, pursuant to CEQA's requirements for evaluating revisions to on-going permits. Figure 3-1, *Proposed SMP 159R2 Revised Mining Plan*, depicts the proposed mining plan proposed as part of SMP 159R2, while Figure 3-2, *Proposed Revised Reclamation Plan for SMP 159R2*, depicts the reclamation conditions proposed as part of SMP 159R2.

All other components of mining and processing activities at the Mine site would be identical to what was permitted pursuant to the Mine's existing entitlements. With approval of the proposed Project, the total aggregate reserves that would be available at the Gilman Springs Mine, inclusive of existing remaining reserves, would total approximately 44,000,000 tons. Additionally, proposed SMP 159R2 would establish a 50-year time limit to complete mining operations and reclamation activities on site.

The Mine is and would continue to be subject to two separate South Coast Air Quality Management District (SCAQMD) Permits to Operate (PTO Permit No. G46950, A/N 595066; and PTO Permit No. G46949, A/N 595067). PTO Permit No. G46950 imposes standard conditions of approval on activities at the processing areas located in the southeastern areas of the Mine and prohibits on-site equipment from processing more than 70,400 tons of material per month (or approximately 2,707 tons per working day). PTO Permit No. G46949 also imposes standard conditions of approval on activities at the processing areas located in the northern portion of the Mine and prohibits on-site equipment from processing more than 88,000 tons of material per month (or approximately 3,385 tons per working day). Combined, these PTOs allow for up to 158,400 tons of material per month (or approximately 6,092 tons per working day). (SCAQMD, 2017a; SCAQMD, 2017b)

REVISED SURFACE MINING PLAN, SMP159R2

CHANDLER AGGREGATES, INC.

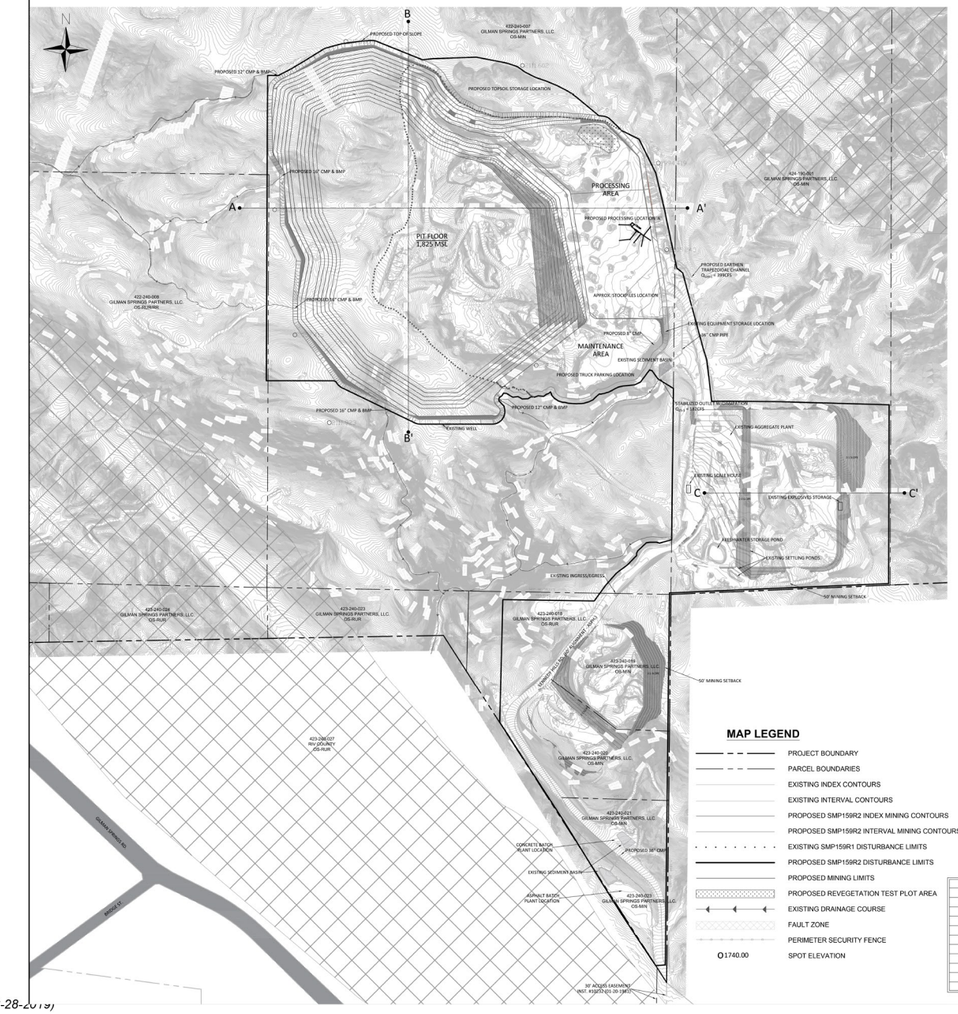
GILMAN SPRINGS MINE - EXHIBIT "A"

RIVERSIDE COUNTY, CALIFORNIA

TABLE 1 - PERMIT LIFE TABULATION

	PERMIT YEAR	ANNUAL AVERAGE CY/YEAR	CUMULATIVE TOTAL CUBIC YARDS	ANNUAL AVERAGE TONS/YEAR	CUMULATIVE TOTAL TONS	AVERAGE WASTE CY/YEAR	AVERAGE WASTE TONS/YEAR
PHASE 1	2019	531,250	531,250	850,000	850,000	39,844	63,750
	2024	531,250	3,187,500	850,000	5,100,000	39,844	63,750
	2029	531,250	5,843,750	850,000	9,350,000	39,844	63,750
PHASE 2	2034	531,250	8,500,000	850,000	13,600,000	39,844	63,750
	2039	531,250	11,156,250	850,000	17,850,000	39,844	63,750
	2044	531,250	13,812,500	850,000	22,100,000	39,844	63,750
	2049	531,250	16,468,750	850,000	26,350,000	39,844	63,750
	2054	531,250	19,125,000	850,000	30,600,000	39,844	63,750
	2059	531,250	21,781,250	850,000	34,850,000	39,844	63,750
	2064	531,250	24,437,500	850,000	39,100,000	39,844	63,750
PHASE 3	2069	RECLAMATION					

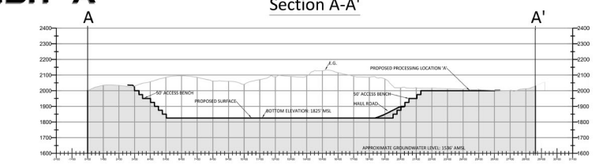
NOTES:
- AVERAGE ANNUAL PRODUCTION IS APPROXIMATELY 850,000 TONS/YEAR. MAXIMUM ANNUAL TONNAGE IS 1,000,000 TONS/YEAR.
- PHASE 1 INCLUDES ESTABLISHING INFRASTRUCTURE, LIMITS AND INITIAL MINING EXPANSION AREAS.
- PHASE 2 INCLUDES PRIMARY MINING ACTIVITIES, ACHIEVING ULTIMATE DEPTH, AND INITIAL CIDTO OPERATIONS
- PHASE 3 OPERATIONS WILL BE FOCUSED ON RECLAMATION AND CIDTO ACTIVITIES
- REFER TO EXHIBIT C (PROJECT DESCRIPTION) FOR DETAILED PHASING INFORMATION.



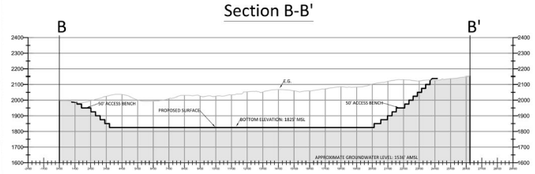
MAP LEGEND

- PROJECT BOUNDARY
- PARCEL BOUNDARIES
- EXISTING INDEX CONTOURS
- EXISTING INTERVAL CONTOURS
- PROPOSED SMP159R2 INDEX MINING CONTOURS
- PROPOSED SMP159R2 INTERVAL MINING CONTOURS
- EXISTING SMP159R1 DISTURBANCE LIMITS
- PROPOSED SMP159R2 DISTURBANCE LIMITS
- PROPOSED MINING LIMITS
- PROPOSED REVEGETATION TEST PLOT AREA
- EXISTING DRAINAGE COURSE
- FAULT ZONE
- PERIMETER SECURITY FENCE
- 1740.00 SPOT ELEVATION

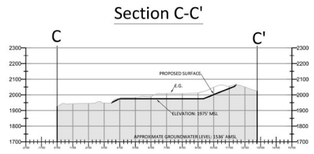
Section A-A'



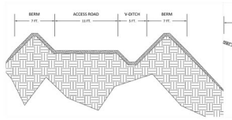
Section B-B'



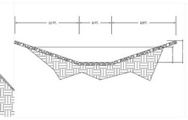
Section C-C'



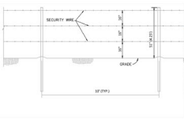
TYP. SECTION - PERIMETER ROAD



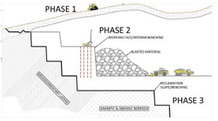
TYP. SECTION - 30' EARTHEN CHANNEL



TYP. SECTION - SECURITY FENCE



WORKING FACE DETAILS



PROJECT INFORMATION

1.) NAME OF MINE:
CHANDLER GILMAN MINE

2.) MINERAL COMMODITY TO BE MINED:
CRUSHED AGGREGATE

3.) CONTACTS:

MINE APPLICANT:
ERIC WERNER
CHANDLER AGGREGATES, INC.
P.O. BOX 77850
CORONA, CA 92877-0148
951-277-3900 - OFFICE

LAND OWNER/OWNER OF MINERAL RIGHTS:
ERIC WERNER
GILMAN SPRINGS PARTNERS, LLC
P.O. BOX 77850
CORONA, CA 92877-0122
951-277-3900 - OFFICE

MINE OPERATOR/LESSEE:
TODD PENDERGRASS
CHANDLER AGGREGATES, INC.
P.O. BOX 77850
CORONA, CA 92877-0148
951-277-3900 - OFFICE

CIVIL/MINE ENGINEER:
JT STANTON, P.E.
JOSEPH E. BONADIMAN & ASSOCIATES, INC.
234 NORTH ARROWHEAD AVENUE
SAN BERNARDINO, CA 92409
909-885-3806 - OFFICE

MAP PREPARER:
TRAVIS COOKE
WERNER CORPORATION
P.O. BOX 77850
CORONA, CA 92877-0122
951-277-3900 - OFFICE

GEOLOGY/SOILS ENGINEER:
JAY MARTIN, CEG
TERRA COAST
1180 E. ALLEY DR., SUITE C
COLTON, CA 92324
909-824-7311 - OFFICE

4.) ACREAGE:
GROSS ACREAGE OF PROPERTY: 1,021.35 AC.
GROSS ACREAGE TO BE MINED: 204.96 AC.
EXISTING ACREAGE TO BE MINED: 150.44 AC.
EXPANSION ACREAGE TO BE MINED: 54.52 AC.
SOURCE OF BASE MAPPING IS RIVERSIDE COUNTY MAPS & RIVERSIDE COUNTY G.I.S. EXISTING TOPOGRAPHY PER INLAND AERIAL SURVEYS (MTED 1-17-17

5.) ZONING: SEE TABLE 2, BELOW

6.) LAND USE:
EXISTING: SEE TABLE 2, BELOW
PROPOSED: MINE/QUARRY

7.) UTILITY PURVEYORS:
WATER: PRIVATE WELLS
SEWER: SEPTIC
GAS: SOCAL GAS
TELEPHONE: FRONTIER
ELECTRICITY: SCE

8a.) PROJECT FLOOR: ELEVATION 1,825 FEET

8b.) MAXIMUM DEPTH OF EXCAVATION: 376 FEET

9.) MINING PHASES: SEE TABLE 1

10.) FACILITIES TO CONTROL ON-AND-OFF SITE STORMWATER RUNOFF, EROSION, AND SEDIMENT:
SEDIMENT BASIN AS SHOWN ON PLAN
FOR DETAILS REFER TO PROJECT SWPPP

11.) STATE MINE I.D. NUMBER: 91-33-0019

12.) PUBLIC USE AND RAILROAD: N/A

13.) ENVIRONMENTAL RESOURCES:
AGRICULTURAL LAND: NONE
SCENIC HIGHWAYS: NONE
HISTORIC RESOURCES: NONE
PREHISTORIC RESOURCES: NONE
MINERAL RESOURCES: NOT DESIGNATED
GEOTHERMAL RESOURCES: NONE
WIND RESOURCES: NONE
SOLAR RESOURCES: NONE
HYDROELECTRIC RESOURCES: NONE
HYDROCARBON RESOURCES: NONE
CRITICAL WILDLIFE AREA: NONE
CRITICAL VEGETATION AREA: NONE

14.) NOT WITHIN ANY FLOODPLAIN PER PANELS NO. 06065C0795H & 06065C1469H. EFFECTIVE DATE: 8-18-2014

15.) PROJECT IS LOCATED WITHIN THE SAN JACINTO VALLEY AREA PLAN.

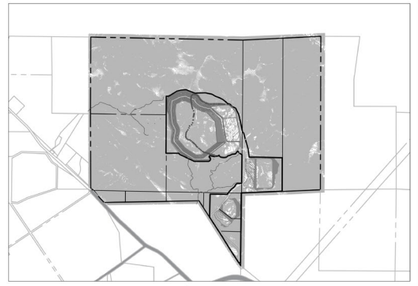
16.) PROJECT IS NOT LOCATED WITHIN A GENERAL PLAN POLICY AREA.

17.) PROJECT IS NOT LOCATED WITHIN A ZONING OVERLAY.

TABLE 2 - PARCEL INFORMATION

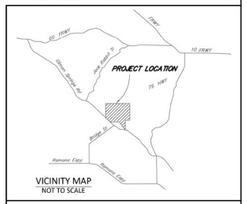
APN	ACRES	OWNER OF RECORD	EXISTING USE	EXISTING & PROPOSED ZONING	HAZ-SLIDE	HAZ-FAULT	HAZ-FIRE	HAZ-SAND	HAZ-LIQ
422-240-007	468.81	GILMAN SPRINGS PARTNERS, LLC	OS-MIN/OS-RUR	W-2		COUNTY/ASCINTO			NONE
422-240-008	156.26	GILMAN SPRINGS PARTNERS, LLC	OS-RUR/RR	W-2		COUNTY/ASCINTO			MOD
424-190-001	166.16	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		COUNTY			MOD
424-190-002	156.45	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		COUNTY			MOD
423-240-001	8.29	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/ASCINTO			MOD
423-240-018	10.08	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2	LOW-TO-HIGH	NONE	VERY HIGH FIRE AREA	NONE	NONE
423-240-019	10.85	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		NONE			NONE
423-240-020	11.11	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		NONE			NONE
423-240-021	5.68	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	M-R-A		NONE			NONE
423-240-022	2.86	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	M-R-A		NONE			NONE
423-240-023	9.35	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/ASCINTO			MOD
423-240-024	11.26	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/ASCINTO			MOD

PROJECT PROPERTY BOUNDARY



LEGAL DESCRIPTION

APNS 422-240-007, 422-240-008, 424-190-001, 424-190-002, 423-240-001, 423-240-018, 423-240-019, 423-240-020, 423-240-021, 423-240-022, 423-240-023, 423-240-024. (REFER TO PROJECT APPLICATION BINDER FOR FULL LEGAL DESCRIPTION)



SURFACE MINING PERMIT 159R2
CHANDLER AGGREGATES INC.
COUNTY OF RIVERSIDE
EXHIBIT A - MINING PLAN

PLANS PREPARED BY:
CHANDLER AGGREGATES INC.
24467 Main Rd.
Temecula Valley, CA 92883
Office: (951) 277-3900 Fax: (951) 277-3339

Source(s): Chandler Aggregates, Inc. (03-28-2019)

NOT TO SCALE

Figure 3-1

PROPOSED SMP 159R2 REVISED MINING PLAN

REVISED RECLAMATION PLAN, SMP159R2

CHANDLER AGGREGATES, INC.

GILMAN SPRINGS MINE - EXHIBIT "B"

RIVERSIDE COUNTY, CALIFORNIA

TABLE 1 - PERMIT LIFE TABULATION

	PERMIT YEAR	ANNUAL AVERAGE CY/YEAR	CUMULATIVE TOTAL CUBIC YARDS	ANNUAL AVERAGE TONS/YEAR	CUMULATIVE TOTAL TONS	AVERAGE WASTE CY/YEAR	AVERAGE WASTE TONS/YEAR
PHASE 1	2019	531,250	531,250	850,000	850,000	39,844	63,750
	2024	531,250	3,187,500	850,000	5,100,000	39,844	63,750
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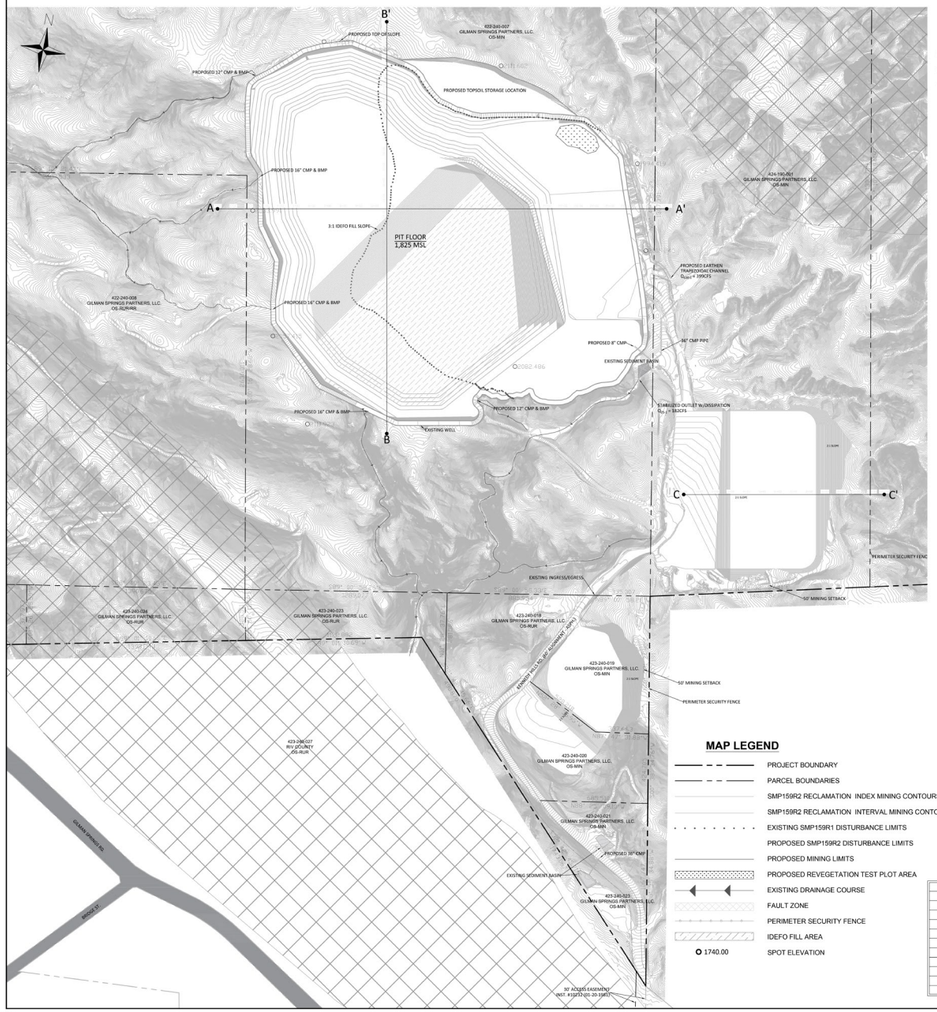
PHASE 2	2034	531,250	8,500,000	850,000	13,600,000	39,844	63,750
	2039	531,250	11,156,250	850,000	17,850,000	39,844	63,750
	2044	531,250	13,812,500	850,000	22,100,000	39,844	63,750
	2049	531,250	16,468,750	850,000	26,350,000	39,844	63,750
	2054	531,250	19,125,000	850,000	30,600,000	39,844	63,750
	2059	531,250	21,781,250	850,000	34,850,000	39,844	63,750
	2064	531,250	24,437,500	850,000	39,100,000	39,844	63,750
PHASE 3	2069	RECLAMATION					

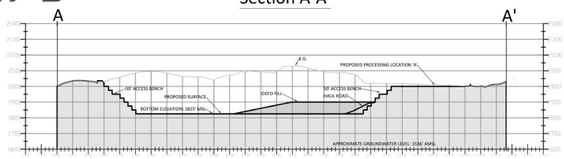
NOTES:
- AVERAGE ANNUAL PRODUCTION IS APPROXIMATELY 850,000 TONS/YEAR. MAXIMUM ANNUAL TONNAGE IS 1,000,000 TONS/YEAR.
- PHASE 1 INCLUDES ESTABLISHING DISTURBANCE LIMITS AND INITIAL MINING EXPANSION ACTIVITIES.
- PHASE 2 INCLUDES PRIMARY MINING ACTIVITIES, ACHIEVING ULTIMATE DEPTH, AND INITIAL IDEFO OPERATIONS
- PHASE 3 OPERATIONS WILL BE FOCUSED ON RECLAMATION AND IDEFO ACTIVITIES
- REFER TO EXHIBIT C (PROJECT DESCRIPTION) FOR DETAILED PHASING INFORMATION



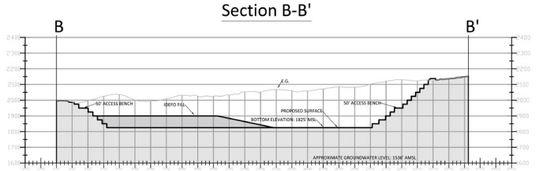
MAP LEGEND

- PROJECT BOUNDARY
- PARCEL BOUNDARIES
- SMP159R2 RECLAMATION INDEX MINING CONTOURS
- SMP159R2 RECLAMATION INTERVAL MINING CONTOURS
- EXISTING SMP159R1 DISTURBANCE LIMITS
- PROPOSED SMP159R2 DISTURBANCE LIMITS
- PROPOSED MINING LIMITS
- PROPOSED REVEGETATION TEST PLOT AREA
- EXISTING DRAINAGE COURSE
- FAULT ZONE
- PERIMETER SECURITY FENCE
- IDEFO FILL AREA
- 1740.00 SPOT ELEVATION

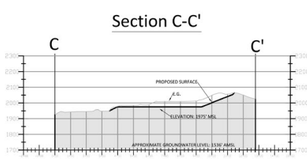
Section A-A'



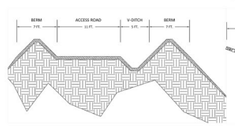
Section B-B'



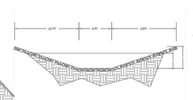
Section C-C'



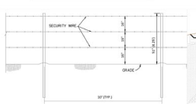
TYP. SECTION - PERIMETER ROAD



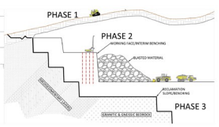
TYP. SECTION - 30' EARTHEN CHANNEL



TYP. SECTION - SECURITY FENCE



WORKING FACE DETAILS



PROJECT INFORMATION

1.) PROJECT APPLICANT:

ERIC WERNER
CHANDLER AGGREGATES, INC.
P.O BOX 77650
CORONA, CA 92877-0148
(951) 277-3900 OFFICE

2.) APPLICANT REPRESENTATIVE:

J.T. STANTON
JOSEPH E. BONADIMAN & ASSOCIATES. INC.
234 NORTH ARROWHEAD AVENUE
SAN BERNARDINO, CA 92408
(909) 885-3806 OFFICE

3.) LANDSCAPE ARCHITECT:

TODD PENDERGRASS
CHANDLER AGGREGATES, INC.
P.O BOX 77650
CORONA, CA 92877-0148
(951) 277-3900 OFFICE

4.) STATE MINE I.D. NUMBER: 91-33-0019

5.) ACREAGE TO BE RECLAIMED: 204.88

6.) SILTS AND CLAYS RESULTING FROM THE WASHING PROCESS WILL REMAIN ON SITE AND BE UTILIZED AS PART OF THE COMPACTED FILL AND THE RECLAMATION REVEGETATION REQUIREMENTS.

7.) TOPSOIL SHALL BE REAPPLIED TO THE FINISH GRADED AREAS, SPREAD TO A DEPTH OF AT LEAST 6" AND BLENDED IN TO EXISTING SUBSURFACE MATERIALS.

8.) RE-SEEDING SHALL OCCUR ON ALL BENCHES IN ACCORDANCE WITH THIS RECLAMATION PLAN

9.) INTERIM EROSION MEASURES, INCLUDING SILT FENCING & SAND OR GRAVEL BAGGING WILL BE IMPLEMENTED AS NEEDED, UNTIL ROOT SYSTEMS SUFFICIENT TO CONTAIN REAPPLIED SOILS HAVE DEVELOPED.

10.) SLOPE BENCHES SHALL BE FINISH GRADED AS SHOWN ON THIS RECLAMATION PLAN. BENCHES SHALL BE ROUGH GRADED TO A 2% GRADIENT AND PLANTED.

11.) UPON COMPLETION OF THE MINING OPERATION, EXISTING DESILTING PONDS SHALL BE DRAINED, AND ALL SILTS AND CLAYS WILL BE REMOVED AND USED FOR RE-CONTOURING, AS PART OF THE RECLAMATION PLAN.

12.) ROADS AND COMPACTED SURFACES THAT REQUIRE REVEGETATION WILL BE SCARIFIED TO A DEPTH OF 12" TO 24", AND PREPARED IN ACCORDANCE WITH THE RECLAMATION PLAN.

13.) ALL EQUIPMENT, OFFICE TRAILERS, STORAGE BUILDINGS, MACHINERY, PIPING AND ASSOCIATED MATERIALS SHALL BE REMOVED PRIOR TO THE COMPLETION OF RECLAMATION.

14.) ALL FENCING IS TO REMAIN IN PLACE.

15.) REVEGETATION WILL BEGIN AS SOON AS AN AREA HAS ACHIEVED FINAL GRADE. SEED APPLICATION WILL BE ACCOMPLISHED WITH HYDROSEEDING EQUIPMENT, USING BOTH CONTRACTORS AND PLANT PERSONNEL WHEN POSSIBLE. SEEDING WILL BE DONE IN THE FALL TO EARLY WINTER TO MAXIMIZE THE POTENTIAL BENEFIT OF LIMITED SOUTHERN CALIFORNIA RAINFALL, AND THIS METHOD HAS PROVED SUCCESSFUL IN REVEGETATION EFFORTS ON OTHER MINE PROPERTIES OPERATED BY THE APPLICANT. IRRIGATION WILL BE USED IN THE INITIAL ESTABLISHMENT IF NECESSARY, BUT WILL BE DISCONTINUED AS SOON AS POSSIBLE.

16.) SITE GEOLOGY

THE SITE IS SITUATED IN AN ELEVATED AND DISSECTED BADLANDS TERRAIN IN THE NORTHERN PENINSULAR RANGES GEOMORPHIC PROVINCE. THE PENINSULAR RANGES INCLUDE PLUTONIC AND METAMORPHIC CRYSTALLINE ROCKS OF CRETACEOUS AND OLDER AGE. THE CRYSTALLINE BASEMENT ROCKS ARE LOCALLY MANTLED BY RESIDUAL SOILS AND CAPPED BY ISOLATED ALLUVIAL/SEDIMENTARY REMNANTS.

THE GEOLOGIC STRUCTURE OF THE EXPANSION AREA IS DEFINED BY NORTHWEST-TRENDING FOLIATION/BEDDING VISIBLE IN AERIAL IMAGERY AS RESISTANT RIDGES, OUTCROP ALIGNMENT AND PRIMARY BEDDING IN STEEPLY NORTHEAST-DIPPING METASEDIMENTS AND MARBLE. THE METASEDIMENTS ARE BOUNDED BY AND LOCALLY INVADED BY AN INTRUSIVE IGNEOUS BODY NEAR THE SOUTH BOUNDARY OF THE EXPANSION AREA.

17.) NOTE: ALL EXISTING STRUCTURES LOCATED WITHIN RECLAMATION AREA/ PROJECT SITE LIMITS ARE TO BE REMOVED, UNLESS OTHERWISE INDICATED.

18.) THE FOLLOWING SEED MIXTURES SHALL BE BROADCAST OVER ALL DISTURBED AND REGRADED AREAS IN ACCORDANCE WITH THE REVEGETATION PLAN:

UPLAND HABITAT SEED MIX

SCIENTIFIC NAME/ COMMON NAME	POUNDS/ACRE
Acmispon glaber/ Deerweed	2.0
Ambrosia dumosa/ Burro bush	3.0
Artemisia californica/ California sage brush	5.0
Deinandra fasciculata/Fascicled tarweed	2.0
Baccharis pilularis/ Coyote brush	3.0
Encelia farinosa/ Brittlebush	3.0
Eriogonum fasciculatum/ Flat-top buckwheat	5.0
Eriophyllum confertiflorum/ Golden yarrow	3.0
Gutierrezia californica/ California matchweed	3.0
Lasthenia californica/ Goldfields	3.0
Lupinus bicolor/ Lupine	2.0
Mimulus aurantiacus/ Monkey-flower	2.0
Plantago erecta/ Dot-seed plantain	3.0
Salvia apiana/ White sage	3.0
Salvia mellifera/ black sage	3.0
Stipa pulchra/ Purple needlegrass	5.0
TOTAL	**49.0**

19.) PERFORMANCE STANDARDS

COVER IS DEFINED AS THE DOWNWARD VERTICAL PROJECTION OF THE CROWN OR SHOOT AREA ABOVE THE GROUND SURFACE, EXPRESSED AS A PERCENTAGE OF THE REFERENCE AREA. *DENSITY* IS DEFINED AS THE NUMBER OF INDIVIDUAL PLANTS OR STEMS WITHIN THE REFERENCE AREA, EXPRESSED AS A NUMBER OF SPECIES PER GIVEN AREA (USUALLY A SPECIFIED TRANSECT). *SPECIES RICHNESS* IS DEFINED AS THE NUMBER OF DIFFERENT SPECIES WITHIN THE REFERENCE AREA, AGAIN, USUALLY A DEFINED TRANSECT. PERFORMANCE STANDARDS FOR COVER, DENSITY, AND SPECIES RICHNESS WERE DEVELOPED UTILIZING INPUT FROM ALDEN ENVIRONMENTAL, WHO CONDUCTED AND OVERSAW ALL BIOLOGICAL STUDIES ON-SITE, AND THE DIVISION OF MINE RECLAMATION. THE STANDARDS ARE OUTLINED IN THE ADJACENT TABLE:

COVER	35% COVER OF NATIVE PERENNIALS
DENSITY	20 NATIVE PERENNIALS PER 50-METER BY 1-METER TRANSECT
SPECIES RICHNESS	5 SPECIES OF NATIVE PERENNIALS PER 50-METER BY 1-METER TRANSECT

20.) WEED MANAGEMENT AND CONTROL

IF AN EXOTIC PLANT SPECIES INVADES THE SITE, IT IS OFTEN EASIEST AND CHEAPEST TO ERADICATE THE SPECIES EARLY THAN TO ALLOW IT TIME TO TAKE HOLD AND SEIT SEED. FIRST IT MUST BE DETERMINED IF THE INVASIVE SPECIES IS A THREAT TO THE GOALS OF THE PROJECT. MANY PROJECTS EXPERIENCE A POPULATION EXPLOSION OF WEEDS THE FIRST YEAR OR TWO AFTER IMPLEMENTATION. IN SOME CASES, THESE WEEDS NATURALLY DIE OUT WITHOUT CAUSING ANY ADVERSE EFFECTS. IN OTHER CASES, THEY TAKE OVER THE SITE AND CROWD OUT THE DESIRED SPECIES AND REDUCE SPECIES RICHNESS. THE REMEDIATION MEASURES IN TABLE 8.8.2 OF *"REHABILITATION OF DISTURBED LANDS: A MANUAL FOR DECISION MAKING"* WILL BE USED AS A GUIDELINE TO ADDRESS NOXIOUS WEEDS.

WEED CONTROL DURING THE FIRST YEAR AFTER IMPLEMENTATION OF TEST PLOTS IS NECESSARY TO INHIBIT NON-NATIVE WEEDS FROM ESTABLISHING AND TO MINIMIZE RODENT DAMAGE TO PLANTS BY REMOVING NON-NATIVE POTENTIAL PROTECTIVE COVER. WEED REMOVAL WILL BE ACCOMPLISHED THROUGH MANUAL, MECHANICAL, OR CHEMICAL METHODS DEPENDING ON THE SPECIES. THE MONITORING PROGRAM WILL BE AN ONGOING CONSISTING OF THE CONTINUING MANAGEMENT OF AREAS CONTAINING NOXIOUS WEED INFESTATIONS WILL BE INITIATED DURING THE YEAR FOLLOWING TREATMENT IN ORDER TO ASSESS THE EFFECTIVENESS OF THE TREATMENT, AND TO DETERMINE THE NEED FOR FOLLOW-UP TREATMENTS. THE NOXIOUS WEED PERFORMANCE STANDARDS AND THRESHOLD LEVELS ARE OUTLINED IN THE ADJACENT TABLE:

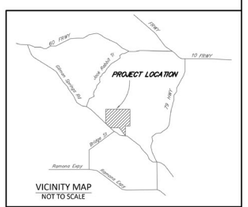
NOXIOUS WEEDS	NOXIOUS WEEDS, DEFINED AS THOSE INVASIVE NON-NATIVE SPECIES THAT ARE INJURIOUS TO AGRICULTURAL CROPS, LIVESTOCK, AND NATURAL HABITATS OR ECOSYSTEMS.
THRESHOLD LEVEL	WEED ABATEMENT ACTIVITIES WILL BE INITIATED WHEN NOXIOUS WEEDS REPRESENT MORE THAT 10% OF THE COVER OF A 100 SQUARE FOOT REFERENCE AREA.
MONITORING PROGRAM THRESHOLD LEVEL	ADDITIONAL WEED ABATEMENT ACTIVITIES WILL BE UNDERTAKEN WHEN NOXIOUS WEEDS CONTINUE TO REPRESENT MORE THAN 10% OF THE COVER OF A SQUARE FOOT REFERENCE AREA SIX MONTHS AFTER INITIAL TREATMENT

LEGAL DESCRIPTION

APNS 422-240-007, 422-240-008, 424-190-001, 424-190-002, 423-240-001, 423-240-018, 423-240-019, 423-240-020, 423-240-021, 423-240-022, 423-240-023, 423-240-024. (REFER TO PROJECT APPLICATION BINDER FOR FULL LEGAL DESCRIPTION)

TABLE 2 - PARCEL INFORMATION

APN	ACRES	OWNER OF RECORD	EXISTING USE	EXISTING & PROPOSED ZONING	HAZ-SLIDE	HAZ-FAULT	HAZ-FIRE	HAZ-SAND	HAZ-LIQ
422-240-007	468.81	GILMAN SPRINGS PARTNERS, LLC	OS-MIN/OS-RUR	W-2	LOW-TO-HIGH	COUNTY/JACINTO	VERY HIGH FIRE AREA	NONE	NONE
422-240-008	156.26	GILMAN SPRINGS PARTNERS, LLC	OS-RUR/MR	W-2		COUNTY/JACINTO			MOD
424-190-001	166.16	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		COUNTY			MOD
424-190-002	156.45	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		COUNTY			MOD
423-240-001	8.29	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/JACINTO			MOD
423-240-018	10.68	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		NONE			NONE
423-240-019	10.85	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		NONE			NONE
423-240-020	11.11	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	W-2		NONE			NONE
423-240-021	5.68	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	M-R-A		NONE			NONE
423-240-022	2.86	GILMAN SPRINGS PARTNERS, LLC	OS-MIN	M-R-A		NONE			NONE
423-240-023	9.35	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/JACINTO			MOD
423-240-024	11.26	GILMAN SPRINGS PARTNERS, LLC	OS-RUR	W-2		COUNTY/JACINTO			MOD



VICINITY MAP
NOT TO SCALE

SURFACE MINING PERMIT 159R2
CHANDLER AGGREGATES INC.
COUNTY OF RIVERSIDE
EXHIBIT B - RECLAMATION PLAN

PLANS PREPARED BY:
CHANDLER AGGREGATES INC.
24867 Nani Rd
Temescal Valley, CA 92883
Office: (951) 277-3900 Fax: (951) 277-3339

Source(s): Chandler Aggregates, Inc. (04-30-2019)

T&B PLANNING NOT TO SCALE

Figure 3-2

PROPOSED REVISED RECLAMATION PLAN FOR SMP 159R2

3.3.2 Scope of Physical Disturbance

As indicated in Subsection 3.3.3, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As shown on Figure 3-3, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west and north of the northwestern portion of the areas approved for mining pursuant to the approved Surface Mining Permit No. 159, Revision No. 1 (SMP 159R1). Mining activities ultimately would achieve the final grades depicted on Figure 3-2. The Project would not result in new disturbances within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the limits of new physical disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

3.3.3 Scope of Operational Characteristics

A. Project-Related Annual Tonnage Estimates

The proposed Project would not change the limit on the annual tonnage of exported materials of 1,000,000 ton per year (tpy) as established by SMP 159R1, although historical data recorded by the mine operator indicates that the Mine produced an average of approximately 377,675 tpy, as summarized in Table 3-1, *Average Annual Aggregate Production (2002-2016)*. In consideration of CEQA requirements for proposed projects that seek to modify existing on-going permits, the difference between the proposed permitted quantities must be compared to the historical baseline average. The Project would not change the total annual production limit of 1,000,000 tpy, which includes operations associated with SMP 159R1. Because the historical baseline yearly average for the Mine is 377,675 tpy, as shown in Table 3-1, the annual production amount attributable to the Project as evaluated throughout this EIR would be 622,325 tpy, (1,000,000 tpy – 377,675 tpy = 622,325 tpy), or 62.2% of the total annual production limit of 1,000,000 tpy. As noted above, although this EIR analyzes 622,325 tpy for the proposed Project, under SMP 159R2 the Mine Operator would be allowed to produce up to 1,000,000 tpy of aggregate material, consistent with the existing permits for the Mine. Where daily tonnage is necessary for analysis of Project-related impacts in this EIR, the daily tonnage estimates, as described in Subsection 3.3.3.B, are utilized in lieu of the annual tonnage estimates.

B. Project-Related Daily Tonnage Estimates

Based on the physical and operational characteristics of the Mine, the Mine operator estimates that a reasonable daily maximum total of 4,000 tons of material per day (tpd) (inclusive of aggregate mining and IDEFO tonnage, combined) could be processed on the site. The daily maximum value is reasonable high-end estimate for the proposed Project, because at the 4,000 tpd production level the Mine would reach the annual tonnage limit in approximately 250 days and would be required to be idle for the remaining 115 working days of the year (assuming operations 365 days per year, as proposed by the Project). Similarly, if the Mine were to operate at 4,000 tpd it would produce 1,460,000 tpy, or 460,000 tons more than the maximum allowable 1,000,000 tpy. As discussed in Subsection 3.3.3.A, based on historical tonnage data for the Mine (Table 3-1), tonnage attributable to the Project would be approximately 622,235 tpy out of the 1,000,000 tpy annual limit; thus,

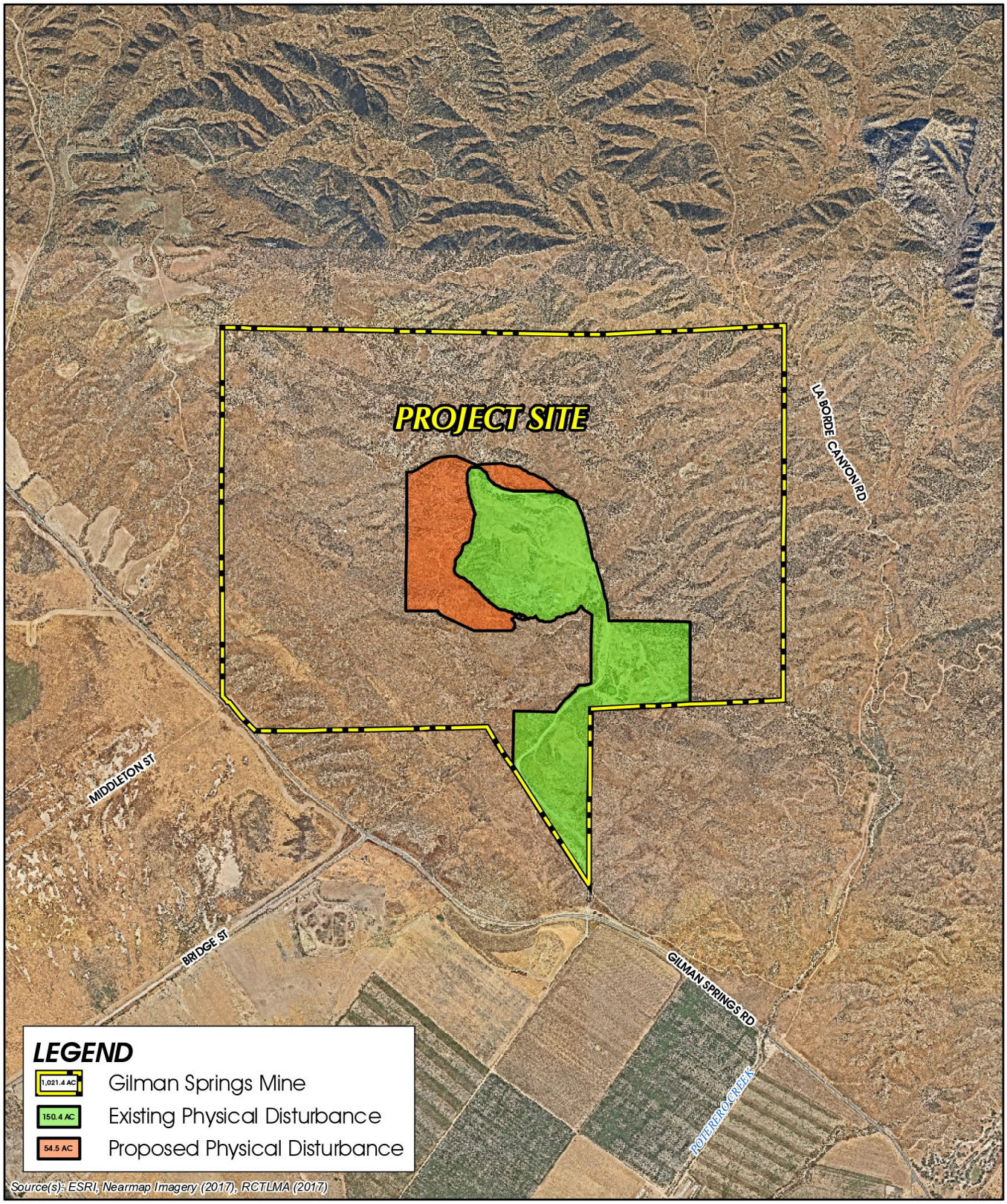


Figure 3-3

EXISTING AND PROPOSED LIMITS OF PHYSICAL DISTURBANCES

Table 3-1 Average Annual Aggregate Production (2002-2016)

Year	Annual Tonnage (tpy)
2003	375,000
2004	1,237,417
2005	1,273,168
2006	596,908
2007	455,321
2008	307,943
2009	231,147
2010	35,666
2011	140,102
2012	48,698
2013	172,588
2014	269,970
2015	152,169
2016	113,104
2017	255,930
15-Year Average:	**377,675**

tonnage attributable to the Project would be approximately 62.2% of the total maximum annual tonnage limit. Thus, it can be projected that approximately 62.2% of the estimated high-end daily tonnage of 4,000 tpd would be attributable to the Project, or approximately 2,489 tpd (4,000 tpd x 62.2235% = 2,489 tpd).

C. *Operational Hours*

Under existing conditions, mining, processing, and export activities on-site are permitted to occur 24 hours per day, except for areas within 300 feet of the mining limit boundaries that are limited to the hours between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays. Under the proposed Project, mining activities within 300 feet of the Mine's boundaries would be allowed to occur 24 hours per day, seven days per week, including Sundays and federal holidays. It should be noted that there are no sensitive receptors (e.g., residences, schools, etc.) within 300 feet of areas currently permitted for mining activities or areas proposed for expanded mining activities as part of the proposed Project.

D. *Surrounding Land Uses*

Under existing conditions, the Project site has a primary crushing and crushed aggregate production location in the northern portion of the site, with crushing, washing, and sizing capable of making both crushed aggregates and washed aggregates. A secondary location occurs in the southeastern portion of the site, and contains processing equipment for crushing, washing, and sizing of aggregate material. Under the proposed Project, these two locations would be consolidated in the eastern portion of the site, near the existing northern processing area, as shown previously on Figure 3-1. The operational characteristics of the two existing processing areas on site would not immediately change upon Project approval and would continue to operate

as they do under existing conditions until the processing areas on site are consolidated to a single location. Thus, the analysis herein focuses on potential impacts associated with the relocated and consolidated facility.

Relocation of the processing equipment on site has the potential to affect surrounding land uses in proximity to the site. Potential impacts to surrounding land uses are evaluated based on the land use's proximity to the component of the Project which would impact the land use. The distances of the various components of the Project and the distance to surrounding land uses is shown in Figure 3-4, *Distances to Surrounding Land Uses.*

E. Mine Employees

Under existing conditions, the Mine employs seven (7) workers on-site. Under the proposed Project, and assuming maximum production levels, the Mine would employ up to an additional eight (8) workers on-site, bringing the total on-site employees to 15.

F. Project Related Traffic Volumes

Table 3-2, *Project Trip Generation Summary*, provides a summary of the number of vehicular trips that would be produced under the proposed Project in both actual vehicles and Passenger Car Equivalents (PCEs). Under the Project, a typical peak operating day would result in the production of 4,000 tpd of aggregate resources, of which 1,511 tpd would be attributable to existing mining operations (i.e., the historical baseline) and 2,489 tpd would be attributable to the proposed Project (refer to subsection 3.3.3.B). Table 3-2 shows the total trips that would be generated at 4,000 tpd and the trip generation associated with the 2,489 tpd increase that would be attributable to the proposed Project. Refer to EIR Subsection 4.11 for a detailed discussion of the Project's estimated traffic volumes. (Urban Crossroads, 2018, Table 4-5)

As shown in Table 3-2, at 4,000 tpd, which includes both existing and proposed tonnage, the Mine is expected to generate 30 passenger vehicle trips and 320 truck trips (actual vehicles). When converted to PCEs, operations at 4,000 tpd would generate 960 PCE truck trips. Thus, mining at 4,000 tpd would generate a total of 990 PCE trips per day, with 145 PCE AM peak hour trips and 133 PCE PM peak hour trips.

Table 3-2 also summarizes the number of vehicular trips that would be generated by the Project (i.e., the increase in trips above the historical baseline, based on an increase of 2,489 tpd). As shown, the Project is expected to produce 19 passenger vehicle trips and 199 truck trips (actual vehicles). When converted to PCEs, the Project would generate 597 PCE truck trips. Thus, the Project's proposed increase of 2,489 tpd would generate a total of 616 PCE trips per day, with 90 PCE AM peak hour trips and 83 PCE PM peak hour trips.

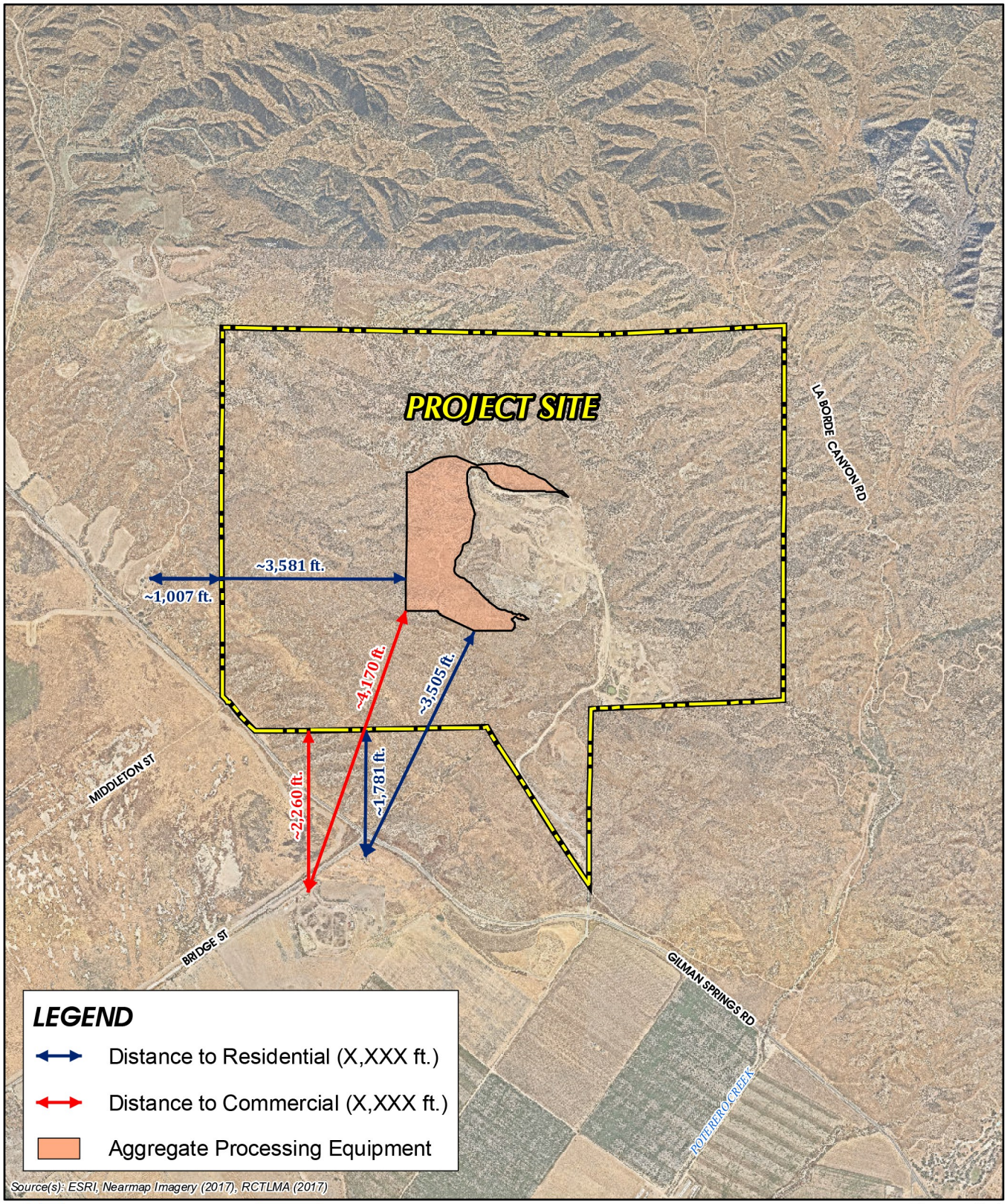


Figure 3-4

DISTANCES TO SURROUNDING LAND USES

Table 3-2 Project Trip Generation Summary

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Trip Generation Summary – Existing + Proposed Trips (4,000 tpd)[2]									
Gilman Mine (Total)	4,000	TPD							
Passenger Cars			6	4	10	4	6	10	30
Truck Trips[3]			23	22	45	20	21	41	320
Total Trips (PCE) – 4,000 tpd[4]			**75**	**70**	**145**	**64**	**69**	**133**	**990**
Trip Generation Summary – Project Only Trips (2,489 tpd)[2]									
Gilman Mine (Project Only)	2,489	TPD							
Passenger Cars			4	2	6	2	4	6	19
Truck Trips[5]			14	14	28	12	13	26	199
Total Trips (PCE) – 2,489 tpd[4]			**47**	**44**	**90**	**40**	**43**	**83**	**616**

1. TPD = Tons Per Day
2. A total of up to 4,000 tpd is expected to be produced under the proposed Project. Of the 4,000 tpd, 1,511 tpd would be attributable to mining activities over the historical baseline, while 2,489 tpd would be attributable to the proposed Project as evaluated herein (refer to subsection 3.3.3.B).
3. Total Truck Trips based on typical peak operating day of 4,000 tpd (i.e., existing plus Project Truck Trips).
4. Based on passenger car equivalent (PCE) factor of 3.0 PCE per truck.
5. Total Truck Trips based on typical peak operating day of 2,489 tpd (i.e., Project only Truck Trips).

(Urban Crossroads, 2018, Table 4-5)

G. Operational Equipment

Table 3-3, *Baseline vs Proposed Operational Equipment Summary*, summarizes the equipment utilized at the Mine on a daily basis under existing conditions and the daily operation equipment assumed in this EIR for the proposed Project. As shown, mining activities during the baseline period required the equivalent of approximately 30,388 horsepower hours per day (hhpd). Implementation of the proposed Project (i.e. mining activities) would result in additional electricity demands associated with the existing operations trailer, on-site equipment usage, and water usage. The Air Quality Impact Analysis (*Technical Appendix B1*) prepared by Urban Crossroads, Inc. accounts for a total of 47,400 hhpd, or an increase of approximately 19,292 net new hhpd (approximately 55.98% increase). (Urban Crossroads, 2020a, p. 39)

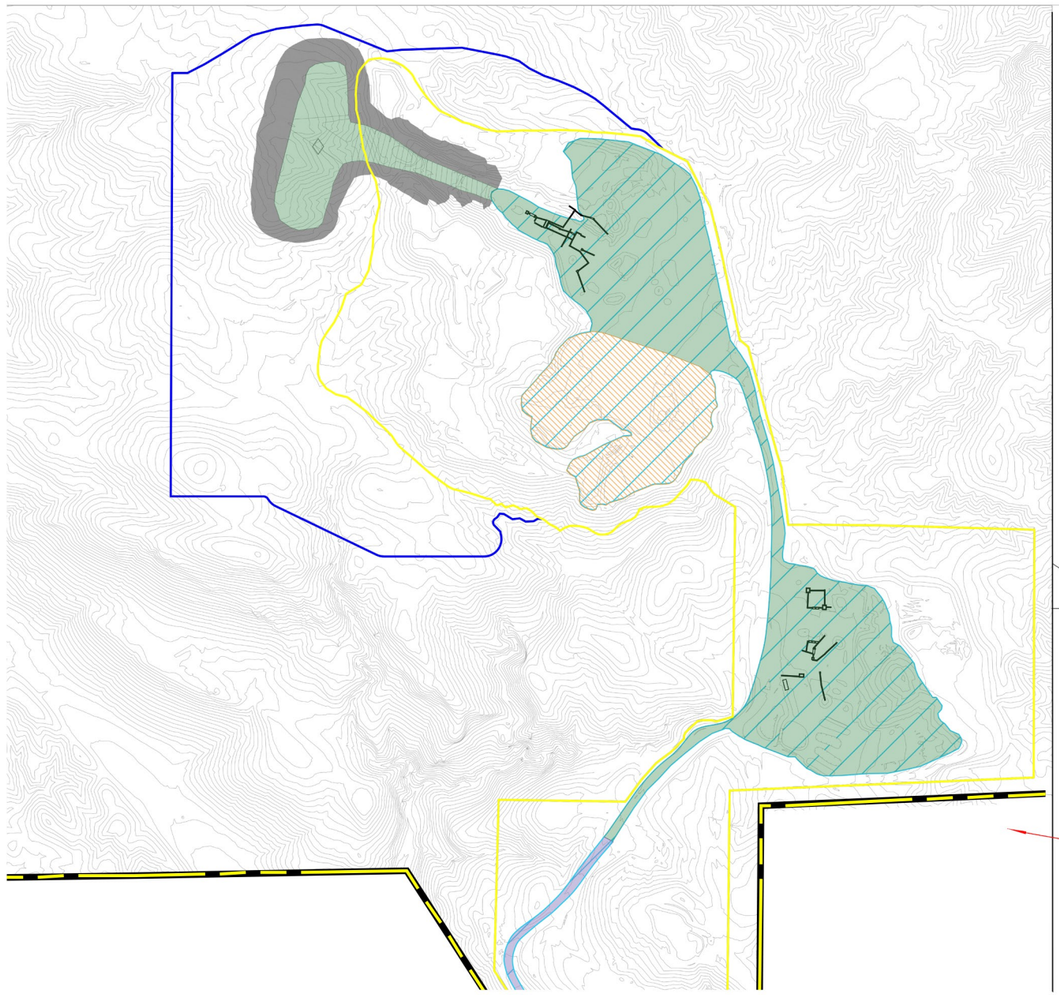
H. Project-Related Water Consumption

Water used on-site for dust control and aggregate processing would be obtained from Eastern Metropolitan Water District (EMWD) and various groundwater wells on-site. Existing and proposed water usage at the Mine primarily would consist of dust control within disturbed portions of the Mine so as to reduce the generation of particulate matter and prevent substantial erosion. All water used on site consists of groundwater pumped from on-site wells. Figure 3-5, *Dust Control Measures*, shows areas currently subject to watering for dust control, and also shows the Project's proposed dust control measures. As shown, under existing conditions approximately 44.65 acres of the Project site are subject to watering for dust control. Under the proposed Project, the Mine's access road would be paved to reduce areas subject to watering by 0.84 acre. Additionally, the Project proposes to use gravel stabilization over approximately 10.59 acres of the existing disturbed areas

Table 3-3 Baseline vs Proposed Operational Equipment Summary

	Baseline Operational Equipment Summary				
Hours/Day	**Equipment**	**Quantity**	**Tier Rating**	**HP**	**Total HP Hours Per Day**
4	Skid Steer	1	T4i	51	204
10	735 Haul Truck	2	T2	394	7,880
8	980K Wheel Loader	1	T4i	318	2,544
8	988H Wheel Loader	1	T3	501	4,008
11	JD 844 Wheel Loader	2	T4i	380	8,360
4	D10R Dozer	1	T2	570	4,560
8	Water Truck 2000 Gal	1	T0	354	2,832
				Total Baseline HP Hours	**30,388**
	Proposed Project Equipment Summary				
Hours/Day	**Equipment**	**Quantity**	**Tier Rating**	**HP**	**Total HP Hours Per Day**
6	Skid Steer	1	T4i	51	306
16	735C Haul Truck	2	T2	394	12,608
16	980K Wheel Loader	1	T4i	318	5,088
14	988H Wheel Loader	1	T3	501	7,014
16	JD 844 Wheel Loader	2	T4i	380	12,160
8	D10R Dozer	1	T2	570	4,560
16	Water Truck 2000 Gal	1	T0	354	5,664
				Subtotal Project HP Hours	**47,400**
	Net New Project Equipment Summary				
Hours/Day	**Equipment**	**Quantity**	**Tier Rating**	**HP**	**Total HP Hours Per Day**
2	Skid Steer	1	T4i	51	102
6	735C Haul Truck	2	T2	394	4,728
8	980K Wheel Loader	1	T4i	318	2,544
6	988H Wheel Loader	1	T3	501	3,006
5	JD 844 Wheel Loader	2	T4i	380	3,800
4	D10R Dozer	1	T2	570	2,280
8	Water Truck 2000 Gal	1	T0	354	2,832
				Total Net New Project Horsepower Hours	**19,292**

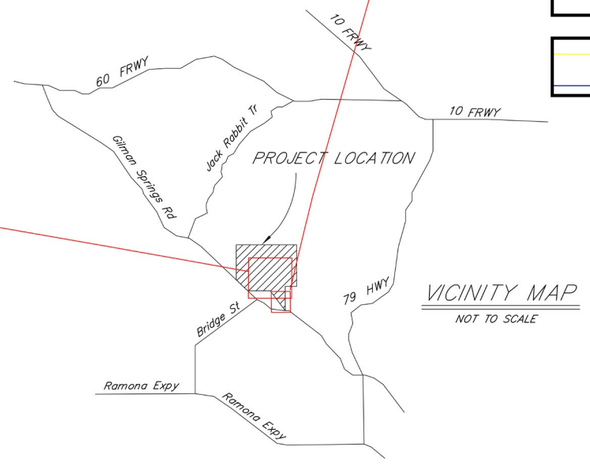
(Urban Crossroads, 2020a, Table 3-2)



Legend		
	Zone	Acerage
	Current Watering	44.65
	Proposed New Pavement*	0.84
	Proposed Alternative Aggregate Stabilization*	10.59
	Proposed Watering	37.44
Reduction in Watering		13.01%
*Indicates Water Reduction Measure		

Existing Disturbance Limit

Proposed Disturbance Limit



VICINITY MAP
NOT TO SCALE

Source(s): Chandler Aggregates, Inc. (04-18-2019)

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Figure 3-5

DUST CONTROL MEASURES

at the Mine, which would preclude the need for watering for dust control purposes. Thus, with the proposed Project, areas subject to watering for dust control would be reduced by 7.21 acres, from 44.65 acres under existing conditions to 37.44 under the proposed Project, thereby reducing the total areas subject to watering for dust control from 44.65 acres to approximately 37.44 acres. Thus, total water usage for dust control purposes would be reduced by approximately 16.1% as compared to baseline conditions.

I. Erosion and Sediment Control

The Project site is located within the Gilman Hot Springs Hydrologic Subarea of the San Jacinto Hydrologic Unit (RWQCB, 2016, p. 1-5). Under existing conditions, runoff from areas subject to mining in the northern portions of the site are conveyed to one of two sedimentation basins, which detain and provide water quality treatment for runoff prior to being discharged via natural drainage channels near the southwestern corner of the site. These conditions would be maintained during on-going mining activities under the proposed Project. Upon final reclamation of the site, runoff from the EDA and other mining areas in the north of the site ultimately would be conveyed to a proposed sedimentation pond within the proposed EDA, and runoff would be fully detained on site and allowed to infiltrate into the groundwater table. Additionally, as part of site reclamation, all disturbed areas on site would be revegetated.

J. Blasting

Blasting is a component of current operations under SMP 159R1. Historically, the amount of blasting has depended on production needs and development and has averaged approximately six to nine blasts per year. Blasting would be required to occur in areas of the Mine where vegetation has already been removed. Specifically, blasting would continue to be conducted on- site in a planned and intermittent basis at a maximum of 15 blasts per year. The relationship between tonnage production and number of blasts is not fixed. The number of blasts per year varies depending on production needs, benching and pit development, and drilling equipment availability. The blasting operations are required to be conducted at a time and manner so that disturbance or distraction would be minimized by and to any sensitive receptors that would or could be proximate to the blasting area. The mining operator is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events.

K. Duration of Mining Activities

Based on physical and operational characteristics of the Mine, the Mine Operator estimates that SMP 159R1 has approximately 14,000,000 tons of aggregate material expected to be present on-site based on the existing approved mining limits. Under the proposed Project, an additional approximately 30,000,000 tons of aggregate material would be made available for mining, in addition to the 14,000,000 tons remaining under SMP 159. Thus, the total reserves with approval of the proposed Project would be approximately 44,000,000 tons of material. The Mine Operator estimates that aggregate production and reclamation as part of the IDEFO would take approximately 50 years, which equates to an annual average of approximately 880,000 tpy.

Table 3-4 Reclamation Seed Mix

SCIENTIFIC NAME	COMMON NAME	POUNDS/ACRE
Acmispon glaber	Deerweed	2
Ambrosia dumosa	Burro bush	3
Artemisia californica	California sage brush	5
Deinandra fasciculata	Fascicled tarweed	2
Baccharis pilularis	Coyote brush	3
Encelia farinosa	Brittlebush	3
Eriogonum fasciculatum	Flat-top buckwheat	5
Eriophyllum confertiflorum	Golden yarrow	3
Gutierrezia californica	California matchweed	3
Lasthenia californica	Goldfields	2
Lupinus bicolor	Lupine	2
Mimulus aurantiacus	Monkey-flower	2
Plantago erecta	Dot-seed plantain	3
Salvia apiana	White sage	3
Salvia mellifera	black sage	3
Stipa pulchra	Purple needlegrass	5
	TOTAL	**49**

L. Revegetation

The reclamation seed mix specified for the proposed Project would consist of the species identified in Table 3-4, *Reclamation Seed Mix*. The revegetation mix is based on natural site conditions as documented by the Project's biologist. Table 3-4 identifies the species used to vegetate the flat mined areas of the Mine. California Code of Regulations (CCR) Section 3705(a) states that a vegetative cover suitable for the proposed end use and capable of self-regeneration without continued dependence on irrigation, soil amendments, or fertilizer shall be established on disturbed land, and further specifies that vegetative cover or density and species-richness shall be, where appropriate, sufficient to stabilize the surface against effects of long-term erosion and shall be similar to naturally occurring habitats in the surrounding area. The species identified in Table 3-4 would be used to revegetate the mined areas on-site following as part of reclamation activities to control erosion and to reduce fugitive dust. At this time, future development of these areas is speculative and unlikely given the site's "W-2 (Controlled Development Areas Zone)" and "M-R-A (Mineral Resource & Related Manufacturing)" zoning designations, which allow only a limited number of uses (including mining and agricultural uses). Future development is not proposed by the Project, so this EIR approximately assumes that the flat mined areas would be revegetated.

M. Inert Debris Engineered Fill Operation

SMP 159R2 proposes to allow for the operation of an Inert Debris Engineered Fill Operation (IDEFO). The proposed IDEFO would allow for the importation and processing of inert construction debris to aid in the reclamation of the Mine. It should be noted that IDEFO material imported to the site would be counted towards the Mine's maximum of 1,000,000 tpy, such that the total amount of material imported to and exported from the site may not exceed 1,000,000 tons in a given year.

3.4 STANDARD REQUIREMENTS AND CONDITIONS OF APPROVAL

The proposed Project and its technical aspects have been reviewed by various Riverside County departments. These departments are responsible for reviewing land use applications for compliance with County codes and regulations. These departments also were responsible for reviewing all or parts of this EIR for technical accuracy and compliance with CEQA. The Riverside County departments that are responsible for technical review include:

- Planning Department
- Fire Department
- Building & Safety Department
- Transportation and Land Management Department
- Riverside County Flood Control & Water Conservation District (RCFCWCD)

Review of the proposed Project by the entities listed above will result in the production of a comprehensive set of draft Conditions of Approval that will be available for public review prior to consideration of the proposed Project by the County of Riverside Planning Commission. These conditions will be considered by the Planning Commission in conjunction with their consideration of the Project. If approved, the Project would be required to comply with all imposed Conditions of Approval.

Conditions of Approval, applicable mitigation measures from the Riverside County General Plan EIR, and other applicable regulations, codes, and requirements that the Project is required to comply with as a matter of law and that result in the reduction or avoidance of one or more environmental impact(s) are specified in EIR Section 4.0, *Environmental Analysis*, under the appropriate subject heading.

3.5 SUMMARY OF REQUESTED ACTIONS

Riverside County has primary approval responsibility for the proposed Project. As such, the County serves as the Lead Agency for this EIR pursuant to CEQA Guidelines § 15050. (The role of the Lead Agency was previously described in detail in Subsection 1.4 of this EIR). The County's Planning Commission will consider the Project as part of a publicly-noticed public hearing. The Planning Commission will consider the information contained in this EIR and this EIR's Administrative Record in its decision-making processes. At the conclusion of the public hearing, the Planning Commission will approve, approve with changes, or deny the proposed Project, and the revised financial assurances pursuant to Public Resources Code Section 2770(d). If, within 10 days after the notice of decision appears on the Board's agenda, an aggrieved person files a written appeal with the County Clerk, then an additional publicly-noticed public hearing would be held before the County Board of Supervisors, during which the Board of Supervisors would hear written and oral testimony and would consider all information contained in the Project's Administrative Record. At the conclusion of the public hearing, the Board of Supervisors would either affirm, modify, or set aside the decision of the Planning Commission. A list of the primary actions under County jurisdiction is provided in Table 3-5, *Matrix of Project Approvals/Permits.*

3.6 RELATED-ENVIRONMENTAL REVIEW AND CONSULTATION REQUIREMENTS

Subsequent to approval of the proposed Project described herein, additional discretionary and/or administrative actions would be necessary to implement the proposed Project. Table 3-5 lists the government agencies that are expected to use this EIR and provides a summary of the subsequent actions associated with the Project. This EIR covers all federal, state, local government and quasi-government approvals which may be needed to implement the Project, whether or not they are explicitly listed in Table 3-5 or elsewhere in this EIR (CEQA Guidelines § 15124(d)).

Table 3-5 Matrix of Project Approvals/Permits

Public Agency	Approvals and Decisions
RIVERSIDE COUNTY	
Riverside County Discretionary Approvals	
Riverside County Planning Commission	• Approve, conditionally approve, or deny the proposed Second Revision to Surface Mining Permit No. 159 (SMP 159R2) and associated revised Financial Assurances. • Reject or certify this EIR along with appropriate CEQA Findings. • Consider compliance with the Riverside County Climate Action Plan.
Riverside County Subsequent Discretionary and Ministerial Approvals	
Riverside County Fire Department	• Issuance of Blasting Permit
OTHER AGENCIES-SUBSEQUENT APPROVALS AND PERMITS	
U.S. Army Corps of Engineers (USACE)	• Issuance of a Section 404 Permit
California Department of Conservation (CDC)	• Review of Reclamation Plan included as part of SMP No. 159R2
California Department of Fish and Wildlife (CDFW)	• Issuance of a Section 1602 Streambed Alteration Agreement (SAA) pursuant to the Fish and Game Code
Santa Ana Regional Water Quality Control Board (RWQCB)	• Compliance with National Pollutant Discharge Elimination System (NPDES) Permit. • Filing of an Amended Notice of Intent (NOI) for the existing NPDES Permit • Issuance of a Clean Water Act Section 401 Water Quality Certification.
United States Fish and Wildlife Service (USFWS)	• Issuance of a Biological Opinion (BO) as part of a Section 7 consultation process between the USACE and USFWS
Riverside County Flood Control & Water Conservation District (RCFCWCD)	• Approvals for construction of stormwater sedimentation basins.

4.0 ENVIRONMENTAL ANALYSIS

4.0.1 SUMMARY OF EIR SCOPE

In accordance with CEQA Guidelines §15126-§15126.4, this EIR Section 4.0, *Environmental Analysis*, provides analyses of potential direct, indirect, and cumulatively considerable impacts that could occur from planning, constructing, and operating the proposed Project.

In compliance with the procedural requirements of CEQA, an Initial Study was prepared to determine the scope of environmental analysis for this EIR. Public comment on the scope consisted of written comments received by Riverside County in response to the NOP issued for this EIR. Additionally, subsequent to issuance of the Project's NOP for public review, the State of California adopted updates to the CEQA Guidelines in December 2018. These updates included revisions to Appendix G to the CEQA Guidelines, which revised recommended threshold questions and added the new topics of Energy and Wildfire. Taking all known information and public comments into consideration, including the recent updates to the CEQA Guidelines, thirteen (13) primary environmental subject areas are evaluated in this Section 4.0, as listed below. Each subsection evaluates several specific subject matters related to the general topic of the subsection. The title of each subsection is not limiting; therefore, refer to each subsection for a full account of the subject matters addressed therein. Additionally, it should be noted that although the updated Appendix G to the CEQA Guidelines include the topic of Wildfire, the Project's Initial Study/NOP determined that the Project would result in less-than-significant impacts due to wildfire hazards; thus, the issue of Wildfire is not addressed in in detail by this EIR.

4.1 Aesthetics
4.2 Air Quality
4.3 Biological Resources
4.4 Energy
4.5 Geology and Soils
4.6 Greenhouse Gas Emissions
4.7 Historic and Archaeological Resources
4.8 Hydrology and Water Quality
4.9 Noise
4.10 Paleontological Resources
4.11 Transportation and Circulation
4.12 Tribal Cultural Resources
4.13 Utilities and Service Systems

Seven (7) environmental subjects were determined by the County to have no potential to be significantly impacted by the Project, as concluded by the Project's Initial Study (included in Technical Appendix A to this EIR) and after consideration of all comments received by the County on the scope of this EIR and documented in the County's administrative record. These seven (7) subjects are discussed briefly in Section 5.0, *Other CEQA Considerations*, and include: Agricultural Resources; Hazards and Hazardous Materials (including wildfire hazards); Land Use and Planning; Mineral Resources; Population and Housing; Public Services; and Recreation.

4.0.2 SCOPE OF CUMULATIVE EFFECTS ANALYSIS

CEQA requires that an EIR contain an assessment of the cumulative impacts that may be associated with a proposed project. As noted in CEQA Guidelines § 15130(a), "an EIR shall discuss cumulative impacts of a

project when the project's incremental effect is cumulatively considerable..." "…[A] cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (CEQA Guidelines § 15130(a)(1)). As defined in CEQA Guidelines § 15355:

> *'Cumulative Impacts' refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

CEQA Guidelines § 15130(b) describes two acceptable methods for identifying a study area for purposes of conducting a cumulative impact analysis. These two approaches include: 1) a list of past, present, and probable future projects producing related or cumulative impacts, including if necessary, those projects outside the control of the agency ("the list of projects approach") or 2) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact ("the summary of projections approach").

For purposes of evaluating the Project's near-term (Existing plus Ambient Growth plus Project plus Cumulative (2016)) traffic and traffic-related impacts (e.g., transportation-related noise impacts), the analysis of cumulatively-considerable impacts uses the list approach, which includes present and reasonably foreseeable projects known to the Lead Agency (Riverside County), the City of Moreno Valley, the City of San Jacinto, and the City of Beaumont at the time the Project's Notice of Preparation (NOP) was distributed for public review on May 16, 2018. This approach was determined to be appropriate by Riverside County because the County determined that the comprehensive list of cumulative projects provides a sufficient amount of information to enable an analysis of near-term cumulative effect for the subject areas of transportation-related noise and transportation/traffic.

For purposes of evaluating the Project's Horizon Year (2035) traffic and traffic related-impacts, (e.g., transportation-related noise impacts), the analysis of cumulatively-considerable impacts uses the "buildout" approach, which utilizes a cumulative impact network using RivTAM, which includes transportation networks and land uses expected to occur within Riverside County and surrounding areas with General Plan buildout. This approach was determined to be appropriate by Riverside County because the County determined that the "buildout" approach accounts for growth through the buildout of the General Plans for jurisdictions located within the Project's study area, and provides a sufficient amount of information to enable an analysis of Horizon Year (2035) cumulative effect for the subject areas of transportation-related noise and transportation/traffic.

A cumulative project list was developed in consultation with Riverside County planning and engineering staff, the City of Moreno Valley, the City of San Jacinto, and the City of Beaumont. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to intersections that would receive 50 or more peak hour trips from the Project. (Urban Crossroads, 2018, p. 56) This methodology presents a more reasonable approach to cumulative traffic analysis than the General Plan projection approach by recognizing development projects that actually have the potential to contribute traffic to the same intersections, roadway segments, and/or freeway segments as the Project and have the potential to be made fully operational during a similar timeframe as the Project. Specific development projects included in the traffic impact cumulative analysis are listed in Table 4.0-1, *Summary of Cumulative Development Projects*.

Table 4.0-1 Summary of Cumulative Development Projects

TAZ	Project	Land Use	Quantity [2]	
County of Riverside				
R1	CUP03600	Manufacturing	100.00	AC
R2	CUP03746	Manufacturing	35.00	AC
City of Beaumont				
B1	Fairway Canyon	Residential	3,300	DU
B2	Heartland	Residential	981	DU
B3	Hidden Canyon Industrial	Industrial	196.50	AC
B4	Rolling Hills Ranch Industrial Phase 2	Industrial	155.00	AC
City of San Jacinto				
SJ1	Bridge Commercial Center	Commercial	69.000	TSF
City of Moreno Valley				
MV1	TR36719	Single Family Detached Residential	34	DU
MV2	TR35377	Single Family Detached Residential	9	DU
MV3	World Logistics Center[1]	High-Cube Logistics Center	40,600.000	TSF
		Open Space	1,084.00	AC
		Public Facility	19.00	AC

[1] Source: The World Logistics Center TIA, Parsons Brinckerhoff, Inc., September 2014.

[2] TSF = Thousand Square Feet; AC = Acres; DU = Dwelling Units

(Urban Crossroads, 2018, Table 4-6)

For the issue of air quality, the cumulative impact analysis relies on guidance from the South Coast Air Quality Management District (SCAQMD). The SCAQMD published a report giving direction on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (SCAQMD, 2003b). In this report the AQMD states on page D-3:

> *"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission*

significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The cumulative analysis provided in EIR Subsection 4.2 assumes that individual projects that do not generate emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related emissions that exceed SCAQMD thresholds for Project-specific impacts would be considered cumulatively considerable. (Urban Crossroads, 2020a, p. 57)

Compliance with the SCAQMD guidelines for evaluating direct and cumulatively-considerable impacts due to air quality emissions has been shown to result in a demonstrable reduction in air quality pollutants within the South Coast Air Basin. As more thoroughly discussed in EIR Subsection 4.2.2.H and as shown on EIR Tables 4.2-3 through 4.2-7, regulations promulgated by the SCAQMD have led to a dramatic reduction in the level of air quality pollutants within the South Coast Air Basin (SCAB), including levels of ozone, particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide, and oxides of nitrogen. As noted in the SCAQMD 2016 AQMP, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs" (SCAQMD, 2016). Improvements also have been seen in ozone levels. Part of the control processes of the SCAQMD's duty to greatly improve the air quality in the SCAB is the uniform CEQA review procedures required by SCAQMD's CEQA Handbook (SCAQMD, 2003a). The single threshold of significance used to assess Project direct and cumulative impacts has in fact been successful, as evidenced by the track record of the air quality in the Basin dramatically improving over the course of the past decades (please refer to EIR Subsection 4.2 for an additional discussion on the improvements of air quality within the SCAB).

The list of projects method also was not used for the issue area of greenhouse gas (GHG) emissions, because GHG impacts are inherently cumulative in nature. The Project does not have the potential to result in direct significant effects due to global climate change (GCC) because GCC is a global phenomenon resulting from global emissions of GHGs, and the proposed Project has no potential to individually cause or perceptively exacerbate the effects of GCC due to GHGs. Additionally, it is not feasible to list every project throughout the globe that would have a potential for contributing to GHG emissions. Instead, the analysis of cumulatively-considerable GHG impacts relies on SCAQMD's interim screening threshold of 10,000 $MTCO_2e$ per year in determining whether additional analysis is needed to determine the cumulative significance of Project-related GHG emissions. (Refer to EIR Subsection 4.6 for additional discussion of the thresholds of significance evaluated for the issue of GHG emissions).

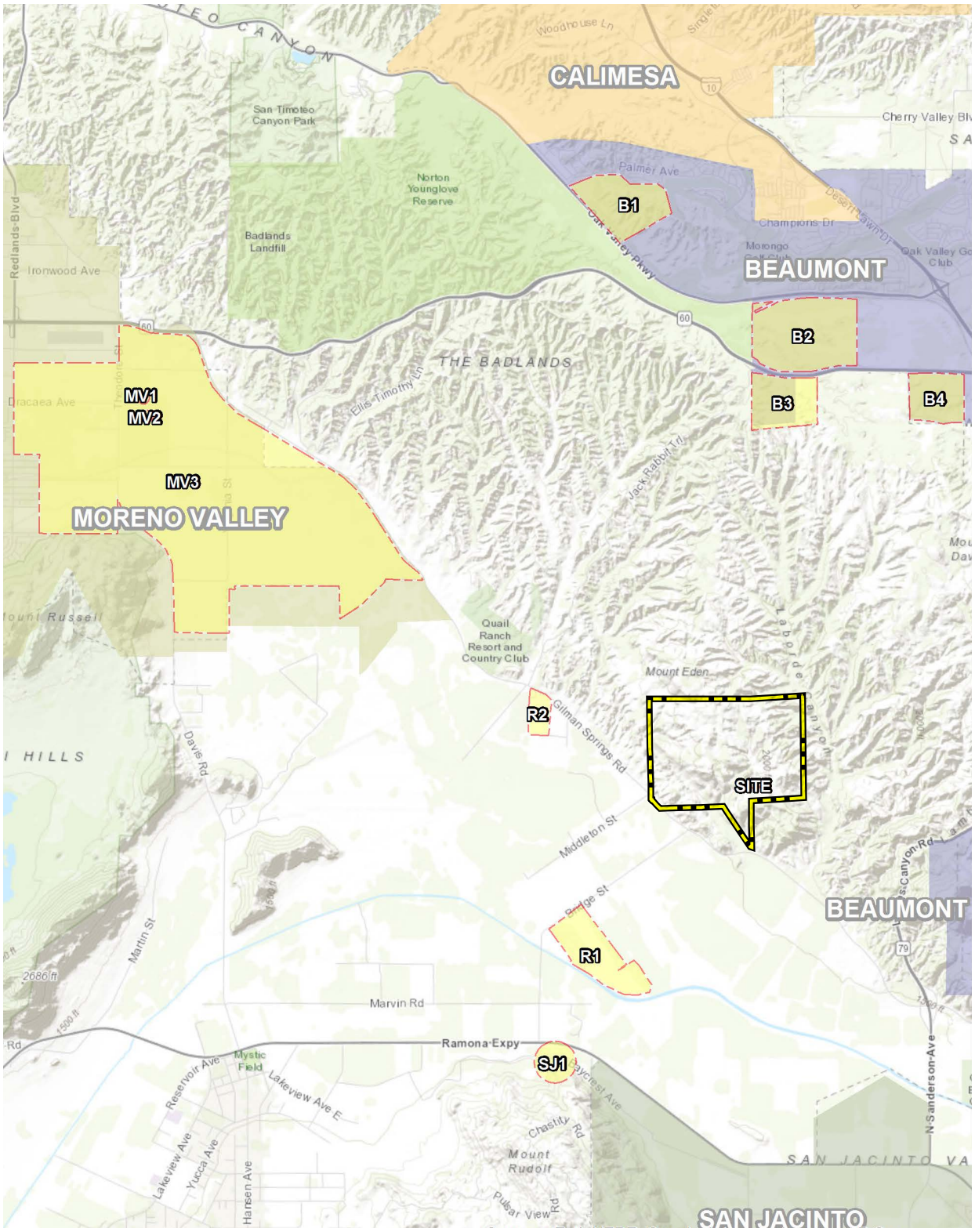
For the issue areas of aesthetics, biological resources, energy, geology and soils, historic and archaeological resources, hydrology/water quality, noise, paleontological resources, tribal cultural resources, and utilities/service systems, the cumulative study area is defined in each Subsection of Chapter 4.0, and relies on the "summary of projections" approach. For example, the issue of aesthetics considers the Project's viewshed which is defined as the geographical area that is visible from a given location and represents the area within which the Project has the potential to result in adverse impacts to scenic resources. Within the Project's viewshed, which includes portions of Riverside County, the City of Moreno Valley, and the City of San Jacinto, the cumulative analysis of aesthetics assumes buildout in accordance with the County and City General Plans. For the issue of biology, the cumulative study area corresponds to the boundaries of the Western Riverside County Multiple Habitat Species Conservation Plan (MSHCP), as the MSHCP provides for the conservation of a wide variety of special status plant and animal species and encompasses a broad region that generally represents biological conditions associated with the Project area; thus, the cumulative study area for biological resources includes all future land uses within western Riverside County as called for by the General Plans of the County and the various cities that are included in the MSHCP. Please refer to the cumulative impact analysis provided in each Subsection in Chapter 4.0 for an issue-specific discussion of the cumulative study area. Specific cumulative projects are shown in Figure 4.0-1, *Cumulative Development Project Location Map*.

4.0.3 IDENTIFICATION OF IMPACTS

Subsections 4.1 through 4.13 of this EIR evaluate the thirteen (13) environmental subjects warranting detailed analysis, as determined by this EIR's Initial Study and in consideration of public comment on this EIR's NOP and the updates to Appendix G to the CEQA Guidelines that were adopted in December 2018. The format of discussion is standardized as much as possible in each section for ease of review. The environmental setting is discussed first, followed by a discussion of the Project's potential environmental impacts based on specified thresholds of significance used as criteria to determine whether potential environmental effects are significant.

The thresholds of significance used in this EIR are based on the thresholds presented in CEQA Guidelines Appendix G and as applied by Riverside County to create the Project's Initial Study Checklist (included in *Technical Appendix A* to this EIR). The thresholds are intended to assist the reader of this EIR in understanding how and why this EIR reaches a conclusion that an impact would or would not occur, is significant, or is less than significant. It should be noted that subsequent to the public review period for the Project's Initial Study/NOP, the State of California enacted changes to the CEQA Guidelines in December 2018, including Appendix G to the CEQA Guidelines. In consideration of the updates to the CEQA Guidelines, the scope of analysis in this EIR also includes the topic of Energy.

Serving as the CEQA Lead Agency for this EIR, Riverside County is responsible for determining whether an adverse environmental effect identified in this EIR should be classified as significant or less than significant. While Riverside County has generally elected to use the thresholds presented in CEQA Guidelines Appendix G, it should be noted that CEQA affords the County discretion to formulate standards of significance, and recognizes that the significance of a particular impact may vary with the setting. (14 Cal. Code Regs., § 15064(b).) The standards of significance used in this EIR are based on the independent judgment of the Riverside County, taking into consideration the updated CEQA Guidelines Appendix G, Riverside County's



Source(s): Urban Crossroads (03-07-2018)

NOT TO SCALE

Figure 4.0-1

CUMULATIVE DEVELOPMENT PROJECT LOCATION MAP

adopted ordinances, and adopted County policies; the judgment of the technical experts that prepared this EIR's Technical Appendices; performance standards adopted, implemented, and monitored by regulatory agencies; significance standards recommended by regulatory agencies; and the standards in CEQA that trigger the preparation of an EIR. As required by CEQA Guidelines § 15126.2(a), impacts are identified in this EIR as direct, indirect, cumulative, short-term, long-term, on-site, and/or off-site impacts of the proposed Project. A summarized "impact statement" is provided in each subsection following the analysis.

The following terms are used to describe the level of significance related to the physical conditions within the area affected by the proposed Project:

- No Impact: An adverse change in the physical environment would not occur.

- Less-than-Significant Impact: An adverse change in the physical environment would occur but the change would not be substantial or potentially substantial and would not exceed the threshold(s) of significance presented in this EIR.

- Significant Impact: A substantial or potentially substantial adverse change in the physical environment would occur and would exceed the threshold(s) of significance presented in this EIR, requiring the consideration of mitigation measures.

Each Subsection also includes a discussion or listing of the applicable regulatory criteria (laws, policies, regulations, etc.) that the Project is required to comply with (if any). If impacts are identified as significant after mandatory compliance with regulatory criteria, feasible mitigation measures are presented that would either avoid the impact or reduce the magnitude of the impact. The following terms are used to describe the level of significance following the application of recommended mitigation measures:

- Less-than-Significant Impact with Mitigation: A substantial or potentially substantial adverse change in the physical environment would occur that would exceed the threshold(s) of significance presented in this EIR; however, the impact can be avoided or reduced to a less than significant level through the application of feasible mitigation measure(s).

- Significant and Unavoidable Impact: A substantial or potentially substantial adverse change in the physical environment would occur that would exceed the threshold(s) of significance presented in this EIR. Feasible and enforceable mitigation measure(s) that have a proportional nexus to the Project's impact are either not available or would not be fully effective in avoiding or reducing the impact to below a level of significance.

For any impact identified as significant and unavoidable, Riverside County would be required to adopt a statement of overriding considerations pursuant to CEQA Guidelines § 15093 in order to approve the Project despite its significant impact(s) to the environment. The statement of overriding considerations would list the specific economic, legal, social, technological, and other benefits of the Project, supported by substantial evidence in the Project's administrative record, that outweigh the unavoidable impacts.

4.1 AESTHETICS

This Subsection describes the aesthetic qualities and visual resources present on the Project site and in the site's vicinity and evaluates the potential effects that the Project may have on these resources. Descriptions of existing visual characteristics, both on-site and in the vicinity of the Project site, and the analysis of potential impacts to aesthetic resources are based, in part, on field observations and site photographs collected by T&B Planning Inc. in March 2018, analysis of aerial photography (Google Earth, 2018), and Project application materials submitted to Riverside County and described in Section 3.0, *Project Description*, of this EIR. This Subsection also is based in part on information and policies contained in the Riverside County General Plan (Riverside County, 2019a), Riverside County GIS database (RCIT, 2017), Riverside County Ordinance No. 655 (Riverside County, 1988), and Riverside County Ordinance No. 915 (Riverside County, 2011).

4.1.1 SCOPE OF REVIEW

The Gilman Springs Mine, as discussed in Section 2.0, *Environmental Setting*, is an existing, ongoing surface mining operation operating pursuant to an approved Surface Mining Permit (SMP 159R1). Although the County has chosen to prepare an EIR for the proposed Project, the scope of review addresses those impacts resulting from the Project as described in Section 3.0, *Project Description*, and not impacts related to existing, approved operations, which form the environmental baseline, as discussed in EIR Subsection 2.7, *Existing Physical Site Conditions*. Accordingly, this Subsection does not analyze aesthetic impacts related to existing, approved operations, except in the cumulative context.

4.1.2 EXISTING CONDITIONS

A. *Existing Aesthetic Conditions*

The Project site occurs northeast of Gilman Springs Road, with the entrance to the Project site located approximately 0.6 mile southeast of the intersection of Bridge Street and Gilman Springs Road. Existing mining operations at the Gilman Springs Mine (hereafter "Mine") encompasses 150.4 acres. Within the existing mining operation areas are stockpiles, excavated mining pits, interior unpaved roads, and support equipment for aggregate mining operations, with several drainage basins located in the southern portion of the site. Existing management offices are located north of the entrance to the Mine, which is approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street along Gilman Springs Road. The remaining approximately 871.0 acres of the property consist of open space. Topographically, the site ranges in elevation from approximately 1,378 feet amsl at the southeast portion of the Project site, to 1,440 amsl in the northwest portion of the Project site (Google Earth, 2018).

Pursuant to CEQA Guidelines § 15125, the physical environmental condition for purposes of establishing the setting of an EIR is the environment as it existed at the time of the EIR's NOP was released for public review. The NOP for this EIR was released on May 16, 2018. The existing conditions of the Project site were previously shown on EIR Figure 2-6, *Aerial Photograph*.

To illustrate the existing visual conditions of the Project site in more detail, a photographic inventory was prepared. Figure 4.1-1, *Site Photograph Key Map*, depicts the locations of eight vantage point photographs, each of which are described below. These photographs, shown on Figure 4.1-2 through Figure 4.1-4, provide

a representative visual inventory of the site's visual characteristics as seen from surrounding public viewing areas. It should be noted that while site photographs were collected in March 2018, conditions on the property have not substantially changed since that time; thus, the photographs presented in this section provide an accurate reflection of the existing conditions of the Project site and surrounding areas.

- Site Photograph 1 (Figure 4.1-2): Site Photograph 1 was taken from the intersection of Gilman Springs Road and Bridge Street immediately south of the Project's southern boundary looking northwest (left side of the photograph) to southeast (right side of the photograph). The foreground of the photograph provides a view of Bridge Street intersecting Gilman Springs Road. Visible in the midground of the photograph are steep hillsides. The left side of the photograph depicts low-lying vegetation with utility poles constructed both perpendicular and parallel to Bridge Street. The right side of the photograph consists of a metal fence parallel to Bridge Street surrounding existing agricultural uses. Based on a viewshed analysis conducted in Google Earth, the disturbed portions of the Mine are not prominently visible from this location (Google Earth, 2018).

- Site Photograph 2 (Figure 4.1-2): Site Photograph 2 was taken from along Gilman Springs Road at the access road to the Mine, and depicts views looking northwest (left side of the photograph) to southeast (right side of the photograph). In the near-ground is Gilman Springs Road, with the access road to the Mine visible in the center portion of the photo, along with a stand of mature trees. Trees are also visible along the eastern edge of Gilman Springs Road in the left and right portions of the photo. As shown in the photo, the entrance into the Mine is accented by a series of boulders. In the background are a series of rolling hills that characterize the Project site and its surroundings. Based on a viewshed analysis conducted in Google Earth, and as shown in this photo, only the southernmost portions of the Mine are visible from this location; areas currently subject to active mining activities, as well as the proposed EDA, are not visible from this location (Google Earth, 2018).

- Site Photograph 3 (Figure 4.1-2): Site Photograph 3 was taken from along State Route 79 (SR-79) just south of the intersection with Gilman Springs Road looking northwest (left side of the photograph) to north (right side of the photograph). The center and left side of the photograph depicts existing agricultural uses with several scattered trees in the distance. The right side of the photograph depicts SR-79, with utility poles, a drainage ditch, and ruderal vegetation, with a solitary street tree visible in the distance. In the distance in the center and right portions of the photo are steep hillsides, including the Project site. According to a viewshed analysis conducted in Google Earth, the Project site is not prominently visible from this location (Google Earth, 2018).

- Site Photograph 4 (Figure 4.1-3): Site Photograph 4 was taken from along Ramona Expressway, northwest of the intersection with Warren Road, looking northwest (left side of the photograph) to northeast (right side of the photograph). The foreground of the photograph depicts ruderal vegetation and an existing three-wire fence, beyond which is agricultural lands. Several existing agricultural structures are visible in the distance in the central portion of the photo, with additional buildings visible

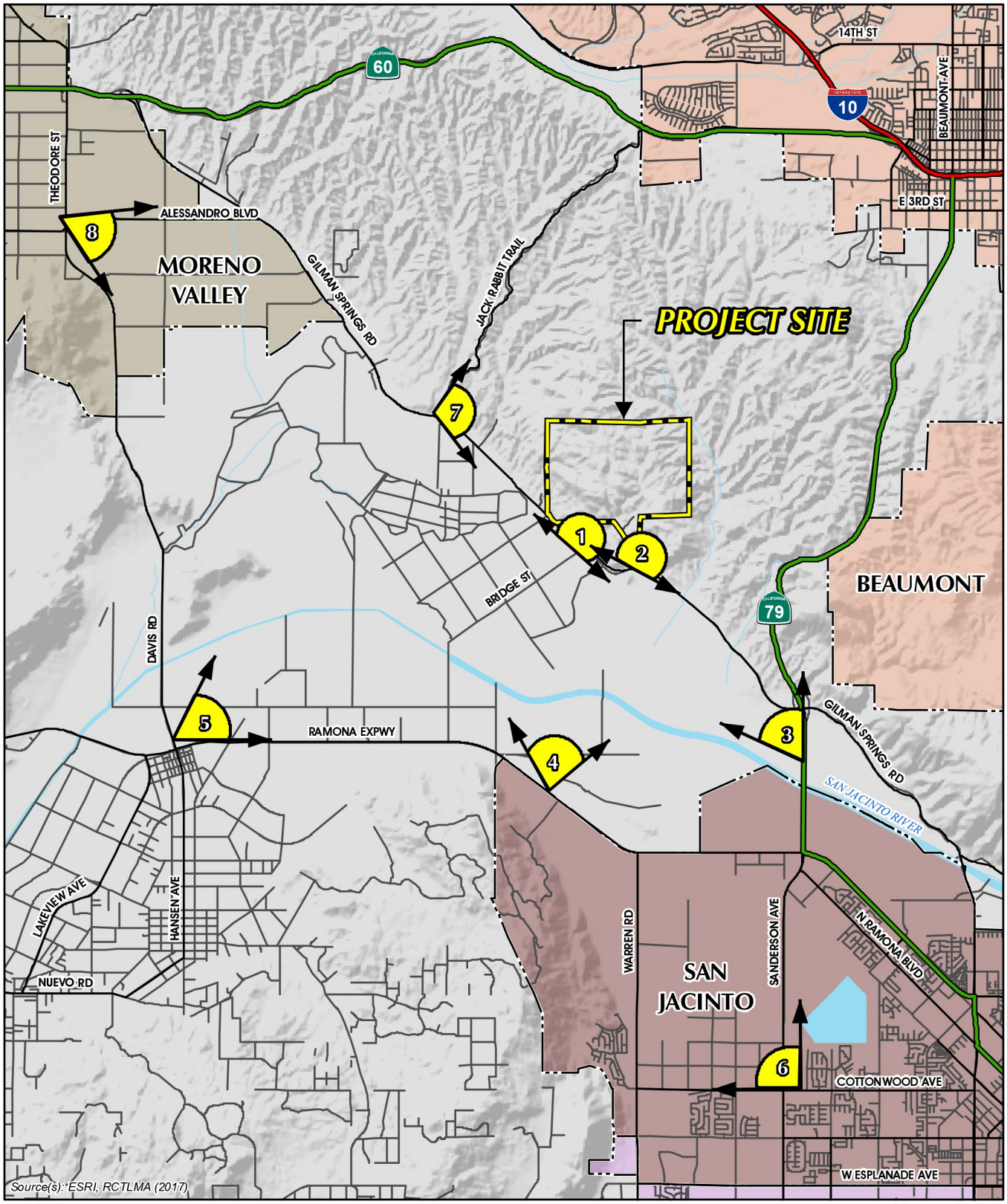


Figure 4.1-1

SITE PHOTOGRAPH KEY MAP

Northwest

Southeast

Site Photograph 1: From the intersection of Gilman Springs Road and Bridge Street looking northwest to southeast.

Northwest

Southeast

Site Photograph 2: From the intersection of Gilman Springs Road at the Mine access driveway, looking northwest to southwest.

Northwest

North

Site Photograph 3: State Route 79 south of Gilman Springs Road looking northwest to north.

Figure 4.1-2

NOT TO SCALE

SITE PHOTOS 1, 2, & 3

Northwest

Northeast

Site Photograph 4: From along Ramona Expressway looking northwest to northeast.

Northeast

East

Site Photograph 5: From along Davis Road looking northeast to east.

West

North

Site Photograph 6: From along Cottonwood Avenue looking west to north.

Figure 4.1-3

NOT TO SCALE

SITE PHOTOS 4, 5, & 6

North

East

Site Photograph 7: From near the intersection of Jack Rabbit Trail and Gilman Springs Road looking north to east.

East

Southeast

Site Photograph 8: From along Alessandro Boulevard looking east to southeast.

Figure 4.1-4

NOT TO SCALE

SITE PHOTOS 7 & 8

in the far distance in the left portion of the photo. Along the horizon are existing steep hillsides, including the Project site. Based on a viewshed analysis conducted in Google Earth, this location offers very distant and scant views of the Project site, with primarily existing and planned open space visible from this location (Google Earth, 2018).

- Site Photograph 5 (Figure 4.1-3): Site Photograph 5 was taken from along Davis Road just north of the Ramona Expressway looking north (left side of the photograph) to east (right side of the photograph). Visible in the foreground is an existing agricultural operation. An agricultural building and associated fencing are visible in the left portion of the photo. Telephone/electric poles are visible in the distance. In the distance in the left portion of the photograph are existing steep hillsides, including the Project site. The San Jacinto Mountains are visible in the central portion of the photo along the horizon. According to a viewshed analysis in Google Earth, from this location distant views of the Project site are available, although the Project site does not comprise a prominent component of the viewshed from this location due to distance (approximately 4.6 miles) (Google Earth, 2018).

- Site Photograph 6 (Figure 4.1-3): Site Photograph 6 was taken along Cottonwood Avenue just west of the intersection with San Remo Avenue looking west (left side of the photograph) to north (right side of the photograph). The foreground of the photograph depicts the improved Cottonwood Avenue and San Remo Avenue roadways. In the foreground in the center and left of the photo is an existing agricultural field, to the right of which are existing single-family residences along the eastern edge of San Remo Avenue. Single-family homes also are visible along the distance in the horizon in the center-left portion of the photo, with ornamental landscaping and trees visible. In the distance along the right side of the photo are the steep hillsides that surround the Project site. According to a viewshed analysis conducted in Google Earth, the Project site is not prominently visible from this location in part due to distance (5.9 miles) (Google Earth, 2018).

- Site Photograph 7 (Figure 4.1-4): Site Photograph 7 was taken near the intersection of Jack Rabbit Trail and Gilman Springs Road looking north (left side of the photograph) to east (right side of the photograph). In the foreground is the Jack Rabbit Trail roadway, with ruderal vegetation present throughout the foreground. A palm tree is visible in the left portion of the photo, with several additional mature trees visible in the right portion of the photo. In the near distance is steep topography, with portions of the Project site visible in the right-center portion of the photo. According to a viewshed analysis conducted in Google Earth, only the extreme southern portions of the existing mining area are visible, along with the western portions of the proposed EDA (Google Earth, 2018). A majority of views of the Project site from this location are of existing and planned open space.

- Site Photograph 8 (Figure 4.1-4): Site Photograph 8 was taken from along Alessandro Boulevard just east of the intersection with Theodore Street, looking east (left side of the photograph) to southeast (right side of the photograph). Visible in the foreground is Alessandro Boulevard, with active agricultural uses occurring along both sides of the roadway. Several street signs and telephone poles are visible along the edge of the roadway. In the distance in the center-right portion of the photo, an existing industrial facility surrounded by palm trees is visible. Visible along the horizon in the center and left portion of the photo are the rolling steep hillsides that characterize the Mine's vicinity.

According to a viewshed analysis conducted in Google Earth, the Project site is visible from this location, although due to distance (approximately 5.8 miles) the Project site does not comprise a dominant component of the viewshed from this location (Google Earth, 2018).

B. Scenic Highways

According to information from the California Department of Transportation (Caltrans), there are no officially designated scenic highways within the Project site's vicinity. The nearest "Officially Designated Scenic Highway" to the Project site is State Route 243 (SR-243), located 8.3 miles northeast of the Project site. The Project site is not visible from any portion of SR-243 due to intervening topography and distance. The nearest "Eligible State Scenic Highway – Not Officially Designated" is State Route 74 (SR-74), which is located approximately 8.5 miles south of the Mine. (Caltrans, 2011; Google Earth, 2018)

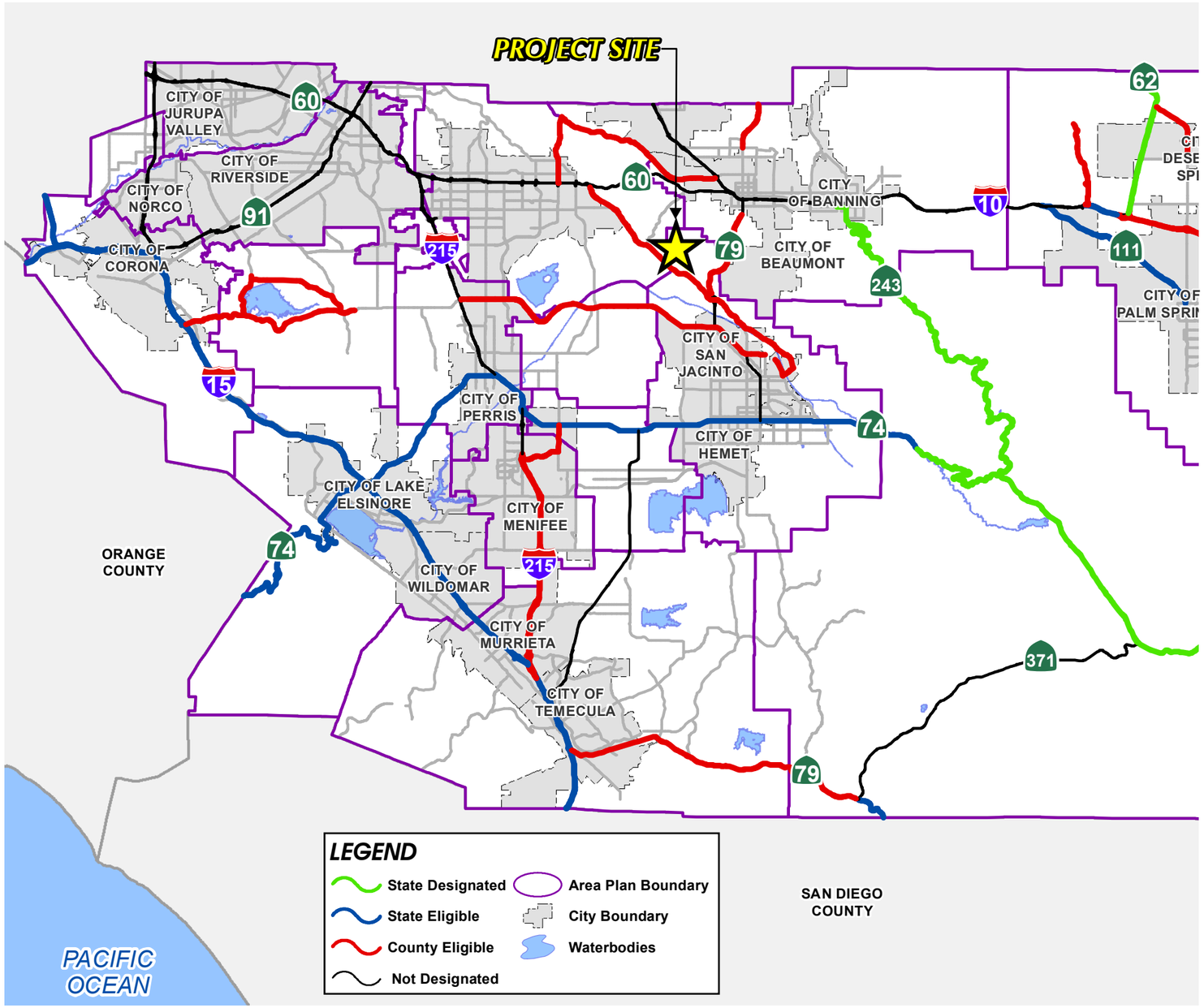
The Riverside County General Plan and its various Area Plans also identify eligible scenic highway facilities, including both state and County classifications. As shown on Figure 4.1-5, *Scenic Highways Map*, there are no County or state designated scenic highway facilities in the Project vicinity. However, there are a number of facilities that are identified as "County Eligible" facilities, and include Gilman Springs Road, Soboba Road, SR-79, and the Ramona Expressway. The General Plan also identifies SR-74 as a "State Eligible" scenic highway facility. (Riverside County, 2019b, Figure 9)

4.1.3 Applicable Regulatory Requirements

A. Riverside County General Plan

The Riverside County General Plan does not have any specific sections related to aesthetics and visual resources. However, the Land Use Element of the Riverside County General Plan includes policies related to Land Use Compatibility, Community Design, and Scenic Corridors, which have applicability to the topic of aesthetics. The Land Use Element provides direction related to how future development is intended to build out, such as the intensity/density and character of new development. The Land Use Element also addresses the relationship between development, community enhancement, and natural resource management.

The Multipurpose Open Space Element of the Riverside General Plan also addresses open space and scenic resources in Riverside County. According to the Multipurpose Open Space Element, scenic resources include: "…areas that are visible to the general public and considered visually attractive," and "natural landmarks and prominent or unusual features of the landscape" (Riverside County, 2019a, p. OS-52). Hillsides and ridges that rise above urban or rural areas or highways can also be considered scenic backdrops. Additionally, the Multipurpose Open Space Element defines scenic vistas as "…points, accessible to the general public, that provide a view of the countryside" (Riverside County, 2019a, p. OS-52). Riverside County General Plan Policy OS 21.1 intends to "Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County" (Riverside County, 2019a, p. OS-53).



Source(s): Riverside County General Plan, Circulation Element (12-2016)

NOT TO SCALE

Figure 4.1-5

SCENIC HIGHWAYS MAP

The Circulation Element, Land Use Element, and Multipurpose Open Space Element of the Riverside County General Plan also identify scenic corridors, which are roadways (including State and County eligible and designated scenic highways) that traverse scenic resources, and identify policies that are intended to protect and maintain the scenic resources within these corridors (Riverside County, 2019a, p. OS-52). In addition, the San Jacinto Valley Area Plan identifies scenic highways in the Project area, as shown previously on Figure 4.1-5 and described above in subsection 4.1.2.B. As noted in the San Jacinto Valley Area Plan, Policy SJVAP 13.1 seeks to "Protect the scenic highways in the San Jacinto Valley Area Plan from change that would diminish the aesthetic value of adjacent properties in accordance with the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements." (Riverside County, 2019b, p. 34)

B. Riverside County Ordinance No. 655, Regulating Light Pollution

The County of Riverside has adopted an ordinance regulating light pollution (Ordinance No. 655). Ordinance No. 655 is intended to restrict the permitted use of certain light fixtures emitting light into the night sky which could have a detrimental effect on astronomical observation and research. Ordinance No. 655 sets forth requirements for lamp source and shielding of light emissions for outdoor fixtures to reduce "skyglow" or light pollution that affects day or nighttime views from the Mt. Palomar Observatory (located approximately 36.5 miles south of the Project site in northern San Diego County). As shown on Figure 4.4.1, *Mount Palomar Nighttime Lighting Policy Area*, of the Riverside County General Plan Update Draft EIR No. 521, the Project site is located within the limits of "Zone B" of the Mt. Palomar Observatory Lighting Policy Area (Riverside County, 2015b, Figure 4.4.1). As such, the Project site is subject to the outdoor lighting policies and requirements applicable to Zone B that are stated in Riverside County Ordinance No. 655. This Ordinance includes specific standards for lighting fixtures installed along public roadways and in other common areas and applies to all new development. The use of low-pressure sodium lamps where possible by Ordinance No. 655, and the Ordinance also requires the shielding of all nonexempt outdoor lighting fixtures, specifies the hours of operation for non-exempt outdoor lighting fixtures, and regulates lighting fixtures used to illuminate an outdoor advertising display. (Riverside County, 1988)

C. Riverside County Ordinance No. 915, Regulating Outdoor Lighting

The County of Riverside has adopted an ordinance regulating outdoor lighting (Ordinance No. 915). Ordinance No. 915 is intended to provide minimum requirements for outdoor lighting in order to reduce light trespass. Ordinance No. 915 provides regulations on adequate lighting shielding, glare, and light trespass in order to ensure all development in Riverside County installs lighting in a way that does not jeopardize the health, safety, or general welfare of Riverside County residents and degrade their quality of life. (Riverside County, 2011)

4.1.4 Basis for Determining Significance

According to Section I of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to aesthetics if the Project or any Project-related component would (OPR, 2016):

- Have a substantial adverse effect on a scenic vista;

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings, or within an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Additionally, the following thresholds are derived from EA No. 34079 (Riverside County's Environmental Assessment Checklist, see *Technical Appendix A* to this EIR), and supplemented by the thresholds listed in the 2018 update to Appendix G to the CEQA Guidelines, in order to evaluate the significance of the proposed Project's impacts on aesthetics. The proposed Project would result in a significant impact to aesthetics if the Project or any Project-related component would:

a. *Have a substantial effect upon a scenic highway corridor within which it is located;*

b. *Substantially damage scenic resources, including but not limited to the potential to damage trees, rock outcroppings, historic buildings, or landmark features; obstruct any prominent scenic vista or view open to the public, or result in the creation of an aesthetically offensive site open to public view;*

c. *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points.), or if the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality;*

d. *Interfere with the nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655;*

e. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area; or*

f. *Expose residential property to unacceptable light levels.*

4.1.5 IMPACT ANALYSIS

Threshold a:	***Would the Project have a substantial effect upon a scenic highway corridor within which it is located?***

As discussed above in subsection 4.1.2.B, according to information from the California Department of Transportation (Caltrans), there are no officially designated scenic highways within the Project site's vicinity (Caltrans, 2011). The nearest officially designated State scenic highway to the site is State Route 243 (SR-243), located approximately 8.3 miles northeast of the Project site; however, no portion of the Mine is visible from SR-243 due to distance and intervening topography. Accordingly, the Project would result in less-than-significant impacts to State-designated scenic highway facilities. (Caltrans, 2011; Google Earth, 2018).

SR-74 is, however, designated as a "Eligible State Scenic Highway – Not Officially Designated" by Caltrans. As previously shown on Figure 4.1-5, the General Plan also identifies SR-74 as a "State Eligible" scenic highway facility. Additionally, Figure 4.1-5 shows that while there are no County or state designated scenic highways in the Project vicinity, there are a number of "County Eligible" facilities in the area, including Gilman Springs Road, Soboba Road, SR-79, and the Ramona Expressway.

Because the Project would not affect disturbances in areas currently permitted for mining, the Project only has the potential to result in aesthetic impacts associated with mining activities that would occur within the Project's EDA. In order to assess the Project's potential to result in significant impacts to eligible scenic highway facilities in the area, a viewshed analysis was conducted and is shown on Figure 4.1-6, *Gilman Springs Mine Viewshed and Scenic Highways*. Figure 4.1-6 shows areas that have at least a partial view of the proposed EDA in green, while areas that do not have a line of site to the EDA are shown in red. It should be noted that the viewshed presented on Figure 4.1-6 does not take into account intervening development or vegetation, which could obstruct lines of sight.

As shown on Figure 4.1-6, the proposed EDA would be visible at a distance from segments of SR-74 generally located east of Sanderson Avenue, which are identified as an "Eligible State Scenic Highway – Not Officially Designated"; however, these segments are located approximately 8.5 miles south of the Project site. At this distance, mining activities within the EDA would not form a prominent component of the viewshed. Furthermore, SR-74 is not officially designated as a scenic highway. On this basis, Project impacts to nearby segments of SR-74 would be less than significant.

As also shown on Figure 4.1-6, the proposed EDA would not be prominently visible from nearby segments of SR-79 due to intervening topography. Similarly, the EDA would not be visible along Soboba Road. However, the proposed EDA would be intermittently visible from nearby segments of Gilman Springs Road and the Ramona Expressway, both of which are identified as "County Eligible" scenic highway facilities. Although the EDA is visible from these County-eligible scenic highway facilities, mining operations within the EDA would consist of the removal of the hillsides within the EDA. As mining progresses within the EDA, areas affected by mining activities would be obstructed from view by the existing natural topography within the planned open space areas on site and in the surrounding areas. As a result, mining activities within the EDA would not be prominently visible from either of these "County Eligible" facilities. Furthermore, these facilities have not been officially designated as scenic highways. Therefore, the Project would result in less-than-significant visual impacts to nearby County-eligible scenic highway segments (Gilman Springs Road and the Ramona Expressway).

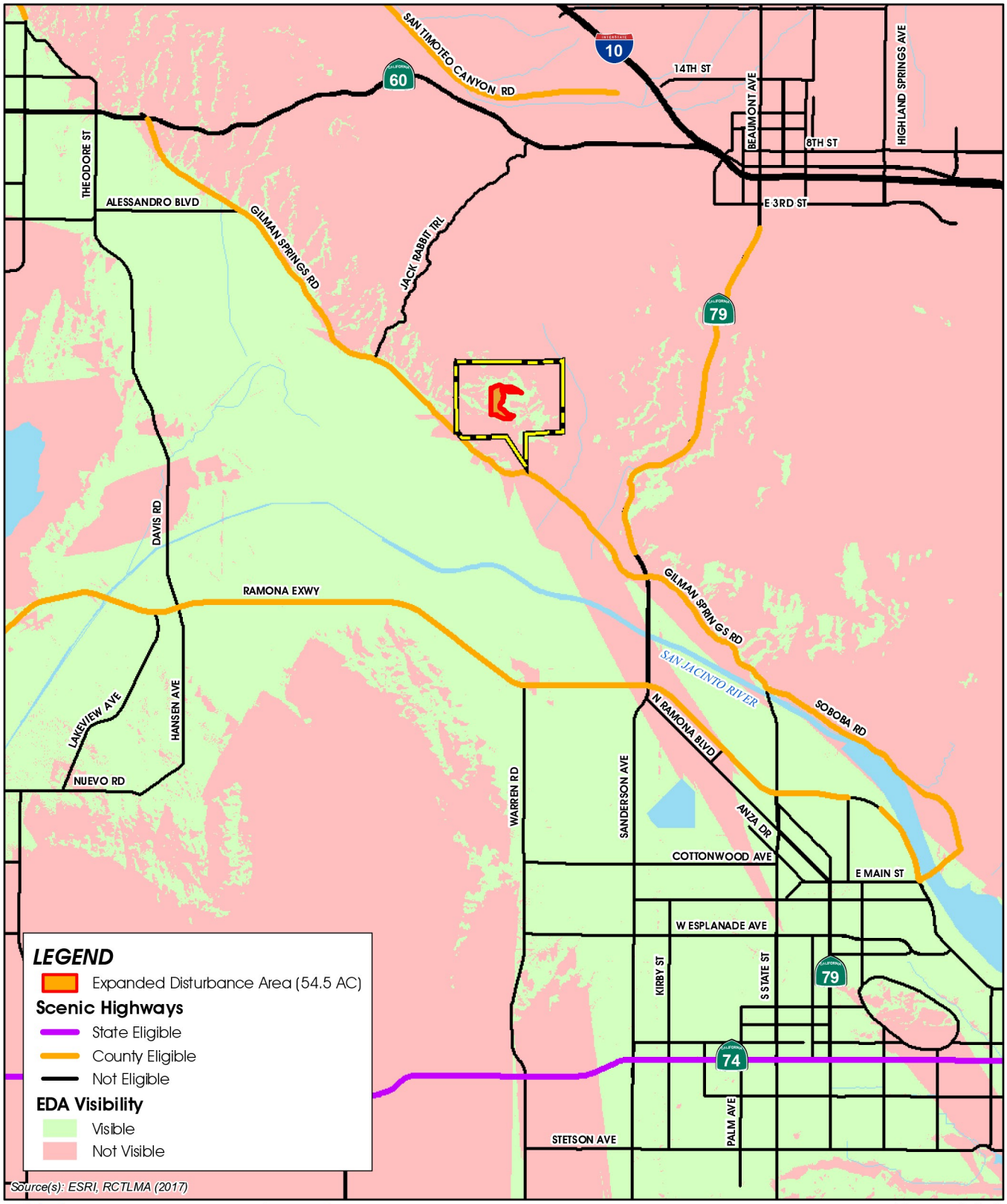


Figure 4.1-6

GILMAN SPRINGS MINE VIEWSHED AND SCENIC HIGHWAYS

Threshold b:	***Would the Project substantially damage scenic resources, including but not limited to the potential to damage trees, rock outcroppings, historic buildings, or landmark features; obstruct any prominent scenic vista or view open to the public; or result in the creation of an aesthetically offensive site open to public view?***

As described above in subsection 4.1.2.A, the proposed EDA consists of rolling steep terrain with natural vegetation including Riversidean sage scrub, chaparral, and non-native grassland plant communities. As shown on the photographs depicted on Figure 4.1-2 through Figure 4.1-4 and as previously depicted on EIR Figure 2-6, *Aerial Photograph*, the EDA does not contain any significant rock outcroppings, trees, or other unique scenic resources. Although the EDA contains rolling steep terrain, the site's topographic characteristics are not visually unique as the areas west, north, and east of the Mine consist of very similar terrain. Furthermore, as mining progresses within the EDA, areas affected by mining activities would be obstructed from view by the existing natural topography within the planned open space areas on site and in the surrounding areas. As a result, mining activities within the EDA would not be prominently visible from off-site locations. Accordingly, the Project would not substantially damage a scenic vista or scenic resource, including trees, rock outcroppings, or unique or landmark features, and impacts would be less than significant.

Under existing conditions, the Mine consists of private property that does not afford any scenic vistas or views open to the public. Although the EDA is visible from off-site locations in the area, it does not comprise a major component of the viewshed, and instead appears as part of a large complex of steep, rolling terrain. Furthermore, as mining activities within the EDA progress, areas subject to mining would be obstructed from view at off-site locations by the existing natural hillsides within the planned open space on site and in the surrounding area. Thus, mining activities within the EDA would not result in a substantial impact on scenic vistas or views available in the area, and impacts would be less than significant.

Mining within the EDA would result in the removal of existing vegetation and the excavation of hillsides. However, the adverse aesthetic effects resulting from mining within the EDA primarily would be visible from areas within the Mine property, which are not publicly accessible. From public viewing areas surrounding the Mine, the EDA would not be prominently visible, particularly as mining progresses in the EDA and is obscured from view by the existing hillsides that surround the Mine. Furthermore, following reclamation, the site would be revegetated as discussed in EIR subsection 3.3.2.L. As a result, any adverse aesthetic impacts resulting from mining within the EDA would not be visible from off-site locations under long-term conditions. Thus, the Project would not result in the creation of an aesthetically offensive site open to public view, and impacts would be less than significant.

Threshold c:	***In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points.), or if the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality?***

The Project site is located within a non-urbanized area. As noted above, mining within the EDA would result in the removal of existing vegetation and the excavation of hillsides. However, the adverse aesthetic effects resulting from mining within the EDA primarily would be visible from areas within the Mine property, which

are not publicly accessible. From public viewing areas surrounding the Mine, the EDA would not be prominently visible, particularly as mining progresses in the EDA and is obscured from view by the existing hillsides that surround the Mine. Furthermore, following reclamation, the site would be revegetated as discussed in EIR subsection 3.3.2.L. As such, while mining activities on site would remove natural vegetation and change the site's topography over time, because areas subject to mining activities within the EDA would be obscured by natural topography and would not be prominently visible from off-site public viewing locations, Project impacts would be less than significant.

Threshold d: ***Interfere with the nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655?***

The Project site is approximately 36.5 miles north of the Mt. Palomar Observatory and is located within Zone B of the Mt. Palomar Nighttime Lighting Policy Area (Riverside County, 2019b, Figure 6). Implementation of the proposed Project would result in the expansion of the existing mining limits to accommodate an additional 54.5 acres of mining area within the EDA. No new lighting elements would be required in the EDA, as lighting elements currently used for mining within the approved mining areas would be used during mining activities within the EDA once mining activities within the existing permitting mining areas reach the EDA. However, lighting elements would be used over a longer period of time at the site because the Project would increase areas subject to mining, which would increase the number of years the Mine can remain active.

Thus, the Project would introduce lighting elements to the EDA that have the potential to interfere with the uses of the Mount Palomar Observatory. All development projects within Zone B of the Mt. Palomar Nighttime Lighting Policy Area are required to adhere to the requirements of Riverside County Ordinance No. 655, which controls artificial lighting sources to protect the Observatory. Ordinance No. 655 states that low-pressure sodium lamps are the preferred illuminating source, and that outdoor lighting fixtures are required to be shielded. According to information provided by the Project Applicant, all lighting sources used on site consist of 1,000 lumen or less. Pursuant to Ordinance No. 655, lamp types that are 4050 lumens and below are allowed within Zone B of the Mt. Palomar Nighttime Lighting Policy Area. Due to intervening topography from lowered elevation of the site and mandatory compliance with Ordinance No. 655, potential impacts regarding lighting and the Palomar Observatory would be reduced to a less-than-significant level.

Threshold e: ***Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area***

Implementation of the proposed Project would result in the expansion of existing mining limits to accommodate an additional 54.5 acres of mining area and an increase in the Mine's hours of operation within 300 feet of the approved mining limits. New lighting elements would be needed on-site to support nighttime operations within the proposed EDA, similar to existing mining activities. As discussed in Threshold c), proposed mining activities would reduce the existing site elevation; thus, over time any lighting elements used on site would not affect surrounding properties and would not adversely affect day or nighttime views in the surrounding areas. The Project also would be required to comply with Riverside County Ordinance No. 655, which requires that all lighting fixtures (within Zone B) use low-pressure sodium lamps that do not exceed 4,050 lumens, and further requires that lighting must be partially shielded to minimize spill-light (Riverside

County, 1988), and Riverside County Ordinance No. 915, which has the purpose of providing minimum requirements for outdoor lighting in order to reduce light trespass (Riverside County, 2011). Furthermore, the Project does not propose additional sources of glare, such as highly reflective surfaces or buildings with reflective glass. Mining equipment and vehicles associated with the few additional employees at the EDA would not produce substantial glare should sunlight be reflected from their surfaces. Based on the foregoing, impacts regarding substantial light or glare to day or nighttime views in the area would be less than significant.

Threshold f: ***Expose residential property to unacceptable light levels.***

The nearest residential property is approximately 0.2-mile west of the Mine's property (approximately 0.7 mile west of the proposed EDA) and approximately 0.9-mile northwest of the intersection of Gilman Springs Road at Bridge Street. Implementation of the proposed Project would result in the expansion of the existing mining limits to accommodate an additional 54.5 acres of mining area and an increase in the Mine's hours of operation within 300 feet of the approved mining limits (refer to Sections 2.0 and 3.0). As such, the Project would result in the use of lighting elements within the EDA. However, lighting elements would be directed at active mining and processing areas and would be shielded so as to prevent spillage. Furthermore, as mining activities within the EDA progress, areas subject to active mining would be shielded by the existing surrounding terrain. Moreover, given the distance between the EDA and the nearest residence (0.7 mile), it is highly unlikely that lighting elements within the EDA would expose this nearby residence to unacceptable light levels. Furthermore, lighting elements used at the Mine are required to comply with Riverside County Ordinance No. 655, which requires that all lighting fixtures (within Zone B) use low-pressure sodium lamps that do not exceed 4,050 lumens unless shielded, and further requires that lighting must be partially shielded to minimize spill-light. (Riverside County, 1988) The Project also would be required to comply with Riverside County Ordinance 915, which has the purpose of providing minimum requirements for outdoor lighting in order to reduce light trespass (Riverside County, 2011). Based on the foregoing, the Project would not expose residential property to unacceptable light levels. Impacts would be less than significant.

4.1.6 Cumulative Impact Analysis

For purposes of analysis herein, and with exception of potential sky glow effects, the Project's cumulative study area for aesthetics consists of the Project's viewshed, as depicted previously on Figure 4.1-6. Existing and planned development located outside the Project's viewshed have no potential to cumulatively-contribute to visual quality effects. For lighting, the cumulative study area comprises Zones A and B of the Mount Palomar Lighting Policy Area, as defined by Riverside County Ordinance No. 655, which encompasses those areas that would have the potential to result in cumulatively-considerable skyglow that could adversely affect operations at the Mt. Palomar Observatory.

As noted under the analysis of Threshold a., there are no officially-designated State or County scenic highways in the Project's viewshed. SR-74 is designated as a "Eligible State Scenic Highway – Not Officially Designated" by Caltrans, while the County General Plan identifies Gilman Springs Road, Soboba Road, SR-79, and the Ramona Expressway as "County Eligible" facilities. The proposed EDA would not be prominently visible from nearby segments of SR-74 due to distance (approximately 8.3 miles); thus, the Project would result in less-than-cumulatively considerable impacts to SR-74, a "Eligible State Scenic Highway – Not Officially Designated" facility. Additionally, Figure 4.1-6 shows that the proposed EDA would not be

prominently visible from nearby segments of SR-79 or Soboba Road; thus, Project impacts to these "County Eligible" highways would be less-than-cumulatively considerably. Although the EDA would be visible from nearby segments of Gilman Springs Road and the Ramona Expressway, mining operations within the EDA would consist of the removal of the hillsides within the EDA. As mining progresses within the EDA, areas affected by mining activities would be obstructed from view by the existing natural topography within the planned open space areas on site and in the surrounding areas. As a result, mining activities within the EDA would not be prominently visible from either of these "County Eligible" facilities. Moreover, there are no proposed developments in the immediate site vicinity that could contribute to impacts to scenic highways. As such, impacts would be less-than-cumulatively considerable.

As noted under the analysis of Thresholds b. and c., the Project site does not contain any prominent scenic resources under existing conditions. The EDA does not contain any significant rock outcroppings, trees, or other unique scenic resources. Although the EDA contains rolling steep terrain, the site's topographic characteristics are not visually unique as the areas west, north, and east of the Mine consist of very similar terrain. Furthermore, as mining progresses within the EDA, areas affected by mining activities would be obstructed from view by the existing natural topography within the planned open space areas on site and in the surrounding areas. As a result, mining activities within the EDA would not be prominently visible from off-site locations. Additionally, although the EDA is visible from off-site locations in the area, it does not comprise a major component of the viewshed, and instead appears as part of a large complex of steep, rolling terrain; thus, the Project would not result in a cumulatively-considerable impact to scenic vistas or views available in the area. Additionally, the Project would not result in the creation of an aesthetically offensive site open to public view, and would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Accordingly, impacts would be less-than-cumulatively considerable.

Cumulative development projects in the unincorporated areas of Riverside County would comply with Riverside County Ordinance No. 655 (Regulating Light Pollution) and Riverside County Ordinance No. 915 (Regulating Outdoor Lighting). The requirements to shield lighting enforced by these lighting regulations has the effect of minimizing light and glare that would create sky glow. Additionally, development projects with artificial light sources in surrounding jurisdictions would be required to comply with the light reduction requirements applicable in their respective jurisdiction. Therefore, because of the light control regulations of other jurisdictions within the 45-mile radius of the Mount Palomar Observatory would minimize the amount of sky glow that could affect nighttime operations at the observatory, the cumulative effect would be less than significant.

As discussed under the analysis of Threshold e., the Project is required to comply with the regulations of Riverside County Ordinance No. 655. All development within the immediate vicinity of the Project site would be required to comply with the Riverside County Ordinances regarding lighting. All streetscape lighting within the immediate vicinity of the Project would therefore be required to use lamp covers to ensure light is cast downwards towards sidewalks and streets, thereby preventing "spillover" effects that could interfere with nighttime views in the area. The proposed Project has been designed to comply with the County Ordinance No. 655 to ensure that Project lighting elements do not adversely affect nighttime views in the local area. Additionally, there are no components of the proposed Project that would produce substantial amounts of glare, such as mirrored windows. Ongoing mining activities on the Project site would reduce the existing site

elevation; thus, the Project site would not be prominently visible from surrounding areas. Therefore, a cumulatively-considerable impact would not occur.

As discussed under the analysis of Threshold f., the Project occurs within proximity to existing residential land uses; however, ongoing mining activities proposed by the Project would lower the existing site elevation. Therefore, mining activities proposed by the Project would not be prominently visible to surrounding residential properties. Moreover, the Project would be subject to Riverside County Ordinances regarding outdoor lighting. The Project and all other developments in the area are subject to the requirements of County Ordinance No. 655 to further ensure that Project lighting elements do not expose residential property to unacceptable light levels. Therefore, cumulatively-considerable impacts would be less than significant.

4.1.7 Significance of Impacts Before Mitigation

Threshold a.: Less-than-Significant Impact. Mining activities within the EDA, as would be allowed by the Project, would not be visible from any officially designated State or County highways. Mining activities within the EDA also would not be prominently visible from nearby segments of SR-74, a "Eligible State Scenic Highway – Not Officially Designated," due to the distance between this roadway facility and the Project site (8.3 miles). Mining activities within the proposed EDA also would not be prominently visible from nearby "County Eligible" highways. Impacts to scenic highways corridors would be less than significant.

Threshold b.: Less-than-Significant Impact. The Project would not result in damage to any scenic resources on-site that are visually prominent from off-site locations. The Project also would not obstruct distant views of hills and mountains that frame the Project's viewshed. The Project would not result in the creation of an aesthetically offensive site open to public view.

Threshold c.: Less-than-Significant Impact. Mining within the proposed EDA would not be prominently visible from public viewing locations offsite, and the visual impact of mining within the EDA would be reduced over time as elevations within the EDA are reduced to below that of surrounding topography. As such, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings and impacts would be less than significant.

Threshold d.: Less-than-Significant Impact. Intervening topography due to ongoing mining activities and mandatory compliance with the lighting provisions provided in Riverside County Ordinance No. 655 would ensure that the Project's lighting elements do not adversely affect nighttime use of the Mt. Palomar Observatory.

Threshold e.: Less-than-Significant Impact. Intervening topography due to ongoing mining activities and mandatory compliance with the lighting provisions provided County Ordinance Nos. 655 and 915 would ensure that the Project would not create a new source of substantial light or glare. An adverse effect to daytime and nighttime views in the area would be less than significant.

Threshold f.: Less-than-Significant Impact. The proposed Project would not expose residential property to unacceptable light levels. Lighting elements within the proposed EDA would be shielded and directed onto

active mining/processing areas, and there would be a minimum of 0.7 mile between any lighting elements in the EDA and the nearest residential home. Mandatory compliance with County Ordinances No. 655 and No. 915 would further ensure that residential uses would not be exposed to unacceptable light levels.

4.1.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- The Project is required to comply with Riverside County Ordinance No. 655, which is intended to restrict the permitted use of certain light fixtures emitting light into the night sky which could have a detrimental effect on astronomical observation and research. Ordinance No. 655 sets forth requirements for lamp source and shielding of light emissions for outdoor fixtures to reduce "skyglow" or light pollution that affects day or nighttime views from the Mount Palomar Observatory (located approximately36.5 miles south of the Project site in northern San Diego County). Pursuant to the requirements of Ordinance No. 655, all lighting shall consist of low-pressure sodium lighting, or other lamp types that emit 4050 lumens or less. If light fixtures are proposed above 4050 lumens, then the lighting shall be fully shielded in conformance with the requirements of Ordinance No. 655.

- The Project is required to comply with Riverside County Ordinance No. 915, which is intended to provide minimum requirements for outdoor lighting in order to reduce light trespass. Ordinance No. 915 provides regulations on adequate lighting shielding, glare, and light trespass in order to ensure all development in Riverside County installs lighting in a way that does not jeopardize the health, safety, or general welfare of Riverside County residents and degrade their quality of life.

Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.2 AIR QUALITY

This Subsection is based on a technical report titled, "Gilman Springs Mine Air Quality Impact Analysis" (herein, "AQIA"), which is dated January 7, 2020 and is included as *Technical Appendix B1* to this EIR (Urban Crossroads, 2020a). Additionally, due to delays in Project's opening year, a supplemental analysis was provided, entitled "Gilman Springs Mine Supplemental Air Quality and Greenhouse Gas Assessment," dated April 22, 2019, and included as *Technical Appendix B2* to this EIR (Urban Crossroads, 2019a). Refer to Section 7.0, *References*, for a complete list of reference sources.

4.2.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]). As evaluated in this EIR, and as explained in EIR subsections 3.3.2.A and 3.3.2.B, the Project would result in an increase in the amount of aggregate produced at the mine from 377,675 tons per year (tpy) to 1,000,000 tpy, with tonnage attributable to the Project comprising 622,235 tpy (or 62.2% of the total 1,000,000 tpy). Thus, it can be projected that approximately 62.2% of the estimated high-end daily tonnage of 4,000 tpd would be attributable to the Project, or approximately 2,489 tpd. Accordingly, for purposes of analysis within this Subsection, it is assumed that the Project would result in the production of a maximum of 2,489 tpd.

4.2.2 EXISTING CONDITIONS

A. South Coast Air Basin

The Project site is located in the South Coast Air Basin (SoCAB) within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. The Project site is located within the South Coast Air Basin (SoCAB), a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. (Urban Crossroads, 2020a, p. 9)

The SoCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. (Urban Crossroads, 2020a, p. 9)

B. Regional Climate

The regional climate has a substantial influence on air quality in the SoCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality. The annual average temperatures throughout the SoCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SoCAB shows greater variability in average annual minimum and

maximum temperatures. January is the coldest month throughout the SoCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SoCAB have recorded maximum temperatures above 100°F. (Urban Crossroads, 2020a, p. 9)

Although the climate of the SoCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SoCAB climate. Humidity restricts visibility in the SoCAB, and the conversion of sulfur dioxide (SO_2) to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SoCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast. (Urban Crossroads, 2020a, p. 9)

More than 90 percent of the SoCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SoCAB with frequency being higher near the coast. (Urban Crossroads, 2020a, pp. 9-10)

Due to its generally clear weather, about three-quarters of available sunshine is received in the SoCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14 ½ hours of possible sunshine. (Urban Crossroads, 2020a, p. 10)

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SoCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SoCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections. (Urban Crossroads, 2020a, p. 10)

In the SoCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion.

This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SoCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level. (Urban Crossroads, 2020a, p. 10)

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline. (Urban Crossroads, 2020a, p. 10)

C. *Wind Patterns*

The distinctive climate of the Project area and the SoCAB is determined by its terrain and geographical location. The SoCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. (Urban Crossroads, 2020a, pp. 10-11)

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season. (Urban Crossroads, 2020a, p. 11)

D. *Criteria Pollutants*

Criteria pollutants are pollutants that are regulated through the development of human health-based and/or environmentally-based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified in Table 4.2-1, *Criteria Pollutants*. (Urban Crossroads, 2020a, p. 11)

E. *Existing Air Quality*

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect, as well health effects of each pollutant regulated under these standards are shown in Table 4.2-2, *Ambient Air Quality Standards*. (Urban Crossroads, 2020a, p. 18)

Table 4.2-1 Criteria Pollutants

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X)	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.
Ozone (O_3)	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects.

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
	highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high ozone levels. Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10} (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust,	Sources of PM_{10} include road dust, windblown dust and construction. Also	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
	smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$ (Particulate Matter less than 2.5 microns): A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
Volatile Organic Compounds (VOC)	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic	Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting,	Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
	compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	effects, though many have several.
ROG	Similar to VOC, ROGs are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Lead is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. The major sources of lead emissions are ore and metals processing, particularly lead smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are

Table 4.2-1 Criteria Pollutants (Cont'd)

Criteria Pollutant	Description	Sources	Health Effects
	waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or lead acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of lead emissions.		associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (18).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

(Urban Crossroads, 2020a, Table 2-1)

Table 4.2-2 Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards [1]**		**National Standards [2]**		
		Concentration [3]	**Method [4]**	**Primary [3,5]**	**Secondary [3,6]**	**Method [7]**
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

Table 4.2-2 Ambient Air Quality Standards (Cont'd)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

(Urban Crossroads, 2020a, Table 2-1)

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 4.2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for ozone (O_3), Carbon Monoxide (CO) (except 8-hour Lake Tahoe), Sulfur Dioxide (SO_2) (1 and 24 hour), nitrogen dioxide (NO_2), particulate matter ≤ 10 microns (PM_{10}), and particulate matter ≤ 2.5 microns ($PM_{2.5}$) are not equaled or exceeded at any time in any consecutive three-year period. It should be noted that the three-year period is presented for informational purposes, and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the Air District meets the standards set by the federal Environmental Protection Agency (EPA) or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by the California Air Resources Board (CARB). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional re-designation requirements, the EPA will designate the areas as a maintenance area. (Urban Crossroads, 2020a, p. 18)

F. Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: carbon monoxide, lead, ozone, particulate matter, nitrogen dioxide, and sulfur dioxide which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district. On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 4.2-3, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*, for attainment designations for the SoCAB. Appendix 2.1 to the Project's AQIA (*Technical Appendix B1*) provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB. (Urban Crossroads, 2020a, p. 21)

G. Local Air Quality

Relative to the Project site, the nearest long-term air quality monitoring site in relation to the Project for Ozone (O_3), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2) is carried out by the SCAQMD at the B San Gorgonio Pass monitoring station located approximately 10 miles east of the Project site. The Metropolitan Riverside County 1 station, located approximately 22 miles northwest of the Project site, is the nearest station that monitors data for CO and $PM_{2.5}$. The most recent three (3) years of data available is shown on Table 2-4 of the AQIA and identifies the number of days ambient air quality standards were exceeded at monitoring sites in the study area, which is was considered to be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2016 through 2018 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO_2 has been omitted as attainment is regularly met in the South Coast Air Basin and few monitoring stations measure SO_2 concentrations. (Urban Crossroads, 2020a, p. 21)

Table 4.2-3 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 of the AQIA (*Technical Appendix B1*) for a detailed map of State/National Area Designations within the South Coast Air Basin.
"- "= The national 1-hour O_3 standard was revoked effective June 15, 2005.
(Urban Crossroads, 2020a, Table 2-3)

H. Regional Air Quality Improvement

The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists is known as the SoCAB. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures. (Urban Crossroads, 2020a, p. 26)

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in SoCAB air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls; and (iii) uniform CEQA review throughout the SoCAB. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB. (Urban Crossroads, 2020a, p. 26)

The SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire SoCAB. SCAQMD created Air Quality Management Plans (AQMPs) which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the SoCAB. The 2012 AQMP states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs." (Urban Crossroads, 2020a, p. 26)

Emissions of O_3, NO_X, VOC, and CO have been decreasing in the SoCAB since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and

reductions in evaporative emissions. Although vehicle miles traveled (VMT) in the SoCAB continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. O_3 contour maps show that the number of days exceeding the national 8-hour NAAQS has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. However, as shown on Table 4.2-4, *South Coast Air Basin Ozone Trend*, O_3 levels have increased in the past two years due to higher temperatures and stagnant weather conditions. Notwithstanding, O_3 levels in the SoCAB have decreased substantially over the last 30 years, with the current maximum measured concentrations being approximately one-third of concentrations within the late 70's. (Urban Crossroads, 2020a, p. 27)

The overall trends of PM_{10} and $PM_{2.5}$ levels in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the SoCAB and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions. (Urban Crossroads, 2020a, p. 28)

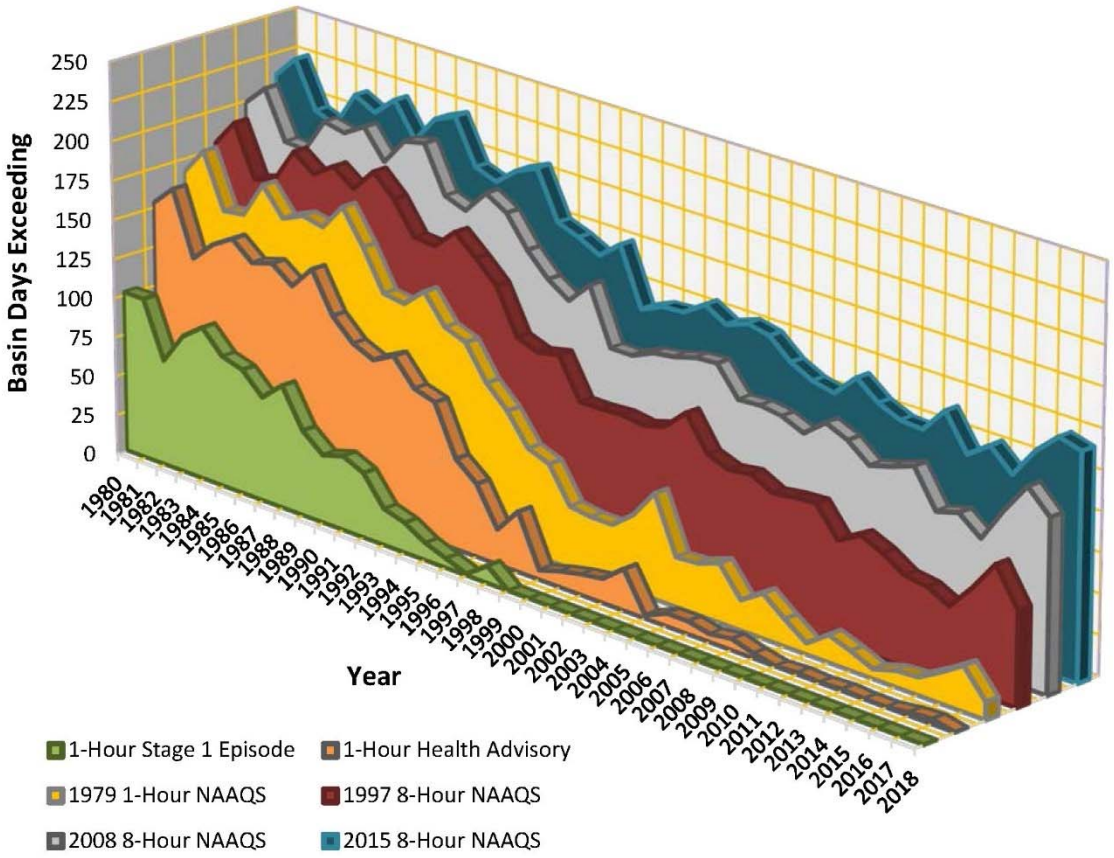
As with other pollutants, the most recent PM_{10} statistics also show overall improvement as illustrated in Table 4.2-5, *South Coast Air Basin Average 24-Hour Concentration PM10 Trend (Based on Federal Standard)* and Table 4.2-6, *South Coast Air Basin Annual Average Concentration PM10 Trend (Based on State Standard)*. During the period for which data are available, the 24-hour national annual average concentration for PM_{10} decreased by approximately 48 percent, from 103.7 µg/m³ in 1988 to 53.5 µg/m³ in 2018. Although the values are below the federal standard, it should be noted that there are days within the year where the concentrations will exceed the threshold. The 24-hour state annual average for emissions for PM_{10}, have decreased by approximately 53 percent since 1988. Although data in the late 1990's show some variability, this is probably due to the advances in meteorological science rather than a change in emissions. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM_{10} standards has also shown an overall drop. (Urban Crossroads, 2020a, p. 28)

Table 4.2-7, *South Coast Air Basin 24-Hour Average Concentration PM2.5 Trend (Based on Federal Standard)*, and Table 4.2-8, *South Coast Air Basin 24-Hour Average Concentration PM2.5 Trend (Based on State Standard)*, show the most recent 24-hour average $PM_{2.5}$ concentrations in the SoCAB from 1999 through 2018. Overall, the national and State annual average concentrations have decreased by almost 52 percent and 33 percent, respectively. It should be noted that the SoCAB is currently designated as nonattainment for the State and federal $PM_{2.5}$ standards. (Urban Crossroads, 2020a, p. 29)

While the 2012 AQMP PM_{10} attainment demonstration and the 2015 associated supplemental SIP submission indicated that attainment of the 24-hour standard was predicted to occur by the end of 2015, it could not anticipate the effect of the ongoing drought on the measured $PM_{2.5}$. The 2006 to 2010 base period used for the 2012 attainment demonstration had near-normal rainfall. While the trend of $PM_{2.5}$-equivalent emission reductions continued through 2015, the severe drought conditions contributed to the $PM_{2.5}$ increases observed after 2012. As a result of the disrupted progress toward attainment of the federal 24-hour $PM_{2.5}$ standard, SCAQMD submitted a request and the EPA approved, in January 2016, a "bump up" to the nonattainment

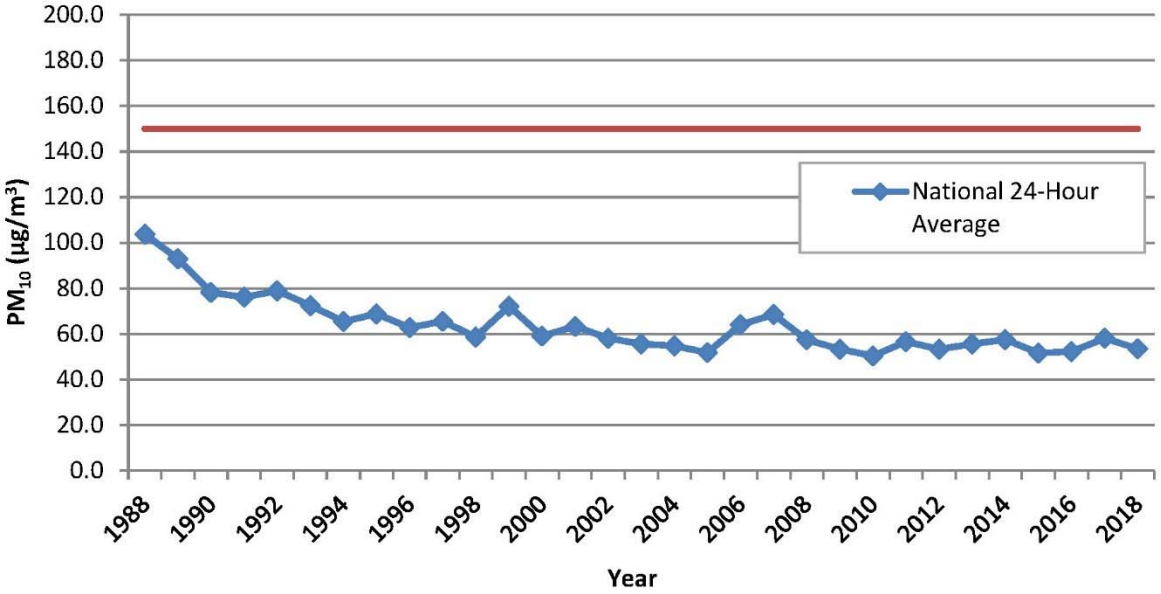
classification from "moderate" to "serious," with a new attainment deadline as soon as practicable, but not beyond December 31, 2019. (Urban Crossroads, 2020a, p. 30)

Table 4.2-4 South Coast Air Basin Ozone Trend



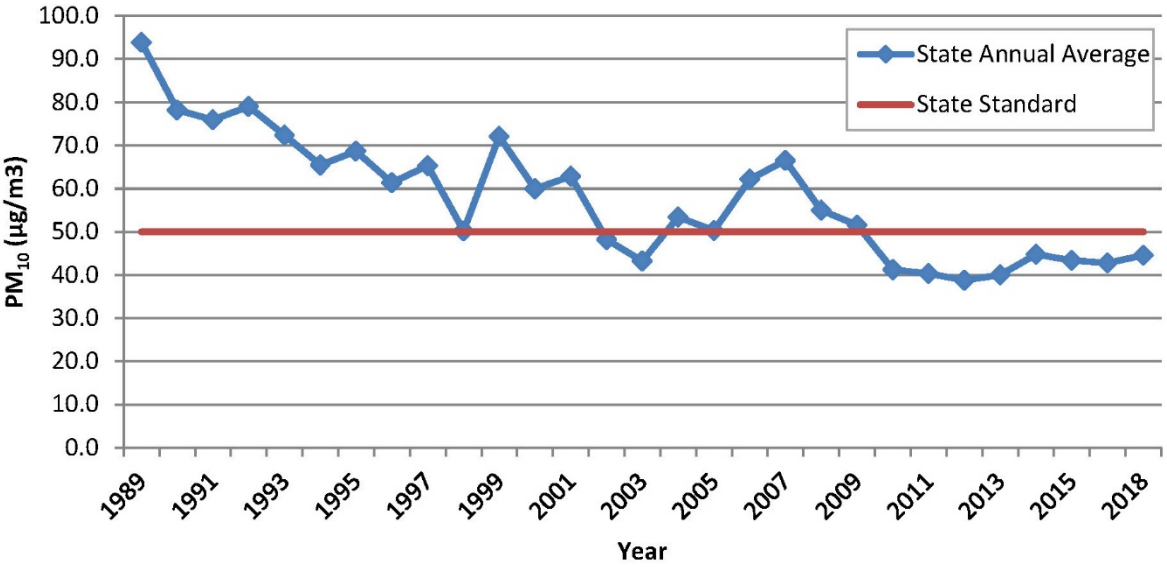
(Urban Crossroads, 2020a, Table 2-5)

Table 4.2-5 South Coast Air Basin Average 24-Hour Concentration PM_{10} Trend (Based on Federal Standard)



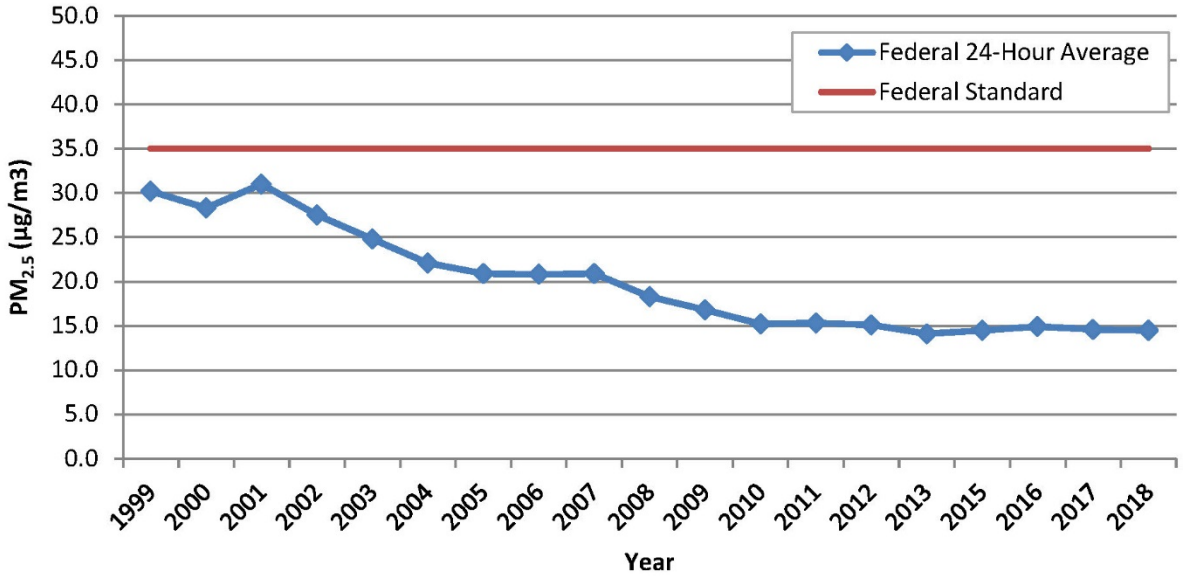
Note: Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.
(Urban Crossroads, 2020a, Table 2-6)

Table 4.2-6 South Coast Air Basin Annual Average Concentration PM_{10} Trend (Based on State Standard)



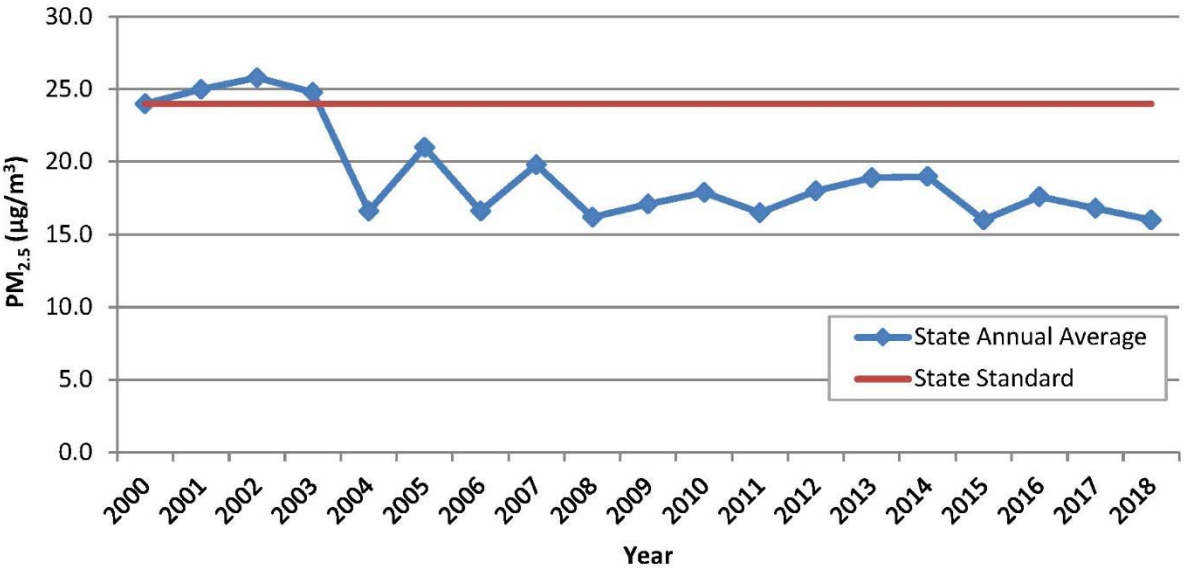
Note: Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.
(Urban Crossroads, 2020a, Table 2-7)

Table 4.2-7 South Coast Air Basin 24-Hour Average Concentration $PM_{2.5}$ Trend (Based on Federal Standard)



Note: Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.
(Urban Crossroads, 2020a. Table 2-8)

Table 4.2-8 South Coast Air Basin 24-Hour Average Concentration $PM_{2.5}$ Trend (Based on State Standard)

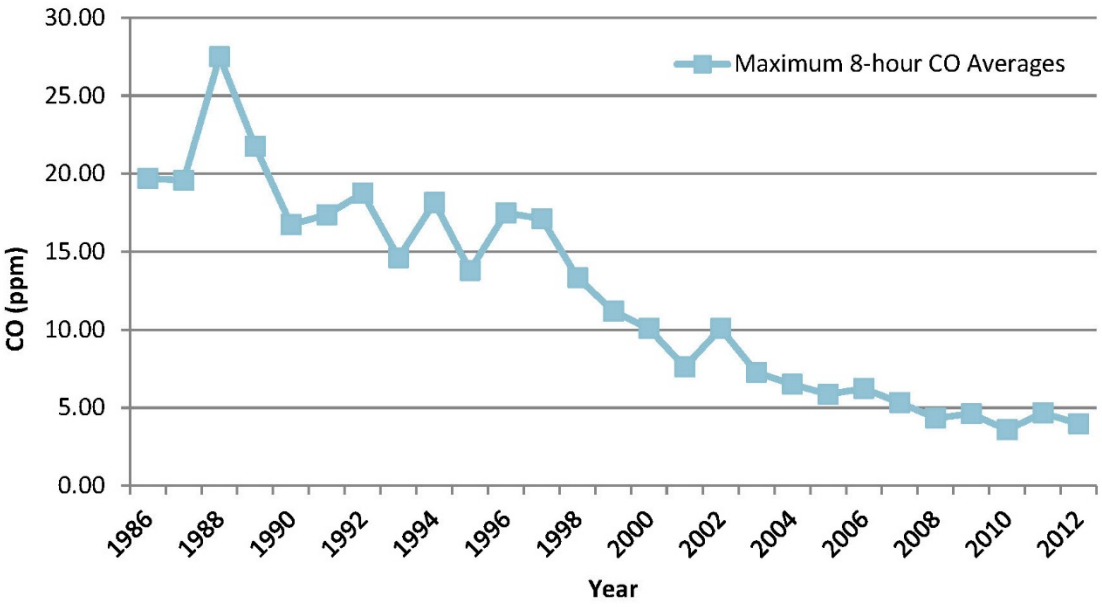


Note: Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.
(Urban Crossroads, 2020a. Table 2-9)

In March 2017, the SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. (Urban Crossroads, 2020a, p. 30)

The most recent CO concentrations in the SoCAB are shown in Table 4.2-9, *South Coast Air Basin Carbon Monoxide Trend*. CO concentrations in the SoCAB have decreased markedly - a total decrease of more about 80 percent in the peak 8-hour concentration since 1986. It should be noted 2012 is the most recent year where 8-hour CO averages and related statistics are available in the SCAB. The number of exceedance days has also declined. The entire SoCAB is now designated as attainment for both the state and national CO standards. On-going reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations. (Urban Crossroads, 2020a, pp. 30-31)

Table 4.2-9 South Coast Air Basin Carbon Monoxide Trend



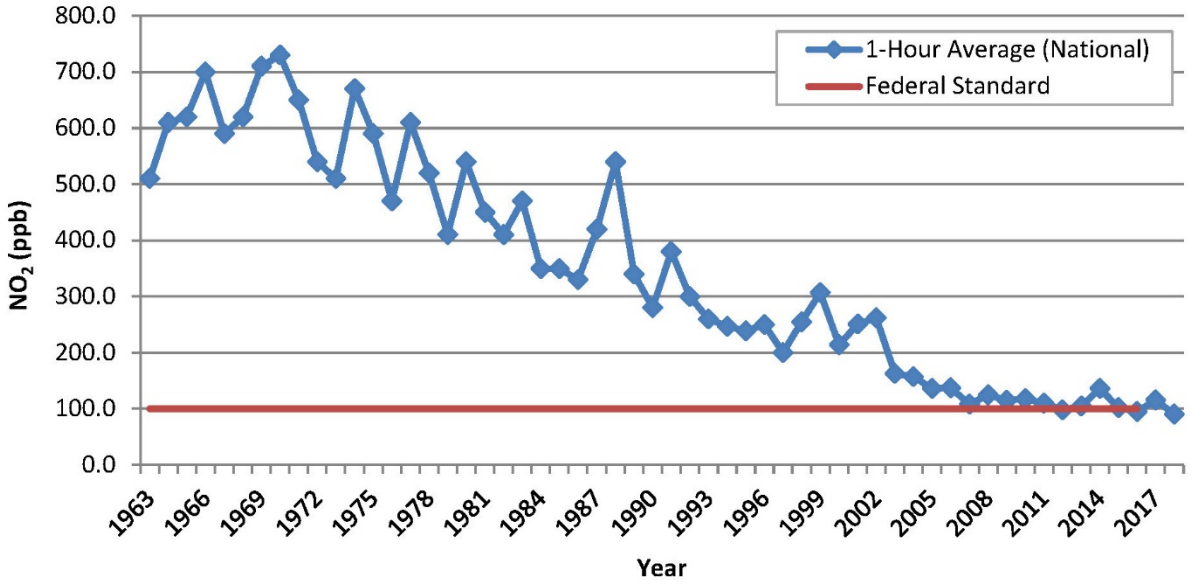
(Urban Crossroads, 2020a, Table 2-10)

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the SoCAB is the uniform CEQA review procedures required by SCAQMD's CEQA Handbook. The single threshold of significance used to assess Project direct and cumulative impacts has in fact "worked" as evidenced by the track record of the air quality in the SoCAB dramatically improving over the course of the past decades. As stated by the SCAQMD, the District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project. (Urban Crossroads, 2020a, p. 31)

The most recent NO_2 data for the SoCAB is shown in Table 4.2-10, *South Coast Air Basin 1-Hour Average Concentration Nitrogen Dioxide Trend (Based on Federal Standards)*, and Table 4.2-11, *South Coast Air Basin 1-Hour Average Concentration Nitrogen Dioxide Trend (Based on State Standards)*. Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour national and State averages for 2018 was approximately 81 percent lower than what it was during 1963. The SoCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire State into attainment. A new State annual average standard of 0.030 parts per million was adopted by the ARB in February 2007. The new standard is just barely exceeded in the SCAQMD. NO_2 is formed from NO_X emissions, which also contribute to O_3. As a result, the majority of the future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California's NO_X emissions. These measures are expected to bring the SCAQMD into attainment of the State annual average standard. (Urban Crossroads, 2020a, p. 31)

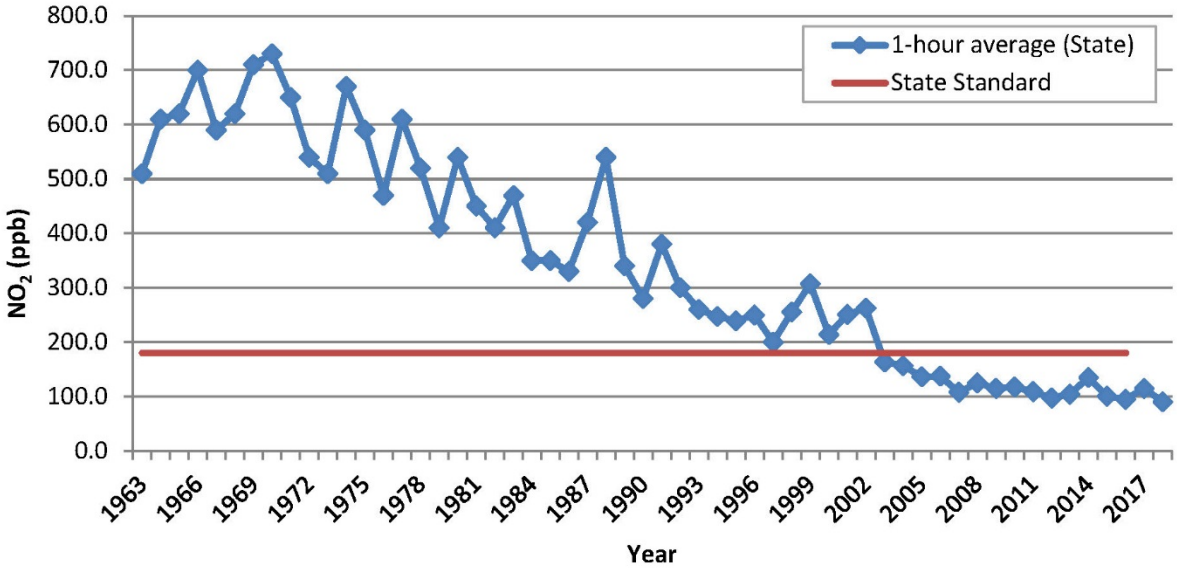
The American Lung Association website includes data collected from State air quality monitors that are used to compile an annual State of the Air Report. The latest State of the Air Report compiled for the SoCAB was in 2018. As noted in this report, air quality in the SoCAB has significantly improved in terms of both pollution levels and high pollution days over the past three decades. (Urban Crossroads, 2020a, p. 32)

Table 4.2-10 South Coast Air Basin 1-Hour Average Concentration Nitrogen Dioxide Trend (Based on Federal Standards)



(Urban Crossroads, 2020a, Table 2-11)

Table 4.2-11 South Coast Air Basin 1-Hour Average Concentration Nitrogen Dioxide Trend (Based on State Standards)



(Urban Crossroads, 2020a, Table 2-12)

I. Toxic Air Contaminants (TACs) Trends

In 1984, as a result of public concern for exposure to airborne carcinogens, the CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven Toxic Air Contaminants (TACs) responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene, and 1,3-butadiene; those that are derived from stationary sources: perchloroethylene and hexavalent chromium; and those derived from photochemical reactions of emitted VOCs: formaldehyde and acetaldehyde[1]. TACs data were gathered at monitoring sites from both the Bay Area and SCAB, as shown on Exhibit 2-A of the Project's AQIA (*Technical Appendix B1*). Several of the sites in the SCAB include Reseda, Compton, Rubidoux, Burbank, and Fontana. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk. (Urban Crossroads, 2020a, p. 33)

Mobile Source TACs

CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. In California, light-duty vehicles sold after 1996 are

[1] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

equipped with California's second-generation On-Board Diagnostic (OBD-II) system. The OBD-II system monitors virtually every component that can affect the emission performance of the vehicle to ensure that the vehicle remains as clean as possible over its entire life and assists repair technicians in diagnosing and fixing problems with the computerized engine controls. If a problem is detected, the OBD-II system illuminates a warning lamp on the vehicle instrument panel to alert the driver. This warning lamp typically contains the phrase Check Engine or Service Engine Soon. The system will also store important information about the detected malfunction so that a repair technician can accurately find and fix the problem. CARB has recently developed similar OBD requirements for heavy-duty vehicles over 14,000 lbs. CARB's phase II Reformulated Gasoline Regulation (RFG-2), adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88% from 1990-2012. 1,3-Butadiene concentrations also declined 85% from 1990-2012 as a result of the use of reformulated gasoline and motor vehicle regulations. (Urban Crossroads, 2020a, p. 34)

In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state's population increased 31% and the amount of diesel vehicles miles traveled increased 81%, as shown on Exhibit 2-B of the Project's AQIA (*Technical Appendix B1*). With the implementation of these diesel-related control regulations, CARB expects a DPM decline of 71% for 2000-2020. (Urban Crossroads, 2020a, p. 34)

Diesel Regulations

The CARB and the Ports of Los Angeles and Long Beach (POLA and POLB) have adopted several iterations of regulations for diesel trucks that are aimed at reducing DPM. More specifically, the CARB Drayage Truck Regulation, the CARB statewide On-road Truck and Bus Regulation, and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet. In other words, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements. (Urban Crossroads, 2020a, p. 35)

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to the aforementioned regulatory requirements. Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling. (Urban Crossroads, 2020a, p. 35)

Cancer Risk Trends

Based on information available from CARB, overall cancer risk throughout the SCAB has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study called the Multiple Air Toxics Exposure Study (MATES). DPM accounts for more than 70 percent of the cancer risk. (Urban Crossroads, 2020a, p. 35)

In 2008 the SCAQMD prepared an update to the MATES-II study, referred to as MATES-III. MATES-III estimates the average excess cancer risk level from exposure to TACs is an approximately 17% decrease in comparison to the MATES-II study. (Urban Crossroads, 2020a, p. 35)

In 2015, the SCAQMD published an in-depth analysis of the toxic air contaminants and the resulting health risks for all of Southern California. The Multiple Air Toxics Exposure Study in the SCAB, MATES IV," which shows that cancer risk has decreased less than 50% since MATES III (2005). (Urban Crossroads, 2020a, p. 35)

The MATES-IV study represents the baseline health risk for a cumulative analysis. MATES-IV calculated cancer risks based on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, MATES-IV has extrapolated the excess cancer risk levels throughout the SCAB by modeling specific grids. MATES-IV modeling predicted an excess cancer risk of 421.91 in one million for the geographic grid containing the Project site. DPM is included in this cancer risk along with all other TAC sources. DPM accounts for 68% of the total risk shown in MATES-IV. Cumulative Project generated TACs are limited to DPM. (Urban Crossroads, 2020a, p. 35)

In January 2018, as part of the overall effort to reduce air toxics exposure in the SCAB, SCAQMD began conducting the MATES V Program. MATES V field measurements will be conducted over a one-year period at ten fixed sites (the same sites selected for MATES III and IV) to assess trends in air toxics levels. MATES V also will include measurements of ultrafine particles (UFP) and black carbon (BC) concentrations, which can be compared to the UFP levels measured in MATES IV. The final report for the MATES V study was expected to be available at the end of 2019, however SCAQMD has not yet published the MATES V study and no definitive date has been provided. (Urban Crossroads, 2020a, p. 35)

4.2.3 Applicable Regulatory Requirements

A. Federal Regulations

The Clean Air Act (CAA; 42 U.S.C. § 7401 et seq.) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants, which include O3, CO, NO_X, SO_2, PM_{10}, $PM_{2.5}$, and lead. (EPA, 2017a)

One of the goals of the CAA was to set and achieve NAAQS in every state by 1975 in order to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The CAA was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines. (EPA, 2017a)

The sections of the federal CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions address the urban air

pollution problems of ozone (smog), carbon monoxide (CO), and particulate matter (PM10). Specifically, it clarifies how areas are designated and re-designated "attainment." It also allows EPA to define the boundaries of "nonattainment" areas: geographical areas whose air quality does not meet Federal air quality standards designed to protect public health. (EPA, 2017b). Mobile source emissions are regulated in accordance with the CAA Title II provisions. These standards are intended to reduce tailpipe emissions of hydrocarbons, CO, and NOX on a phased-in basis that began in model year 1994. Automobile manufacturers also are required to reduce vehicle emissions resulting from the evaporation of gasoline during refueling. These provisions further require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. (EPA, 2017c)

Section 112 of the Clean Air Act addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 Clean Air Act Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source. (EPA, 2017a)

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as "maximum achievable control technology" or "MACT" standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk. (EPA, 2017a)

B. State Regulations

1. California Clean Air Act (CCAA)

The California Clean Air Act (CCAA) establishes numerous requirements for district plans to attain state ambient air quality standards for criteria air contaminants. The CCAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the State's ambient air quality standards, the California Ambient Air Quality Standards (CAAQS), by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, established standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. Generally, the CAAQS are more stringent than the NAAQS. For districts with serious air pollution, its attainment plan should include the following: no net increase in emissions from new and modified stationary sources; and best available retrofit technology for existing sources.

2. Air Quality Management Planning

The California Air Resources Board (CARB) and local air districts throughout the State are responsible for developing clean air plans to demonstrate how and when California will attain air quality standards established under both the CAA and CCAA. For the areas within California that have not attained air quality standards,

CARB works with local air districts to develop and implement State and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment. Air quality planning activities undertaken by CARB also include the development of policies, guidance, and regulations related to State and federal ambient air quality standards; coordination with local agencies on transportation plans and strategies; and providing assistance to local districts and transportation agencies. (CARB, 2012)

4.2.4 Basis for Determining Significance

According to Section III of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to air quality if the Project or any Project-related component would (OPR, 2016):

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The following thresholds are derived from EA No. 34079 (Riverside County's Environmental Assessment Checklist, see Technical Appendix A to this EIR), and supplemented by the thresholds listed in Appendix G to the CEQA Guidelines (as amended in December 2018), in order to evaluate the significance of the proposed Project's impacts on air quality. The proposed Project would result in a significant impact to air quality if the Project or any Project-related component would:

a. *Conflict with or obstruct implementation of the applicable air quality plan;*

b. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;*

c. *Expose sensitive receptors which are located within one (1) mile of the project site to substantial point source emissions; or*

d. *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

The County has chosen to apply SCAQMD significance thresholds, as presented in SCAQMD's CEQA Air Quality Significance Thresholds (March 2015), to evaluate the Project's air quality impacts against the above thresholds.

Accordingly, Threshold a., which addresses Section III.a of Appendix G to the State CEQA Guidelines, evaluates whether the proposed Project would conflict with SCAQMD's 2016 AQMP, which addresses state and federal requirements under the CAA. A conflict with the AQMP standards and requirements would inhibit the SCAQMD's ability to achieve State and federal standards for air quality.

Threshold b. address Section III.b of Appendix G to the CEQA Guidelines emissions generated by a development project would be significant under Threshold b. if emissions are projected to exceed the regional thresholds established by the SCAQMD for criteria pollutants and would be significant.

Thresholds c. addresses Section III.c of Appendix G to the State CEQA Guidelines. Under this threshold, impacts would be potentially significant if emissions are projected to exceed the Localized Significance Thresholds (LSTs) established by the State of California and the SCAQMD for criteria pollutants.

Threshold d. evaluates Section III.d of Appendix G of the State CEQA Guidelines. SCAQMD Rule 402 ("Nuisance") and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section § 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public, including odors. The potential to violate Rule 402 or § 41700 is used herein as a basis to consider a project's odors or other emissions to be significant and require feasible mitigation measures.

The SCAQMD has developed regional and localized thresholds for regulated pollutants. Table 4.2-12, *Maximum Daily Regional Emissions Thresholds*, provides a summary of the SCAQMD's Regional Thresholds. The SCAQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SoCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively-considerable significant air quality impact. (Urban Crossroads, 2020a, p. 38)

With respect to localized thresholds, the following thresholds apply: (Urban Crossroads, 2020a, pp. 45-46)

- California State 1-hour NO_2 standard of 0.18 parts per million (ppm);
- California State Annual NO_2 standard of 0.03 ppm;
- SCAQMD 24-hour PM_{10} Localized Significance Threshold (LST) of 10.4 $\mu g/m^3$;
- SCAQMD Annual operational PM_{10} LST of 1.0 $\mu g/m^3$;
- SCAQMD 24-hour operational $PM_{2.5}$ LST of 10.4 $\mu g/m^3$.

Additionally, and based on the SCAQMD's CEQA Air Quality Handbook (1993), a project's localized CO emissions impacts would be significant if they exceed the following California standards for localized CO concentrations: (Urban Crossroads, 2020a, p. 45)

- 1-hour CO standard of 20.0 ppm
- 8-hour CO standard of 9.0 ppm

Table 4.2-12 Maximum Daily Regional Emissions Thresholds

Pollutant	Operations
Regional Thresholds	
NOx	55 lbs/day
VOC	55 lbs/day
PM10	150 lbs/day
PM2.5	55 lbs/day
SOx	150 lbs/day
CO	550 lbs/day
Lead	3 lbs/day

lbs/day = pounds per day
(Urban Crossroads, 2020a, Table 3-1)

4.2.5 Impact Analysis

Threshold a: ***Would the Project conflict with or obstruct implementation of the applicable air quality plan?***

The Project site is located within the SoCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards. (Urban Crossroads, 2020a, p. 49)

Currently, these state and federal air quality standards are exceeded in most parts of the SoCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. (Urban Crossroads, 2020a, pp. 49-50)

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements. (Urban Crossroads, 2020a, p. 50)

Criteria for determining consistency with the AQMP are defined in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993). These indicators are discussed below: (Urban Crossroads, 2020a, p. 50)

Project Consistency with Consistency Criterion No. 1

- ***Consistency Criterion No. 1****: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.*

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated by the Project's AQIA (*Technical Appendix B1*), the Project's localized operational-source emissions would not exceed applicable localized significance thresholds. However, the Project would exceed the regional significance threshold during operations due to emissions of NO_X, PM_{10}, and $PM_{2.5}$. As such, the Project would not be consistent with the AQMP with regard to regional air quality violations. On the basis of the preceding discussion, the Project is determined to potentially conflict with the first criterion. (Urban Crossroads, 2020a, p. 50)

Project Consistency with Consistency Criterion No. 2

- ***Consistency Criterion No. 2****: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.*

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the County of Riverside General Plan is considered to be consistent with the AQMP. (Urban Crossroads, 2020a, p. 50)

The Project site is designated by the General Plan for "Open Space – Rural (OS-RUR)" and "Open Space – Mineral Resources (OS-MIN)" land uses, both of which explicitly allow for mineral extraction. Thus, the Project would be fully consistent with the site's existing General Plan land use designations. (Urban Crossroads, 2020a, p. 50)

Additionally, the location of the Project proximate to local and regional transportation facilities would act to reduce vehicle miles traveled (VMTs) and associated mobile-source (vehicular) emissions. Additionally, by making additional aggregate reserves available on site, the Project would result in reduced VMTs by reducing the distance aggregate materials need to be transported to serve the local area. These Project attributes and features are consistent with and support AQMP air pollution reduction strategies and promote timely attainment of AQMP air quality standards. On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion. (Urban Crossroads, 2020a, p. 51)

AQMP Consistency Conclusion

The Project would have the potential to result in or cause NAAQS or CAAQS violations since the Project would exceed the regional operational thresholds established by the SCAQMD for operational emissions of NO_X, PM_{10}, and $PM_{2.5}$. As such, the Project has the potential to conflict with AQMP Consistency Criterion No. 1, resulting in a significant air quality impact prior to mitigation. As such, impacts due to a conflict with the AQMP would be potentially significant prior to mitigation. (Urban Crossroads, 2020a, p. 51)

Threshold b:	***Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

❑ Air Quality Modeling Inputs

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.2. The purpose of this model is to calculate criteria pollutant (NO_X, VOCs, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ was used for the proposed Project to determine operational air quality emissions. It should be noted that the CalEEMod "construction" input parameters were utilized to calculate the Project's operational emissions since the "construction" input parameters allow for more appropriate inclusion of the haul trucks and on-site operational equipment associated with the Project. Output from the model runs for operational activity are provided in Appendix 3.1 to the Project's AQIA (*Technical Appendix B1*). (Urban Crossroads, 2020a, p. 38)

❑ Emission Factors Model

On August 19, 2019, the EPA approved the 2017 version of the Emission Factor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. The Project's AQIA (*Technical Appendix B1*) utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. As summary of the EMFAC2017 emissions calculations are provided in Appendix 3.2 of the Project's AQIA. (Urban Crossroads, 2020a, p. 38)

❑ Operational Emissions

Operational activities associated with the proposed Project would result in emissions of VOCs, NO_X, CO, SO_x, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources: (Urban Crossroads, 2020a, p. 38)

- On-Site Equipment
- Mobile Source (Passenger Cars and Truck Traffic) Emissions

- Fugitive Dust from Material Processing

The Project would not result in an increase in the amount of natural gas associated with aggregate usage (since aggregate usage does not currently use any natural gas). The Project would result in an increase in electricity associated with the aggregate production. The proposed increase in aggregate production from approximately 377,675 TPY to 1.0 million tpy represents a 264.8% increase in the quantity of material processed over baseline conditions. In order to process the additional 622,235 TPY, electricity usage is expected to increase proportionally by approximately 264.8%. Criteria pollutant emissions may be emitted through the generation of electricity. However, because electrical generating facilities for the Project area are located either outside the region (State) or offset through the use of pollution credits (RECLAIM) for generation within the SoCAB, criteria pollutant emissions from offsite generation of electricity is excluded from the evaluation of significance consistent with SCAQMD guidance. Each of the Project's sources of air quality emissions is discussed below. (Urban Crossroads, 2020a, pp. 38-39)

Operational Equipment

EIR Table 3-3 (previously presented) summarizes the equipment utilized at the Mine on a daily basis for the baseline operating period, proposed Project operating characteristics, and net new equipment activity. As shown, mining activities during the baseline period results in approximately 30,388 horsepower hours per day. Based on information provided by the Project Applicant, the proposed Project would result in the generation of approximately 19,292 net new horsepower hours in addition to the baseline for a net total of 47,400 horsepower hours. (Urban Crossroads, 2020a, p. 39)

Mobile Source Emissions

In accordance with the Project's Traffic Impact Analysis (*Technical Appendix B1*), and as summarized in EIR subsection 3.3.2.F, the Project is anticipated to generate 199 net new daily truck trips (actual vehicles) above the historical baseline and 19 net new employee trips above the historical baseline. The CalEEMod default of a 20-mile one-way trip length for trucks was increased to 25 miles based on discussion with the Project Applicant and based on regional aggregate studies that have found that 25 miles is generally the maximum distance for aggregate to travel before the cost of delivery renders the aggregate material non-economical. (Urban Crossroads, 2020a, p. 39; Berck, 2005)

The Project is anticipated to serve a regional need and likely would reduce VMTs in the long term by diverting trips that would otherwise travel to other aggregate facilities in the region. Notwithstanding, for purposes of this analysis, no "credit" has been taken and emissions associated with the Project are considered "new" as a conservative measure. (Urban Crossroads, 2020a, p. 39)

The fact is that aggregate will be consumed with or without the proposed Project. The Project would not have an effect on demand for aggregate but would have an effect on the distance that aggregates travel within the region in the long term. Project aggregate made available by the proposed expansion area would replace materials hauled from farther distances in the long term and supply new demand for aggregate that will occur in the Riverside County region. This rationale is supported by Dr. Peter Berk's "Working Paper No. 994 – A Note on the Environmental Costs of Aggregate" (Department of Agricultural and Resource Economics and

Policy, Division of Agricultural and Natural Resources, University of California Berkley, January 2005). Dr. Berck states that: (Urban Crossroads, 2020a, pp. 39-41; Berck, 2005)

> *"The opening of a new quarry for aggregates will change the pattern of transportation of aggregates in the area served by the quarry. In this note, we will show that, so long as aggregate producers are cost minimizing, the new pattern of transportation requires less truck transport than the pattern of transportation that existed before the opening of the new quarry. Since the costs of providing aggregates falls, it is reasonable to assume that the price of delivered aggregates also will fall. This note also shows that the demand expansion effect is of very small magnitude. Since the demand increase from a new quarry is quite small, the dominant effect is that the quarries are on average closer to the users of aggregates and, as a result, the truck mileage for aggregate hauling decreases. To summarize the effects of a new quarry project:*
>
> > *a) The project in itself will not significantly increase the demand for construction materials in the region through market forces, which include the downward pressure on pricing.*
> >
> > *b) Truck traffic (i.e. vehicle miles traveled) in the region will not increase and may decrease as a result of the project."*

In its guidance document *CEQA and Climate Change,* CAPCOA lists various mitigation measures that can be implemented to reduce air quality and GHG emissions for various projects. One particular mitigation measure for reducing air quality and greenhouse gas emissions during construction activity is Mitigation Measure C-5 "Use of Local Building Materials." The Project would provide local building materials to serve the demand for aggregate resources in the local area, thus resulting in a reduction in emissions associated with transport of materials from sources of aggregate products located further away. However, no "credit" is taken for this measure in this analysis in an effort to be conservative. (Urban Crossroads, 2020a, p. 41)

Fugitive Dust from Material Processing

The emissions from the aggregate processing plant are not accounted for in CalEEMod. An engineering analysis that was prepared for the Project in support of the permitting process required by the SCAQMD was utilized to determine the amount of fugitive dust attributable to the Project. (Urban Crossroads, 2020a, p. 41)

The SCAQMD Application to Construct (ATC) for Stationary Rock, Sand, Gravel, Base Crushing and Screening Plant by AEIC indicates that the Project operating at a maximum annual capacity of 1,000,000 tons processed would yield approximately 682.88 pounds per day of PM_{10} and 163.17 pounds per day of $PM_{2.5}$ emissions. As such, the amount attributable to the Project is 424.749 pounds per day of PM_{10} and 101.49 pounds of $PM_{2.5}$ (or 62.2%; refer to EIR subsections 3.3.2.A and 3.3.2.B), which indicates the net increase from the existing baseline. The SCAQMD Application to Construct (ATC) for Stationary Rock, Sand, Gravel, Base Crushing and Screening Plant report is included in its entirety in Appendix 3.3 of the Project's AQIA (*Technical Appendix B1*). (Urban Crossroads, 2020a, p. 41)

Based on information provided by the Project Applicant, a maximum of 15,000 square foot (s.f.) surface area for blasting is a reasonable working estimate for analytical purposes on days when blasting would occur. Fugitive dust emissions during blasting activities were estimated using the US EPA AP-42 emission factor (Table 11.9-1, on Page 11.9-5 from AP-42). Refer to Appendix 3.4 to the Project's AQIA (*Technical Appendix B1*) for additional information on the calculation associated with blasting. (Urban Crossroads, 2020a, p. 41)

❑ Net New Emissions Summary

Net new Project-related operational-source emissions without implementation of mitigation measures are summarized on Table 4.2-13, *Summary of Peak Operational Emissions (Without Mitigation)*. Detailed operational model outputs are presented in Appendix 3.1 of the Project's AQIA (*Technical Appendix B1*). As shown in Table 4.2-13, for regional emissions, the Project would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. Thus, the Project would violate an air quality standard, resulting in a direct and cumulatively-considerable impact. Additionally, and as shown previously on Table 4.2-3, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations within the SoCAB. Thus, Project emissions of NO_X, PM_{10}, and $PM_{2.5}$ would contribute substantially to existing or projected air quality violations associated with particulate matter (PM_{10} and $PM_{2.5}$) and ozone precursors (NO_X); this represents a significant direct and cumulatively-considerable impact of the proposed Project. Additionally, Project emissions of PM_{10} and $PM_{2.5}$ would contribute to the existing nonattainment status for these pollutants, while Project emissions of NO_X would contribute to the existing nonattainment designation for ozone; thus, Project impacts due to a cumulatively-considerable net increase of criteria pollutants for which the region is nonattainment represents a significant direct and cumulatively-considerable impact of the proposed Project.

Table 4.2-13 Summary of Peak Operational Emissions (Without Mitigation)

Operational Activities – Summer Scenario	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operational Equipment	1.41	34.86	35.09	0.07	0.78	0.78
Mobile Source (Trucks)	1.29	57.92	7.16	0.18	4.58	1.41
Mobile Source (Passenger Cars)	0.10	0.06	0.84	2.17e-03	0.21	0.06
Blasting Emissions	-	12.75	50.25	1.50	6.7	1.4
Fugitive Dust Aggregate Processing	-	-	-	-	283.66	79.86
Total Maximum Daily Emissions	**2.80**	**105.59**	**93.34**	**1.75**	**295.93**	**83.51**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**YES**	**NO**	**NO**	**YES**	**YES**
Operational Activities – Winter Scenario	**Emissions (lbs/day)**					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operational Equipment	1.41	34.86	35.09	0.07	0.78	0.78
Mobile Source (Trucks)	1.35	58.80	8.23	0.18	4.58	1.41
Mobile Source (Passenger Cars)	0.10	0.07	0.68	1.95e-03	0.21	0.06
Blasting Emissions	-	12.75	50.25	1.50	6.7	1.4
Fugitive Dust Aggregate Processing	-	-	-	-	283.66	79.86
Total Maximum Daily Emissions	**2.86**	**106.48**	**94.25**	**1.75**	**295.93**	**83.51**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**YES**	**NO**	**NO**	**YES**	**YES**

(Urban Crossroads, 2020a, Table 3-3)

Threshold c: ***Would the Project expose sensitive receptors which are located within 1 mile of the project site to project substantial point source emissions?***

During operation of the Project, the Project has the potential to expose nearby sensitive receptors to substantial pollutant concentrations. The following provides an analysis based on the applicable Localized Significant Thresholds (LSTs) established by the State of California and SCAQMD, along with an analysis of the Project's potential to result in or contribute to CO "Hot Spots" which also could adversely affect sensitive receptors.

❑ Localized Significance – Operational Activity

Background on LST Development

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). (Urban Crossroads, 2020a, p. 43)

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[2]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of the SCAQMD LST Methodology. (Urban Crossroads, 2020a, p. 43)

Applicability of LSTs for the Proposed Project

For the proposed Project, the appropriate Source Receptor Area (SRA) for the LST analysis is Hemet/San Jacinto Valley (SRA 28). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. (Urban Crossroads, 2020a, p. 44)

Emissions Considered

SCAQMD's Methodology clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, for purposes of the operational LST analysis only emissions included in the CalEEMod "on-site" emissions outputs were considered. (Urban Crossroads, 2020a, p. 44)

Sensitive Receptors

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities. (Urban Crossroads, 2020a, p. 44)

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors." These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use)

[2] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

has been used to determine operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time. (Urban Crossroads, 2020a, p. 44)

Commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for eight hours or less. The LST Methodology explicitly states that "LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours Invalid source specified." Consistent with the LST Methodology, the nearest industrial/commercial use to the Project site is used to determine operational LST air impacts for emissions of NO_2 and CO. (Urban Crossroads, 2020a, p. 44)

Project-Related Sensitive Receptors

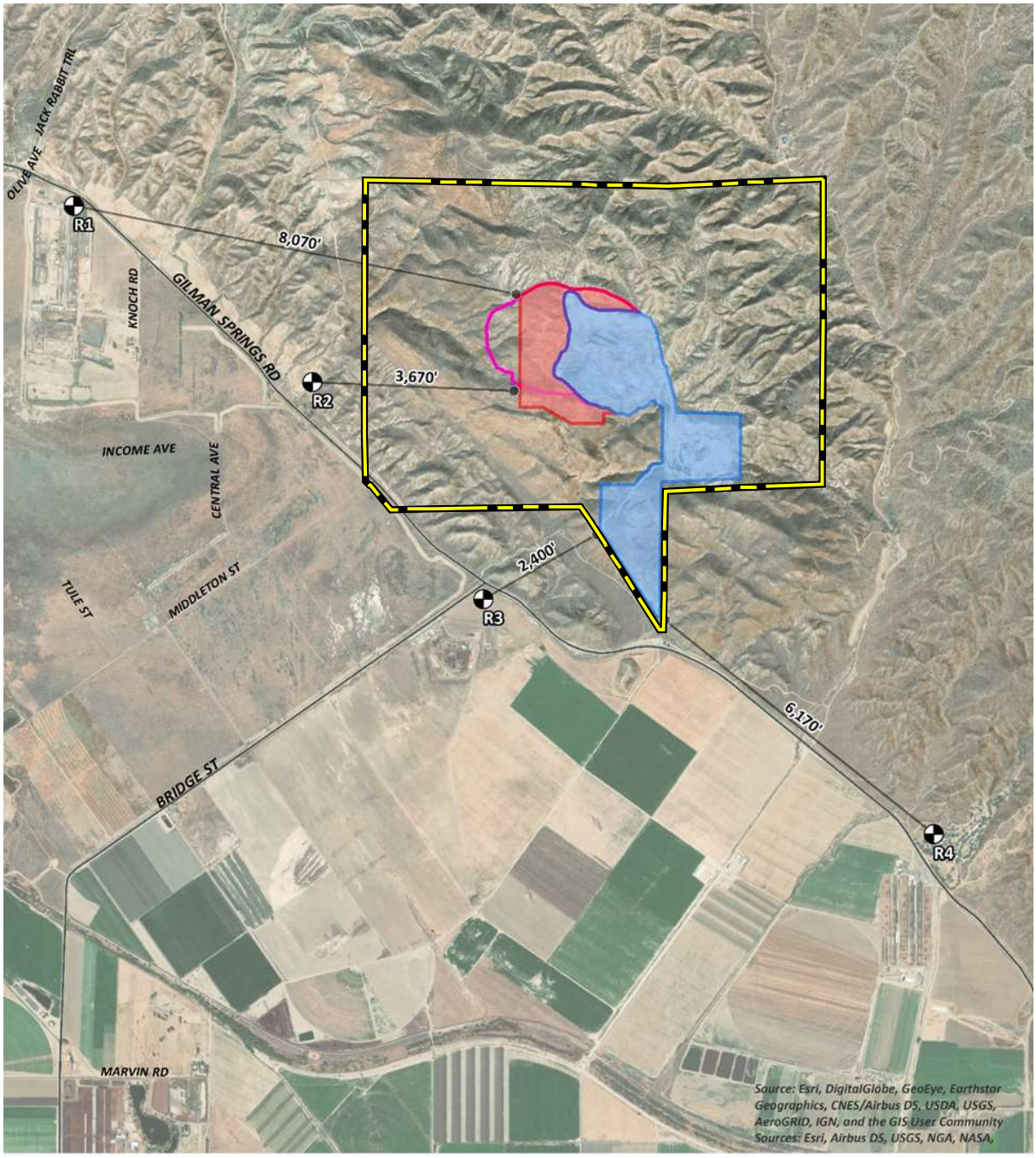
The distance to nearby receiver locations from the existing approved mining limits are described below and shown on Figure 4.2-1, *Air Quality Sensitive Receptor Locations*. Other sensitive land uses in the Project study area that are located at greater distances than those identified herein would experience lower air concentration levels than those presented in this analysis due to the additional dispersion due to distance and the shielding of intervening structures. Additionally, since the Project's AQIA was prepared, the proposed EDA has been modified, which has increased distances to certain nearby sensitive receptors. Thus, the analysis provided in the Project's AQIA, which accounts for the shorter distances to sensitive receptors, represents a "worst case" analysis of the Project's potential impacts. (Urban Crossroads, 2020a, pp. 44-46; Urban Crossroads, 2019a)

- R1: This location was originally evaluated at a distance of approximately 7,656 feet west of the proposed mining limits. However, due to revisions in the proposed mining limits, this location now occurs approximately 8,070 feet west of the proposed mining limits. R1 represents existing agricultural use south of Gilman Springs Road.

- R2: This location, which represents an existing residential home located west of the Mine and north of Gilman Springs Road, was originally evaluated at a distance of 3,196 west of the proposed mining limits. However, due to revisions in the proposed mining limits, this location now occurs approximately 3,670 feet west of the proposed mining limits.

- R3: Location R3 represents the existing agricultural use located roughly 2,400 feet south of the proposed mining limits on Bridge Street.

- R4: Location R4 represents the existing Victory Ranch Baptist Church Camp located roughly 6,170 feet southeast of the proposed mining limits.



Source(s): Urban Crossroads (01-07-2020)

NOT TO SCALE

Figure 4.2-1

AIR QUALITY SENSITIVE RECEPTOR LOCATIONS

Localized Thresholds

As previously indicated, the SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the Federal and/or State Ambient Air Quality Standards. Applicable localized thresholds are as follows: (Urban Crossroads, 2020a, p. 46)

- California State 1-hour CO standard of 20.0 ppm;
- California State 8-hour CO standard of 9.0 ppm;
- California State 1-hour NO2 standard of 0.18 ppm;
- California State Annual NO2 standard of 0.03 ppm;
- SCAQMD 24-hour operational PM_{10} LST of 10.4 $\mu g/m^3$;
- SCAQMD Annual operational PM_{10} LST of 1.0 $\mu g/m^3$;
- SCAQMD 24-hour operational $PM_{2.5}$ LST of 10.4 $\mu g/m^3$.

Project Localized Impact – Without Mitigation

For purposes of this analysis, the Lakes AERMOD View (Version 9.7.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View utilizes the U.S. EPA's AERMOD Version 19191. Meteorological data was run for each individual year of the five-year meteorological data set to determine maximum potential impacts. The estimated localized operational emissions without mitigation are summarized on Table 4.2-14, *Localized Significance Summary of Operations (Without Mitigation)*. As shown in Table 4.2-14, Project operational emissions would not exceed the SCAQMD's localized significance thresholds. A summary of the LST outputs are provided in Appendix 3.5 to the Project's AQIA (*Technical Appendix B1*). Accordingly, the Project would not have the potential to expose sensitive receptors near the Project site to substantial point source emissions of CO, NO_2, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant. (Urban Crossroads, 2020a, p. 46)

❑ CO "Hot Spot" Analysis

An adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SoCAB was designated nonattainment under the CAAQS and NAAQS for CO. (Urban Crossroads, 2020a, p. 47)

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SoCAB is now designated as attainment, as previously noted in Table 4.2-3. Also, CO concentrations in the Project vicinity have steadily declined, as indicated by historical emissions data presented previously at Table 2-4 of the AQIA (*Technical Appendix B1*). (Urban Crossroads, 2020a, p. 47)

Table 4.2-14 Localized Significance Summary of Operations (Without Mitigation)

Operation	CO		NO_2		PM_{10}		$PM_{2.5}$
	Averaging Time						
	1-Hr	8-Hr	1-Hr	Annual	24-Hr	Annual	24-Hr
Peak Modeled Localized Emissions based on 2011 Meteorological Data	0.004	0.003	0.002	6.92E-5	4.45	0.41	1.26
Peak Modeled Localized Emissions based on 2012 Meteorological Data	0.004	0.003	0.002	5.74E-5	5.06	0.34	1.43
Peak Modeled Localized Emissions based on 2013 Meteorological Data	0.004	0.003	0.002	7.77E-5	4.82	0.46	1.36
Peak Modeled Localized Emissions based on 2014 Meteorological Data	0.004	0.003	0.002	6.46E-5	6.14	0.37	1.73
Peak Modeled Localized Emissions based on 2015 Meteorological Data	0.004	0.003	0.002	7.49E-5	4.92	0.43	1.39
Peak Day Modeled Localized Emissions	***0.004***	***0.003***	***0.002***	***7.77E-5***	***6.14***	***0.43***	***1.73***
Background Concentration [A]	2.2	2.0	0.056	0.009			
Total Concentration	**2.2**	**2.0**	**0.058**	**0.0091**	**6.14**	**0.43**	**1.73**
SCAQMD Localized Significance Threshold	20	9	0.18	0.03	10.4	1	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

(Urban Crossroads, 2020a, Table 3-4)

To establish a more accurate record of baseline CO concentrations affecting the SoCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 4.2-15, *CO Model Results*. (Urban Crossroads, 2020a, pp. 47-48)

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, the ambient 8-hr CO concentration within the Project study area is estimated at 1.4 ppm-1.6 ppm (please refer to Table 2-3 of the AQIA in EIR *Technical Appendix B1*). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections. (Urban Crossroads, 2020a, p. 48)

Table 4.2-15 CO Model Results

Intersection Location	Carbon Monoxide Concentrations (parts per million)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire-Veteran	4.6	3.5	3.7
Sunset-Highland	4	4.5	3.5
La Cienega-Century	3.7	3.1	5.2
Long Beach-Imperial	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.
(Urban Crossroads, 2020a, Table 3-5)

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour - or 24,000 vehicles per hour where vertical and/or horizontal air does not mix - in order to generate a significant CO impact. (Urban Crossroads, 2020a, p. 48)

Traffic volumes generating the CO concentrations for the "hot spot" analysis are shown on Table 4.2-16, *SCAQMD CO "Hot Spot" Analysis Traffic Volumes*. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[3] (Urban Crossroads, 2020a, p. 48)

Per the Project's TIA (*Technical Appendix J1*), the highest trips on a segment of road for the Project is 31,200 vehicles per hour on Gilman Springs Road and Alessandro Boulevard. Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 4.2-16, *SCAQMD CO "Hot Spot" Analysis Traffic Volumes*. The busiest intersection evaluated for AM traffic volumes was at Wilshire Blvd. and Veteran Ave., which has an AM traffic volume of approximately 8,062 vehicles per hour. Alternatively, the busiest intersection for PM traffic volumes was at La Cienega Boulevard and Century Boulevard, which has a PM traffic volume of 8,674 vehicles per hour. As shown on Table 4.2-17, *Project Peak Hour Traffic Volumes*, the highest trips on a segment of road for the Project is 1,986 vehicles per hour on Gilman Springs Road and Alessandro Boulevard. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP. The proposed Project considered herein would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study, or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant. (Urban Crossroads, 2020a, pp. 48-49)

[3] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

Table 4.2-16 SCAQMD CO "Hot Spot" Analysis Traffic Volumes

Intersection Location	Peak Traffic Volumes (vehicles per hour)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire-Veteran	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset-Highland	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega-Century	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach-Imperial	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: 2003 AQMP

(Urban Crossroads, 2020a, Table 3-6)

Table 4.2-17 Project Peak Hour Traffic Volumes

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Gilman Springs Rd./Alessandro Bl.	1,126/736	575/1,081	86/169	0/0	1,787/1,986
Jack Rabbit Trail/Gilman Springs Rd.	0/0	3/5	661/1,244	1,126/737	1,790/1,985
Bridge St./Gilman Springs Rd.	167/104	0/0	647/1,248	1,042/680	1,856/2,032
SR-79 SB Ramps/Gilman Springs Rd.	0/0	210/347	597/1,159	987/606	1,794/2,111

(Urban Crossroads, 2020a, Table 3-7)

❑ Potential Impacts to Sensitive Receptors

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors. (Urban Crossroads, 2020a, p. 51)

Results of the LST analysis indicate that, with application of mitigation, the Project would not exceed the SCAQMD localized significance thresholds during operations. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations during Project operations. (Urban Crossroads, 2020a, p. 51)

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations. (Urban Crossroads, 2020a, p. 51)

Qualitative Diesel Health Risk Assessment

The on-going operation of the proposed project would generate toxic air contaminant (TAC) emissions from diesel equipment and truck emissions created by the on-going operations of the proposed project. CAPCOA

has developed TAC health risk assessment guidelines to provide consistent, statewide procedures for preparing the health risk assessments required under the Air Toxics "Hot Spots" Act. The title of these guidelines is *CAPCOA Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines*. The SCAQMD has prepared a supplement to the CAPCOA guidelines for preparing health risk assessments. The SCAQMD's supplemental guidelines are titled *Supplement to the CAPCOA Air Toxics "Hot Spots" Program Risk Assessment Guidelines*. The SCAQMD recommends that lead agencies conduct TAC risk assessments in accordance with the CAPCOA Risk Assessment Guidelines, as supplemented by the SCAQMD's supplemental guidelines. According to SCAQMD/CAPCOA and Office of Environmental Health Hazard Assessment (OEHHA) guidelines, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of OEHHA standard risk-assessment methodology. (Urban Crossroads, 2020a, pp. 51-52)

The nearest sensitive receptors to the project site are the residential land uses located approximately 3,670 feet west of the proposed mining limits north of Gilman Springs Road. The most recent *Health Risk Assessment for Proposed Land Use Projects* prepared by CAPCOA (July 2009) recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). A summary of the basis for the distance recommendations can be found in the CARB Handbook Air Quality and Land Use Handbook: A Community Health Perspective. (Urban Crossroads, 2020a, p. 52)

CARB states that based on CARB and SCAQMD emissions and modeling analyses, they estimate an 80 percent drop-off in pollutant concentrations at approximately 1,000 feet from a distribution center. Figure 1-3, *Decrease In Relative Concentration of Risk With Distance*, on page 14 of the *Air Quality and Land Use Handbook: A Community Health Perspective*, describes sensitivity of concentration to downwind distance from a distribution center with TRUs, and shows an approximately 60 to 70 percent drop-off in pollutant concentration at a distance of 500 feet. Therefore, because of the drop-off in potential site-related DPM concentrations due to distance, TAC impacts from project-related DPM sources are anticipated to be minimal. Therefore, no quantitative health risk assessment is required, and no significant long-term operations-related TAC impacts from the proposed project are anticipated to occur. (Urban Crossroads, 2020a, p. 52)

❑ Supplemental Air Quality Assessment in Response to Friant Ranch

A recent Supreme Court of California decision, *Sierra Club v. County of Fresno* (Friant Ranch), found an EIR inadequate and states that: (Urban Crossroads, 2020a, p. 52)

> *The EIR should be revised to relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of drafting to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the Project.*

Given that the analysis for this Project identifies a significant and unavoidable Project level and cumulative impacts with regard to NO_X, PM_{10}, and $PM_{2.5}$ the following assessment serves to provide an analysis in conformance with the Friant Ranch decision which further clarifies, amplifies, and augments the air quality analysis already undertaken for the Project. (Urban Crossroads, 2020a, p. 52)

As summarized herein, NOx is an ozone precursor with the potential to contribute to ozone non-attainment conditions in the South Coast Air Basin (SCAB). The Project's operational-source NO_X emissions would exceed applicable SCAQMD numeric regional mass daily threshold for the Project's on-going operational activity. Per SCAQMD significance guidance, these impacts at the project level are also considered cumulatively significant and would persist over the life of the proposed project. (Urban Crossroads, 2020a, p. 52)

SCAQMD Analysis in its Brief

As noted in the Brief of Amicus Curiae by the SCAQMD in the Friant Ranch case (April 6, 2015, Appendix 3.6) (Brief), SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes. SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality. The SCAQMD staff provides comments on as many as 25 or 30 such documents each month. Therefore, the analysis herein relies on SCAQMD expertise, thresholds, and guidance to disclose the Project's air quality impacts. (Urban Crossroads, 2020a, p. 53)

The SCAQMD discusses that it may be infeasible to quantify health risks caused by projects similar to the proposed Project, due to many factors. It is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). Brief at pages 9-10. The Brief also cites the author of the CARB methodology, which reported that a $PM_{2.5}$ methodology is not suited for small projects and may yield unreliable results. Similarly, SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects due to photochemistry and regional model limitations. The Brief concludes, with respect to the Friant Ranch EIR, that although it may have been technically possible to plug the data into a methodology, the results would not have been reliable or meaningful. (Urban Crossroads, 2020a, p. 53)

On the other hand, for extremely large regional projects (unlike the proposed Project), the SCAQMD states that it has been able to correlate potential health outcomes for very large emissions sources – as part of their rulemaking activity, specifically 6,620 pounds per day of NO_X and 89,180 pounds per day of VOC were expected to result in approximately 20 premature deaths per year and 89,947 school absences due to ozone. (Urban Crossroads, 2020a, p. 53)

Application of SCAQMD Analysis to the Proposed Project

The Brief makes it clear that SCAQMD does not believe that there must be a quantification of a project's health risks in all CEQA documents prepared for individual projects. Any attempt to quantify the proposed Project's

health risks would be considered unreliable and misleading. The proposed Project is much less intense than the Friant Ranch project and has dramatically fewer air quality emissions, and the SCAQMD determined that an attempt to quantify the Friant Ranch health risks would be unreliable and misleading, due to the aforementioned factors. Also, the proposed Project does not generate anywhere near 6,620 pounds per day of NO_X or 89,190 pounds per day of VOC emissions, which SCAQMD stated were large enough emission to quantify ozone-related health impacts. Therefore, the Project's emissions are not sufficiently high enough to use regional modeling program to correlate health effects on a basin-wide level. Notwithstanding, as previously noted, the Project's AQIA (*Technical Appendix B1*) does include a site-specific localized impact analysis that does correlate potential project health impacts on a local level to immediately adjacent land uses. (Urban Crossroads, 2020a, p. 53)

Further Discussion of the Proposed Project's Health Risks

Although it may be misleading and unreliable to attempt to specifically and numerically quantify the proposed Project's health risks, the assessment herein provides extensive information concerning the proposed Project's potential health risks. While the proposed Project is expected to exceed the SCAQMD's numeric regional mass daily thresholds for NO_X, PM_{10}, and $PM_{2.5}$, this does not in itself constitute a significant health impact to the population adjacent to the Project and within the air basin. (Urban Crossroads, 2020a, p. 54)

The SCAQMD's numeric regional thresholds are based in part on Section 180 (e) of the federal Clean Air Act (CAA). It should be noted that the numeric regional mass daily thresholds have not changed since their adoption as part of the CEQA Air Quality Handbook published by SCAQMD in 1993 (over 20 years ago). The numeric regional mass daily thresholds are also intended to provide a means of consistency in significance determination within the environmental review process. Notwithstanding, simply exceeding the SCAQMD's numeric regional mass daily thresholds does not constitute a particular health impact to an individual receptor. The reason for this is that the mass daily thresholds are in pounds per day emitted into the air whereas health effects are determined based on the concentration of emissions in the air at a particular receptor (e.g., parts per million by volume of air, or micrograms per cubic meter of air). State and federal ambient air quality standards were developed to protect the most susceptible population groups from adverse health effects and were established in terms of parts per million or micrograms per cubic meter for the applicable emissions. (Urban Crossroads, 2020a, p. 54)

For this reason, the SCAQMD developed a methodology to assist lead agencies in analyzing localized air quality impacts from a proposed project as they relate to carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$) and particulate matter less than 10 microns in aerodynamic diameter (PM_{10}). This methodology is collectively referred to as the localized significance thresholds (LSTs). The LSTs differ from the numeric regional mass daily thresholds since the LSTs are based on the amount of emissions generated from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are based on the ambient concentrations of the pollutant and the relative distance to the nearest sensitive receptor (the SCAQMD performed air dispersion modeling to determine what amount of emissions generated a particular concentration at a particular distance). (Urban Crossroads, 2020a, p. 54)

The Project's AQIA (*Technical Appendix B1*) evaluates the proposed Project's localized impact to air quality for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the proposed Project's on-site emissions to the SCAQMD's applicable LST thresholds (as discussed above). As evaluated above, the Project would not result in emissions that exceeded the SCAQMD's LSTs. Therefore, the Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and PM_{10}. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (children and the elderly) are protected from health-based impacts. In other words, the ambient air quality standards are purposefully set low to protect children, elderly, and those with existing respiratory problems. (Urban Crossroads, 2020a, p. 54)

Furthermore, as discussed herein, air quality trends for emissions of NO_X, VOCs, and Ozone (which is a byproduct of NO_X and VOCs) have been trending downward within the air basin even as development has increased over the last several years. Therefore, although the proposed Project will exceed the SCAQMD's numeric thresholds for emissions of NO_X, this does not in itself constitute a basin-wide increase in health effects related to these pollutants. (Urban Crossroads, 2020a, p. 54)

As noted in the *Brief of Amicus Curiae* by the SCAQMD, the SCAQMD has acknowledged that for criteria pollutants it would be extremely difficult, if not impossible to quantify health impacts for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Furthermore, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts. (Urban Crossroads, 2020a, p. 55)

For analytical purposes, the LSTs for emissions of NO_X can be used as a surrogate to determine whether or not there would be a potential health impact related to emissions of VOCs (since there are no ambient air quality standards for VOCs). As shown above, LSTs for NO_X would not exceed the applicable threshold and a less-than-significant impact to localized (adjacent) sensitive receptors would occur. It should be noted that impacts related to air quality in the general sense are based on a source-receptor relationship – in other words, the further away one moves from the source, the lower the concentration in the ambient air. (Urban Crossroads, 2020a, p. 55)

The Project does not generate anywhere near 6,620 pounds per day of NO_X or 89,190 pounds per day of VOC emissions. The Project would generate 108.40 pounds per day of NO_X during operations (1.64 percent of 6,620 pounds per day). The Project would also generate 5.77 pounds per day of VOC emissions during operations (approximately 0.01 percent of 89,190 pounds per day). (Urban Crossroads, 2020a, p. 55)

Therefore, the Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level. Further, SJVAPCD acknowledges the same: "…the Air District is simply not equipped to analyze and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area…even for projects with relatively high levels of emissions of criteria pollutant precursor emissions." (Urban Crossroads, 2020a, p. 55)

Notwithstanding, as previously noted, the Project's AQIA (*Technical Appendix B1*) does include a site-specific localized impact analysis that correlates potential project health impacts on a local level to immediately adjacent land uses. The SCAQMD Brief of Amicus Curiae and SJVAPCD Brief of Amicus Curiae are incorporated herein pursuant to CEQA Guidelines § 15150, including all references therein. (Urban Crossroads, 2020a, p. 55)

Unfortunately, current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. For this reason, this assessment explains in meaningful detail why it is not feasible to provide such a numerical analysis, but why health-based impacts are nonetheless anticipated to be less than significant. (Urban Crossroads, 2020a, p. 55)

Threshold d: ***Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

Land uses generally associated with odor complaints include agricultural uses (livestock and farming); wastewater treatment plants; food processing plants; chemical plants; composting operations; refineries; landfills; dairies; fiberglass molding facilities, etc. The proposed Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from equipment exhaust and the temporary storage of typical solid waste (refuse) associated with the proposed Project's employees. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's solid waste regulations. The proposed Project also would be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project would be less than significant and no mitigation is required. (Urban Crossroads, 2020a, p. 56)

4.2.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development within the SCAQMD region. This area is appropriate for analysis because the SCAQMD governs the SoCAB, and all cumulative projects within the SCAQMD region would be required to comply with the provisions of the SCAQMD's 2016 AQMP.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: W*hite Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*. In this report the SCAQMD clearly states (Page D-3): (Urban Crossroads, 2020a, p. 56)

> *"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or Environmental Impact Report (EIR). The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance*

thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant." (Urban Crossroads, 2020a, pp. 56-57)

Therefore, this analysis assumes that individual projects that do not generate operational emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts also would not cause a cumulatively-considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

As previously indicated under the analysis of Threshold a, the proposed Project would have the potential to conflict with the SCAQMD 2016 AQMP. Other cumulative developments in the Project region also have the potential to conflict with the SCAQMD 2016 AQMP. Therefore, the Project would result in a potentially cumulatively-considerable impact due to a conflict with the applicable air quality management plan prior to mitigation.

As indicated under the analysis of Threshold b., the Project has the potential to exceed the applicable SCAQMD regional threshold for operational source emissions of NO_X, PM_{10}, and $PM_{2.5}$ would contribute substantially to existing or projected air quality violations associated with particulate matter (PM_{10} and $PM_{2.5}$) and ozone precursors (NO_X); this represents a cumulatively-considerable impact of the proposed Project. Additionally, Project emissions of PM_{10} and $PM_{2.5}$ would contribute to the existing nonattainment status for these pollutants, while Project emissions of NO_X would contribute to the existing nonattainment designation for ozone; thus, Project impacts due to a cumulatively-considerable net increase of criteria pollutants for which the region is nonattainment represents a significant cumulatively-considerable impact of the proposed Project.

As demonstrated under the analysis of Threshold c, the Project would not result in or contribute to cumulatively-considerable impacts associated with CO "hot spots," and Project operational emissions would not exceed the SCAQMD's localized significance thresholds for emissions of CO, NO_2, PM_{10}, or $PM_{2.5}$ at the nearest sensitive receptor. Other developments within the region similarly would be required to demonstrate compliance with the SCAQMD LSTs for both construction and operation. Accordingly, the Project would not have the potential to expose sensitive receptors near the Project site to substantial point source emissions of CO, NO_2, PM_{10}, or $PM_{2.5}$; thus, Project impacts to sensitive receptors would be less-than-cumulatively considerable.

The Project is not a land use type that would be associated with objectionable odors. Potential odor sources associated with the proposed Project may result from equipment exhaust and the temporary storage of typical solid waste (refuse) associated with the proposed Project's employees. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's

solid waste regulations. The proposed Project and other cumulative projects near the Project site also would be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project would be less-than-cumulatively considerable.

4.2.7 Significance of Impacts Before Mitigation

Threshold a: Significant Direct and Cumulatively-Considerable Impact. As evaluated by the Project's AQIA (*Technical Appendix B1*), the Project's localized operational-source emissions would not exceed applicable localized significance thresholds or LST thresholds. However, the Project would exceed the regional significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$ during Project operations. As such, the Project would not be consistent with the AQMP with regard to regional air quality violations. The Project therefore has the potential to conflict with AQMP Consistency Criterion No. 1, resulting in a significant air quality impact due to a conflict with the SCAQMD 2016 AQMP. As such, impacts due to a conflict with the AQMP would be potentially significant prior to mitigation on a direct and cumulatively-considerable basis.

Threshold b: Significant Direct and Cumulatively-Considerable Impact. The Project would exceed the numerical regional thresholds of significance established by the SCAQMD for operational emissions of NO_X, PM_{10}, and $PM_{2.5}$. Thus, the Project would violate an air quality standard, resulting in a direct and cumulatively-considerable impact. Additionally, and as shown previously on Table 4.2-3, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations within the SoCAB. Thus, Project emissions of NO_X, PM_{10}, and $PM_{2.5}$ would contribute substantially to existing or projected air quality violations associated with particulate matter (PM_{10} and $PM_{2.5}$) and ozone precursors (NO_X); this represents a significant direct and cumulatively-considerable impact of the proposed Project. Additionally, Project emissions of PM_{10} and $PM_{2.5}$ would contribute to the existing nonattainment status for these pollutants, while Project emissions of NO_X would contribute to the existing nonattainment designation for ozone; thus, Project impacts due to a cumulatively-considerable net increase of criteria pollutants for which the region is nonattainment represents a significant direct and cumulatively-considerable impact of the proposed Project.

Threshold c: Less-than-Significant Impact. The Project would not result in or contribute to a CO "hot spot," and Project operational emissions would be below the LST thresholds established by the SCAQMD's at the nearest sensitive receptor. Accordingly, the Project would not have the potential to expose sensitive receptors near the Project site to substantial point source emissions, and impacts would be less than significant.

Threshold d: Less-than-Significant Impact. The proposed Project does not contain land uses typically associated with emitting objectionable odors. The proposed Project also would be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project would be less than significant and no mitigation is required.

4.2.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- The Project is required to comply with the provisions of SCAQMD Rule 402, "Nuisance" which requires that a person shall not discharge air contaminants or other materials that would cause health or safety hazards to any considerable number of persons or the public.

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust" by implementing the following dust control measures during ground disturbing activities, as applicable:
  - All new ground disturbing activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.
  - The Mine Operator shall ensure that all disturbed unpaved roads and disturbed areas within the Mine are either subject to soil stabilization or are watered at least three (3) times daily during dry weather. Soil stabilization shall occur pursuant to manufacturer's specifications, while watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the midmorning, afternoon, and after work is done for the day.
  - The Mine Operator shall ensure that traffic speeds on unpaved roads a are reduced to 15 mph or less.

- The Project shall comply with SCAQMD Rule 1157, as applicable, which requires the following:
  - No visible dust more than 100 feet from any activity, equipment, storage pile, or disturbed area anywhere onsite;
  - No dust emissions from any source exceeding 20 percent opacity (average of 12 readings);
  - Prompt cleanup of any spilled material and stabilization of any spilled material storage piles at a minimum at the end of each workday;
  - Dust suppressants or other dust control methods on conveyors, loading, unloading, or transferring activities;
  - Baghouse emission controls on screening and crushing activities or other dust control measures to meet the visible emission limits;
  - Chemical stabilization and covering storage piles;
  - Chemical stabilization of unpaved haul roads;
  - Sweeping of paved roads once each shift with SCAQMD-certified sweepers, when required;

- Covered or otherwise stabilized aggregate loads (i.e. loads to remain 6 inches from the upper edge of the container area) to avoid dust emissions from product transport trucks in compliance with California Vehicle Code No. 23114; and
- Wheel washers, rumble grate, and paving of internal plant roads to eliminate track out.

Mitigation

MM 4.2-1 Prior to any mining activities within the 54.5-acre Expanded Disturbance Area (EDA), the Mine Operator shall provide evidence to the Riverside County Planning Department that signs stating the following (or equivalent) have been posted at the truck access gates and aggregate loading areas:

- "Truck Drivers shall turn off engines when not in use."
- "Truck drivers to shut down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to 'neutral' or 'park,' and the parking brake is engaged."
- Telephone numbers for the Mine Operator and the CARB also shall be posted to allow for reporting of violations.

4.2.9 Significance of Impacts After Mitigation

Threshold a: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Operational-source emissions with implementation of Mitigation Measure MM 4.2-1 would continue to exceed the SCAQMD regional thresholds for NO_X, PM_{10}, and $PM_{2.5}$. Although the required mitigation would reduce the Project's impacts, it is important to note that more than 50 percent of the Project's NO_X emissions would be derived from vehicular activity and more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, because mitigation is not available to reduce the Project's operational emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD regional thresholds, the Project would result in a conflict with the SCAQMD AQMP. The Project's impacts due to a conflict with the AQMP would be significant and unavoidable on a direct and cumulatively-considerable basis.

Threshold b: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Even with implementation of the recommended mitigation measures and compliance with SCAQMD Rules 402, 403, and 1157, the Project still would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. No feasible mitigation measures exist to reduce the Project's emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below a level of significance beyond the mitigation measures and regulatory requirements already identified in subsection 4.2.8. More than 50% of the Project's NO_X emissions are associated with on-site mobile operational equipment and haul truck trips (i.e., combustible engines), and the Project Applicant does not have the regulatory authority to control tailpipe emissions; thus, no additional feasible mitigation measures exist that would reduce the Project's NO_X emissions to levels that are less than significant. Additionally, more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated

with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, the Project's operational emissions of NO_X, PM_{10}, and $PM_{2.5}$ represent a significant and unavoidable direct and cumulatively-considerable impact for which additional feasible mitigation is not available.

4.3 BIOLOGICAL RESOURCES

This Subsection assesses the Project's potential to impact sensitive biological resources. The analysis in this Subsection is based primarily on information provided in the technical report prepared by Alden Environmental, Inc. (hereafter, "Alden") titled, "General Biological Resources Assessment Gilman Springs Mine" (BRA) and dated April 5, 2019 (Alden, 2019a). The BTR is included as *Technical Appendix C1* to this EIR. Information in this Subsection also relies on a technical report titled, "Jurisdictional Delineation Report for the Gilman Springs Mine," prepared by Alden, dated April 5, 2019, and included as *Technical Appendix C2* (Alden, 2019b). Additionally, a separate report entitled, "Determination of Biologically Superior or Equivalent Preservation," and dated April 5, 2019, was prepared by Alden to demonstrate compliance with the Multiple Species Habitat Conservation Plan (MSHCP), and is included as *Technical Appendix C3* (Alden, 2019c).

4.3.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.8 acres. As previously shown on Figure 3-3, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west and north of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

4.3.2 EXISTING CONDITIONS

Although the information and analysis presented herein are focused on the 54.5-acre EDA, the Survey Area for the Project's BRA (*Technical Appendix C1*) is approximately 134.0 acres in size and encompasses areas surrounding both the EDA as well as the existing mining and processing areas in the northern portions of the site. Because the active mining areas are not a part of the proposed Project, Alden did not survey the southernmost portions of the Mine for biological resources. (Alden, 2019a, p. 1)

The Project's BRA (*Technical Appendix C1*) includes a literature review, on-site habitat assessments and various field surveys. Biological studies of the Survey Area were conducted by Alden and their subcontracted biologists from Mid-July through Mid-November 2017. Alden's on-site surveys included mapping vegetation, delineating jurisdictional resources, assessing Riparian/Riverine and Vernal Pool habitats, and assessing habitats for the burrowing owl, and San Bernardino kangaroo rat. Alden's observations of all plant and animal species noted during the field studies were recorded and are included in Appendices A and B to *Technical Appendix C1*. Vegetation mapping and an assessment of Riparian/Riverine and Vernal Pool habitats was initially conducted on July 18 and 19, 2017. Because the Survey Area was expanded after the July 2017 mapping, the mapping was completed on October 16 through 18, 2017 and included the entire expanded Survey Area. A delineation of potential jurisdictional features was conducted on October 25, 2017. Refer to *Technical*

Appendix C1 for a detailed description of the research and survey methodologies used by Alden and its sub-consultants. (Alden, 2019a, pp. 2-6)

Elevations in the Survey Area range from approximately 1,878 to 2,202 feet above mean sea level (amsl). The predominant soils in the Survey Area consist of Friant rocky fine sandy loam, with three other soil types including Badland, San Timoteo loam, and Rockland. The Mine is bounded by open space to the west, east, and north, and by Gilman Springs Road, open space, and agricultural uses to the south. (Alden, 2019a, p. 1)

A. *Vegetation Communities*

Table 4.3-1, *Vegetation Communities in the Survey Area*, summarizes the vegetation communities observed within the Survey Area, which are depicted on Figure 4.3-1, *Biological Resources* as identified in. As shown, a total of eleven vegetation communities occur in the Survey Area and are described below.

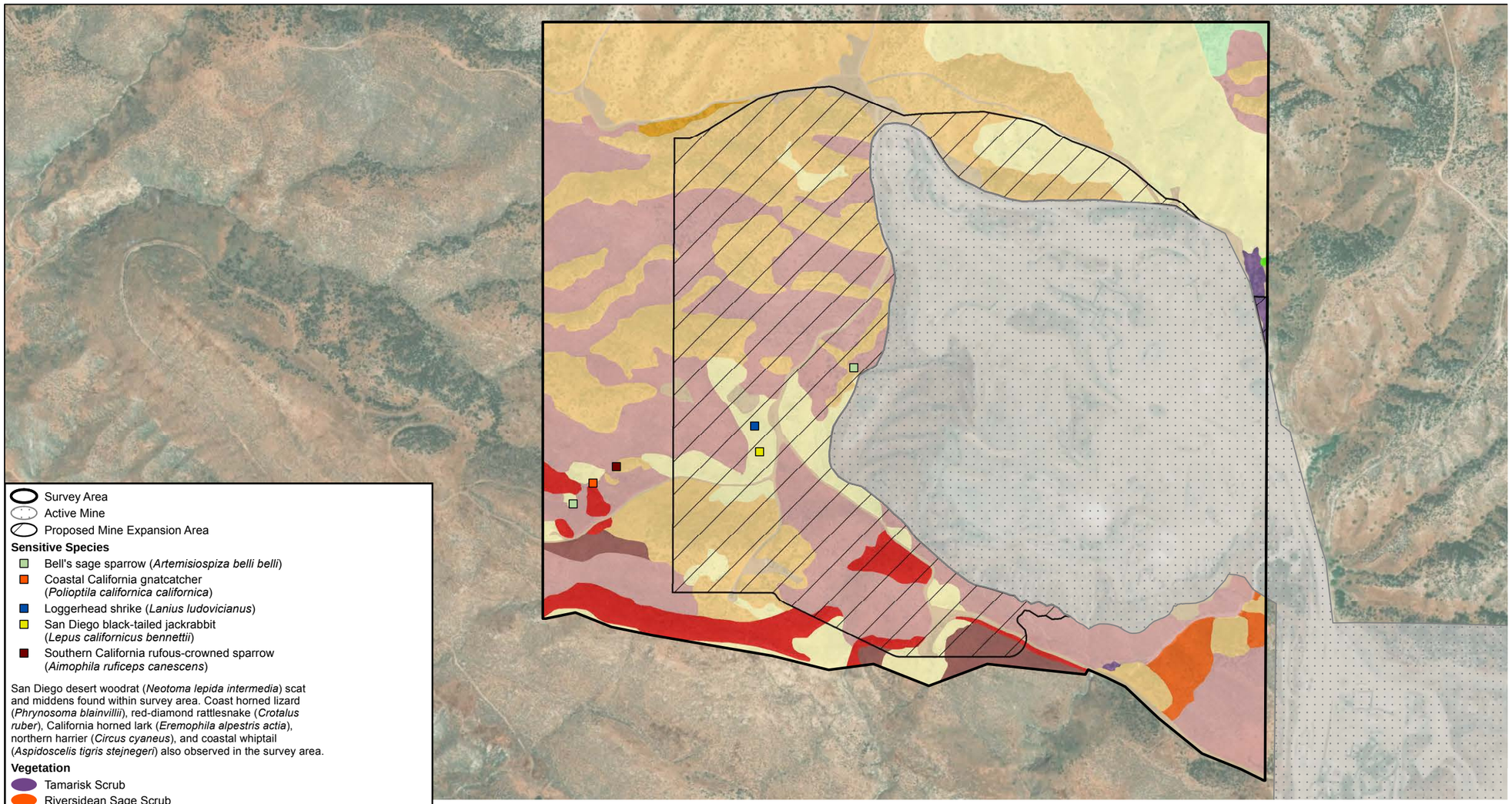
Table 4.3-1 Vegetation Communities in the Survey Area

CLASSIFICATION[1]		ACREAGE
Collapsed	**Uncollapsed**	
Riparian Scrub, Woodland, Forest	Tamarisk scrub	0.5
Chaparral	Chamise chaparral	48.1
	Chamise chaparral-disturbed	0.4
	Chamise chaparral/Riversidean sage scrub, *Encelia farinosa*-dominated[2]	0.8
	Scrub oak chaparral[2]	<0.1
Coastal sage scrub	Riversidean sage scrub	1.8
	Riversidean sage scrub, *Artemisia californica*-dominated	5.6
	Riversidean sage scrub, *Encelia farinosa*-dominated	42.5
	Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed	2.5
Grassland	Non-native grassland	25.3
Developed/Disturbed land	Disturbed habitat[2]	6.5
	TOTAL	**134.0**

[1]Collapsed and uncollapsed vegetation communities are terms from MSHCP Table 2-1.
[2]Not a listed MSHCP vegetation community.
(Alden, 2019a, Table 1)

1. *Tamarisk Scrub*

Tamarisk scrub is typically comprised of shrubs and/or small trees of exotic tamarisk species (*Tamarix* spp.) but may also contain willows (*Salix* spp.), salt bushes (*Atriplex* spp.), catclaw acacia (*Acacia greggii*), and salt grass (*Distichlis spicata*). This habitat occurs along intermittent streams in areas where high evaporation rates increase the salinity level of the soil. Tamarisk is a phreatophyte, a plant that can obtain water from an



Source(s): Alden Environmental, Inc. (02-06-2018)

NOT TO SCALE

Figure 4.3-1

BIOLOGICAL RESOURCES

increase the salinity level of the soil. Tamarisk is a phreatophyte, a plant that can obtain water from an underground water table. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it may rapidly displace native species within a drainage. In the Survey Area, tamarisk scrub consists essentially of a monoculture of French tamarisk and occurs in two disjunct patches with a total area of 0.5 acre. (Alden, 2019a, p. 8)

2. Chaparral

This habitat in the Survey Area is represented by: 1) two types of chamise chaparral, 2) one ecotone between chamise chaparral and Riversidean sage scrub, and 3) scrub oak chaparral. (Alden, 2019a, p. 8)

Chaparral generally consists of broad-leaved sclerophyll shrubs usually between one to three meters tall with occasional patches of bare soil or sage scrub, often with an accumulation of litter. Chaparral is well adapted to repeated fires as many species respond by stump sprouting. Where chaparral has been disturbed, it contains a preponderance of non-native, weedy species. (Alden, 2019a, p. 8)

Chamise chaparral in the Survey Area is dominated by chamise (*Adenostoma fasciculatum*). Chamise chaparral/Riversidean sage scrub in the Survey Area is dominated by chamise and brittlebush (*Encelia farinosa*), the latter of which is a dominant species in the Riversidean sage scrub. Scrub oak chaparral in the Survey Area is dominated by scrub oak (*Quercus berberidifolia*). (Alden, 2019a, p. 9)

3. Coastal Sage Scrub

Riversidean sage scrub is a subcategory of coastal sage scrub, a dominant shrub community of California. In the Survey Area, Riversidean sage scrub is dominated by a mix of low-growing shrubs such as buckwheat (*Eriogonum* spp.), California sagebrush (*Artemisia californica*), and brittlebush. In some locations in the Survey Area, however, Riversidean sage scrub is dominated by just one species such as California sagebrush or brittlebush. Where Riversidean sage scrub that is dominated by brittlebush has been disturbed, the vegetation community also contains a preponderance of non-native, weedy species. (Alden, 2019a, p. 9)

4. Non-Native Grassland

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered, native, annual forbs. Characteristic species often include oats (*Avena* spp.), red brome (*Bromus madritensis*), ripgut (*B. diandrus*), short-pod mustard (*Hirschfeldia incana*), and other mustards (*Brassica* spp.). Non-native grassland in the Survey Area occurs in small patches in a mosaic with sage scrub and chaparral. (Alden, 2019a, p. 8)

5. Disturbed Habitat

Disturbed habitat is generally made up of areas that exhibit signs of recent disturbance. They usually support little vegetation; however, when there is vegetation present it consists of mostly non-native, weedy species. Disturbed habitat in the Survey Area includes dirt roads and areas adjacent to dirt roads. (Alden, 2019a, p. 9)

B. *Jurisdictional Waters*

A delineation of potential jurisdictional features was conducted on October 25, 2017. Areas were determined to be potential non-wetland waters of the U.S. (WUS) if there was evidence of regular surface flow (e.g., bed and bank), but neither the vegetation criterion nor soils criterion was met. The potential jurisdictional limits for these areas were defined by the ordinary high water mark (OHWM), which is defined in 33 Code of Federal Regulations Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The U.S. Army Corps of Engineers (Corps) has issued further guidance on the OHWM (Riley 2005), which was also used for the delineation. The OHWM widths were measured to the nearest foot at various locations along each channel. (Alden, 2019a, pp. 3-4)

Potential California Department of Fish and Wildlife (CDFW) jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow. Streambeds within potential CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Streambed widths were measured to the nearest foot at various locations along each channel. (Alden, 2019a, p. 4)

Potential U.S. Army Corps of Engineers (Corps) and CDFW jurisdictional features occur in the Survey Area and include non-wetland (WUS), CDFW riparian habitats and CDFW streambed/lake features as identified below.

1. *Federal Jurisdiction*

Areas under potential Corps jurisdiction in the Survey Area consist of 1.13 acres of non-wetland WUS as identified on Table 4.3-2, *Waters of the U.S. In Survey Area* and shown on Figure 4.3-2, *Riparian/Riverine Habitat and Potential Jurisdictional Features* (Alden, 2019a, p. 9)

2. *State Jurisdiction*

Areas under potential CDFW jurisdiction in the Survey area consist of 1.63 acres of riparian habitats and streambed/lake features as identified on Table 4.3-3, *Riparian/Riverine Habitat and Potential Jurisdictional Features*, and shown on Figure 4.3-2. (Alden, 2019a, p. 10)

Table 4.3-2 Waters of the U.S. In Survey Area

POTENTIAL JURISDICTIONAL FEATURE	AREA (acres)	LENGTH (feet)
Non-Wetland		
Ephemeral stream	1.10	13,211
Unvegetated pond (ephemeral basin)	0.03	--
TOTAL	**1.13**	**13,211**

(Alden, 2019a, Table 2)

Table 4.3-3 CDFW Jurisdictional Features in the Survey Area

POTENTIAL JURISDICTIONAL FEATURE	AREA (acres)	LENGTH (feet)
Riparian Habitat		
Tamarisk scrub	0.5	--
Streambed/Lake		
Ephemeral stream	1.10	13,211
Unvegetated pond (ephemeral basin)	0.03	--
Features with discontinuous OHWM	--	725
TOTAL	**1.63**	**13,936**

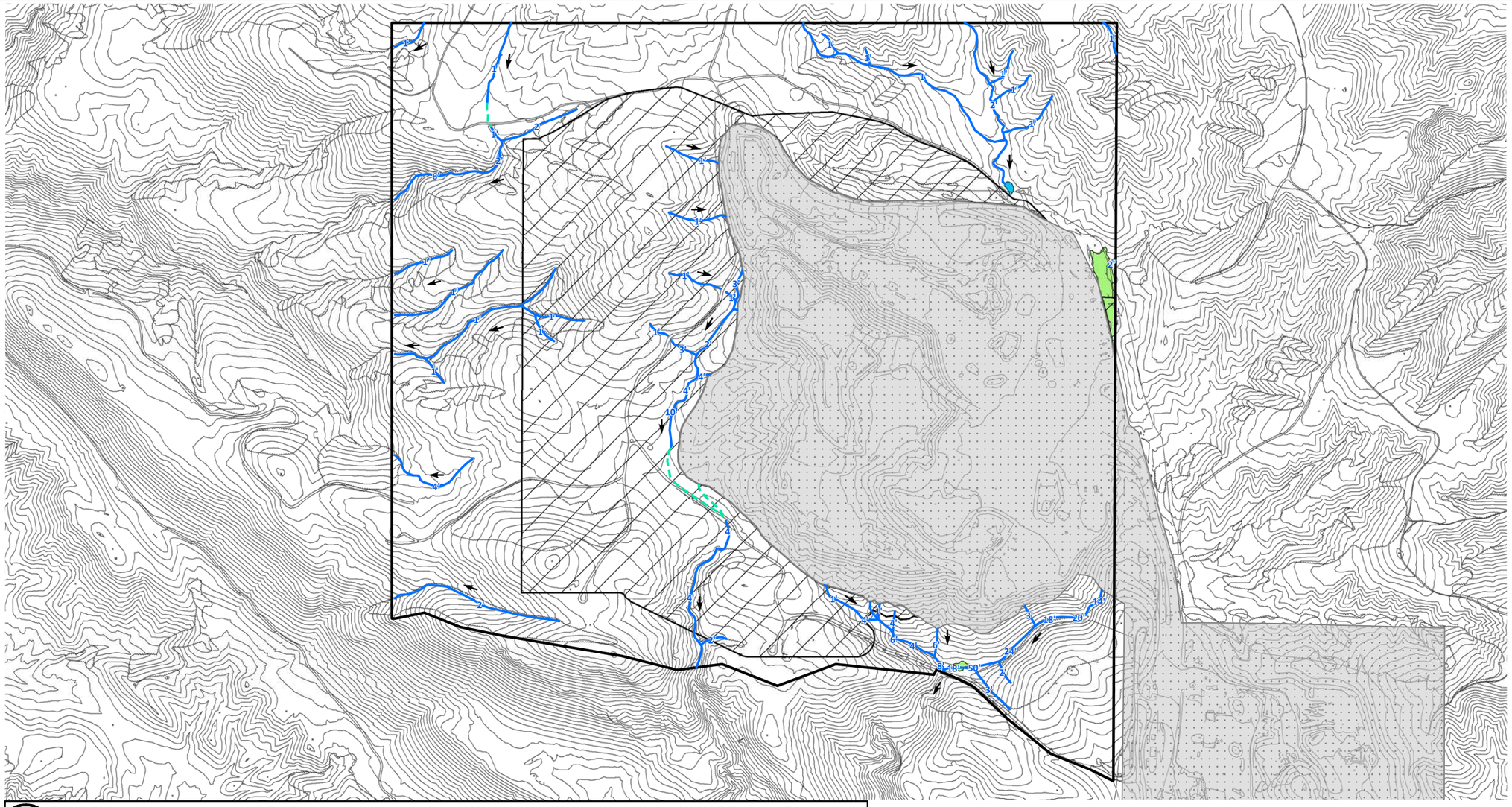
(Alden, 2019a, Table 3)

C. *Riparian/Riverine Resources*

The MSHCP defines Riparian/Riverine and Vernal Pool habitats as:

- Riparian/Riverine areas are lands that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year. Riparian/Riverine areas that met this definition were mapped in the Survey Area. (Alden, 2019a, p. 4)

  Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology must be made on an individual basis. Such determinations should consider the length of time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation,



Source(s): Alden Environmental, Inc. (02-06-2018)

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Figure 4.3-2

RIPARIAN/RIVERINE HABITAT AND POTENTIAL JURISDICTIONAL FEATURES

soils, and drainage characteristics, the uses to which the area has been subjected, and weather and hydrologic records. No vernal pools were mapped in the Survey Area as none were observed. (Alden, 2019a, p. 4)

The Riparian/Riverine habitats in the Survey Area were assessed for their potential to support sensitive Riparian/Riverine species including least Bell's vireo (*Vireo belli pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). (Alden, 2019a, p. 4)

The Riparian/Riverine habitats in the Survey Area support two disjunct patches of tamarisk scrub (0.5-acre total and dominated by French tamarisk [*Tamarix ramosissima*]), ephemeral streams, and an unvegetated pond (ephemeral basin). None of the Riparian/Riverine habitats in the Survey Area has the necessary habitat size, vegetative components, or structure required to support these avian species. (Alden, 2019a, p. 5)

Prior to conducting the fieldwork, existing soils maps, topographic maps, historic aerial photographs, and habitat maps were reviewed for evidence of vernal pools or suitable conditions for vernal pools to occur. Vernal pools typically occur in flat areas on soils with a high clay content and/or an impermeable barrier. During the fieldwork, flatter areas were surveyed for evidence of water holding depressions that could be considered to be vernal pool habitat. Specifically, these areas were searched for depressions, areas of cracked mud, standing water, vernal pool plant endemic plant species, and other features suggestive of ephemeral aquatic habitat (vernal pools). (Alden, 2019a, p. 5)

1. Fairy Shrimp

There are three species of sensitive fairy shrimp that occur in western Riverside County: Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The Survey Area was surveyed for habitat that could support fairy shrimp (such as vernal pools or ephemeral ponds). Indicators of potential fairy shrimp habitat that were searched for included basins, ruts, cracked mud, algal mats, and drift lines. No suitable habitat occurs within the Survey Area for these species, and no focused surveys for them were conducted or are required. (Alden, 2019a, p. 5)

2. Riparian/Riverine Vernal Pool Plants

The MSHCP lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and Vernal Pool habitats. Riparian/Riverine habitats in the Survey Area consist of ephemeral stream, unvegetated pond (ephemeral basin), tamarisk scrub, and area with a discontinuous ordinary high-water mark. The potential for these 23 species to occur within those types of habitats that are largely unvegetated in the Survey Area (with the exception of tamarisk scrub) is low. The potential for these species to occur in tamarisk scrub in the Survey Area is also low because the tamarisk scrub is essentially of a monoculture of one species, French tamarisk. None of the 23 Riparian/Riverine or Vernal Pool species was observed in the Survey Area. (Alden, 2019a, pp. 5-6)

Riparian/Riverine resources are the same as CDFW jurisdictional features in the Survey Area. The Riparian/Riverine resources in the Survey Area total 1.63 acres as shown previously on Figure 4.3-2 and in Table 4.3-3. Alden determined that there is no Vernal Pool habitat in the Survey Area. (Alden, 2019a, p. 10)

Riparian/Riverine habitats were analyzed for the potential to support, or be tributary to habitat that supports, Riparian/Riverine Covered Species, which are identified in MSHCP Section 6.1.2 and addressed below (Alden, 2019a, p. 10).

D. Sensitive Animal Species

1. Birds

The least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo are typically found in riparian habitats such as southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, and arroyo willow riparian forest that typically feature dense cover. The riparian habitat in the Survey Area (0.5 acre of tamarisk scrub in two patches) was determined not to have the potential to support least Bell's vireo and southwestern willow flycatcher. Western yellow-billed cuckoo habitat does not occur in the Survey Area. (Alden, 2019a, p. 10)

Both the bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*) occur primarily in and adjacent to open water habitats, with the falcon possibly occurring in riparian areas. No suitable habitat occurs in the Survey Area for the bald eagle (the unvegetated pond in the Survey Area is too small), and the patchy tamarisk scrub in the Survey Area are not likely to provide foraging habitat for the peregrine falcon. Potential nesting habitat for the falcon does not occur. (Alden, 2019a, p. 11)

2. Invertebrates

Vernal pool fairy shrimp occurs throughout the Central Valley and in several disjunct populations in Riverside County. This species exists in vernal pools and other ephemeral basins often located in patches of grassland and agriculture interspersed in Diegan coastal sage scrub and chaparral. Santa Rosa Plateau fairy shrimp are limited to the Santa Rosa Plateau. Riverside fairy shrimp occurs in Riverside, Orange, and San Diego counties, as well as in northern Baja California, Mexico. This species is typically found in deeper vernal pools and other ephemeral basins that hold water for long periods of time (30 or more days). (Alden, 2019a, p. 11)

Alden's review of range maps and the California Natural Diversity Database (CNDDB) for fairy shrimp species did not result in any locations occurring on or adjacent to the Project site. Additionally, the majority of the site is very steep and does not support clayey soils known to support vernal pools and fairy shrimp species. (Alden, 2019a, p. 11)

No vernal pools were observed in the Survey Area, and the one ephemeral basin (i.e., unvegetated pond; Table 4.3-2) that could be deep enough for Riverside fairy shrimp occurs along an ephemeral stream and is subject to water flow/volume that is unsuitable for the species. This basin is within the Survey Area but is not within the proposed EDA. Fairy shrimp occur in ephemeral basins that are not subject to regular flow/scouring that would remove their cyst/egg bank from the soil. The unvegetated pond is within a larger drainage system and

shows evidence of scouring and water flow following rainfall events. The underlying soil at this location is San Timoteo loam. This soil type is characterized as being well- to somewhat-excessively drained and formed in material weathered from shale, sandstone, and calcified weathered granite in upland situations. It does not have a significant clay component, nor is it recognized as being supportive of vernal pool habitat. (Alden, 2019a, p. 11)

Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates until the pools become completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions develop. None of these conditions (i.e., no depressions, hydric soils, etc.) were observed in the Survey Area, and all soils in the Survey Area are mapped as Badland, Rockland, San Timoteo loam (eight to 25 percent slopes, eroded), and Friant rocky fine sandy loam (eight to 50 percent slopes, eroded) that do not retain water. Aside from the ephemerally ponded area within the drainage channel noted above (outside of proposed EDA), no standing water or other sign of areas that pond water (e.g., mud cracks, tire ruts, vernal pool vegetation) were observed. Therefore, there are no features present that would support fairy shrimp in the Survey Area or the proposed EDA. (Alden, 2019a, pp. 11-12)

3. Fish

The Santa Ana sucker (*Catostomus santaanae*) is restricted to the Santa Ana River watershed with year-round flows. The streams in the survey area lack surface flow for most of the year. Therefore, this species is not expected to occur in the Survey Area. (Alden, 2019a, p. 12)

4. Amphibian

No appropriate habitat for the three amphibian species (arroyo toad [*Anaxyrus californicus*], mountain yellow-legged frog [*Rana muscosa*], or California red-legged frog [*Rana aurora draytonii*]) listed under MSHCP 6.1.2 occurs in the survey area, and none of these species has any potential to occur there. The Survey Area lies outside of the MSHCP arroyo toad survey area. (Alden, 2019a, p. 11)

5. Riparian/Riverine Plant Species

The Survey Ara is not located within a Narrow Endemic Plant Species Survey Area (NEPSSA) pursuant to the MSHCP (Alden, 2019a, p. 12). As such, no Riparian/Riverine plant species occur within the Survey Area.

6. Burrowing Owl

Non-native grassland in the Survey Area is potentially suitable burrowing owl habitat based on the Burrowing Owl Survey Instructions for the Western Riverside MSHCP. In addition, a small amount of habitat mapped as Riversidean sage scrub, *Encelia farinosa*-dominated also represents potentially suitable habitat for the burrowing owl in the Survey Area. These areas fit the definition of shrub lands with low density cover or

interstitial grassland within shrublands. Step II of the Survey Instructions, which includes Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys, were conducted to comply with the MSHCP in March and April 2018 (see Appendix C to *Technical Appendix C1*). (Alden, 2019a, p. 12)

A Focused Burrow Survey (Step II, Part A of the Survey Instructions) and Focused Burrowing Owl Survey (Step II, Part B) were conducted in March and April 2018. Potential habitat in the Survey Area was searched for potential burrows (potential burrows are mapped when found), artificial refugia, perches, rock crevices, debris piles, etc. that could be used by the owl, as well as searched for burrowing owls and owl sign. The determination of owl presence is made by direct owl observation or by owl sign such as, but not necessarily limited to, excavated soil, whitewash (excrement), castings (pellets), and/or feathers. (Alden, 2019a, Appendix C, pp. 2-3)

No burrowing owls, evidence of owl presence (casts, feathers, etc.), artificial refugia, perches, rock crevices, debris piles, or potential owl burrows were observed within the potential burrowing owl habitat in the Survey Area. Based on the lack of potential burrows and evidence of occupation, the Survey Area is not considered to be occupied by the burrowing owl. Refer to Appendix C to the BRA (*Technical Appendix C1*) for a more detailed description of the survey methodology used for assessing the presence or absence of the burrowing owl. (Alden, 2019a, Appendix C, p. 3)

7. San Bernardino Kangaroo Rat and Los Angeles Pocket Mouse

The habitat of the San Bernardino kangaroo rat is described as being confined to primary and secondary alluvial fan scrub habitats, with sandy soils deposited by fluvial (water) rather than Aeolian (wind) processes. Burrows are dug in loose soil, usually near or beneath shrubs. The San Bernardino kangaroo rat is confined to inland valley scrub communities, and more particularly, to scrub communities occurring along rivers, streams, and drainages. Most of these drainages have been historically altered as a result of flood control efforts, and the resulting increased use of river resources including mining, off-road vehicle use, and road and housing development. This increased use of river resources has resulted in a reduction in both the amount and quality of habitat available for the San Bernardino kangaroo rat. The closest documented population of San Bernardino kangaroo rat is within the confines of the San Jacinto River. There is no suitable habitat for this species in the Survey Area. (Alden, 2019a, pp. 12-13)

The southwestern parcels of the property are within the MSHCP survey area for the Los Angeles pocket mouse. However, the proposed EDA is not within the survey area for the species. Therefore, a survey for the species is not required. The habitat of the Los Angeles pocket mouse is described as being confined to lower elevation grasslands and coastal sage scrub habitats in areas with soils composed of fine sands. The species is documented as occurring on land adjacent to the property and in Laborde Canyon, the latter of which is approximately 3,000 feet east of the Survey Area. This species is highly likely to occur within the unnamed drainages and adjacent sandy areas in the Survey Area. (Alden, 2019a, p. 13)

E. Other Sensitive Species

Alden conducted a search of the CNDDB for sensitive plant and animal species that have potential to occur in the Survey Area and within one mile of the Project site. Additionally, species that could occur in the Survey

Area based on its location and habitat types are considered for their potential to occur, as discussed below. (Alden, 2019a, p. 13)

1. Plants

No sensitive plant species have been observed in the survey area to date. There is one sensitive plant species that has been reported to the CNDDB in the vicinity of the property (besides smooth tarplant, vernal barley, mud nama and San Jacinto Valley crownscale addressed above in subsection 4.3.2.D.5). That one species is Plummer's mariposa lily (*Calochortus plummerae*). The survey area is not in an MSHCP survey area for the species. (Alden, 2019a, p. 13)

2. Animals

Refer to Table 4 of *Technical Appendix C1* for the list of MSHCP-Covered, Listed, and Sensitive Animal Species' potential to occur in the Survey Area. Eleven sensitive animal species were observed in the Survey Area, and include the following: (Alden, 2019a, p. 13)

- coast horned lizard (*Phrynosoma blainvillii*);
- coastal whiptail (*Aspidoscelis tigris stejnegeri*);
- red-diamond rattlesnake (*Crotalus ruber*);
- southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*);
- Bell's sage sparrow (*Artemisiospiza belli belli*);
- northern harrier (*Circus cyaneus*);
- California horned lark (*Eremophila alpestris actia*);
- loggerhead shrike (*Lanius ludovicianus*);
- coastal California gnatcatcher (*Polioptila californica californica*);
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); and
- San Diego desert woodrat (*Neotoma lepida intermedia*).

Additionally, Stephens' kangaroo rat (*Dipodomys stephensi*) has been reported to the CNDDB in close proximity to the western and northeastern boundaries of the Project site, and the coastal cactus wren (*Campylorhynchus brunneicapillus cousei*) has been reported to the CNDDB south of the property. Other sensitive species listed in Table 4 of *Technical Appendix C1* are included because they may have potential to occur in the Survey Area based on CNDDB records within one mile of the Mine, habitats present, elevation and/or latitude, soil types, and/or location relative to the coast. (Alden, 2019a, pp. 13-14)

F. Narrow Endemic Plant Species

The Survey Areas is not within the MSHCP Narrow Endemic Plant Species Survey Area (NEPSSA); therefore, no survey for Narrow Endemic plant species was conducted (Alden, 2019a, p. 6).

G. *Criteria Area Species*

The Survey Area is not within a MSCHP Criteria Area Species Survey Area; therefore, no survey for Criteria Area species was conducted (Alden, 2019a, p. 6).

H. *Soils*

The MSHCP shows eight sensitive soil types as occurring within the MSHCP area (Altamont, Auld, Bosanko, Claypit, Domino, Porterville, Traver, and Willows). None of these soils occurs in the Survey Area. Four soil types are mapped in the survey area as follows: Badland, San Timoteo loam, Friant rocky fine sandy loam, and Rockland (refer to Figure 4 of the BRA, *Technical Appendix C1*). None of the four soil types in the survey area is clay. (Alden, 2019a, p. 7)

4.3.3 Applicable Regulatory Requirements

A. *Federal Regulations*

1. *Endangered Species Act (ESA)*

The purpose of the federal Endangered Species Act (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. (USFWS, 2013)

The ESA makes it unlawful for a person to take a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." Listed plants are not protected from take, although it is illegal to collect or maliciously harm them on Federal land. Protection from commercial trade and the effects of federal actions do apply for plants. (USFWS, 2013)

Section 7 of the ESA requires federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the USFWS and NMFS, as appropriate, to ensure that effects of actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species. During consultation, the "action" agency receives a "biological opinion" or concurrence letter addressing the proposed action. In the relatively few cases in which the USFWS or NMFS makes a jeopardy determination, the agency offers "reasonable and prudent alternatives" about how the proposed action could be modified to avoid jeopardy. It is extremely rare that a project ends up being withdrawn or terminated because of jeopardy to a listed species. (USFWS, 2013)

Section 10 of the ESA may be used by landowners including private citizens, corporations, tribes, states, and counties who want to develop property inhabited by listed species. Landowners may receive a permit to take such species incidental to otherwise legal activities, provided they have developed an approved habitat conservation plan (HCP). HCPs include an assessment of the likely impacts on the species from the proposed action, the steps that the permit holder will take to avoid, minimize, and mitigate the impacts, and the funding available to carry out the steps. HCPs may benefit not only landowners but also species by securing and managing important habitat and by addressing economic development with a focus on species conservation. (USFWS, 2013)

2. Clean Water Act Section 401

Clean Water Act (CWA) § 401 water quality certification provides states and authorized tribes with an effective tool to help protect water quality, by providing them an opportunity to address the aquatic resource impacts of federally issued permits and licenses. Under § 401, a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. until the state or tribe where the discharge would originate has granted or waived § 401 certification. The central feature of CWA § 401 is the state or tribe's ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit or license to be issued consistent with any conditions of the certification. Denying certification prohibits the federal permit or license from being issued. Waiver allows the permit or license to be issued without state or tribal comment. States and tribes make their decisions to deny, certify, or condition permits or licenses based in part on the proposed project's compliance with Environmental Protection Agency (EPA)-approved water quality standards. In addition, states and tribes consider whether the activity leading to the discharge will comply with any applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and other appropriate requirements of state or tribal law. (EPA, 2010, p. 1)

Many states and tribes rely on § 401 certification to ensure that discharges of dredge or fill material into a water of the U.S. do not cause unacceptable environmental impacts and, more generally, as their primary regulatory tool for protecting wetlands and other aquatic resources. However, § 401 is limited in scope and application to situations involving federally-permitted or licensed activities that may result in a discharge to a water of the U.S. If a federal permit or license is not required or would authorize impacts only to waters that are not waters of the U.S., the activity is not subject to the CWA § 401. (EPA, 2010, p. 2)

3. Clean Water Act Section 404

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Wetlands subject to Clean Water Act Section 404 are defined as "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. Wetlands generally include swamps, marshes, bogs, and similar areas." Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the

United States, unless the activity is exempt from Section 404 regulation (e.g. certain farming and forestry activities). (EPA, n.d.)

The basic premise of the program is that no discharge of dredged or fill material may be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment; or (2) the nation's waters would be significantly degraded. Applications for permits must, to the extent practicable: (l) demonstrate steps have been taken to avoid wetland impacts; (2) demonstrate that potential impacts on wetlands have been minimized; and (3) provide compensation for any remaining unavoidable impacts. Proposed activities are regulated through a permit review process. (EPA, n.d.)

An individual permit is required for potentially significant impacts. Individual permits are reviewed by the U.S. Army Corps of Engineers (ACOE), which evaluates applications under a public interest review, as well as the environmental criteria set forth in the CWA Section 404(b)(1) Guidelines. However, for most discharges that will have only minimal adverse effects, a general permit may be suitable. General permits are issued on a nationwide, regional, or State basis for particular categories of activities. The general permit process eliminates individual review and allows certain activities to proceed with little or no delay, provided that the general or specific conditions for the general permit are met. States also have a role in Section 404 decisions, through State program general permits, water quality certification, or program assumption. (EPA, n.d.)

4. Executive Order 11990 – Protection of Wetlands

The purpose of Executive Order (EO) 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, the Order requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. (FEMA, 2017) The Order applies to:

- Acquisition, management, and disposition of Federal lands and facilities construction and improvement projects which are undertaken, financed, or assisted by federal agencies;

- Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities. (FEMA, 2017)

The procedures require the determination of whether or not the proposed project will be in or will affect wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. The procedures include a requirement for public review of assessments. (FEMA, 2017)

5. Migratory Bird Treaty Act (16 USC Section 703-712)

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13. The USFWS has statutory authority and responsibility for enforcing the MBTA (16 U.S.C. 703-712). The MBTA implements Conventions between

the United States and four countries (Canada, Mexico, Japan, and Russia) for the protection of migratory birds. (USFWS, 2015)

6. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." (USFWS, 2016)

B. State Regulations

1. California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. The California Department of Fish and Wildlife (CDFW) works with interested persons, agencies, and organizations to protect and preserve such sensitive resources and their habitats. CESA prohibits the take of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, or candidate species. CDFW may authorize the take of any such species if certain conditions are met. (CDFW, 2017a)

Section 2081 subdivision (b) of the California Fish and Game Code (CFGC) allows CDFW to authorize take of species listed as endangered, threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met. These authorizations are commonly referred to as incidental take permits (ITPs). (CDFW, 2017a)

If a species is listed by both the federal ESA and CESA, CFGC Section 2080.1 allows an applicant who has obtained a federal incidental take statement (federal Section 7 consultation) or a federal incidental take permit (federal Section 10(a)(1)(B)) to request that the Director of CDFW find the federal documents consistent with CESA. If the federal documents are found to be consistent with CESA, a consistency determination (CD) is issued and no further authorization or approval is necessary under CESA. (CDFW, 2017a)

A Safe Harbor Agreement (SHA) authorizes incidental take of a species listed as endangered, threatened, candidate, or a rare plant, if implementation of the agreement is reasonably expected to provide a net conservation benefit to the species, among other provisions. SHAs are intended to encourage landowners to voluntarily manage their lands to benefit CESA-listed species. California SHAs are analogous to the federal

safe harbor agreement program and CDFW has the authority to issue a consistency determination based on a federal safe harbor agreement. (CDFW, 2017a)

2. Natural Community Conservation Planning Act (NCCP)

CDFW's Natural Community Conservation Planning (NCCP) program takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP program began in 1991 as a cooperative effort to protect habitats and species. It is broader in its orientation and objectives than the California and Federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. (CDFW, 2017b)

An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Working with landowners, environmental organizations, and other interested parties, a local agency oversees the numerous activities that compose the development of an NCCP. CDFW and the U.S. Fish and Wildlife Service provide the necessary support, direction, and guidance to NCCP participants. (CDFW, 2017b)

There are currently 13 approved NCCPs (includes 6 subarea plans) and 22 NCCPs in the active planning phase (includes 10 subarea plans), which together cover more than 7 million acres and will provide conservation for nearly 400 special status species and a wide diversity of natural community types throughout California. (CDFW, 2017b)

3. California Fish and Game Code, Section 1600, et seq.

CFGC section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream, or lake. (CDFW, 2017c)

The CFGC indicates that "any river, stream or lake" includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. (CDFW, 2017c)

CDFW requires a Lake and Streambed Alteration (LSA) Agreement when it determines that the activity, as described in a complete LSA Notification, may substantially adversely affect existing fish or wildlife resources. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify a project that would eliminate or reduce harmful impacts to fish and wildlife resources. Before issuing an LSA Agreement, CDFW must comply with CEQA. (CDFW, 2017c)

4. Native Plant Protection Act (NPPA) of 1977

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations. (CDFW, 2017d)

5. Oak Woodlands Conservation Program

The Oak Woodlands Conservation Program offers landowners, conservation organizations, cities, and counties an opportunity to obtain funding for projects designed to conserve and restore California's oak woodlands. While the Program is statewide in nature, it provides opportunities to address oak woodland issues on a regional priority basis. The Program is designed to help local efforts achieve oak woodland protection and provides a mechanism to achieve sustainable ranch and farming operations and healthy oak woodlands. (WCB, 2017)

6. Unlawful Take or Destruction of Nests or Eggs (CFGC Sections 3503.5-3513)

Section 3503.5 of the CFGC specifically protects birds of prey, stating:

> *It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*

Section 3513 of the CFGC duplicates the federal protection of migratory birds, stating:

> *It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.*

7. Porter-Cologne Water Quality Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation. (SWRCB, 2014)

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous Non-Point Source (NPS)-related responsibilities, including monitoring and assessment, planning, financial assistance, and management. (SWRCB, 2014)

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of National Pollutant Discharge Elimination System (NPDES) permits for point source discharges and waste discharge requirements (WDRs) for NPS discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The SWRCB and the RWQCBs can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions. (SWRCB, 2014)

The Porter-Cologne Act also requires adoption of water quality control plans that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by the EPA, when approved they become water quality standards under the CWA. (SWRCB, 2014)

C. Regional and Local Regulations

1. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Western Riverside County MSHCP, a regional Habitat Conservation Plan (HCP), was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the USFWS, CDFW, and participating entities including the County of Riverside. The intent of the Western Riverside County MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the Western Riverside County MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the Western Riverside County MSHCP and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The Western Riverside County MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species.

Through agreements with the USFWS and the CDFW, the Western Riverside County MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the Western Riverside County MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through compliance with the Western Riverside County MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA.

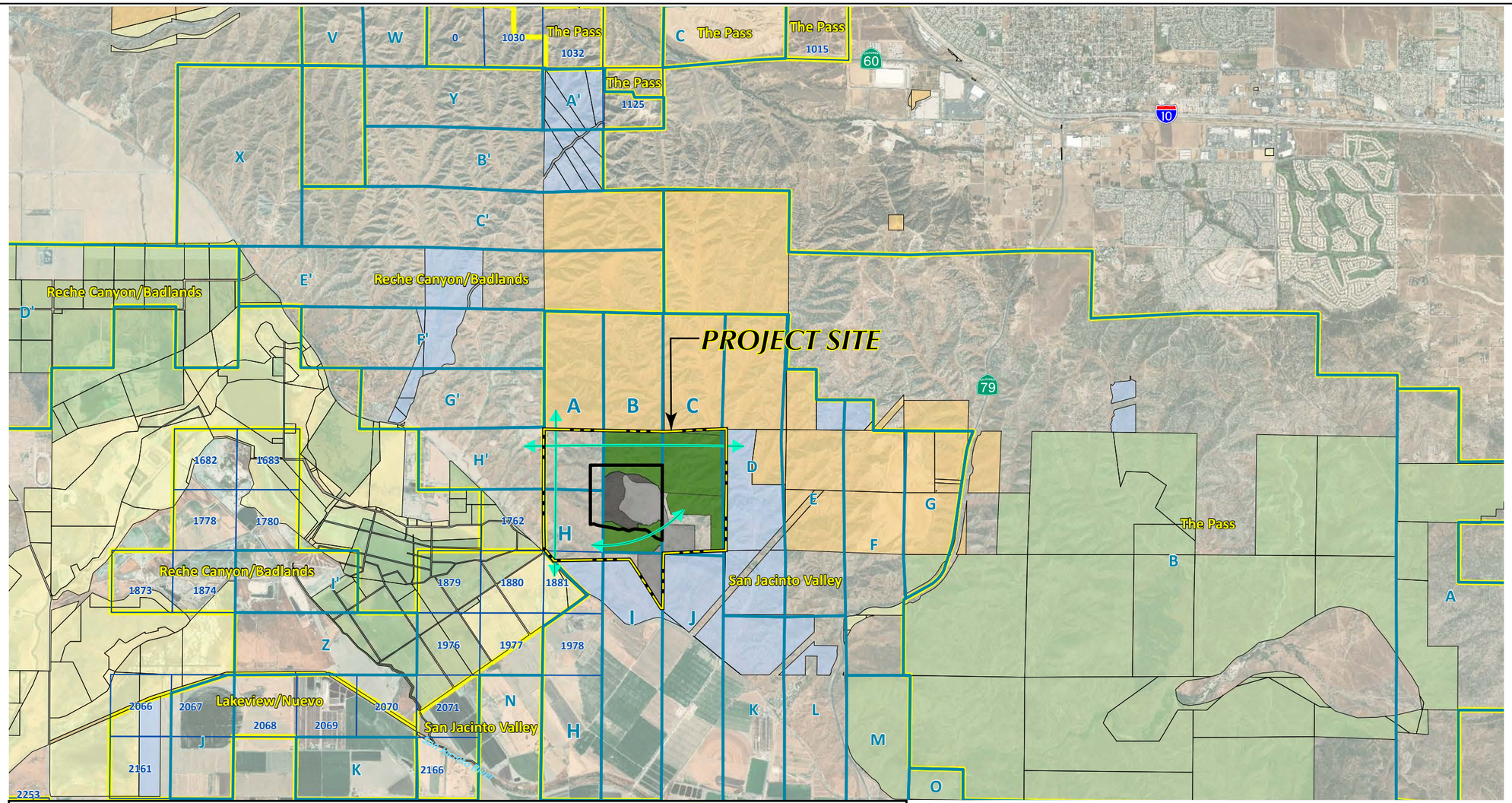
The entire Survey Area is within MSHCP Criteria Cells and Cell Groups as shown on Figure 4.3-3, *MSHCP Criteria Cells, Cores, and Linkages*. A breakdown of acreage for the Criteria Cells and Cell groups covering the Project site is provided in Table 5 of *Technical Appendix C1*. (Alden, 2019a, p. 20)

The Survey Area is in Subunit 1, Gilman Springs/Southern Badlands, in the San Jacinto Valley Area Plan of the MSHCP. The entire Survey Area is within Criteria Cells, and those cells are part of Cell Groups A, B, and H. The survey area is entirely within Proposed Core 3 (Figure 4.3-3). Therefore, the proposed Project is required to show MSHCP compliance through specific habitat assessments, applicable biological surveys, and the provision of an MSHCP consistency analysis. The entire Survey Area is within Criteria Cells, and those cells are part of Cell Groups B, C, and D (the proposed EDA is not within Cell Groups C or D, however). As shown on Figure 4.3-3, the Survey Area is entirely within Proposed Core 3. The Survey Area occurs in Criteria Cells 1591, 1592, 1687, 1688, 1632, 1784, 1785, and 1793 in Cell Groups B, C, and D. The Subunit and associated Cell Groups have specific planning species, biological concerns, and conservation criteria. (Alden, 2019a, p. 20)

Planning species are MSHCP covered species identified for which a given portion of the MSHCP Conservation habitat is specifically targeted to conserve. (Alden, 2019a, p. 20)

Planning species for Subunit 1 include the following: (Alden, 2019a, p. 21)

- arroyo toad
- Bell's sage sparrow
- burrowing owl
- cactus wren
- loggerhead shrike
- mountain plover
- Southern California rufous-crowned sparrow
- white-faced ibis
- bobcat
- Los Angeles pocket mouse
- mountain lion
- San Bernardino kangaroo rat
- Stephens' kangaroo rat
- Coulter's goldfields



Chandler Aggregates Property
Survey Area
Active Mine*
Proposed Mine Expansion Area*
Proposed MSHCP Conservation Area
Wildlife Movement

Conserved Land Ownership
County of Riverside
Department of Fish and Game Wildlife Conservation
State of California
Western Riverside County Regional Conservation Authority

MSHCP Plan Area Boundaries
Criteria Cells
Criteria Cell Group

* Active mine and proposed mine expansion areas will be reclaimed and revegetated.

Source(s): Alden Environmental, Inc. (02-06-2018)

NOT TO SCALE

Figure 4.3-3

MSHCP CRITERIA CELLS, CORES, AND LINKAGES

- Davidson's saltscale
- San Jacinto Valley crownscale
- spreading navarretia
- vernal barley
- Wright's trichocoronis

Biological issues and considerations for Subunit 1 include: (Alden, 2019a, p. 21)

- Conserve Willow-Domino-Travers soils supporting sensitive plants such as spreading navarretia, San Jacinto Valley crownscale, Coulter's goldfields, Davidson's saltscale, vernal barley and Wright's trichocoronis.
- Conserve intact upland Habitat in the southern Badlands for the benefit of burrowing owl, Bell's sage sparrow, raptors, and other species.
- Conserve open grasslands and sparse shrublands that support populations of Stephens' kangaroo rat, with a focus on suitable Habitat in the southern Badlands.
- Maintain Core Area for bobcat.
- Maintain Core and Linkage Habitat for mountain lion.
- Maintain Core Area for the San Bernardino kangaroo rat.
- Determine presence of potential Core Area for the Los Angeles pocket mouse along the San Jacinto River and its tributaries.

The criteria for conservation within Cell Group B, where proposed EDA would occur, would contribute to the assembly of Proposed Core 3 as listed in Table 6 of the BRA (*Technical Appendix C1*). (Alden, 2019a, p. 21)

Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the MSHCP Area and includes most of the Project site (see Figure 4.3-3). This Core consists mainly of private lands but also contains a few Public/Quasi-Public parcels including De Anza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21. As shown on Figure 4.3-3, the Survey Area and larger Mine site are not within any of these linkages; however, the proposed project provides MSHCP "Live-In" Habitat and connectivity between Cell Groups in Proposed Core 3 (see Figure 4.3-3 and BRA Figure 8 [*Technical Appendix C1*]). A linkage is defined in the MSHCP as a "connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for Live-In Habitat and/or provide for genetic flow for identified Planning Species." (Alden, 2019a, pp. 23-24)

Proposed Core 3 functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest MSHCP Core Areas. In addition, the Core is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of the Core. The Core has both a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by

existing agricultural use. Within the Core, important Live-In and movement Habitat is provided for Bell's sage sparrow, loggerhead shrike, cactus wren, Stephens' kangaroo rat, southern California rufous-crowned sparrow, and mountain lion, which have key populations in The Badlands. Management of edge conditions will be necessary in The Badlands to maintain high quality Habitat for these species in areas which may be affected by covered facilities including Lambs Canyon Road, San Timoteo Canyon Road, and Gilman Springs Road. Bell's sage sparrow, loggerhead shrike, and southern California rufous-crowned sparrow were observed in the project survey area. (Alden, 2019a, p. 24)

2. County of Riverside Ordinance No. 559

The purpose of Ordinance No. 559 is to ensure that the timberland of the County will be protected and the ecological balance of such timberlands will be preserved by regulating the removal of living native trees on parcels or property greater than one-half (1/2) acre in size and located in the unincorporated area of the County of Riverside above 5,000 feet in elevation. The Board of Supervisors further finds and declares that in view of the proximity of the timberlands to urban centers of expanding population, and the unique nature of the timberlands themselves, the Ordinance is necessary to protect and preserve such lands to serve the interests and provide for the welfare of the people of Riverside. (County of Riverside, 1977)

The Board of Supervisors of the County of Riverside ordained that no person shall remove any living native tree on any parcel or property greater than one-half acre in size, located in an area above 5,000 feet in elevation within the unincorporated area of the County of Riverside, without first obtaining a permit to do so, unless exempted by the provisions of Section 4 of the Ordinance. (County of Riverside, 1977)

3. Stephen's Kangaroo Rat Habitat Conservation Plan

The Stephen's Kangaroo Rat Habitat Conservation Plan (SKR HCP) was prepared under the direction of the Riverside County Habitat Conservation Agency (RCHCA) Board of Directors, in consultation with USFWS and CDFW. The County of Riverside is a member agency of the RCHCA. The 30-year SKR HCP was designed to acquire and permanently conserve, maintain, and fund the conservation, preservation, restoration, and enhancement of Stephens' kangaroo rat-occupied habitat. The SKR HCP covers approximately 534,000 acres within the member jurisdictions and includes an estimated 30,000 acres of occupied Stephens' kangaroo rat habitat. The SKR HCP requires members to preserve and manage 15,000 acres of occupied habitat in seven Core Reserves encompassing over 41,000 acres. (RCHCA, n.d.)

On May 3, 1996, the USFWS issued a permit to the Riverside County Habitat Conservation Agency to incidentally take the federally endangered Stephens' kangaroo rat (*Dipodomys stephensi*). Similarly, the CDFW issued a California Endangered Species Act Management Authorization for Implementation of the Stephens' kangaroo rat on May 6, 1996. To date, more than $50 million has been dedicated to the establishment and management of a system of regional preserves designed to ensure the survival of SKR in the plan area. This effort resulted in the permanent conservation of approximately 50% of the SKR-occupied habitat remaining in the HCP area. Through direct funding and in-kind contributions, SKR habitat in the regional reserve system is managed to ensure its continuing ability to support the species. Core reserves were deemed complete in December of 2003. (RCHCA, n.d.)

4. Riverside County Oak Tree Management Guidelines

The Riverside County Oak Tree Management Guidelines are intended to address the treatment of oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering. Generally, the Guidelines are intended to be most effective where minimum lot sizes of 2.5 acres or larger are required or where oak woodlands are concentrated in a relatively small portion of a project site. It is expected that most projects that follow the Guidelines will reduce project impacts on oak trees to a level of insignificance. The Guidelines require preparation of a biological study for properties that contain oak trees, and sets forth standards and requirements for avoiding oak trees and their protected zones.

4.3.4 Basis for Determining Significance

Section IV of Appendix G to the CEQA Guidelines addresses typical adverse effects to biological resources, and includes the following threshold questions to evaluate the Project's impacts to biological resources (OPR, 2018):

- Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Significance thresholds are set forth in EA No. 43079 (Riverside County's Environmental Assessment Checklist), and are derived from Section IV of Appendix G to the CEQA Guidelines (listed above), and state that the proposed Project would have a significant impact on biological resources if construction and/or operation of the Project would:

a. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan;

b. Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12);

c. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service;

d. 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;

e. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service;

f. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or

g. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The significance thresholds set forth in EA No. 43079 (as modified by the 2018 updates to Appendix G to the CEQA Guidelines) were used to evaluate the significance of the proposed Project's impacts on biological resources.

4.3.5 IMPACT ANALYSIS

Threshold a:	***Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan?***

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for western Riverside County that is intended to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats As discussed above in subsection 4.3.3.C.1, the Survey Area is located within the San Jacinto Valley Area Plan of the Western Riverside County MSHCP and is located within Subunit 1, Gilman Springs/Southern Badlands, in the San Jacinto Valley Area Plan of the MSHCP. The conservation consideration related to the Criteria Cells in Subunit 1 is that Subunit 1 contains a portion of Proposed Core 3. The Criteria Cells and Cell Groups affecting the Mine were previously presented on Figure 4.3-3. Table 4.3-4, *Conservation Criteria for MSHCP Cell Groups*, presents an analysis of the Project's consistency with the conservation criteria for the Cell Groups that would be affected by mining activities within the proposed 54.5-acre EDA. As shown, the Project would not conflict with the conservation criteria specified for Cell Groups B, C, or D. (Alden, 2019a, p. 21)

Table 4.3-4 Conservation Criteria for MSHCP Cell Groups

Cell Group	Cell Number	Cell Group Conservation Criteria
B	1496 (154.3 acres) 1590 (153.2 acres) 1687 (155.4 acres) 1784 (155.2 acres) Cells 1496 and 1590 are in the MSHCP Conservation Area (Figure 8)	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group C to the east and in Cell Groups A and H to the west and to chaparral, coastal sage scrub, grassland, riparian scrub, woodland and forest habitat proposed for conservation in Cell Group I to the south. Conservation within this Cell Group will range from 40%-50% of the Cell Group focusing in the southern portion of the Cell Group. The mapped Cell Group is 618.1 acres in size, including the existing mine that was permitted and active prior to the establishment and implementation of the MSHCP. Despite the presence of the active mine, the Cell Group conservation goal ranges from 247.24 acres to 309.05 acres (40%-50%) of the Cell Group, focused in the southern portion of the Cell Group. The remaining potential conservation area is 242.77 acres, which is less than the minimum conservation goal of 247.24 acres. The County owns the northern half (Cells 1496 and 1590) of the Cell Group (307.50 acres) and has identified all of this area to be conserved. This alone would essentially meet the upper end (50%) conservation goal for the Cell Group; however, the County has stated that the proposed mine expansion project could take none of this into account in its MSHCP Consistency Determination. The County has further stated that, while only occurring in approximately half of the Cell Group, the mine expansion project alone must meet the conservation goal for the entire Cell Group. As noted above, with the existing mine, the conservation goal in the southern half of the Cell Group is unattainable while still having a feasible project. Taking into account the existing mine and the mine expansion area, there are 184.73 acres available in the southern half of Cell Group B to count toward the conservation goal. The project applicant proposes to conserve the 184.73 acres within the southern half of Cell Group B and an additional 93.42 acres in adjacent Cell Groups C (78.61 acres) and D (14.81 acres), for a combined conservation total of 278.15 acres. There are no project impacts proposed within Cell Groups C or D, so this conservation would not be required for those Cell Groups. The conservation goal for Cell Group D has already been met so the 14.81 acres conserved for the project would not affect the conservation goals for the group. The project applicant also proposes to conserve an additional 151.86 acres within Cell Group C (conservation goal for Cell Group C will range from 20%-30% focusing in the southern portion of the Cell Group). This, combined with the 7.4 acres already conserved by the RCA, would provide for an overall 25% conservation of the Cell Group, well within the overall conservation goal for the group.

Table 4.3-4 Conservation Criteria for MSHCP Cell Groups (Cont'd)

C	1497 (162.1 acres) 1591 (158.3 acres) 1688 (155.9 acres) 1785 (159.2 acres) 7.4 acres of Cell 1785 is conserved by the Western Riverside County RCA.	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups B to the west, D to the east and J to the south. Conservation within this Cell Group will range from 20%-30% of the Cell Group focusing in the southern portion of the Cell Group. The proposed mine expansion would not affect Cell Group C. Rather, 78.61 acres of Cell Group C is proposed to be added to the MSHCP Conservation Area as part of the proposed project and would contribute to the assembly of Proposed Core 3 (Figure 7) along with land conserved by the Western Riverside County RCA (Figure 8). An additional 158.88 acres (25%) of Cell Group C also would be conserved to ensure that the Conservation Goals for Cell Group C are met, separate from the area used to comply with the Cell Group conservation goal. This includes the 7.4 acres already conserved by the RCA in the southern end of the group. Consequently, the overall conservation of the group will surpass the 20%-30% conservation goal.
D	1498 (165.8 acres) 1592 (162.0 acres) 1692 (153.7 acres) 1793 (157.0 acres) 1893 (156.3 acres) 160.9 acres of Cell 1592 is owned by Riverside County. 145.2 acres of Cell 1692 is conserved by the Western Riverside County RCA and Riverside County. 151.8 acres of Cell 1793 is conserved by the Western Riverside County RCA.	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, riparian scrub, woodland and forest habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group E to the east and in Cell Groups C and J to the west and to chaparral, coastal sage scrub and grassland habitat proposed for conservation in Cell Group K to the south. Conservation within this Cell Group will range from 25%-35% of the Cell Group focusing in the southern portion of the Cell Group. The proposed mine expansion would not affect Cell Group D. Rather, 14.8 acres of Cell Group D is proposed to be added to the MSHCP Conservation Area and would contribute to the assembly of Proposed Core 3 (Figure 7) along with land conserved by the Western Riverside County RCA and Riverside County (Figure 8). As the conservation goal for this group has already been met, this will not affect Cell Group D or the MSHCP preserve assembly.

(Alden, 2019a, Table 6)

An analysis of Project consistency with specific components of the MSHCP is presented below.

1. Project Consistency with MSHCP Reserve System

The proposed Project was subject to the Joint Project Review (JPR) process with Riverside County (JPRT 19-03-15-01), pursuant to the Habitat Acquisition and Negotiation Strategy (HANS) process as established by the MSHCP, and the Project's design reflects the results of the HANS process. Based on the proposed design of the EDA and the conservation areas agreed to as part of the JPR and HANS processes, the Project Applicant

would preserve 184.73 acres within the southern half of Cell Group B, and an additional 245.28 acres in adjacent Cell Groups C (230.47 acres) and D (14.81 acres), for a combined conservation total of 430.01 acres. As shown in Table 4.3-4, the Project would be fully consistent with the conservation criteria for MSHCP Cell Groups B, C, and D.

Of all the planning species for Subunit 1 listed in Section 4.3.3.C.1, the following species were observed in the Survey Area or have moderate to high potential to occur there. (Alden, 2019a, p. 27)

- Bell's sage sparrow
- burrowing owl
- loggerhead shrike
- Southern California rufous-crowned sparrow
- bobcat
- Los Angeles pocket mouse
- Stephens' kangaroo rat

Each of the biological issues and considerations for Subunit 1 is addressed below.

- Conserve Willow-Domino-Travers soils supporting sensitive plants such as spreading navarretia, San Jacinto Valley crownscale, Coulter's goldfields, Davidson's saltscale, vernal barley and Wright's trichocoronis.

Project Consistency: Willow-Domino-Travers soils are not present on the Mine property and therefore are not present in the EDA. (Alden, 2019a, p. 27)

- Conserve intact upland Habitat in the southern Badlands for the benefit of burrowing owl, Bell's sage sparrow, raptors, and other species.

Project Consistency: As explained in Table 4.3-4, the proposed Project is consistent with the criteria for conservation for the Cell Groups being impacted, and the Project proposes to place 430.1 acres in the MSHCP Conservation Area in Proposed Core 3 (refer to Figure 4.3-3). This includes 278.15 acres to meet the Cell Group B conservation goals and 151.86 acres to meet the Cell Group C goals. Furthermore, over the
long term, all of the mined land would be reclaimed and revegetated. (Alden, 2019a, p. 27)

- Conserve open grasslands and sparse shrublands that support populations of Stephens' kangaroo rat, with a focus on suitable Habitat in the southern Badlands.

Project Consistency: Stephens' kangaroo rat presence is documented to the east, west, north, and south of Survey Area mostly along open ridge lines and in low-lying, flatter, disturbed, annual grasslands. Therefore, it has high potential to occur in non-native grassland in the Survey Area. The proposed EDA would impact 8.9 acres (35 percent) of the non-native grassland in the Survey Area, but the impact is

consistent with the criteria for conservation for the Cell Groups as explained in Table 4.3-4. Furthermore, over the long term, all of the mined land would be reclaimed and revegetated. (Alden, 2019a, pp. 27-28)

- Maintain Core Area for bobcat.

Project Consistency: The proposed Project is consistent with the criteria for conservation for the Cell Groups being impacted. (Alden, 2019a, p. 28)

- Maintain Core and Linkage Habitat for mountain lion.

Project Consistency: The proposed Project is consistent with the criteria for conservation for the Cell Groups being impacted. (Alden, 2019a, p. 28)

- Maintain Core Area for the San Bernardino kangaroo rat.

Project Consistency: There is no suitable habitat for this species in the Survey Area. (Alden, 2019a, p. 28)

- Determine presence of potential Core Area for the Los Angeles pocket mouse along the San Jacinto River and its tributaries.

Project Consistency: The Survey Area is not along the San Jacinto River or its tributaries. (Alden, 2019a, p. 28)

The Survey Area occurs at the southwestern portion of Proposed Core 3 (see Figure 4.3-3). The proposed EDA would not exceed the allowable impacts in Cell Group B such that conservation may occur consistent with the MSHCP that would contribute to the assembly of Proposed Core 3. As part of the Project, 430.01 acres are proposed to be placed in the MSHCP Conservation Area in Proposed Core 3 (refer to Figure 4.3-3). Therefore, the proposed Project is consistent with the conservation goals of Subunit 1 of the San Jacinto Valley Area Plan. Moreover, over the long term, all of the mined land would be reclaimed and vegetated. (Alden, 2019a, p. 28)

2. Consistency with MSHCP Section 6.1.2

The proposed EDA complies with the policies of Section 6.1.2 that protect species associated with Riparian/Riverine and Vernal Pool Habitats. None of the plant or animal species listed in Section 6.1.2 was observed by Alden or is expected to occur in the Survey Area. (Alden, 2019a, p. 28)

Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, states:

> *"The purpose of the procedures described in this section is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that Habitat values for species inside the MSHCP Conservation Area are maintained."* (Alden, 2019a, p. 28)

Section 6.1.2 of the MSHCP focuses on protection of Riparian/Riverine areas and Vernal Pool Habitats capable of supporting MSHCP Covered Species, particularly within the identified Conservation Area. The functions of the ephemeral streams in the Survey Area are primarily water conveyance, sediment transport, and energy dissipation (hydrologic regime and flood attenuation). These drainages are considered to have limited value because: (Alden, 2019a, pp. 28-29)

- They do not have habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby freshwater source;
- They are ephemeral in nature, flowing only during and immediately after storm events; and
- They do not support any of the species targeted for conservation under Section 6.1.2.

The proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (refer to Figure 4.3-2). The proposed EDA was designed to occur west of the northwestern portion of the active mine in order to avoid impacting Riparian/Riverine habitats that are more numerous to the east of the active mine. Nonetheless, impacts to Riparian/Riverine resources would be potentially significant and would require mitigation in the form of off-site purchase of credits from an approved Mitigation Bank(s). (Alden, 2019a, p. 29)

3. Consistency with MSHCP Section 6.1.3

In compliance with Section 6.1.3, the proposed EDA would not affect any Narrow Endemic Plant Species, because no such species are expected to occur in the Survey Area. The Survey Area is not within a NEPSSA. No impact would occur. (Alden, 2019a, p. 29)

4. Consistency with MSHCP Section 6.1.4

The Project has the potential to result in indirect impacts to the MSHCP conservation area because the EDA is surrounded by lands targeted for conservation by the MSHCP, and indirect impacts of the Project have the potential to adversely affect areas to be conserved. Although no new lighting is proposed as part of the Project, Project-related mining has the potential to adversely affect areas proposed for the MSHCP Conservation Area. Additionally, a potential indirect impact to proposed MSHCP Conservation Areas could occur if invasive species were to be utilized in the reclamation seed mix. Drainage-related impacts to the proposed MSHCP Conservation Areas would be precluded by mandatory compliance with the Project's NPDES permit. The Project does, however, have the potential to indirectly impact the proposed MSHCP Conservation Areas with excessive dust.

With respect to indirect noise impacts, an analysis was conducted by the Project's acoustical engineer (Urban Crossroads, Inc.) to evaluate the Project's potential to expose areas proposed to be added to the MSHCP Conservation Areas as part of the Project to noise levels that exceed the County's 65 dBA Leq exterior noise level standard for residential land uses. To describe the potential Project noise levels within the proposed MSHCP Conservation Areas, several MSHCP noise receiver locations were identified for further analysis. As

shown on Table 4.3-4, *Conservation Criteria for MSHCP Cell Groups*, twelve MSHCP receiver locations were evaluated as part of the analysis. The noise level calculations describe the noise levels associated with the peak Project mining activities with operations at the limits of the proposed EDA. (Urban Crossroads, 2020c)

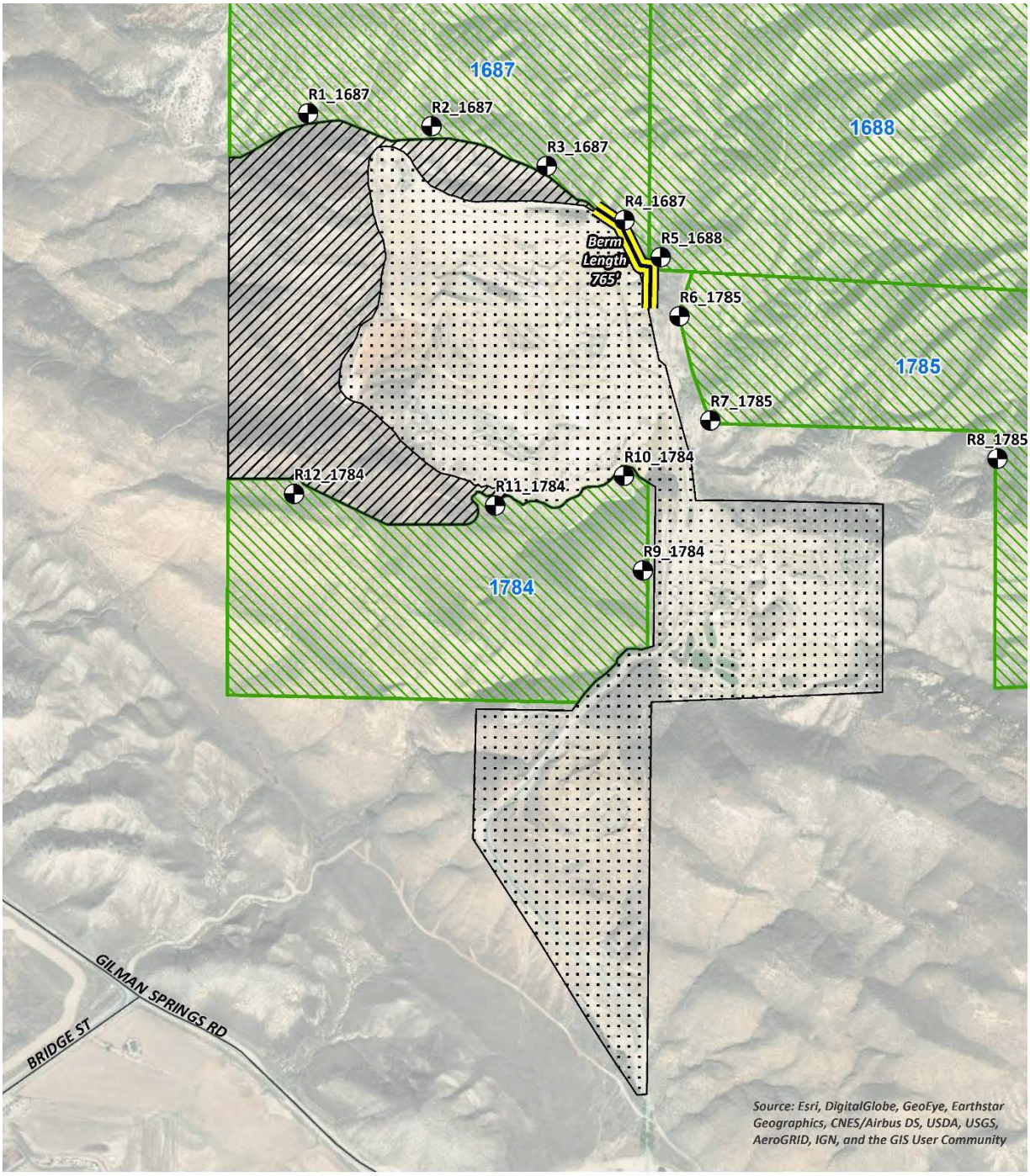
Table 4.3-5, *MSHCP Conservation Area Noise Level Compliance*, presents a summary of the estimated MSHCP noise levels at each of the twelve noise receiver locations. As shown on Table 4.3-5, the Project-related noise levels are expected to range from 62.0 to 64.9 dBA Leq with the construction of the recommended 12-foot high berm near receiver locations R4 and R5, as depicted on Table 4.3-5. The analysis shows that the Project-related operational noise levels would satisfy the 65 dBA Leq exterior noise level threshold identified for the potentially sensitive habitat areas in the Project study area. However, because a berm is required to ensure that receiver locations R4 and R5 are not exposed to noise levels exceeding 65 dBA Leq, the Project has the potential to conflict with MSHCP Section 6.1.4 and indirect impacts would be potentially significant prior to mitigation. (Alden, 2019a, pp. 30-31; Urban Crossroads, 2020c)

Table 4.3-5 MSHCP Conservation Area Noise Level Compliance

Receiver Location[1]	Noise Level at Receiver Locations (dBA L_{eq})[2]	Threshold[3]	Threshold Exceeded?[4]
R1_1687	60.7	65.0	No
R2_1687	52.4	65.0	No
R3_1687	51.5	65.0	No
R4_1687	53.7	65.0	No
R5_1688	60.8	65.0	No
R6_1785	51.8	65.0	No
R7_1785	42.0	65.0	No
R8_1785	27.8	65.0	No
R9_1784	57.1	65.0	No
R10_1784	58.4	65.0	No
R11_1784	62.4	65.0	No
R12_1784	58.3	65.0	No

1. See Table 4.3-4 for the MSHCP Conservation Area cells, Project limits and receiver locations.
2. Estimated exterior noise levels from peak Project mining operations with activity at the limits of the project site boundary.
3. County of Riverside exterior noise threshold for noise sensitive residential land use.
4. Do the estimated Project operational noise levels satisfy the noise level threshold?

(Urban Crossroads, 2020c, Table 9-6)



Source(s): Urban Crossroads (01-09-2020)

NOT TO SCALE

Figure 4.3-4
PROPOSED MSHCP CONSERVATION AREA NOISE RECEIVER LOCATIONS

5. Consistency with MSHCP Policy Section 6.3.2

In compliance with MSHCP Section 6.3.2, a Focused Burrow Survey (Step II, Part A of the Survey Instructions) and Focused Burrowing Owl Survey (Step II, Part B) were conducted in March and April 2018, the results of which are presented in Appendix C to the BRA (*Technical Appendix C1*). No burrowing owls, evidence of owl presence (casts, feathers, etc.), artificial refugia, perches, rock crevices, debris piles, or potential owl burrows were observed within the potential burrowing owl habitat in the Survey Area. Based on the lack of potential burrows and evidence of occupation, the Survey Area is not considered to be occupied by the burrowing owl. (Alden, 2019a, p. 30 and Appendix C, p. 3)

Nonetheless, all project sites containing burrows or suitable habitat (based on Step I/Habitat Assessment), whether owls were found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls (MSHCP Species-Specific Objective 6). This is evaluated as a significant impact prior to mitigation. (Alden, 2019a, p. 30)

6. Project Consistency with MSHCP Section 6.4 (Fuels Management)

There is no fuel management associated with the proposed Project; therefore, the Project would not have the potential to conflict with MSHCP Section 6.4, and impacts would be less than significant. (Alden, 2019a, p. 31)

7. Conclusion

The Project would not conflict with the assemblage of the MSHCP Reserve System. The proposed Project was subject to the Joint Project Review (JPR) process with Riverside County (JPRT 19-03-15-01), pursuant to the Habitat Acquisition and Negotiation Strategy (HANS) process as established by the MSHCP, and the Project's design reflects the results of the HANS process. Based on the proposed design of the EDA and the conservation areas agreed to as part of the JPR and HANS processes, the Project Applicant would preserve 184.73 acres within the southern half of Cell Group B, and an additional 245.28 acres in adjacent Cell Groups C (230.47 acres) and D (14.81 acres), for a combined conservation total of 430.01 acres. As shown in Table 4.3-4, the Project would be fully consistent with the conservation criteria for MSHCP Cell Groups B, C, and D. The Project would, however, result in impacts to 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are DFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (See Figure 4.3-2), which are Riparian/Riverine resources pursuant to MSHCP Section 6.1.2; thus, Project impacts to Riparian/Riverine resources represent a significant direct impact of the proposed Project. The Project has the potential to result in indirect impacts to MSHCP conserved lands, which represents a significant impact due to a conflict with MSHCP Section 6.1.4. The Project also has the potential to impact burrowing owls, should the site become occupied prior to initial ground disturbance, and this represents a potentially significant impact due to a conflict with MSHCP Section 6.3.2. The Project would be consistent with, or otherwise would not conflict with, the provisions of MSHCP Sections 6.1.3 and 6.4.

Threshold b:	***Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?***
Threshold c:	***Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service?***

The list of plants designated by the Fish and Game Commission as endangered, threatened, or rare is contained in the California Code of Regulations, Title 14, as Section 670.2. Threatened, Endangered, or Candidate Species includes all species listed by the California Fish and Game Commission (see Title 14 CCR, Section 670.5), and by the federal government under the Endangered Species Act (ESA). Title 50 Code of Federal Regulations Section 17.11 covers endangered and Threatened Wildlife. Title 50 Code of Federal Regulations covers Endangered and Threatened Plants.

❑ Sensitive Plants

Plummer's mariposa lily has moderate potential to occur in the Survey Area as described in subsection 4.3.2.E.1. If it is present, potential impacts to Plummer's mariposa lily could be significant. Plummer's mariposa lily is an MSHCP-Covered Species that is not State- or federally-listed and has a California Native Plant Society (CNPS) Rare Plant Rank of 4.2. Per the MSHCP, conservation for this species will be achieved by inclusion of at least 167,580 acres of suitable Conserved Habitat (Objective 1) and eight known localities within large blocks of habitat in the MSHCP Conservation Area (Objective 2). In addition, implementation of Objective 3 for this species will provide new data to guide Reserve Assembly, management, and monitoring. The Project proposes to conserve 430.01 acres with potentially suitable chaparral and sage scrub habitat with rocky soils in Cell Groups B, C, and D (which are in the San Jacinto Mountains foothills) consistent with Objective 1 for conservation of the species. As such, and with the proposed conservation of 430.1 acres within the Mine site, impacts to sensitive plants would be less than significant. (Alden, 2019a, p. 31)

❑ Sensitive Animals

Coast horned lizard, coastal whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, coastal California gnatcatcher, San Diego black-tailed jackrabbit, and San Diego desert woodrat were observed in the survey area (see Figure 4.3-1). All of these species are covered under the MSHCP and do not require species-specific mitigation. As such, impacts to sensitive animals would be less than significant with mandatory payment of MSHCP fees. Impacts to nesting bird species protected by the MBTA and/or California Fish and Game Code are addressed separately below. (CDFW, 2017a, p. 32)

❑ Habitat Modification

Table 4.3-6, *Impacts to Vegetation Communities*, provides a summary of proposed impacts to vegetation communities. The proposed Project would directly impact six vegetation communities, including 0.15 acre of

impact to tamarisk scrub, 19.5 acres of impacts to chamise chaparral, 1.4 acres of impact to Riversidean sage scrub, *Artemisia californica*-dominated, 20.3 acres of impact to Riversidean sage scrub, *Encelia farinosa*-dominated, 0.8 acre of impact to Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed, 8.9 acres of impact to non-native grassland, and 3.4 acres of impact to disturbed land. Habitats on site have the potential to support a wide range of plants and animals, although all sensitive plant and animal species observed on site are covered by the MSHCP. However, the removal of habitat by the proposed Project would be fully mitigated through mandatory compliance with the biological requirements of the MSHCP (as discussed above under the analysis of Threshold a.). Furthermore, the Project Applicant would dedicate a total of 430.01 acres to the MSHCP reserve, which would more than compensate for the 54.5 acres that would be disturbed as part of the Project. As such, Project impacts to sensitive habitats would be less than significant.

❑ Nesting Birds

Clearing of habitat for the proposed mine expansion could disturb or destroy active migratory bird nests including eggs and young. The Project has the potential to impact nesting birds if vegetation is removed during the nesting season (February 1 through August 31). Disturbance to or destruction of migratory bird eggs, young, or adults of any species protected by the MBTA and/or California Fish and Game Code is in violation of the MBTA and/or or California Fish and Game Code and is, therefore, considered to be a potentially significant impact. (Alden, 2019a, p. 31)

Table 4.3-6 Impacts to Vegetation Communities

Vegetation Community	Acreage Impacted
Tamarisk scrub	0.15
Chamise chaparral	19.5
Chamise chaparral-disturbed	--
Chamise chaparral/Riversidean sage scrub, *Encelia farinosa*-dominated	--
Scrub oak chaparral	--
Riversidean sage scrub	--
Riversidean sage scrub, *Artemisia californica*-dominated	1.4
Riversidean sage scrub, *Encelia farinosa*-dominated	20.3
Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed	0.8
Non-native grassland	8.9
Disturbed habitat	3.4
TOTAL	**54.5[1]**

[1]Total reflects rounding.
(Alden, 2019a, Table 7)

Threshold d:	***Would the Project 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?***

The EDA does not contain any water bodies that could support fish; therefore, there is no potential for the Project to interfere with the movement of any resident or migratory fish.

Wildlife movement corridors in Western Riverside County are addressed by the conservation requirements specified in the Western Riverside County MSHCP. The Project site occurs within Core 3 of the MSHCP and is not identified within any linkages or constrained linkages, therefore, under the MSHCP, the Project site is not identified as part of a wildlife movement linkage or corridor. Additionally, there are no wildlife nursery sites within the Project site or surrounding areas. As such, impacts to wildlife movement corridors would be less than significant.

The expansion of the Project's mining activities has the potential to impact bird species protected by the MBTA that may utilize the currently undisturbed 54.5-acres. The Project has the potential to impact nesting birds if vegetation is removed during the nesting season (February 1 through August 31). Impacts to nesting birds are prohibited by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Thus, prior to mitigation, impacts would be potentially significant.

Threshold e:	***Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?***
Threshold f:	***Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Federal Jurisdictional Waters

Mining within the proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS (refer to Figure 4.3-2). This impact is considered significant and a Section 404 CWA permit would be required. The Project would not, however, result in impacts to federally-protected wetlands, as no federally-protected wetlands occur within the Survey Area. (Alden, 2019a, p. 26)

CDFW Jurisdictional Waters

Mining within the proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (refer to Figure 4.3-2). These impacts are considered significant prior to mitigation. Impacts to CDFW jurisdictional habitats would require a section 1602 Lake and Streambed Alteration Agreement with the CDFW. (Alden, 2019a, p. 28)

Sensitive Natural Communities

As previously shown on Table 4.3-6, the proposed Project would permanently impact approximately 54.5 acres of habitat, including 0.15 acre of tamarisk scrub, 19.5 acres of chamise chaparral, 1.4 acres of Riversidean sage scrub, *Artemisia californica*-dominated, 20.3 acres of Riversidean sage scrub, *Encelia farinosa*-dominated, 0.8 acre of Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed, 8.9 acres of non-native grassland, and 3.4 acres of disturbed habitat. The removal of habitat by the proposed Project would be fully mitigated through mandatory compliance with the biological requirements of the MSHCP (as discussed above under the analysis of Threshold a.), including the proposed conservation of 430.1 acres of the overall Mine area. Therefore, Project impacts to sensitive natural communities would be less than significant.

Threshold g: ***Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

Other than the Western Riverside County MSHCP, which is addressed above under the analysis for Threshold a., the only local policies or ordinances protecting biological resources within the EDA are County Ordinance No. 559 (Regulating the Removal of Trees), the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), and the County's Oak Tree Management Guidelines.

As noted in Subsection 4.3.2, Ordinance No. 559 pertains to parcels or property located above 5,000 feet in elevation. As discussed above in Subsection 4.3.2, elevations in the Survey Area range from approximately 1,878 to 2,202 amsl. Therefore, because the Project site does not reach an elevation of 5,000 feet, Ordinance No. 559 is not applicable to the Project site and no impact would occur.

Although the Project site is located within the purview of the SKR HCP, the Project site is not targeted for conservation by the SKR HCP. For projects located outside of the targeted conservation area, payment of fees is required. The Project would be subject to fee payment pursuant to Riverside County Ordinance No. 663. Because the Project is not targeted for conservation by the SKR HCP, and because the Project would be required to pay fees pursuant to Ordnance No. 663, the Project's impacts due to a conflict with the SKR HCP would be less than significant. (RCHCA, n.d., Figure S-1)

The Survey Area does not contain any oak trees, as shown in Table 4.3-1. Therefore, the Project has no potential to result in a conflict with the County's Oak Tree Management Guidelines.

Thus, because the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, no impact would occur as a result of implementation of the Project.

4.3.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the Project in conjunction with other development projects in the geographic area covered by the Western Riverside County MSHCP based on a summary of projections approach resulting from full General Plan buildout in Riverside County and other jurisdictions in the region within the boundaries of the Western Riverside County MSHCP. The primary effects of the

proposed Project, when considered with the build out of long-range plans in the geographic area covered by the Western Riverside County MSHCP, would be the cumulative loss of habitat for sensitive species.

Threshold a

Anticipated cumulative impacts to biological resources are addressed within the Western Riverside County MSHCP cumulative study area. The Western Riverside County MSHCP, as currently adopted, addresses 146 "Covered Species" that represent a broad range of habitats and geographical areas within Western Riverside County, including threatened and endangered species and regionally- or locally-sensitive species that have specific habitat requirements and conservation and management needs. The Western Riverside County MSHCP addresses biological impacts for take of Covered Species within the MSHCP area. Impacts to Covered Species and establishment and implementation of a regional conservation strategy and other measures included in the Western Riverside County MSHCP address the federal, state, and local mitigation requirements for these species and their habitats. Specifically, Section 4.4 of the Western Riverside County MSHCP states that:

> *"The MSHCP was specifically designed to cover a large geographical area so that it would protect numerous endangered species and habitats throughout the region. It is the projected cumulative effect of future development that has required the preparation and implementation of the MSHCP to protect multiple habitats and multiple endangered species.*"

It goes on to state that:

> *"The LDMF [Local Development Mitigation Fee] is to be charged throughout the Plan Area to all future development within the western part of the County and the Cities in order to provide a coordinated conservation area and implementation program that will facilitate the preservation of biological diversity, as well as maintain the region's quality of life.*"

The reason for the imposition of the Mitigation Fee over the entire region is that the loss of habitat for endangered species is a regional issue resulting from the cumulative effect of continuing development throughout all of the jurisdictions in Western Riverside County. Finally, Section 5.1 of the Western Riverside County MSHCP states that:

> *"It is anticipated that new development in the Plan Area will fund not only the mitigation of the impacts associated with its proportionate share of regional development, but also the impacts associated with the future development of more than 332,000 residential units and commercial and industrial development projected to be built in the Plan Area over the next 25 years."*

Cumulative impacts to biological resources, with the exception of impacts to MSHCP non-covered species, would be less than significant on a cumulative basis provided that the terms of the MSHCP are fully implemented (MSHCP Final EIR/EIS, Section 4.4.1.6). As indicated in the analysis of Thresholds b. and c., the Project would not result in any impacts to MSHCP non-covered species.

As indicated under the analysis of Threshold a., the Project would not conflict with the conservation criteria for MSHCP Cell Groups that affect the EDA. Other developments in the region similarly would be required to demonstrate consistency with the MSHCP conservation criteria. Thus, cumulatively-considerable impacts due to a conflict with the MSHCP Reserve Assembly would be less than significant.

The proposed Project has the potential to result in indirect impacts to MSHCP conserved lands, which represents a conflict with MSHCP Section 6.1.4. Other developments in the cumulative study area that are adjacent to MSHCP conserved lands similarly would have the potential to result in indirect impacts to MSHCP conserved lands. Accordingly, the Project's potential conflict with MSHCP Section 6.1.4 represents a cumulatively-considerable impact prior to mitigation.

Mining within the proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are DFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (See Figure 4.3-2), which are Riparian/Riverine resources pursuant to MSHCP Section 6.1.2. Other developments within the MSHCP region also have the potential to impact MSHCP Riparian/Riverine Features. Therefore, the Project's impacts due to a potential conflict with MSHCP Section 6.1.2 would be cumulatively considerable prior to mitigation.

The Western Riverside County MSHCP database was consulted for the proposed Project and the required focused surveys for the western burrowing owl have been conducted. Although no burrowing owls, evidence of owl presence (casts, feathers, etc.), artificial refugia, perches, rock crevices, debris piles, or potential owl burrows were observed within the potential burrowing owl habitat in the Survey Area, there is a potential the site could become occupied by the burrowing owl prior to initial ground disturbance. This is common for sites throughout western Riverside County. Accordingly, the Project's potential impacts to the burrowing owl would represent a cumulatively-considerable impact due to a conflict with MSHCP Section 6.3.2.

The Project Applicant is required to pay the required MSHCP mitigation fees pursuant to the Western Riverside County Multiple Species Habitat Conservation Plan Mitigation Fee Ordinance (Riverside County Ordinance No. 810.2). Except as noted above, the Project would comply with the requirements of the Western Riverside County MSHCP and, thus, would not conflict with its adopted policies. Accordingly, because the proposed Project is required to comply with the Western Riverside County MSHCP and pay the required MSHCP mitigation fee, the Project would have less-than-significant cumulatively considerable impacts to MSHCP covered species.

Thresholds b and c

No sensitive plant species have been observed in the survey area to date. There is one sensitive plant species (Plummer's mariposa lily) that has been reported to the CNDDB in the vicinity of the Chandler Aggregates property. However, the Project's Study Area is not in an MSHCP survey area for the species. Thus, Project impacts to sensitive plants would be less-than-cumulatively considerable.

Coast horned lizard, coastal whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, coastal California gnatcatcher,

San Diego black-tailed jackrabbit, and San Diego desert woodrat were observed in the Survey Area. All of these species are covered under the MSHCP and do not require species-specific mitigation. Thus, Project impacts to these species would be less-than-cumulatively considerable.

Project implementation would result in the removal of 54.5-acres of native, non-native, and disturbed habitat. Although some of the habitat that would be removed has the potential to support sensitive plant and/or animal species, the removal of habitat by the proposed Project would be fully mitigated through mandatory compliance with the biological requirements of the MSHCP. Furthermore, the Project Applicant would dedicate a total of 430.01 acres to the MSHCP reserve, which would more than compensate for the 54.5 acres that would be disturbed as part of the Project. Other developments within the MSHCP region similarly would be required to comply with the requirements of the MSHCP, including the dedication of land to the MSHCP reserve, if applicable. Therefore, impacts due to habitat modification would be less-than-cumulatively considerable.

Clearing of habitat for the proposed EDA could disturb or destroy active migratory bird nests including eggs and young, which are regulated by the MBTA and/or California Fish and Game Code. Other cumulative developments in the MSHCP region also would have the potential to result in impacts to migratory bird nests, including eggs and young. Accordingly, the Project's potential impacts to migratory and nesting birds would be cumulatively-considerable and significant prior to mitigation.

Threshold d

The EDA does not contain any water bodies that could support fish; therefore, there is no potential for the Project to interfere with the movement of any resident or migratory fish on a direct or cumulatively-considerable basis.

Wildlife movement corridors in Western Riverside County are addressed by the conservation requirements specified in the Western Riverside County MSHCP. The Project site is not targeted as a wildlife movement corridor or linkage under the MSHCP, and with mitigation would comply with all provisions of the MSHCP. Other developments in the MSHCP region similarly would be required to comply with all provisions of the MSHCP, including conservation requirements related to the establishment of wildlife movement corridors or linkages. Accordingly, Project impacts to wildlife movement would be less-than-cumulatively considerable.

The Project has the potential to impact migratory nesting birds if vegetation is removed during the nesting season (February 1 through August 31). Impacts to nesting birds are prohibited by the MBTA and California Fish and Game Code. Other cumulative developments in the MSHCP region also have the potential to impact nesting birds during the nesting season. Thus, prior to mitigation, Project impacts to migratory birds protected by the MBTA would be cumulatively considerable.

Thresholds e and f

The Project would impact 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS (refer to Figure 4.3-2). Mining within the proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well

as 0.15 acre of tamarisk scrub riparian habitat (refer to Figure 4.3-2). Other developments in the region also could result in impacts to jurisdictional drainages. Thus, Project impacts to jurisdictional drainages within the EDA represent a cumulatively-considerable impact for which mitigation would be required. Project impacts to sensitive vegetation communities on site would be fully mitigated through compliance with the MSHCP and payment of required MSHCP fees, and would therefore be less-than-cumulatively considerable.

Threshold g

Aside from the MSHCP which is addressed under Threshold a., Ordinance No. 559 is not applicable to the Project, and thus the Project has no potential to conflict with this ordinance. The Project site is not targeted for conservation under the SKR HCP; thus, the Project Applicant would be subject only to fees pursuant to County Ordinance No. 663. Other cumulative developments within the SKR HCP area similarly would be required to pay fees or otherwise would be required to comply with the provisions of the SKR HCP. Additionally, the Project site contains no oak trees and therefore the Project has no potential to conflict with the Riverside County Oak Tree Management Guidelines. Accordingly, cumulatively-considerable impacts due to a conflict with a policy or ordinances protecting biological resources would be less than significant.

4.3.7 Significance of Impacts Before Mitigation

Threshold a: Significant Direct and Cumulatively-Considerable Impact. The proposed Project would be consistent with the MSHCP conservation requirements with the proposed dedication of 430.1 acres to the MSHCP Conservation Area in Proposed Core 3. The proposed EDA would not exceed the allowable impacts in Cell Group B such that conservation may occur consistent with the MSHCP that would contribute to the assembly of Proposed Core 3. However, mining within the proposed EDA would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (refer to Figure 4.3-2); these impacts to MSHCP Riparian/Riverine resources represents a direct and cumulatively-considerable impact of the proposed Project. The Project also has the potential to result in indirect impacts to lands targeted for conservation by the MSHCP, including due to noise, which represents a significant impact due to a conflict with MSHCP Section 6.1.4. Additionally, the proposed EDA could be occupied by the burrowing owl prior to initial ground-disturbing activities, which could result in impacts to burrowing owls in conflict with MSHCP Section 6.3.2; thus, impacts would be significant prior to mitigation.

Threshold b and Threshold c: Significant Direct and Cumulatively-Considerable Impact. Plummer's mariposa lily has moderate potential to occur in the Survey Area as described in subsection 4.3.2.E.1. The Project proposes to conserve 430.01 acres with potentially suitable chaparral and sage scrub habitat with rocky soils in Cell Groups B, C, and D (which are in the San Jacinto Mountains foothills) consistent with Objective 1 for conservation of the species. As such, and with the proposed conservation of 430.1 acres within the Mine site, impacts to sensitive plants would be less than significant.

Coast horned lizard, coastal whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, coastal California gnatcatcher, San Diego black-tailed jackrabbit, and San Diego desert woodrat were observed in the survey area (see Figure

4.3-1). All of these species are covered under the MSHCP and do not require species-specific mitigation. As such, impacts to sensitive animals would be less than significant with mandatory payment of MSHCP fees.

The proposed Project would directly impact six vegetation communities, including 0.15 acre of impact to tamarisk scrub, 19.5 acres of impacts to chamise chaparral, 1.4 acres of impact to Riversidean sage scrub, *Artemisia californica*-dominated, 20.3 acres of impact to Riversidean sage scrub, *Encelia farinosa*-dominated, 0.8 acre of impact to Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed, 8.9 acres of impact to non-native grassland, and 3.4 acres of impact to disturbed land. Habitats on site have the potential to support a wide range of plants and animals, although all sensitive plant and animal species observed on site are covered by the MSHCP. However, the removal of habitat by the proposed Project would be fully mitigated through mandatory compliance with the biological requirements of the MSHCP (as discussed above under the analysis of Threshold a.). As such, Project impacts to sensitive habitats would be less than significant.

Clearing of habitat for the proposed EDA could disturb or destroy active migratory bird nests including eggs and young during the nesting season (February 1 to August 31). Disturbance to or destruction of migratory bird eggs, young, or adults of any species protected by the MBTA and/or California Fish and Game Code is in violation of the MBTA and/or or California Fish and Game Code and is, therefore, considered to be a potentially significant impact on both a direct and cumulative basis.

Threshold d: Significant Direct and Cumulatively-Considerable Impact. Although the Project would not affect any native wildlife nursery sites and would be consistent with the MSHCP which provides for wildlife corridors and linkages, the Project has the potential to impact nesting migratory birds if active nests are disturbed during the nesting season (February 1 to August 31). This represents a potentially direct and cumulatively-considerable impact.

Thresholds e and Threshold f: Significant Direct and Cumulatively-Considerable Impact. The Project would result in the direct loss of 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS (refer to Figure 4.3-2). The Project also would impact 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat (refer to Figure 4.3-2). Impacts to State and federal jurisdictional waters represents a significant impact for which mitigation would be required.

The proposed Project would permanently impact approximately 54.5 acres of habitat, including 0.15 acre of tamarisk scrub, 19.5 acres of chamise chaparral, 1.4 acres of Riversidean sage scrub, *Artemisia californica*-dominated, 20.3 acres of Riversidean sage scrub, *Encelia farinosa*-dominated, 0.8 acre of Riversidean sage scrub, *Encelia farinosa*-dominated-disturbed, 8.9 acres of non-native grassland, and 3.4 acres of disturbed habitat. The removal of habitat by the proposed Project would be fully mitigated through mandatory compliance with the biological requirements of the MSHCP (as discussed above under the analysis of Threshold a.), including the proposed conservation of 430.1 acres of the overall Mine area. Therefore, Project impacts to sensitive natural communities would be less than significant.

Threshold g: No Impact. Other than the Western Riverside County MSHCP which is addressed under Threshold a., the Project would not conflict with any policies or ordinances protecting biological resources,

including Riverside County Ordinance No. 559; the SKR HCP and Riverside County Ordinance No. 663; and the Riverside County Oak Tree Management Guidelines. No impact would occur.

4.3.8 Applicable Regulations, Design Requirements, and Mitigation

A. Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- The Project Applicant shall comply with County of Riverside Ordinance No. 810 (Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Fee Program Ordinance), which requires a per-acre local development impact and mitigation fee payment.

- The Project Applicant shall comply with County of Riverside Ordinance No. 663 (Stephens' Kangaroo Rat Mitigation Fee Ordinance) which requires a per-acre local development and mitigation fee payment prior to the issuance of a grading permit.

- The Project Applicant shall incorporate measures required through National Pollutant Discharge Elimination System (NPDES). Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area.

- The Project is required pursuant to Amendment No. 2 to Reclamation Plan No. 159 (SMP 159R2) to implement the approved reclamation seed mix as part of any revegetation or reclamation activities. Only species on the approved reclamation seed mix (refer to EIR Table 3-4) shall be allowed. The reclamation seed mix does not include any plants included on the California Invasive Plant Council's list of invasive species (or in Table 6-2 of the MSHCP).

- Prior to commencement of mining activities within the proposed EDA, the Project Applicant shall convey to the Riverside Conservation Authority (RCA) 184.73 acres of the Mine located within MSHCP Cell Group B, 230.47 acres of the Mine located within MSHCP Cell Group C, and 14.81 acres of the Mine located within MSHCP Cell Group D. The required dedications, all of which occur outside of the existing mining limits and the proposed EDA, would assist the RCA in achieving the conservation objectives for Cell Groups B, C, and D.

B. Mitigation

Impacts to Riparian/Riverine Resources and Jurisdictional Resources

The proposed mitigation for Riparian/Riverine resources described below is also the proposed mitigation for the impacts to 0.36 acre of CDFW jurisdiction (0.21 acre of ephemeral stream and 0.15 acre of tamarisk scrub). This mitigation also would mitigate Project impacts to 0.21 acre of Corps non-wetland WUS that overlap with

CDFW jurisdiction. The final mitigation for impacts to waters of the State and WUS will be determined by the appropriate agencies during the permitting process.

MM 4.3-1 To mitigate impacts to 0.36 acre of Riparian/Riverine resources (0.21 acre of ephemeral stream and 0.15 acre of tamarisk scrub), the Project Applicant shall mitigate impacts at a minimum 3:1 ratio. A total of 1.08 acres of mitigation shall occur via off-site purchase of credits from the Riverpark Mitigation Bank or other approved bank. Mitigation for the unavoidable impacts to Riparian/Riverine resources shall be at least biologically equivalent to the resources being impacted by the proposed mine expansion. Evidence of that 0.36-acre of Riparian/Riverine resources (0.21 acre of ephemeral stream and 0.15 acre of tamarisk scrub) have been appropriately mitigated shall be supplied to the Riverside County Environmental Programs Department (EPD) prior to any mining activities within the portions of the 54.5-acre Expanded Disturbance Area (EDA) that contain Riparian/Riverine resources.

MM 4.3-2 Prior to mining activities within the 54.5-acre Expanded Disturbance Area that affects jurisdictional drainages, the Project Applicant shall obtain a Section 404 Permit from the U.S. Army Corps of Engineers (ACOE) and a Section 401 Permit from the Regional Water Quality Control Board (RWQCB) for impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland Waters of the United States.

MM 4.3-3 Prior to mining activities within the 54.5-acre Expanded Disturbance Area that affects jurisdictional drainages, the Project Applicant shall obtain a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) for impacts to 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat.

Impacts to Nesting Birds

MM 4.3-4 All vegetation clearing activities within the 54.5-acre Expanded Disturbance Area (EDA) shall occur outside of the bird breeding season (February 15 through August 31), unless a qualified biologist demonstrates to the satisfaction of the County that all nesting is complete through completion of a Nesting Bird Clearance Survey. Surveys shall be conducted no more than three (3) days prior to scheduled vegetation clearing activities within the EDA. If active nests are identified, the biologist shall establish buffers around the vegetation containing the active nest (300 feet for the California gnatcatcher and raptors; 100 feet for other non-raptors). The vegetation containing the active nest shall not be removed, and no ground-disturbing activities shall occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within three days of a negative survey, the nesting survey shall be repeated to confirm the absence of nesting birds. A Nesting Bird Clearance Survey report shall be submitted to the County for review and approval prior to any new vegetation clearing and grubbing during the breeding season. Clearing of vegetation outside of the avian breeding

season shall not require a Nesting Bird Clearance Survey. The Mine operator shall keep records of: a) all new clearing activities that occur during the general avian breeding season; b) the results of all pre-construction nesting surveys; c) mitigation or avoidance measures that were undertaken during the breeding season; d) areas within the EDA that have been disturbed outside of the general avian breeding season; and e) copies of the approved Nesting Bird Clearance Survey report(s). These records shall be maintained on site at all times and made available for City inspection upon request.

Impacts due to a Conflict with the MSHCP

MM 4.3-5 All lighting shall be selectively placed, directed, and shielded away from habitats around the periphery of the active mining areas. In addition, large spotlight-type lighting directed into areas outside the actively-mined areas shall be prohibited. Operational lighting shall be shielded and focused to reduce impacts to wildlife.

MM 4.3-6 Prior to mining activities within the proposed Expanded Disturbance Area (EDA), signs shall be posted along internal roadways restricting speeds to 10 miles per hour or less.

MM 4.3-7 Prior to commencement of mining activities pursuant to SMP 159R2, the Project Applicant shall construct a 765-foot long 12-foot high berm between the proposed MSHCP Conservation Area and the existing mining operations on site, as depicted on EIR Figure 4.3-4, *Proposed MSHCP Conservation Area Noise Receiver Locations*.

Impacts to Burrowing Owl

MM 4.3-8 Pursuant to Objectives 5, 6, and 7 of the Species Account for the Burrowing Owl included in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within 30 days prior to removal of any vegetation within the 54.5-acre Expanded Disturbance Area (EDA), a pre-construction presence/absence survey for the burrowing owl shall be conducted by a qualified biologist who holds a Memorandum of Understanding (MOU) with the County. The survey results shall be provided in writing to the Environmental Programs Department/County Biologist. If the vegetation clearing does not occur within 30 days of the survey, a new survey shall be required. If it is determined that the Project site is occupied by the burrowing owl, take of "active" nests shall be avoided pursuant to the MSHCP and the Migratory Bird Treaty Act (MBTA). Burrowing Owl relocation shall only be allowed to take place outside of the burrowing owl nesting season (March 1 through August 31) and is required to be performed by a qualified biologist familiar with relocation methods. The County Biologist shall be consulted to determine appropriate type of relocation (active or passive) and potential translocation sites. Burrowing Owl Protection and Relocation Plans and Biological Monitoring Plans are required to be reviewed and approved by the California Department of Fish and Wildlife (CDFW).

If it is determined during the 30-day preconstruction survey that burrowing owls have colonized the Project site prior to initiation of vegetation clearing activities, the Project

Proponent will immediately inform the Riverside County Biologist, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Regional Conservation Authority, and would need to retain a Biologist that holds a Memorandum of Understanding (MOU) with the County of Riverside to prepare a Burrowing Owl Protection and Relocation Plan for approval by the County of Riverside and Wildlife Agencies prior to initiating ground disturbance. The relocation plan will include the following:

- The locations of the nests and owls proposed for relocation.
- The locations of the proposed relocation sites.
- The numbers of adult owls and juveniles proposed for relocation.
- The time of year when relocation is proposed to take place,
- The name of the biologist proposed to supervise the relocation, and the details of his/her previous experience capturing, handling, and relocating borrowing owls, including the outcomes of the previous relocation efforts (survival/mortality rates and site-fidelity rates of the relocated owls), and relevant permits held.
- A detailed description of the proposed method of capture, transport, and acclimation of the current project's owls on the proposed relocation site.
- A detailed description of relocation site preparations (e.g., the design and dimensions of the artificial release burrows and hacking cage, duration of hacking activities (including food and water provision).
- Description of the monitoring methods and monitoring duration to be employed to verify survival of the relocated owls and their long-term retention on the relocation site.

4.3.9 Significance of Impacts After Mitigation

Threshold a: Less-than-Significant with Mitigation Incorporated. Implementation of Mitigation Measure MM 4.3-1, as well as Mitigation Measures MM 4.3-2 and MM 4.3-3, would represent a biologically equivalent or superior alternative to avoidance of MSHCP Riparian/Riverine resources because the Project would be required to mitigate impacts at a minimum 3:1 ratio through off-site purchase of credits from an approved Mitigation Bank(s). Implementation of Mitigation Measure MM 4.3-1 would ensure Project consistency with MSHCP Section 6.1.2 and would reduce project impacts to less-than-significant levels.

Implementation of Mitigation Measure MM 4.3-5 would ensure that Project lighting does not result in indirect impacts to the MSHCP conservation areas. Mitigation Measure MM 4.3-6 would ensure dust impacts are reduced by imposing a maximum 10 mile per hour speed limit on site. Additionally, the Project would be subject to stormwater requirements through the Project's NPDES permit. Furthermore, the Project would be required to comply with the reclamation seed mix as set forth by SMP 159R2, which would preclude potential indirect impacts associated with invasive species. Additionally, implementation of Mitigation Measure MM 4.3-7 would ensure that a 12-foot tall berm is constructed between the existing mining limits and the proposed MSHCP Conservation Areas, as depicted on Figure 4.3-4. As shown in Table 4.3-5, with implementation of the required mitigation, receiver locations R4 and R5 would be exposed to noise levels that are below the County's residential threshold of 65 dBA Leq. With implementation of the required mitigation and compliance

with regulatory requirements and the provisions of proposed SMP 159R2, the Project's indirect impacts to the MSHCP conservation areas would be less than significant.

Implementation of Mitigation Measure MM 4.3-8 would ensure that pre-construction surveys are conducted for the burrowing owl prior to any new vegetation clearing, thereby reducing impacts to less-than-significant levels.

Thresholds b and c: Less-than-Significant with Mitigation Incorporated. Implementation of Mitigation Measure MM 4.3-4 would ensure that the Project does not directly impact nesting birds during the nesting season. Implementation of Mitigation Measure MM 4.3-8 would ensure that potential impacts to burrowing owls that may occupy the site prior to mining activities commencing within the EDA are reduced to less-than-significant levels. Moreover, the Project would be subject to compliance with Riverside County Ordinance No. 810, which requires payment of fees in order to provide coverage for impacts to sensitive species that are fully covered by the MSHCP. The Project also is subject to Riverside County Ordinance No. 663, which requires payment of fees to support the SKR HCP. With implementation of the required mitigation and with standard regulatory compliance, Project impacts to endangered, threatened, candidate, sensitive, or special status species would be reduced to less-than-significant levels.

Threshold d: Less-than-Significant with Mitigation Incorporated. Implementation of Mitigation Measure MM 4.3-4 would ensure that vegetation clearing within the EDA does not result in impacts to nesting birds during the breeding season. With implementation of the required mitigation, Project impacts to migratory birds would be reduced to less-than-significant levels.

Thresholds e and f: Less-than-Significant with Mitigation Incorporated. Implementation of Mitigation Measure MM 4.3-1, as well as Mitigation Measures MM 4.3-2 and MM 4.3-3, would ensure that Project impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS and regulated by the Army Corps of Engineers, and 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat, are mitigated at a minimum 3:1 ratio off-site through purchase of credits from an approved Mitigation Bank(s). Implementation of the required mitigation would reduce Project impacts to these jurisdictional features to below a level of significance.

4.4 ENERGY

This Subsection is based in part on the information contained in the Project's Energy Analysis Report (herein, "Energy Analysis"), dated May 15, 2019, and appended to this EIR as *Technical Appendix K*. (Urban Crossroads, 2019e)

4.4.1 EXISTING CONDITIONS

A. Overview

The most recent data for California's estimated annual energy use is from 2016 and included (Urban Crossroads, 2019e, p. 6):

- Approximately 7,830 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 2,115 billion cubic feet of natural gas; and
- Approximately 15.8 billion gallons of transportation fuel (for the year 2017).

The most recent data provided by the United States Energy Information Administration (EIA) is from 2016 and illustrates energy use in California by demand sector as follows (Urban Crossroads, 2019e, p. 6):

- Approximately 39.8 percent transportation;
- Approximately 23.7 percent industrial;
- Approximately 17.7 percent residential; and
- Approximately 18.9 percent commercial.

In 2017, total system electric generation for California was 292,039 gigawatt-hours (GWh). California's massive electricity in-state generation system generated approximately 206,336 GWh which accounted for approximately 71% of the electricity it uses; the rest was imported from the Pacific Northwest (14%) and the U.S. Southwest (16%). Natural gas is the main source for electricity generation at 50% of the total in-state electric generation system power as shown in Table 4.4-1, *Total Electricity System Power (California 2017)*. (Urban Crossroads, 2019e, p. 6)

A summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (Urban Crossroads, 2019e, pp. 6-7):

- California was the fourth-largest producer of crude oil among the 50 states in 2017, after Texas, North Dakota, and Alaska, and, as of January 2018, third in oil refining capacity after Texas and Louisiana.

- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2016.

Table 4.4-1 Total Electricity System Power (California 2017)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	California Power Mix (GWh)	Percent California Power Mix
Coal	302	0.15%	409	11,364	12,075	4.13%
Large Hydro	36,920	17.89%	4531	1,536	42,987	14.72%
Natural Gas	89,564	43.40%	46	8,705	98,315	33.67%
Nuclear	17,925	8.69%	0	8,594	26,519	9.08%
Oil	33	0.02%	0	0	33	0.01%
Other	409	0.20%	0	0	409	0.14%
Renewables	61,183	29.65%	12,502	10,999	84,684	29.00%
Biomass	5,827	2.82%	1,015	32	6,874	2.35%
Geothermal	11,745	5.69%	23	937	12,705	4.35%
Small Hydro	6,413	3.11%	1449	5	7,867	2.70%
Solar	24,331	11.79%	0	5,465	29,796	10.20%
Wind	12,867	6.24%	10,015	4,560	27,442	9.40%
Unspecified Sources of Power	N/A	N/A	22,385	4,632	27,017	9.25%
Total	**206,336**	**100%**	**39,873**	**45,830**	**292,039**	**100%**

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html
(Urban Crossroads, 2019e, Table 2-1)

- California's total energy consumption is second-highest in the nation, but, in 2016, the state's per capita energy consumption ranked 48th, due in part to its mild climate and its energy efficiency programs.

- In 2017, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.

- In 2017, solar PV and solar thermal installations provided about 16% of California's net electricity generation.

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed Project being industrial, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project – namely, electricity, natural gas, and transportation fuel for vehicle trips associated with industrial uses planned for the Project. (Urban Crossroads, 2019e, p. 7)

B. Electricity

The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling

phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California ISO studies had revealed the extent to which the Southern California Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (2013 IEPR) after a collaborative process with other energy agencies, utilities, and air districts. If the resource development outlined in the preliminary plan continues as detailed, reliability in Southern California would likely be assured; however, tight resource margins have led energy agencies and the ARB to develop a contingency plan. This contingency plan was discussed at a public workshop in Los Angeles on August 20, 2014 and is detailed within below. (Urban Crossroads, 2019e, pp. 7-8)

Electricity is provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 14 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers. (Urban Crossroads, 2019e, p. 8)

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator ("ISO") is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities (such as SCE) still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities. (Urban Crossroads, 2019e, p. 8)

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as SCE) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State. (Urban Crossroads, 2019e, p. 8)

Table 4.4-2, *SCE 2017 Power Content Mix*, identifies SCE's specific proportional shares of electricity sources in 2017. As indicated in Table 4.4-2, the 2017 SCE Power Mix has renewable energy at 32% of the overall energy resources. Geothermal resources are at 8%, wind power is at 10%, large hydroelectric sources are at 8%, solar energy is at 13%, and coal is at 0%. Biomass and waste sources have decreased to 0% from 1% in 2016. Natural gas is at 20% having increased from 19% in 2016. (Urban Crossroads, 2019e, p. 8)

Table 4.4-2 SCE 2017 Power Content Mix

Energy Resources	2017 SCE Power Mix
Eligible Renewable	**32%**
Biomass & waste	0%
Geothermal	8%
Small Hydroelectric	1%
Solar	13%
Wind	10%
Coal	**0%**
Large Hydroelectric	**8%**
Natural Gas	**20%**
Nuclear	**6%**
Other	**0%**
Unspecified Sources of power*	34%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

(Urban Crossroads, 2019e, Table 2-2)

C. Natural Gas

The usage associated with natural gas use were calculated using the CalEEMod model. The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC). (Urban Crossroads, 2019e, p. 9)

> "The California Public Utilities Commission (PUC) regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage. (Urban Crossroads, 2019e, p. 9)
>
> The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, like electric generators and industrial customers, referred to as "noncore" customers, accounted for approximately 68% of the natural gas delivered by California utilities in 2012. (Urban Crossroads, 2019e, p. 9)
>
> The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Most of the natural gas used in California comes from out-of-state natural gas

basins. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems. (Urban Crossroads, 2019e, pp. 9-10)

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Questar Southern Trails and Mojave Pipeline. Another pipeline, the North Baja – Baja Norte Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, the PUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers. (Urban Crossroads, 2019e, p. 10)

Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The PUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the total amount of natural gas delivered to California's gas consumers in 2012. (Urban Crossroads, 2019e, p. 10)

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, and currently receive all of their natural gas from the SoCalGas system (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area). Some other municipal wholesale customers are the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC. (Urban Crossroads, 2019e, p. 10)

Some of the natural gas delivered to California customers may be delivered directly to them without being transported over the regulated utility systems. For example, the Kern River/Mojave pipeline system can deliver natural gas directly to some large customers, "bypassing" the utilities' systems. Much of California-produced natural gas is also delivered directly to large consumers. (Urban Crossroads, 2019e, p. 10)

PG&E and SoCalGas own and operate several natural gas storage fields that are located in northern and southern California. These storage fields, and four independently owned storage utilities – Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage – help meet peak seasonal natural gas demand and allow California natural gas customers to secure natural gas supplies

more efficiently. (A portion of the Gill Ranch facility is owned by PG&E). (Urban Crossroads, 2019e, p. 10)

California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces." However, the PUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers." (Urban Crossroads, 2019e, p. 11)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The PUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State. (Urban Crossroads, 2019e, p. 11)

D. Transportation Energy Sources

In March 2018, the Department of Motor Vehicles (DMV) identified 35 million registered vehicles in California, and those vehicles consume an estimated 19 billion gallons of fuel each year. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the Project patrons and employees via commercial outlets. (Urban Crossroads, 2019e, p. 11)

California's on-road transportation system includes 170,000 miles of highways and major roadways, more than 27 million passenger vehicles and light trucks, and almost 8 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 92 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels. Nearly 19 billion gallons of on-highway fuel are burned each year, including 15.1 billion gallons of gasoline (including ethanol) and 3.9 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2016, Californians also used 194 million therms of natural gas as a transportation fuel (16), or the equivalent of 155 million gallons of gasoline. (Urban Crossroads, 2019e, p. 11)

4.4.2 Applicable Environmental Regulations

A. Federal Regulations

1. Intermodal Surface Transportation Efficiency

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions. The applicable MPO for Riverside County is the SCAG. SCAG's Regional

Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is the applicable planning document for the area. (Urban Crossroads, 2019e, p. 13)

2. Federal Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety. (Urban Crossroads, 2019e, p. 13)

B. California Regulations

1. Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the State's economy; and protect public health and safety (Public Resources Code § 25301a). The CEC prepares these assessments and associated policy recommendations every two years, with updates on alternate years, as part of the Integrated Energy Policy Report. (Urban Crossroads, 2019e, p. 14)

The 2016 Integrated Energy Policy Report (2016 IEPR), focuses on next steps for transforming transportation energy use in California. The 2016 IEPR addresses the role of transportation in meeting state climate, air quality, and energy goals; the transportation fuel supply; the Alternative and Renewable Fuel and Vehicle Technology Program; current and potential funding mechanisms to advance transportation policy; transportation energy demand forecasts; the status of statewide plug-in electric vehicle infrastructure; challenges and opportunities for electric vehicle infrastructure deployment; measuring success and defining metrics within the Alternative and Renewable Fuel and Vehicle Technology Program; market transformation benefits resulting from Alternative and Renewable Fuel and Vehicle Technology Program investments; the state of hydrogen, zero-emission vehicle, biofuels, and natural gas technologies over the next ten years; transportation linkages with natural gas infrastructure; evaluation of methane emissions from the natural gas system and implications for the transportation system; changing trends in California's sources of crude oil; the increasing use of crude-by-rail in California; the integration of environmental information in renewable energy planning processes; an update on electricity reliability planning for Southern California energy infrastructure; and an update to the electricity demand forecast. (Urban Crossroads, 2019e, p. 14)

2. State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access. (Urban Crossroads, 2019e, p. 14)

3. California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017 and is applicable to the Project. (Urban Crossroads, 2019e, pp. 14-15)

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7 percent less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53 percent less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30 percent less energy due to lighting upgrades (18). (Urban Crossroads, 2019e, p. 15)

4.4.3 Basis for Determining Significance

The proposed Project would result in a significant impact to energy if the Project or any Project-related component would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The above-listed thresholds are derived directly from Section VI of Appendix G to the CEQA Guidelines and address typical adverse effects to biological resources (OPR, 2018).

4.4.4 IMPACT ANALYSIS

A. *Methodology for Calculating Project Energy Demands*

Information from the CalEEMod 2016.3.2 outputs for the Project's Air Quality Impact Analysis ("AQIA," *Technical Appendix B1*) was utilized in this analysis, detailing Project related operational equipment, transportation energy demands, and facility energy demands. These outputs can be referenced in Appendix 3.1 of the Project's Energy Analysis (*Technical Appendix K*). (Urban Crossroads, 2019e, p. 17)

Threshold a.: ***Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

A. *Project Energy Demands*

1. *Operational Equipment Fuel Estimates*

Fuel consumed by operational equipment would be the primary energy resource expended over the at the Project site. Operational equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4.4-3, *Operational Equipment Fuel Consumption Estimates*. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (CARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. For the purposes of this analysis, the calculations are based on all operational equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the County and region. As presented in Table 4.4-3, Project operational activities would consume an estimated 142,552 gallons of diesel fuel annually. (Urban Crossroads, 2019e, p. 17)

2. *Worker Fuel Estimates*

It is assumed that all worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the worker trips would generate an estimated 101,945 VMT. Data regarding Project related worker trips were based on CalEEMod 2016.3.2 model defaults utilized within the AQIA. (Urban Crossroads, 2019e, p. 19)

Vehicle fuel efficiencies for LDA were estimated using information generated within the 2014 version of the Emissions FACtor model (EMFAC) developed by the Air Resources Board (ARB). EMFAC 2014 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources. EMFAC 2014 was run for the LDA vehicle class within the California sub-area for a 2018 calendar year. Data from EMFAC 2014 is shown in Appendix 3.2 of the Project's Energy Analysis (*Technical Appendix K*). (Urban Crossroads, 2019e, p. 19)

Table 4.4-3 Operational Equipment Fuel Consumption Estimates

Activity	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Project Operations	Skid Steer	51	1	2	0.73	74	1,469
	Off-Highway Trucks	394	2	6	0.38	1,797	35,447
	Tractors/Loaders/Backhoes	318	1	8	0.36	916	18,069
	Other Material Handling Equipment	501	1	6	0.36	1,082	21,351
	Rubber Tired Dozers	380	2	5	0.36	1,368	26,990
	Rubber Tired Dozers	570	1	4	0.40	912	17,994
	Other General Industrial Equipment	354	1	8	0.38	1,076	21,232
OPERATIONAL FUEL DEMAND (GALLONS DIESEL FUEL)							***142,552***

(Urban Crossroads, 2019e, Table 4-1)

As generated by EMFAC 2014, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2018 are estimated to have a fuel efficiency of 26.50 miles per gallon (mpg). Table 4.4-4, *Worker Fuel Consumption Estimates*, provides an estimated annual fuel consumption resulting from the Project generated by light duty autos related to worker trips. Based on Table 4.4-4, it is estimated that 3,847 gallons of fuel would be consumed related to worker trips during full operation of the proposed Project. (Urban Crossroads, 2019e, p. 19)

Table 4.4-4 Worker Fuel Consumption Estimates

Activity	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Project Operations	19	14.7	101,945	26.50	3,847
TOTAL WORKER FUEL CONSUMPTION					***3,847***

(Urban Crossroads, 2019e, Table 4-2)

3. Vendor Fuel Estimates

With respect to estimated VMT, the vendor trips would generate an estimated 1,815,875 VMT along area roadways. It is all vendor trips are from heavy-heavy duty trucks (HHD). These assumptions are consistent with the assumptions presented in the AQIA. Vehicle fuel efficiencies for HHD trucks were estimated using information generated within EMFAC 2014. For purposes of this analysis, EMFAC 2014 was run for the HHD vehicle class within the California sub-area for a 2018 calendar year. Data from EMFAC 2014 is shown in Appendix 3.2 of the Project's Energy Analysis (*Technical Appendix K*). (Urban Crossroads, 2019e, p. 19)

As generated by EMFAC 2014, an aggregated fuel economy of HHD trucks ranging from model year 1974 to model year 2018 are estimated to have a fuel efficiency of 5.71 mpg. Based on Table 4.4-5, *Vendor Fuel Consumption Estimates (HHD Trucks)*, it is estimated that 318,210 gallons of fuel will be consumed related to vendor trips (heavy-heavy duty trucks) during full operations of the proposed Project. (Urban Crossroads, 2019e, p. 19)

Table 4.4-5 Vendor Fuel Consumption Estimates (HHD Trucks)

Activity	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor					
Project Operations	199	25	1,815,875	5.71	318,210
PROJECT HEAVY DUTY TRUCK TOTAL					***318,210***

(Urban Crossroads, 2019e, Table 4-3)

4. Summary of Project-Generated Traffic Annual Fuel Consumption

As summarized on Table 4.4-6, *Project-Generated Traffic Annual Fuel Consumption (All Vehicles)*, the Project would result in 1,917,820 annual VMT and an estimated annual fuel consumption of 322,057 gallons of fuel. (Urban Crossroads, 2019e, p. 20)

Table 4.4-6 Project-Generated Traffic Annual Fuel Consumption (All Vehicles)

Vehicle Type	Annual Miles Traveled	Estimated Annual Fuel Consumption (gallons)
Light Duty Autos	101,945	3,847
HHD Trucks	1,815,875	318,210
Total (All Vehicles)	**1,917,820**	**322,057**

(Urban Crossroads, 2019e, Table 4-4)

5. Enhanced Vehicle Fuel Efficiencies

Estimated annual fuel consumption estimates presented previously in Table 4.4-6 represent likely potential maximums that would occur in the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system. (Urban Crossroads, 2019e, p. 20)

As noted in the Project's AQIA, the Project is anticipated to serve a regional need and would likely reduce vehicle miles traveled (VMT) in the long term by diverting trips that would otherwise travel to other aggregate facilities in the region. (Urban Crossroads, 2019e, p. 20)

The fact is that aggregate will be consumed with or without the proposed Project. The Project will not have an effect on demand for aggregate but will have an effect on the distance that aggregates travel within the region in the long term. Project aggregate made available by the proposed expansion area will replace materials hauled from farther distances in the long term and supply new demand for aggregate that will occur in the Riverside County region. This rationale is supported by Dr. Peter Berk's "Working Paper No. 994 – A Note on the Environmental Costs of Aggregate" (Department of Agricultural and Resource Economics and Policy, Division of Agricultural and Natural Resources, University of California Berkley, January 2005). Dr. Berk states that: (Berck, 2005, p. 3; Urban Crossroads, 2019e, pp. 20-21)

> *"The opening of a new quarry for aggregates will change the pattern of transportation of aggregates in the area served by the quarry. In this note, we will show that, so long as aggregate producers are cost minimizing, the new pattern of transportation requires less truck transport than the pattern of transportation that existed before the opening of the new quarry. Since the costs of providing aggregates falls, it is reasonable to assume that the price of delivered aggregates also will fall. This note also shows that the demand expansion effect is of very small magnitude. Since the demand increase from a new quarry is quite small, the dominant effect is that the quarries are on average closer to the users of aggregates and, as a result, the truck mileage for aggregate hauling decreases. To summarize the effects of a new quarry project:*
>
> *a) The project in itself will not significantly increase the demand for construction materials in the region through market forces, which include the downward pressure on pricing.*
>
> *b) Truck traffic (i.e. vehicle miles traveled) in the region will not increase and may decrease as a result of the project."* (Berck, 2005, p. 3)

In its guidance document, *CEQA and Climate Change*, the California Air Pollution Control Officers Association (CAPCOA) lists various mitigation measures that can be implemented to reduce AQ and GHG emissions for various projects. One particular mitigation measure for reducing AQ and GHG emissions during construction activity is Mitigation Measure C-5 "Use of Local Building Materials." The Project would provide local building materials to serve the demand for aggregate resources in the local area, thus resulting in a reduction in fuel usage and emissions associated with transport of materials from sources of aggregate products located further away. (Urban Crossroads, 2019e, p. 21)

6. Facility Energy Demands

The Project would not result in an increase in the amount of natural gas associated with aggregate usage, because aggregate usage does not require the use of any natural gas. (Urban Crossroads, 2019e, p. 21)

The Project would result in an increase in electricity associated with the aggregate production. Based on Project permits, the proposed increase in aggregate production from approximately 377,675 TPY to 1.0 million TPY represents a 264.8% increase in the quantity of material processed over baseline conditions. In order to process the additional 622,235 TPY, electricity usage is expected to increase proportionally by approximately 264.8%. Electricity would be supplied by Southern California Edison. The Project proposes conventional mining uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Additionally, as noted previously, aggregate will be consumed with or without the proposed Project and the Project likely facilitates a more efficient use of energy demand as a whole by providing a local source for aggregate production in the Project vicinity. The Project energy demands in total would be comparable to, or less than, other aggregate facilities of similar scale and configuration. (Urban Crossroads, 2019e, p. 21)

B. Summary

1. Operational Equipment Fuel Estimates

Operational equipment used by the Project would result in an annual consumption of approximately 142,552 gallons of diesel fuel. Operational equipment use of fuel would not be atypical for the type of operations proposed because there are no aspects of the Project's proposed operational process that are unusual or energy-intensive, and Project operational equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies. (Urban Crossroads, 2019e, p. 21)

2. Transportation Energy Demands

Annual vehicular trips and related VMT generated by the Project would result in an estimated 3,847 gallons of fuel consumption per year for LDAs. Additionally, the Project would result in an estimated 318,210 gallons of fuel consumption per year for HHD trucks. The total estimated annual fuel consumption from Project generated VMT would result in a fuel demand 322,057 gallons of fuel. (Urban Crossroads, 2019e, p. 22)

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other mining uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and California Emissions Estimator Model (CalEEMod) v2016.3.2. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. (Urban Crossroads, 2019e, p. 22)

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDAs to alternative energy sources (e.g., electricity, natural gas, bio fuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary. (Urban Crossroads, 2019e, p. 22)

3. Facility Energy Demands

The Project will not result in an increase in the amount of natural gas associated with aggregate usage because aggregate usage does not require the use of natural gas. (Urban Crossroads, 2019e, p. 22)

The Project would result in an increase in electricity associated with the aggregate production. Based on project permits, the proposed increase in aggregate production from approximately 377,675 TPY to 1.0 million TPY represents a 264.8% increase in the quantity of material processed over baseline conditions. In order to process the additional 622,235 TPY, electricity usage is expected to increase proportionally by approximately 264.8%. Electricity would be supplied by Southern California Edison. The Project proposes conventional mining uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Additionally, as noted previously, aggregate will be consumed with or without the proposed Project and the Project likely facilitates a more efficient use of energy demand as a whole by providing a local source for aggregate

production in the Project vicinity. The Project energy demands in total would be comparable to, or less than, other aggregate facilities of similar scale and configuration. (Urban Crossroads, 2019e, p. 22)

C. Conclusion

As supported by the preceding analyses, Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Accordingly, Project impacts would be less than significant.

Threshold b.: ***Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

Applicable regulations and requirements, including plans for renewable energy and energy efficiency, are discussed above in subsection 4.4.2. A summary of the Project's consistency with the regulations and requirements listed in subsection 4.4.2 is provided below.

Federal Regulations

1. Intermodal Surface Transportation Efficiency

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. Transportation and access to the Project site is provided primarily by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site. As such, the Project would not conflict with ISTEA. (Urban Crossroads, 2019e, p. 13)

2. Federal Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21. (Urban Crossroads, 2019e, p. 13)

State Regulations

1. Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the California Energy Commission to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The 2016 Integrated Energy Policy Report (2016 IEPR) was published in February 2017, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. Electricity would be provided to the Project by Southern California Edison (SCE). SCE's Clean Power and Electrification Pathway (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2016 IEPR. (Urban Crossroads, 2019e, p. 14)

2. State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through the introduction of mining use on mineral resources land use-designated site. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan. (Urban Crossroads, 2019e, p. 14)

3. California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017 and is applicable to the Project. The proposed Project does not include the construction of any structure or building components, such as windows, roof systems, or electrical and lighting systems. As such, the Title 24 standards are not applicable to the proposed Project. (Urban Crossroads, 2019e, pp. 14-15)

4. Other Regulations

The Project also would be subject to the following State regulations that address energy:

- **Pavley Fuel Efficiency Standards (AB 1493)**. AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to and from the Project site are

required by law to comply with the legislation's fuel efficiency requirements. On this basis, the Project is determined to be consistent, with, and would not interfere with, nor otherwise obstruct implementation of AB 1493.

- **California Renewable Portfolio Standards (SB 1078)**. Energy directly or indirectly supplied to the Project by electric corporations is required by law to comply with SB 1078.

Conclusion

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Energy consumed by the Project's operation is calculated to be comparable to, or less than, energy consumed by other mining operations of similar scale and intensity that are operating in California. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Further, the Project would not cause or result in the need for additional energy producing facilities or energy delivery systems. Therefore, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

4.4.5 Cumulative Impact Analysis

As indicated under the analysis of Threshold a., there are no components of the proposed Project that would result in the wasteful, inefficient, or unnecessary consumption of energy resources. The Project proposes to expand an existing mining operation, and the proposed expansion would not be associated with the intensive use of energy resources. Although it is possible other cumulative developments could result in the wasteful, inefficient, or unnecessary consumption of energy resources, the Project's projected energy demand during operations would be less-than-cumulatively considerable with mandatory compliance with applicable regulations.

As indicated under the analysis of Threshold b., the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As such, the Project has no potential to result in cumulatively-considerable impacts due to a conflict with or obstruction of such plans.

4.4.6 Significance of Impacts Before Mitigation

Threshold a.: Less-than-Significant Impact. Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. As such, Project impacts due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant requiring no mitigation.

Threshold b.: Less-than-Significant Impact. Energy consumed by the Project's operation is calculated to be comparable to, or less than, energy consumed by other mining operations of similar scale and intensity that are

operating in California. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

4.4.7 City Regulations, Design Requirements, and Mitigation

A. Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within the County of Riverside. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable City regulations and design requirements.

- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles.
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.

B. Mitigation

Project impacts due to energy consumption would be less than significant; therefore, mitigation measures are not required.

4.5 GEOLOGY AND SOILS

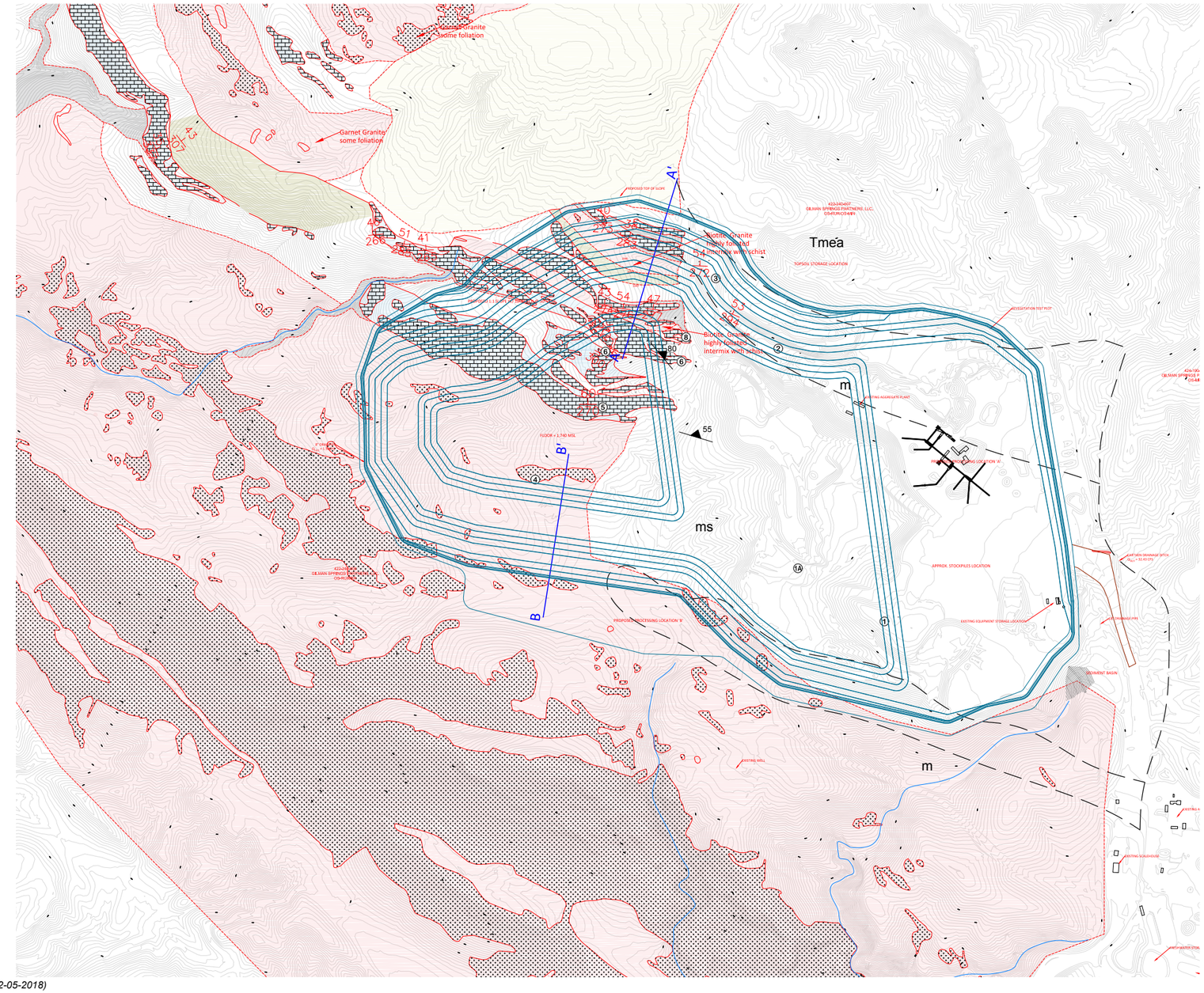
This Subsection assesses the existing surface and subsurface geologic features of the Project site and determines the Project's potential for impacts associated with those features. The analysis in this Subsection is based in part on the information contained in the technical report prepared by Terracon entitled, "Slope Stability Investigation," dated April 19, 2019 (Terracon, 2019). The Slope Stability Investigation is included as *Technical Appendix D* to this EIR.

4.5.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As previously shown on EIR Figure 3-3, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west and north of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA as well as the reclamation plan identified as part of proposed Surface Mining Permit No. 159R2.

4.5.2 EXISTING CONDITIONS

During April 2019, Terracon conducted geologic mapping and slope stability analysis for the proposed Project site. The purposes of Terracon's investigation were to evaluate the engineering geologic conditions at the subject Mine, examine the proposed mining and reclamation slope configurations, and provide slope stability analysis for the mining and reclamation plan. A certified engineering geologist conducted reconnaissance and geologic mapping of the site on November 1, 2017. Geologic structure was measured, including bedding, foliation, and joint orientations. The field mapping focus included geologic contacts, bedding, and rock fabric in proposed slope areas and on features that might affect kinematic stability of local slope faces. The active Mine area provided exposures of the limestone (marble) resource and enclosing schist. Structural mapping in the 54.5-acre expansion area (EDA) was conducted along resistant ridges formed in limestone, in drainages, and along the road cut extending between the active Mine and the EDA. Terracon observed that portions of the EDA are mantled by a weathered profile that includes soil accumulations. Inference of the underlying recessive geologic units was made based on surface debris and localized outcrops. The structural data set is included as Table B-1 in Appendix B of *Technical Appendix D*. Structural data were augmented by data from the cross sections by Terracon. The location numbers corresponding to areas where structural data were measured are included on Figure 4.5-1, *Geologic Map*. See *Technical Appendix D* for further information on the methodology used by Terracon during their field investigation. (Terracon, 2019, pp. 1-4)



GEOLOGIC UNITS:

Tmea - Mt. Eden Formation, arkosic member, recissive
ls - limestone
gr - granite
mss - metasandstone
sch - schist
ms - metasedimentary rocks, biotite-quartz, gneiss, marble, & metaquartzite
m - marble

Geologic Contact

B — B' Location of Cross Section

28 Mineral & compositional foliation in metamorphic rocks

dip
54
272
azimuth
Strike and dip of bedding/foliation (Tran 2017)

⑧ Location of structural mapping corresponding to Table B-1

Limestone
MetaSandstone
Granite and Granitoids
Schist

Source(s): Terracon (02-05-2018)

NOT TO SCALE

Figure 4.5-1

GEOLOGIC MAP

B. Site Geology

The Project site is situated in an elevated and dissected badlands terrain in the northern Peninsular Ranges geomorphic province. The Peninsular Ranges include plutonic and metamorphic crystalline rocks of Cretaceous and older age. The crystalline basement rocks are locally mantled by residual soils and capped by isolated alluvial/sedimentary remnants. (Terracon, 2019, p. 4)

The Mine includes approximately 1,000 acres of rugged bedrock highland within the badlands of Riverside County, California. The San Timoteo Badlands is an elevated region of rugged topography formed in non-marine sediments that extends from the San Jacinto Mountains to Loma Linda. In the area of the Project site, the badlands expose a contact between overlying Mt. Eden beds and underlying crystalline rock types that include granites, metasedimentary rocks, and limestones. The site is accessed from a dirt haul road via Gilman Springs Road. Bedrock mountains/hills with locally steep relief are formed in a sequence of limestone, quartzite, marble and granitic rocks in the site region. A mantle of soil and rock detritus covers bedrock outcrop in flats and swales between elongate ridgeline outcrops. Weedy shrubs and grasses on undisturbed surfaces comprise the vegetative cover across the undisturbed portions of the site. (Terracon, 2019, pp. 2-3)

Terracon examined aerial imagery dating from 1948 to present for geologic and site use information. The EDA appears as undeveloped badlands hillside including the prominent limestone ridgelines and intervening recessive beds in imagery dated 1948 through 1974. The general northeast dip and northwest trend of limestone beds is apparent. In 1974, a network of access roads leading to drill pads is evident throughout the active portions of the Mine. The modern haul road and beginnings of mining in the active mine area are apparent in 2000. The contact of Mt. Eden sediments overlying older metasedimentary and granitic rock units is evident as a contrast in color tone along the northern limits of the mine boundary. Faults or landslides within the EDA were not noted on the aerial imagery examined. (Terracon, 2019, p. 3)

Active mining areas including several quarry areas. A processing area and loading/stockpile areas are located east of the proposed EDA. Terracon did not observe surface water as present on the site at the time of their site examination. Ground photographs of the site and selected features are included in Appendix D of *Technical Appendix D*. (Terracon, 2019, p. 3)

1. Geologic Units

The location of the geologic units on the Project site are identified Figure 4.5-1. The geologic units on the site are described below from youngest to oldest.

- **Fill (f)**: Fill associated with disturbed areas and stockpile materials is present along roads and in the active Mine area. Fill includes loose material on slopes and benches. Significant fill does not occur within the EDA. (Terracon, 2019, p. 4)

- **Old Alluvium (Qofu)**: Old alluvial-fan deposits are depicted as a mantle on underlying bedrock units in the southwestern portion of the EDA. These materials include sand, silt, and gravelly sediments derived from local bedrock areas. (Terracon, 2019, p. 4)

- **Mt. Eden Formation (Tmea)**: Arkosic sandstone and silty sandstone of the Mt. Eden formation forms a sedimentary cover along the northern boundary of the EDA. This unit is described as homogeneous, consolidated to lithified, well-bedded gray and brown sandstone. This unit is recessive and slope forming. Areas of Tmea appear to occur within the proposed slope boundary along the northern side of the proposed EDA. (Terracon, 2019, p. 5)

- **Granitic and Gneissic Bedrock (gr)**: Bedrock of intrusive origin and mixed gneissic textures crops out south of the EDA and as localized dikes and screens in the limestone and metasedimentary units (ls, mss, sch). This unit is described as very pale-brown, texturally massive to foliated, inequigranular to coarse-grained muscovite-garnet monzogranite. Grain size ranges from fine to coarse, with grain size varying on a small scale. Outcrops of granite tend toward rounded forms that protrude through a grussy soil cover. (Terracon, 2019, p. 5)

- **Metasedimentary Rocks (ms)**: Metamorphic sedimentary rocks of mixed composition include schist, quartzite, and foliated gneiss that include thin layers of limestone (marble) forming recessive landforms. They are described as layered and foliated biotite-quartz gneiss associated with thin unmapped zones of white marble and metaquartzite; locally intermingled with unmapped dikes and sills of Granite of Mt. Eden (gr). This unit is equivalent to metasandstone and schist. (Terracon, 2019, p. 5)

- **Marble (m)**: Marble beds crop out along resistant northwest-trending ridges that form the high ground within the EDA. The marble is white and varies in texture from medium- to very coarse-grained and rough. Solution weathering has formed localized voids and pockets visible at the ground surface in some outcrops. The marble is indicated as limestone. (Terracon, 2019, p. 5)

2. Geologic Structure

The geologic structure of the EDA is defined by northwest-trending foliation/bedding visible in aerial imagery as resistant ridges, outcrop alignment and primary bedding in steeply northeast-dipping metasediments and marble. The metasediments are bounded by and locally invaded by an intrusive igneous body near the south boundary of the expansion area. Cross joints oriented normal to bedding/foliation form blocky structure within the marble and metasediments. The granitic units tend toward more random joint orientations. North to northeast-dipping foliation is anticipated in the metasedimentary units of the EDA. North- and northeast-dipping bedding in the marble (limestone) unit with dip angles between 36 and 60 degrees have been recorded. Stereonet plots of bedding/foliation data support a bias toward north and northeast-dipping beds in the EDA. Folding in the metasediments result in more easterly dips locally. Cross joints are more randomly oriented discontinuities that cut bedding and form block fabric in outcrop and excavations in rock material. Regional-scale and/or large faults were not observed in the existing mine exposures. (Terracon, 2019, pp. 5-6)

C. *Faulting and Seismicity*

1. *Regional Faults*

The site is not located within or immediately adjacent to an Alquist-Priolo Earthquake Fault Zone (APZ) designated by the State of California or fault hazard zones designated by the County of Riverside to include traces of suspected active faulting. The closest APZ boundary, designated for the San Jacinto fault, is located approximately two-tenths of a mile southwest of the EDA boundary. Active or potentially active faults are not shown on or in the immediate vicinity of the EDA on published geologic maps. Evidence of active faulting on or immediately adjacent to the EDA was not observed during the geologic field reconnaissance or on the aerial photographs reviewed. Potential seismic sources in the site region are identified in Table 4.5-1, *Fault Table*, and discussed below. (Terracon, 2019, p. 6)

Table 4.5-1 Fault Table

FAULT NAME	DISTANCE (km)	MAXIMUM MAGNITUDE
San Jacinto	0.85	7.04
Beaumont Plains fault zone	5	6.3
San Andreas	20.8	6.94
Elsinore	35	7.07

(Terracon, 2019, Table 1)

❑ San Jacinto Fault Zone

The San Jacinto fault zone is a system of northwest-trending, right-lateral, strike-slip faults approximately 0.25 mile southwest of the EDA. More large, historic earthquakes have occurred on the San Jacinto fault than any other fault in Southern California. Data suggests that a portion of the San Jacinto fault may accommodate most of the slip between the Pacific and the North American plates. It is suggested that this motion is transferred to the San Andreas fault in the Cajon Pass region by "stepping over" to parallel fault strands that include the Glen Helen fault. (Terracon, 2019, p. 6)

❑ Beaumont Plain Fault

Fault scarps and other lineaments associated with the Beaumont Plain Fault Zone have been mapped approximately 3 miles northeast of the EDA. The Beaumont Plain fault zone is a system of north- and northwest-trending normal faults that are apparently the result of local extensional strain. Traces of this fault zone are observed as muted scarps and tonal lineaments expressed in older alluvium. Quaternary activity is evident for the fault zone but, where investigated, evidence of Holocene (recent) activity has been uncertain or doubtful. Traces of the Beaumont Plain fault zone across Noble Creek were trenched in the late 1980s. That investigation concluded that the faults that were trenched were inactive and not considered to be a ground rupture hazard. The Beaumont Plain fault zone was interpreted from seismic profiles conducted for water recharge potential in the Beaumont-Cherry Valley area and was exposed in trenches located in the Beaumont area north of the site. Faults exposed in these trenches were shown to exhibit evidence of Holocene activity. (Terracon, 2019, pp. 6-7)

❑ San Andreas Fault Zone

The San Andreas fault zone (SAFZ) is a major geographic feature of California and constitutes the major expression of the Pacific and North American plate tectonic boundary. The SAFZ extends generally northwestward from the Salton Sea region approximately 745 miles to the offshore region of northern California. The San Bernardino Mountains segment is located approximately 12-1/2 miles northeast of the site. The SAFZ is characterized by numerous youthful fault-related landforms including fault scarps, vegetational lineaments, springs, and offset drainages. (Terracon, 2019, p. 7)

❑ Elsinore Fault Zone

The Wildomar segment of the Elsinore fault zone is about 23 miles southwest of the site. The Elsinore fault zone is typified by multiple en echelon and diverging faults. To the north, it splays into the Whittier and Chino faults. The Elsinore is primarily a strike-slip fault zone; however, transtentional features such as the graben of the Elsinore and Temecula Valleys also occur. Most Elsinore fault traces are demonstrably active (Holocene). (Terracon, 2019, p. 7)

2. Regional Seismicity

From a ground-shaking standpoint the most significant fault for the site is the San Jacinto, about one quarter mile to the southwest of the EDA (Terracon, 2019, p. 7).

D. Ground-Shaking Hazard

Ground-shaking hazards at the site were evaluated and are summarized below in Table 4.5-2, *Summary of Regional Seismic Sources*. Terracon determined that moderate to severe seismic shaking can occur during the lifetime of the proposed mining and reclamation (Terracon, 2019, p. 15).

Table 4.5-2 Summary of Regional Seismic Sources

FAULT (SEGMENTS)	MAGNITUDE	DISTANCE (KM)	PEAK GROUND ACCELERATION
San Jacinto (SBV+SJV)	7.4	0.85	0.51
Beaumont Plain Fault zone	6.3	5	0.32
San Andreas (SM+NSB+SSB)	7.6	20.8	0.19
Elsinore (W+GI)	7.3	35	0.13

Notes: W=Whittier, GI=Glen Ivy, SBV=San Bernardino Valley, SJV=San Jacinto Valley, SM=South Mojave, NSB=North San Bernardino, SSB=South San Bernardino
(Terracon, 2019, Table 2)

E. Groundwater

The EDA is located in Section 25 of Township 3 South, Range 2 West and is elevated above the groundwater-producing zones of the San Jacinto Valley. Terracon observed no seepage, springs, or other evidence for a groundwater table within the quarry boundary during geologic mapping. Groundwater data compiled by Western Municipal Water District in 2017 did not indicate well data for the site vicinity. (Terracon, 2019, p. 8)

Two wells are located on site. Well "KM Shallow" is situated at an elevation of 1,933 feet above mean sea level (amsl) and had a static water level of 397 feet below the existing ground surface (bgs) when drilled in 2000. A depth to water of 522 feet bgs is also reported for this well. These data indicate that groundwater occurs below the proposed bottom elevation of proposed mining within the EDA. Groundwater is not anticipated to occur within the lowest proposed elevation of the final pit bottom (1,740 feet amsl). (Terracon, 2019, p. 8)

Based on the presence of non-liquefiable bedrock, the potential for liquefaction and other shallow groundwater-related hazards at the site is considered to be very low. The quarry bottom may be exposed to periodic ponding of surface water after locally heavy precipitation. However, such ponding is anticipated to be shallow and short-lived – lasting only as long as evaporation/infiltration occurs; therefore, this transient water was not considered in slope stability calculations. Groundwater is not anticipated to significantly affect the stability of the proposed slopes; therefore, Terracon considered dry conditions in the slope stability calculations. (Terracon, 2019, p. 8)

F. Slope Stability

The term "landslide," as used herein and in *Technical Appendix D*, refers to deep-seated slope failures that involve mine pit-scale features (overall slope or interramp slope) that have the potential to reduce the long-term stability of finished reclamation slopes. Landslides in hard rock mines are controlled by the interaction of geologic structure with the mine wall configuration and character of the rock material. Surficial failures refer to shallow failures that affect limited interbench slopes and may result in localized raveling of rock material. Surficial failures or raveling are considered a slope management/maintenance issue during mining. Landslide denotes more problematic, large-volume features. (Terracon, 2019, pp. 8-9)

The susceptibility of a geologic unit to landsliding is dependent upon various factors, primarily: 1) the presence and orientation of weak structures, such as fractures, faults, or weak beds; 2) the height and steepness of the natural or cut slope; 3) the presence and quantity of groundwater; and 4) the occurrence of strong seismic shaking. Primary influences on the stability of final mine slopes are anticipated to be the interaction between slope geometry and geologic structure including bedding/foliation and joints, within the pit margin. The groundwater potential at the Project site is low. The seismic ground shaking potential is high. (Terracon, 2019, p. 9) Refer to *Technical Appendix D* for a more detailed description of the methods and analysis of slope stability associated with the EDA.

4.5.3 Applicable Environmental Regulations

The following is a brief description of the federal, state, and local environmental laws and related regulations governing issues related to geology and soils.

A. Federal Regulations

1. Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was

enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was substantially reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry, and also has set water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. (EPA, 2017)

B. State Regulations

1. Alquist-Priolo Earthquake Fault Zoning Act (A-P Act)

The Alquist-Priolo Earthquake Fault Zoning Act (A-P Act) was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The A-P Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The A-P Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. (CGS, n.d.)

The A-P Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. ["Earthquake Fault Zones" were called "Special Studies Zones" prior to January 1, 1994.] The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy. Single family wood-frame and steel-frame dwellings up to two stories not part of a development of four units or more are exempt. However, local agencies can be more restrictive than state law requires. (CGS, n.d.)

Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet). (CGS, n.d.)

2. Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code, Chapter 7.8, § 2690-2699.6) directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards. (CGS, n.d.)

Staff geologists in the Seismic Hazard Zonation Program gather existing geological, geophysical, and geotechnical data from numerous sources to produce the Seismic Hazard Zone Maps. They integrate and

interpret these data regionally in order to evaluate the severity of the seismic hazards and designate as Zones of Required Investigation (ZORI) those areas prone to liquefaction and earthquake–induced landslides. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes. (CGS, n.d.)

The SHMA requires site-specific geotechnical investigations be conducted within the Zones of Required Investigation to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy. (CGS, n.d.)

3. Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act, effective June 1, 1998 (as amended June 9, 1998), requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone. (CGS, n.d.)

The law requires the State Geologist to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps). These maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling construction and development. Single-family frame dwellings up to two stories not part of a development of four or more units are exempt from the state requirements. However, local agencies can be more restrictive than state law requires. (CGS, n.d.)

Before a development permit can be issued or a subdivision approved, cities and counties must require a site-specific investigation to determine whether a significant hazard exists at the site and, if so, recommend measures to reduce the risk to an acceptable level. The investigation must be performed by state-licensed engineering geologists and/or civil engineers. (CGS, n.d.)

4. Building Earthquake Safety Act

In 1986, the California Legislature determined that buildings providing essential services should be capable of providing those services to the public after a disaster. Their intent in this regard was defined in legislation known as the Essential Services Buildings Seismic Safety Act of 1986 and includes requirements that such buildings shall be "…designed and constructed to minimize fire hazards and to resist…the forces generated by earthquakes, gravity, and winds." This enabling legislation can be found in the California Health and Safety Code, Chapter 2, § 16000 through 16022. In addition, the California Building Code defines how the intent of the act is to be implemented in Title 24, Part 1 of the California Building Standards Administrative Code, Chapter 4, Articles 1 through 3. (CAB, n.d.)

5. California Building Standards Code (Title 24)

California Code of Regulations (CCR) Title 24 is reserved for state regulations that govern the design and construction of buildings, associated facilities, and equipment. These regulations are also known as building standards (reference California Health and Safety Code § 18909). Health and Safety Code (state law) § 18902 gives CCR Title 24 the name California Building Standards Code (CBSC). (CBSC, 2010, p. 6)

The CBSC in CCR Title 24 is published by the California Building Standards Commission and it applies to all building occupancies (see Health and Safety Code §§ 18908 and 18938) throughout the State of California. Cities and counties are required by state law to enforce CCR Title 24 (reference Health and Safety Code §§ 17958, 17960, 18938(b), and 18948). Cities and counties may adopt ordinances making more restrictive requirements than provided by CCR Title 24, because of local climatic, geological, or topographical conditions. Such adoptions and a finding of need statement must be filed with the California Building Standards Commission (Reference Health and Safety Code §§ 17958.7 and 18941.5). (CBSC, 2010, pp. 6-7)

6. Porter-Cologne Water Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code § 13000 *et seq*.), the policy of the State is as follows: (SWRCB, 2014)

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation. (SWRCB, 2014)

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous non-point source (NPS) related responsibilities, including monitoring and assessment, planning, financial assistance, and management. (SWRCB, 2014)

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for NPS discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The Storm Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions. (SWRCB, 2014)

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as the NPDES permitting program. The Porter-Cologne Act also requires adoption of water quality control plans that contain

the guiding policies of water pollution management in California. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. (SWRCB, 2014) The Project site is located in the Santa Ana River Watershed, which is within the purview of the Santa Ana Regional Water Quality Control Board (RWQCB). The Santa Ana RWQCB's *Santa Ana Region Basin Plan*, which was most recently updated in February 2016, is the governing water quality plan for the region (RWQCB, 2016).

4.5.4 Basis for Determining Significance

Section VII of Appendix G to the CEQA Guidelines addresses typical adverse effects due to geological conditions, and includes the following threshold questions to evaluate the Project's impacts resulting from geologic or soil conditions (OPR, 2018):

- *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*
    - *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;*
    - *Strong seismic ground shaking;*
    - *Seismic-related ground failure, including liquefaction; or*
    - *Landslides.*
- *Result in substantial soil erosion or the loss of topsoil.*
- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*
- *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.*
- *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*
- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Significance thresholds are set forth in EA No. 43097 (Riverside County's Environmental Assessment Checklist), are derived from Section VII of Appendix G to the CEQA Guidelines (listed above), and indicate significant impacts would occur if the Project or any Project-related component would:

a. Be subject to 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;

b. Be subject to seismic-related ground failure, including liquefaction;

c. Be subject to strong seismic ground shaking;

d. 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, collapse, or rockfall hazards;

e. 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 ground subsidence;

f. Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard;

g. Change topography or ground surface relief features;

h. Create cut or fill slopes greater than 2:1 or higher than 10 feet;

i. Result in grading that affects or negates subsurface sewage disposal systems;

j. Result in substantial soil erosion or the loss of topsoil;

k. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property;

l. Have soils incapable of adequately supporting use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water;

m. Be impacted by or result in an increase in wind erosion and blow sand, either on or off site.

Impacts to paleontological resources are addressed separately in EIR Subsection 4.10, *Paleontological Resources*.

4.5.5 Impact Analysis

Threshold a:	***Would the Project be subject to 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?***
Threshold c:	***Would the Project be subject to strong seismic ground shaking?***

Impacts Associated with the Rupture of a Known Earthquake Fault

The site is not located within or immediately adjacent to an Alquist-Priolo Earthquake Fault Zone (APZ) designated by the State of California or fault hazard zones designated by the County of Riverside to include traces of suspected active faulting. The closest APZ boundary, designated for the San Jacinto fault, is located approximately 0.25 mile southwest of the EDA boundary. Active or potentially active faults are not shown on or in the immediate vicinity of the EDA on published geologic maps. (Terracon, 2019, p. 6) Evidence of active faulting was not observed on the site during Terracon's investigation and active faulting is not anticipated to affect the EDA and its proposed reclaimed slopes. (Terracon, 2019, p. 15) Furthermore, the Project does not propose any permanent structures, and therefore has no potential to expose people or structures to potential substantial adverse effects associated with earthquake faults, including the risk of loss, injury, or

death. For these reasons, there is no potential for ground rupture to occur on the site associated with an Alquist-Priolo Earthquake Fault Zone or County Fault Hazard Zone, and impacts would be less than significant.

Impacts Associated with Strong Seismic Ground Shaking

The Project site is located in a seismically active area of southern California and is expected to experience moderate to severe ground-shaking during the lifetime of the Mine's operation and reclamation. This risk is not substantially different than the risk experienced by other properties in southern California. From a ground-shaking standpoint, the most significant fault for the site is the San Jacinto, about 0.25 mile to the southwest of the proposed EDA. The seismic ground shaking potential is high. (Terracon, 2019, pp. 6, 9)

Terracon determined that overall modeled Mine cut slope up to approximately 400 feet in height and upper/lower intermediate slopes (modeled at 45 degrees) are suitably stable against gross failure during the anticipated long-term conditions, including the effects of seismic shaking. Therefore, the planned (slightly flatter) slope angles are considered suitably stable against gross failure for the anticipated long-term conditions, including seismic shaking. (Terracon, 2019, p. 15) The County of Riverside would impose the recommendations of the site-specific slope stability investigation (*Technical Appendix D*) as a standard condition of Project approval to further reduce the risk associated with strong seismic ground shaking. As such, implementation of the Project would result in a less-than-significant impact associated with strong seismic ground shaking.

Threshold b: ***Would the Project be subject to seismic-related ground failure, including liquefaction?***

According to Riverside County GIS, a majority of the 1,021.4 acre Mine is not susceptible to liquefaction hazards, including the areas currently approved for mining activities as well as the proposed 54.5-acre EDA. Terracon concluded based on the presence of non-liquefiable bedrock, that the potential for liquefaction and other shallow groundwater-related hazards at the site is considered to be very low (Terracon, 2019, p. 8). The County of Riverside would impose the recommendations of the site-specific slope stability investigation (*Technical Appendix D*) as a standard condition of Project approval to further reduce the risk associated with seismic-related ground failure, including liquefaction. As such, future mining activities associated with the proposed Project would not be subject to seismic-related ground failure, including liquefaction. Accordingly, a less-than significant-impact would occur and no mitigation is required.

Threshold d: ***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, collapse, or rockfall hazards?***

Threshold e: ***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 ground subsidence?***

Raveling processes during and after quarry operation, with time, would result in the deposition of talus on benches that are included in design to mitigate rockfall as catchment zones. Talus left on benches can facilitate revegetation and lend a more natural appearance to the reclaimed slopes. Terracon anticipates that rock fragments would be angular and relatively resistant to rolling. Therefore, Terracon does not anticipate rockfall

hazard for properly excavated rock slopes, and impacts associated with rockfall hazards would be less than significant. (Terracon, 2019, pp. 15-16)

Terracon determined that the rock strength of bedrock materials is sufficient to accommodate the overall slope angles proposed in the Project's Slope Stability Investigation (*Technical Appendix D*). Based on Terracon's analysis, overall modeled 42-degree mine cut-slopes up to approximately 400 feet in height and upper/lower intermediate slopes (modeled at 45 degrees) would be suitably stable against gross failure for the anticipated long-term conditions, including the effects of seismic shaking. Terracon determined that adherence to the slope benching plan as proposed by the Project and consideration of newly exposed potentially adverse structural features (if present) during mining work can result in stable slopes during mining and after completion of reclamation. (Terracon, 2019, p. 15)

For the reasons stated above, Terracon determined that the proposed Project would have a less-than-significant impact associated with landslide, lateral spreading, collapse, rockfall hazards or ground subsidence. Moreover, the Project proposes to expand areas subject to mining activities on site and would not result in the introduction of any permanent structures that could be subject to such hazards. The County of Riverside would impose the recommendations of the site-specific slope stability investigation (*Technical Appendix D*) as a standard condition of Project approval. Thus, with the Project's implementation of Terracon's recommendations identified in the Project's Slope Stability Investigation (*Technical Appendix D*), impacts associated with landslide, lateral spreading, collapse, rockfall hazards or ground subsidence, would be less than significant.

Threshold f: Would the Project be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard?

The Project site is located in southern California, a region that is not known to contain any active volcanic hazards. Additionally, the Project site does not contain any body of water that is susceptible to seiche-related hazards, nor is the Project site located in close proximity to large bodies of water that could be subject to seiches. Although Lake Perris is located approximately 6.3 miles west of the proposed 54.5-acre EDA, the lake occurs at a substantially lower elevation relative to the Project site and would not subject the EDA to hazards associated with seiches. As such the Project would not be subject to seiches or volcanic hazards and no impact would occur.

Mudflow hazards are not likely to occur on site due to the shallow depth to bedrock and the nature of on-site soils. Additionally, as recommended in the Project's Slope Stability Investigation (*Technical Appendix D*), proposed slopes and benches should be protected with perimeter berms and/or levees as necessary to prevent slope erosion and surface flow incursion in the areas where natural slopes drain toward mining and/or reclaimed slopes. (Terracon, 2019, p. 17) The County of Riverside would impose the recommendations of the site-specific Slope Stability Investigation (*Technical Appendix D*) as a standard condition of Project approval to further reduce the risk associated with mudflow. As such, implementation of the Project would result in less-than-significant impacts associated with mudflow.

Threshold g: ***Would the Project change topography or ground surface relief features?***

Threshold h: ***Would the Project create cut or fill slopes greater than 2:1 or higher than 10 feet?***

Implementation of the proposed Project would result in a substantial change in the topography and ground surface relief features within the proposed EDA. Additionally, mining activities proposed by the Project would result in the creation of slopes that are steeper than 2:1 and higher than 10 feet.

A roughly rectangular pit is proposed with local bends in the finished walls. The deeper portion of the proposed pit is proposed with a bottom at elevation 1,740 feet amsl at the west side. The reclamation slope plan depicts a benched configuration using 25-foot-tall by 25-foot-wide benches with locally wider (35-foot-wide benches) forming an overall slope inclined at approximately 1 horizontal to 1 vertical (45 degrees). The stated angle for overall slopes is 37 degrees. Bench face angles are proposed at approximately 88 degrees with allowance for back break to about 80 degrees. The stated angle for the upper and lower portions of the overall slope is 43 degrees. All slopes are anticipated to be formed in rock material. The slope configuration as modeled for global stability calculations is shown in Appendix C of *Technical Appendix D*. (Terracon, 2019, p. 2)

Terracon recommends that overall final cut slopes (pit top to pit toe) should be no steeper than approved angles (42 degrees as modeled in Cross Section A) up to the maximum proposed height (400 feet). The benching plan is suitable to provide rock fall protection consistent with the modified Ritchie criteria (MRC). The bedding orientation (generally 40-degree northeast dip) within marble-bearing and foliated schist strata may influence the geometry of north- and northwest-facing pit walls. The occurrence of back break and kinematic influence on face angles may result in slightly flatter or steeper interbench slope angles. Mining operations and ongoing slope design should include allowance for flattening or steepening of interbench slope angles where geologic structure dominates. The design criteria for the recommended pit slope angles are based on the assumption that low-damage, controlled blasting techniques or other suitable methods of excavating relatively clean and uniform benches and faces will be employed to create the final reclamation slopes. (Terracon, 2019, p. 16)

Although the Project would substantially alter the site's existing topography, the proposed slopes have been evaluated by Terracon and determined that the slopes would be grossly stable and would not result in adverse environmental effects, such as rockfall hazards. The County of Riverside would condition the proposed Project to adhere to the recommendations of the site-specific Slope Stability Investigation (*Technical Appendix D*), which would ensure that proposed slopes are grossly stable. Other effects associated with the proposed changes to the site's topography have been evaluated throughout this EIR (e.g., Aesthetics, Hydrology/Water Quality, etc.), and such changes were determined to be less than significant or would be reduced to less-than-significant levels with mitigation. Therefore, Project impacts due to changes to the site's topography and ground relief features and the creation of slopes steeper than 2:1 and higher than 10 feet in height would be less than significant.

Threshold i:	***Would the Project result in grading that affects or negates subsurface sewage disposal systems?***
Threshold l:	***Would the Project have soils incapable of adequately supporting use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

Under existing conditions, the 54.5-acre EDA consists of natural, undisturbed lands that have never been subject to development, and there are no existing subsurface sewage disposal systems on the property. Additionally, all wastewater generated at the Mine would be handled via portable toilet facilities, and no subsurface sewage disposal systems are proposed as part of the Project. Thus, no impact would occur as a result of the 54.5-acre proposed expansion of the Mine.

Threshold j:	***Would the Project result in substantial soil erosion or the loss of topsoil?***
Threshold m:	***Would the Project be impacted by or result in an increase in wind erosion and blowsand, either on or off site?***

Under existing conditions, approximately 150.4 acres of the Gilman Springs Mine are actively used for mining operations. The proposed Project would expand the mine's disturbance limits to accommodate an additional 54.5 acres of mining area on what is currently undeveloped land. Therefore, exposed soils on-site would be susceptible to erosion and loss of topsoil. Earth moving associated with mining activities would expose underlying soils, which could increase erosion susceptibility.

As discussed in EIR Section 4.8, *Hydrology and Water Quality*, during ongoing mining operations under the Project, and similar to existing conditions, runoff from the northern portions of areas planned for mining activities would be conveyed to a detention/siltation basin, with a portion of the runoff being discharged off site along the Mine's southern boundary (west of the Mine's access road). Runoff within the southeastern portion of the site would be directed towards one of several detention/sedimentation basins located in the southeastern portions of the site, which would be conveyed off site at the Mine's southern boundary following water quality treatment, near the Mine's access road. As shown on Figure 4.8-4, *Post-Reclamation Hydrologic Conditions*, following the completion of mining and reclamation activities on site, all runoff in the northern portions of the site that would be subject to mining activities would be conveyed to an on-site retention basin, with runoff being fully detained on site. Within the southeastern portion of the site, runoff would continue to be directed towards a sedimentation/retention basin, before being discharged off site at the Mine's southern boundary, adjacent to the Mine's access road. Areas located outside of areas planned for mining and processing activities would convey runoff in a manner similar to existing conditions and historical conditions. Furthermore, all runoff from areas that would be disturbed as part of existing or future mining activities on site would be conveyed to sedimentation/retention basins, which would detain flows and provide water quality treatment (i.e., to remove sediments) prior to discharge from the site. Accordingly, under on-going mining operations, including within the proposed EDA, runoff from the site would not result in substantial erosion or siltation on- or off-site that would modify the channel of a river or stream or the bed of a lake.

As discussed in EIR Section 3.0, *Project Description*, as part of site reclamation, all disturbed areas on site would be revegetated. California Code of Regulations (CCR) Section 3705(a) states that a vegetative cover suitable for the proposed end use and capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer shall be established on disturbed land, and further specifies that vegetative cover or density, and species-richness shall be, where appropriate, sufficient to stabilize the surface against effects of long-term erosion and shall be similar to naturally occurring habitats in the surrounding area.

Pursuant to the requirements of the State Water Resources Control Board, the Project Applicant is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for mining activities. The NPDES permit is required for all projects that would disturb at least one (1) acre of total land area. The County's Municipal Separate Storm Sewer System (MS4) NPDES permit requires the Project Applicant to prepare and submit to the County for approval, a Project-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify a combination of erosion control and sediment control measures (i.e., Best Management Practices (BMPs)) to reduce or eliminate sediment discharge to surface water from storm water and non-storm water discharges during on-going mining operations.

The County of Riverside requires the Project Applicant prepare and submit for County approval a Water Quality Management Plan (WQMP). The WQMP is required to identify an effective combination of erosion control and sediment control measures (i.e., BMPs) to reduce or eliminate sediment discharge to surface water from storm water and non-storm waste discharges. The Project's WQMP is required to incorporate BMPs which are effective at removing silt and sediment from storm water runoff. WQMPs also require operational measures to ensure on-going erosion potential. Compliance with the Project's WQMP would be required as a condition of Project approval as would be the long-term maintenance of water quality features.

In addition, proposed construction activities would be required to comply with South Coast Air Quality Management District (SCAQMD) Rule 403, which would reduce the amount of particulate matter in the air and minimize the potential for wind erosion. Rule 403 requires that certain construction practices be followed to limit dust and dirt from leaving the construction site. For example, no dust is allowed to be visible in the air beyond the property line of a construction site, and no dirt is allowed to be tracked out of the site by more than 25 feet.

For the reasons stated above, implementation of the proposed Project would not result in substantial erosion or loss of topsoil. Thus, impacts during expansion of the Mine would be less than significant and no mitigation is required.

Threshold k.: ***Would the Project be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?***

The Project consists of a proposed expansion to an existing aggregate quarry. No buildings or permanent structures are proposed as part of the Project. Additionally, slopes created as part of the Project would consist of bedrock materials suitable for aggregate mining, and no expansive soils are anticipated. As such, no impacts due to expansive soils would occur.

4.5.6 Cumulative Impact Analysis

With the exception of erosion hazards, potential geologic and soils effects are inherently restricted to the areas proposed for mining and would not contribute to cumulative impacts associated with other existing, planned, or proposed development. That is, issues involving fault rupture, seismic ground shaking, liquefaction, landslides, and expansive soils would involve effects to (and not from) the proposed mining activities and are specific to on-site conditions. Accordingly, addressing these potential hazards for the proposed mining on the Project site have no relationship to, or impact on, off-site areas. Due to the site-specific nature of these potential hazards and the measures to address them, there would be no connection to similar potential issues or cumulative effects to or from other properties.

As discussed under Thresholds j and m, during both mining and after mining has completed, measures would be incorporated into the Project's design (such as soil stabilization and detaining all water on-site during mining activities, and revegetation of the site) to ensure that substantial erosion hazards do not occur. Development projects within the cumulative study area would be required to comply with regulatory requirements, such as the need to obtain a national Pollutant Discharge Elimination system (NPDES) permit and mandatory compliance with Storm Water Pollution Prevention Plans (SWPPPs) and Water Quality Management Plans (WQMPs). All projects involving earth movement in the cumulative study area also would be required to comply with SCAQMD Rule 403 and grading requirements of the local governing body, which would preclude wind-related erosion hazards during construction. Development projects within the cumulative study area would be subject to mandatory regulatory requirements to control erosion hazards during construction and long-term operation; therefore, cumulative impacts associated with wind and water erosion hazards would be less than significant and the Project's contribution would be less than cumulatively considerable.

4.5.7 Significance of Impacts Before Mitigation

Thresholds a and c: Less-than-Significant Impact. The proposed EDA is not located within or immediately adjacent to an Alquist-Priolo Earthquake Fault Zone (APZ) designated by the State of California or fault hazard zones designated by the County of Riverside to include traces of suspected active faulting. The Project is subject to seismic ground shaking associated with earthquakes. With implementation of the recommendations contained in the Project's Slope Stability Investigation (*Technical Appendix D*), as would be required through standard conditions of Project approval, impacts associated with ground-shaking would be further reduced to a less-than-significant level.

Threshold b: Less-than-Significant Impact. Terracon concluded, based on the presence of non-liquefiable bedrock, that the potential for liquefaction and other shallow groundwater-related hazards at the site is considered to be very low. The County of Riverside would impose the recommendations of the site-specific slope stability investigation (*Technical Appendix D)* as a standard condition of Project approval to further reduce the risk associated with seismic-related ground failure, including liquefaction. Accordingly, a less-than-significant impact would occur.

Thresholds d and e: Less-than-Significant Impact. With implementation of the site-specific slope stability investigation (*Technical Appendix D)* as a standard condition of Project approval, the Project would result in

less-than-significant impacts associated with on- or off-site landslide, lateral spreading, collapse, rockfall hazards, and ground subsidence.

Threshold f: Less-than-Significant Impact. The Project would not be subject to seiches or volcanic hazards. Mudflow hazards are not likely to occur on site due to the shallow depth to bedrock and the nature of on-site soils. Additionally, as recommended in the Project's site-specific Slope Stability Investigation (*Technical Appendix D*), slopes and benches would be protected with perimeter berms and/or levees as necessary to prevent slope erosion and surface flow incursion in the areas where natural slopes drain toward mining and/or reclaimed slopes. The County of Riverside would impose the recommendations of the site-specific Slope Stability Investigation (*Technical Appendix D*) as a standard condition of Project approval to further reduce the risk associated with mudflow. As such, implementation of the Project would result in a less-than-significant impact associated with mudflow.

Thresholds g and h: Less-than-Significant Impact. With mandatory compliance to the site-specific Slope Stability Investigation (*Technical Appendix D*) as required by standard conditions of Project approval, impacts due to changes in topography or ground surface features, as well as impacts associated with cut slopes steeper than 2:1 and higher than 10 feet in height, would be less than significant.

Thresholds i and l: No Impact. Under existing conditions there are no existing subsurface sewage disposal systems on the property, as all wastewater is handled via portable toilets. Additionally, all wastewater generated at the Mine would be handled via portable toilet facilities, and no subsurface sewage disposal systems are proposed as part of the Project. Thus, no impact would occur to existing subsurface sewage disposal systems, and no impact would occur due to proposed septic tanks or alternative waste water disposal systems.

Thresholds j and m: Less-than-Significant Impact. The Project would not result in substantial soil erosion or the loss of topsoil. The Project Applicant is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit, as well as adhere to a Water Quality Management Plan (WQMP) and South Coast Air Quality Management District (SCAQMD) Rule 403. With mandatory compliance to these regulatory requirements, the potential for soil erosion impacts would be less than significant.

Threshold k: No Impact. The Project consists of a proposed expansion to an existing aggregate quarry. No buildings or permanent structures are proposed as part of the Project. Additionally, slopes created as part of the Project would consist of bedrock materials suitable for aggregate mining, and no expansive soils are anticipated. As such, no impacts due to expansive soils would occur.

4.5.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- As a standard condition of Project approval, the Project will be required to comply with the site-specific recommendations contained in the Project's Slope Stability Investigation (*Technical Appendix D*).

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust" by implementing the following dust control measures during ground disturbing activities, as applicable:

  - All new ground disturbing activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.

  - The Mine Operator shall ensure that all disturbed unpaved roads and disturbed areas within the Mine are either subject to soil stabilization or are watered at least three (3) times daily during dry weather. Soil stabilization shall occur pursuant to manufacturer's specifications, while watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the midmorning, afternoon, and after work is done for the day.

  - The Mine Operator shall ensure that traffic speeds on unpaved roads a are reduced to 15 mph or less.

Mitigation

Impacts would be less than significant; therefore, no mitigation is required.

4.6 GREENHOUSE GAS EMISSIONS

The analysis in this Subsection is based in part on a greenhouse gas (GHG) analysis prepared for the Project by Urban Crossroads, Inc., titled, "Gilman Springs Mine Greenhouse Gas Analysis," (herein "GHGA"), dated January 7, 2020, and appended to this EIR as *Technical Appendix E* (Urban Crossroads, 2020b). It should be noted that since the GHGA was prepared for the Project, the proposed mining limits have changed; however, daily, and annual operational characteristics associated with the Project would be the same as evaluated in the GHGA.

4.6.1 EXISTING CONDITIONS

A. *Introduction to Global Climate Change*

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide (CO), methane (CH_4), nitrous oxide (NO_X), and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years. (Urban Crossroads, 2020b, p. 7)

An individual project like the proposed Project evaluated herein cannot generate enough GHG emissions to effect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. (Urban Crossroads, 2020b, p. 7)

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O (Nitrous Oxide), CH_4, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the California Air Resources Board (CARB), the climate change since the industrial revolution differs from previous climate changes in both rate and magnitude. (Urban Crossroads, 2020b, p. 7)

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect,

the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature. (Urban Crossroads, 2020b, p. 7)

B. Greenhouse Gas Inventories

Global

Worldwide anthropogenic (human) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. Based on the latest available data, , the sum of these emissions totaled approximately 29,216,501 Gg CO_2e[1]. The GHG emissions in more recent years may differ from the inventories presented in Table 4.6-1, *Top GHG Producer Countries and the European Union*; however, the data is representative of currently available inventory data. (Urban Crossroads, 2020b, p. 6)

Table 4.6-1 Top GHG Producer Countries and the European Union

Emitting Countries	GHG Emissions (Gg CO_2e)
China	11,911,710
United States	6,456,718
European Union (28-member countries)	4,323,163
India	3,079,810
Russian Federation	2,155,470
Japan	1,289,630
Total	**29,216,501**

Note: Gg – gigagram
Note: Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in http://www.wri.org site to reference Non-Annex I countries such as China and India.
(Urban Crossroads, 2020b, Table 2-3)

United States

As noted in Table 4.6-1, the United States, as a single country, was the number two producer of GHG emissions in 2017. (Urban Crossroads, 2020b, p. 15)

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2017 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF." The most recent GHG emissions for China and India are from 2014.

State of California

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls, but is still a substantial contributor to the U.S. emissions inventory total. CARB compiles GHG inventories for the State of California. Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 greenhouse gas emissions inventory, California emitted 424.1 million metric tons of carbon dioxide equivalent ($MMTCO_2e$). (Urban Crossroads, 2020b, p. 15)

C. *Greenhouse Gases*

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated because these gasses are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well-defined and no accepted emissions factors or methodology exist to accurately calculate these gases. (Urban Crossroads, 2020b, pp. 7-8)

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1. The atmospheric lifetime and GWP of selected greenhouse gases are summarized at Table 4.6-2, *Global Warming Potential and Atmospheric Lifetime of Select GHGs*. As shown in Table 4.6-2, GWP range from 1 for carbon dioxide to 22,800 for sulfur hexafluoride (SF_6). It should be noted that CARB is beginning to transition to the use of GWPs from IPCC's Fourth Assessment Report. (Urban Crossroads, 2020b, pp. 13-14)

Table 4.6-2 Global Warming Potential and Atmospheric Lifetime of Select GHGs

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	25
Nitrous Oxide	120	298
HFC-23	264	14,800
HFC-134a	14.6	1,430
HFC-152a	1.5	124
Sulfur Hexafluoride (SF6)	3,200	22,800
Source: Environmental Protection Agency (EPA) 2013 (URL: http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/2013-data-elements.pdf)		

(Urban Crossroads, 2020b, Table 2-2)

- **Water Vapor:** Water vapor (H_20) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. (Urban Crossroads, 2020b, p. 8)

  As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up). (Urban Crossroads, 2020b, pp. 8-9)

  There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves. (Urban Crossroads, 2020b, p. 8)

- **Carbon Dioxide**: Carbon dioxide (CO_2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks. (Urban Crossroads, 2020b, p. 9)

  Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources. (Urban Crossroads, 2020b, p. 9)

- **Methane**: Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane. (Urban Crossroads, 2020b, p. 10)

  Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning. (Urban Crossroads, 2020b, p. 10)

- **Nitrous Oxide**: Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage). (Urban Crossroads, 2020b, p. 10)

  Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant (e.g., in whipped cream bottles). It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction. (Urban Crossroads, 2020b, pp. 10-11)

- **Chlorofluorocarbons**: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation. (Urban Crossroads, 2020b, p. 11)

  CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years. (Urban Crossroads, 2020b, p. 11)

- **Hydrofluorocarbons**: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF3), HFC-134a (CF3CH2F), and HFC-152a (CH3CHF2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants. (Urban Crossroads, 2020b, p. 12)

- **Perfluorocarbons**: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The U.S. EPA estimates that concentrations of CF_4 in the atmosphere are over 70 ppt. No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture. (Urban Crossroads, 2020b, p. 12)

- **Sulfur Hexafluoride**: Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (22,800). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection. (Urban Crossroads, 2020b, p. 12)

D. Effects of Climate Change in California

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The EPA's report, titled "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report), published in February 2006, indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced. (Urban Crossroads, 2020b, p. 15)

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over

historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat. (Urban Crossroads, 2020b, pp. 15-16)

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. (Urban Crossroads, 2020b, p. 16)

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding. (Urban Crossroads, 2020b, p. 16)

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply. (Urban Crossroads, 2020b, p. 16)

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 (ozone) pollution, which makes plants more susceptible to disease and pests and interferes with plant growth. (Urban Crossroads, 2020b, p. 16)

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts. (Urban Crossroads, 2020b, p. 16)

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates. (Urban Crossroads, 2020b, p. 17)

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation. (Urban Crossroads, 2020b, p. 17)

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change. (Urban Crossroads, 2020b, p. 17)

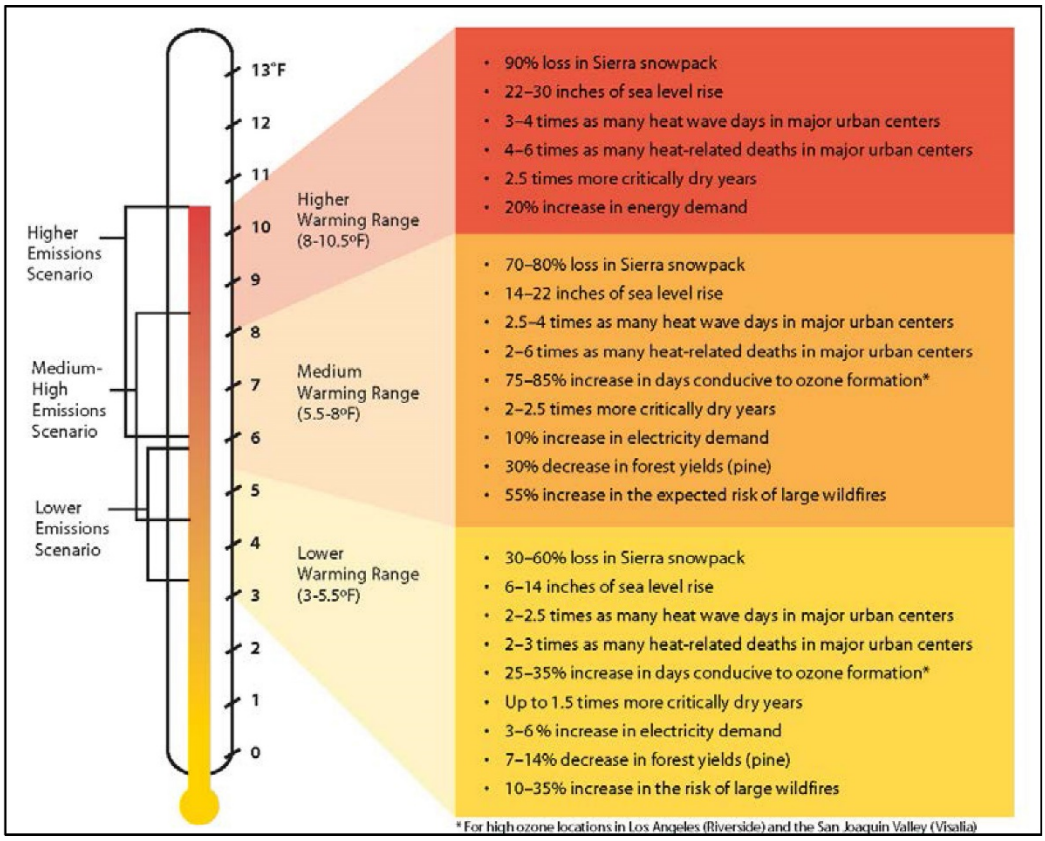
Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches. (Urban Crossroads, 2020b, p. 17)

E. Human Health Effects

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas. Figure 4.6-1, *Summary of Projected Global Warming Impact (as compared with 1961-1990)*, presents the potential impacts of global warming. (Urban Crossroads, 2020b, p. 13)

Figure 4.6-1 Summary of Projected Global Warming Impact (as compared with 1961-1990)



(Urban Crossroads, 2020b, Exhibit 2-A)

Specific health effects associated with directly emitted GHG emissions are as follows:

- **Water Vapor**: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor. (Urban Crossroads, 2020b, p. 8)

- **Carbon Dioxide**: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period. (Urban Crossroads, 2020b, p. 9)

- **Methane**: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space. (Urban Crossroads, 2020b, p. 10)

- **Nitrous Oxide**: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage. (Urban Crossroads, 2020b, p. 10)

4.6.2 Applicable Environmental Regulations

The following is a brief description of the federal, state, and local environmental laws and related regulations related to GHG emissions.

A. International Regulations

1. Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities." (UNFCCC, n.d.)

The Kyoto Protocol was adopted in Kyoto, Japan, on December 11, 1997 and entered into force on February 16, 2005. The detailed rules for the implementation of the Protocol were adopted at Conference of the Parties (COP) 7 in Marrakesh, Morocco, in 2001, and are referred to as the "Marrakesh Accords." Its first commitment period started in 2008 and ended in 2012. (UNFCCC, n.d.)
In Doha, Qatar, on December 8, 2012, the "Doha Amendment to the Kyoto Protocol" was adopted. The amendment includes:

- New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from January 1, 2013 to December 31, 2020;
- A revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and
- Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period. (UNFCCC, n.d.)

On December 21, 2012, the amendment was circulated by the Secretary-General of the United Nations, acting in his capacity as Depositary, to all Parties to the Kyoto Protocol in accordance with Articles 20 and 21 of the Protocol. (UNFCCC, n.d.)

During the first commitment period, 37 industrialized countries and the European Community committed to reduce GHG emissions to an average of five percent against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18 percent below 1990 levels in the eight-year period from 2013 to 2020; however, the composition of Parties in the second commitment period is different from the first. (UNFCCC, n.d.)

2. The Paris Agreement

The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. (UNFCCC, n.d.)

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. (UNFCCC, n.d.)

The Paris Agreement requires all Parties to put forward their best efforts through "nationally determined contributions" (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts. (UNFCCC, n.d.)

In 2018, Parties will take stock of the collective efforts in relation to progress towards the goal set in the Paris Agreement and to inform the preparation of NDCs. There will also be a global stock-taking every five years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties. (UNFCCC, n.d.)

The Paris Agreement entered into force on November 4, 2016, thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55% of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval, or accession with the Depositary. (UNFCCC, n.d.)

It should be noted that on June 1, 2017, President Donald Trump announced that the United States would cease all participation in the Paris Agreement.

B. Federal Regulations

1. Clean Air Act

Coinciding with the 2009 meeting of international leaders in Copenhagen, on December 7, 2009, the EPA issued an Endangerment Finding under § 202(a) of the Clean Air Act (CAA), opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the CAA. To date, the EPA has not promulgated regulations on GHG emissions, but it has begun to develop them.

Previously the EPA had not regulated GHGs under the CAA because it asserted that the Act did not authorize it to issue mandatory regulations to address GCC and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 [2007]); however, the U.S. Supreme Court held that GHGs are pollutants under the CAA and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

C. State Regulations

1. Title 24 Building Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions (2013 Building Energy Efficiency Standards) were adopted in 2012 and became effective on July 1, 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than the previous Building Energy Efficiency Standards for residential construction and 30 percent more efficient than the previous Standards for nonresidential construction.

Part 11 of Title 24 is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

2. California Assembly Bill No. 1493 (AB 1493)

On September 24, 2009, CARB adopted amendments to the "Pavley" regulations that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September amendments cement California's enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles. (CARB, 2017a)

The U.S. EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles On June 30, 2009. The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005, and was denied by the EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the CAA requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions." (CARB, 2017a)

CARB's Board originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. These regulations were authorized by the 2002 legislation Assembly Bill 1493 (Pavley). (CARB, 2017a)

The regulations had been threatened by automaker lawsuits and were stalled by the EPA's delay in reviewing and then initially denying California's waiver request. The parties involved entered a May 19, 2009 agreement to resolve these issues. With the granting of the waiver on June 30, 2009, it is expected that the Pavley regulations reduced GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. (CARB, 2017a)

The CARB has adopted a new approach to passenger vehicles – cars and light trucks – by combining the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. (CARB, 2017a)

3. Executive Order S-3-05

Executive Order (EO) S-3-05 establishes GHG emission reduction targets, creates the Climate Action Team and directs the Secretary of the California EPA to coordinate efforts with meeting the targets with the heads of other state agencies. The EO requires the Secretary to report back to the Governor and Legislature biannually on progress toward meeting the GHG targets, GHG impacts to California, Mitigation, and Adaptation Plans. EO S-3-05 requires that by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels. (CCC, n.d.)

4. California Assembly Bill 32 – Global Warming Solutions Act of 2006

In September 2006, former Governor Schwarzenegger signed Assembly Bill 32 (AB 32), the California Climate Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020, which represents a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario. Pursuant to AB 32, the CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste. (CARB, 2014)

AB 32 specifically requires that CARB shall do the following:

- Prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020, and update the Scoping Plan every five years.
- Maintain and continue reductions in emissions of GHG beyond 2020.
- Identify the statewide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020.
- Identify and adopt regulations for discrete early actions that could be enforceable on or before January 1, 2010.
- Adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG emissions.
- Convene an Environmental Justice Advisory Committee to advise the Board in developing and updating the Scoping Plan and any other pertinent matter in implementing AB 32.
- Appoint an Economic and Technology Advancement Advisory Committee to provide recommendations for technologies, research, and GHG emission reduction measures. (CARB, 2014)

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 million metric tons (MMTs) (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent). Accordingly, 427 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 $MMTCO_2e$ for 2000 and 532 $MMTCO_2e$ for 2010. "Business as usual" conditions (without the reductions to be implemented by CARB regulations) for 2020 were projected to be 596 $MMTCO_2e$. (CARB, 2007)

AB 32 requires CARB to develop a Scoping Plan which lays out California's strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, the Board approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. Table 4.6-3, *Scoping Plan GHG Reduction Measures Towards 2020 Target*, shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the Year 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 $MMTCO_2e$, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local

governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent below 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 $MMTCO_2e$ (or approximately 1.2 percent of the GHG reduction target). (CARB, 2014)

Overall, CARB determined that achieving the 1990 emission level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent in the absence of new laws and regulations (referred to as "Business-As-Usual" [BAU]). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team (CAT) early actions and additional GHG reduction measures, identifies additional measures to be pursued as regulations, and outlines the role of the cap-and-trade program.

When the 2020 emissions level projection also was updated to account for implemented regulatory measures, including Pavley (vehicle model-years 2009 - 2016) and the renewable portfolio standard (12% - 20%), the 2020 projection in the BAU condition was reduced further to 507 metric tons of carbon dioxide equivalent ($MTCO_2e$). As a result, based on the updated economic and regulatory data, CARB determined that achieving the 1990 emissions level in 2020 would now only require a reduction of GHG emissions of 80 $MTCO_2e$, or approximately 16 percent (down from 28.5 percent), from the BAU condition.

In May 2014, CARB approved the First Update to the Climate Change Scoping Plan (Update), which builds upon the initial Scoping Plan with new strategies and recommendations. The Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals, highlights the latest climate change science and provides direction on how to achieve long-term emission reduction goal described in Executive Order S-3-05. The Update recalculates 1990 GHG emissions using new global warming potentials identified in the IPCC Fourth Assessment Report released in 2007. Using those GWPs, the 427 $MTCO_2e$ 1990 emissions level and 2020 GHG emissions limit identified in the 2008 Scoping Plan would be slightly higher, at 431 $MTCO_2e$. Based on the revised 2020 emissions level projection identified in the 2011 Final Supplement and the updated 1990 emissions levels identified in the discussion draft of the First Update, achieving the 1990 emissions level in 2020 would require a reduction of 78 $MTCO_2e$ (down from 509 $MTCO_2e$), or approximately 15.3 percent (down from 28.5 percent), from the BAU condition. (CARB, 2014)

Table 4.6-3 Scoping Plan GHG Reduction Measures Towards 2020 Target

Recommended Reduction Measures	*Reductions Counted toward 2020 Target of 169 MMT CO2e*	*Percentage of Statewide 2020 Target*
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined[2]	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB. 2008, MMTons CO2e: million metric tons of CO2e
[1]Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2]According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

5. California Senate Bill No. 1368 (SB 1368)

Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006) limits long-term investments in baseload generation by the state's utilities to power plants that meet an emissions performance standard (EPS) jointly established by the California Energy Commission and the California Public Utilities Commission. (CEC, n.d.)

The Energy Commission has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds CO_2 per megawatt-hour (MWh). This will encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gases;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the Energy Commission website. This will facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the State's standards for environmental impact, and;
- Establish a public process for determining the compliance of proposed investments with the EPS. This process includes the following components:
  - A utility may request that the Commission determine whether or not an investment under consideration is subject to or complies with the EPS (Request for Evaluation of a Proposed Procurement).
  - A utility may request that an investment be exempted from the requirement that it meet the EPS if the investment is necessary to ensure reliable service to utility customers or to avoid a threat of significant financial harm (Request for Reliability or Financial Exemption), or, if the utility is under a legal obligation to contribute a share of a larger investment (Request for Exemption Due to Pre-existing Multi-Party Commitment).
  - A utility must submit a compliance filing upon committing to an investment that is required to meet the EPS (Compliance Filing).
  - Any party may request that the Energy Commission conduct a complaint or investigation proceeding to determine a utility's compliance with the regulations (Request for Compliance Investigation). (CEC, n.d.)

Investments that must be in compliance with the EPS include:

- Construction or purchase (turnkey agreements) of new power plants designed and intended for baseload generation;
- Purchase of existing power plants designed and intended for baseload generation, or ownership shares thereof, other than combined cycle natural gas power plants in operation or permitted prior to June 30, 2007;
- Capital investments in existing, utility-owned power plants designed and intended for baseload generation, other than those for routine maintenance, that:
  - For combined-cycle, natural gas power plants permitted before June 20, 2007, increase the generation capacity by 50 megawatts (MW) or more.

- For other power plants, are intended to extend the life of one or more units by five years or more.
- Are intended to increase the rated capacity of the power plant.
- Are intended to convert a non-baseload power plant into a baseload power plant. (CEC, n.d.)

6. Executive Order S-01-07

Executive Order (EO) S-01-07 establishes the 2020 target and Low Carbon Fuel Standard (LCFS). The EO directs the Secretary of California EPA as coordinator of 2020 target activities and requires the Secretary to report back to the Governor and Legislature biannually on progress toward meeting the 2020 target. (CCC, n.d.)

7. Senate Bill 1078

Senate Bill (SB) 1078 establishes the California Renewables Portfolio Standard Program, which required electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20% of their renewable power by December 31, 2017 for the purposes of increasing the diversity, reliability, public health, and environmental benefits of the energy mix. (CCC, n.d.)

8. Senate Bill 107

SB 107 directed California Public Utilities Commission's Renewable Energy Resources Program to increase the amount of renewable electricity (Renewable Portfolio Standard) generated per year, from 17% to an amount that equals at least 20% of the total electricity sold to retail customers in California per year by December 31, 2010. (CCC, n.d.)

9. Executive Order S-14-08

On November 17, 2008, Governor Schwarzenegger signed Executive Order S-14-08, revising California's existing Renewable Portfolio Standard (RPS) upward to require all retail sellers of electricity to serve 33% of their load from renewable energy sources by 2020. In order to meet this new goal, a substantial increase in the development of wind, solar, geothermal, and other "RPS eligible" energy projects will be needed. Executive Order S-14-08 seeks to accelerate such development by streamlining the siting, permitting, and procurement processes for renewable energy generation facilities. To this end, S-14-08 issues two directives: (1) the existing Renewable Energy Transmission Initiative will identify renewable energy zones that can be developed as such with little environmental impact, and (2) the California Energy Commission (CEC) and the California Department of Fish and Wildlife (CDFW) will collaborate to expedite the review, permitting, and licensing process for proposed RPS-eligible renewable energy projects.

10. Senate Bill 97

By enacting SB 97 in 2007, California's lawmakers expressly recognized the need to analyze GHGs as a part of the CEQA process. SB 97 required the Governor's Office of Planning and Research (OPR) to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of greenhouse gas emissions. (OPR, n.d.) Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects, and must reach a conclusion regarding the significance of those emissions. (See CEQA Guidelines § 15064.4.)
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions. (See CEQA Guidelines § 15126.4(c).)
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change. (See CEQA Guidelines § 15126.2(a).)
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria. (See CEQA Guidelines § 15183.5(b).)
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives. (See CEQA Guidelines, Appendix F.) (OPR, n.d.)

As part of the administrative rulemaking process, the Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010. (OPR, n.d.)

Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. Pursuant to CEQA Guidelines § 15064.4(a), "A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; or (2) Rely on a qualitative analysis or performance based standards."

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analyses. (See CEQA Guidelines § 15130(f)).

§ 15064.4(b) of the guidelines provides direction for lead agencies for assessing the significance of impacts of greenhouse gas emissions:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a

particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The CEQA Guideline amendments do not identify a numeric threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. Specific GHG language incorporated in the Guidelines' suggested Environmental Checklist (Guidelines Appendix G) is as follows:

VII. GREENHOUSE GAS EMISSIONS

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

11. Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the State's climate action goals to reduce greenhouse gas (GHG) emissions through coordinated transportation and land use planning with the goal of more sustainable communities. (CARB, 2017b)

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPO). CARB will periodically review and update the targets, as needed. (CARB, 2017b)

Each of California's MPOs must prepare a "sustainable communities strategy" (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "alternative planning strategy" (APS) to meet the targets. The APS is not a part of the RTP. (CARB, 2017b)

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the APS. Developers can get relief from certain environmental review requirements under CEQA if their new residential and mixed-use projects are consistent with a region's SCS (or APS) that meets the targets (see Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28.). (CARB, 2017b)

12. Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15, which sets a goal to reduce GHG emissions in California to 40 percent below 1990 levels by 2030. The 2030 target serves as a benchmark goal on the way to achieving the GHG reductions goal set by former Governor Schwarzenegger via Executive Order S-3-05 (i.e., 80 percent below 1990 greenhouse gas emissions levels by 2050). (CCC, n.d.)

13. Senate Bill 32

On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050.

At this time, no further analysis is necessary or required by CEQA as it pertains to Executive Order B-30-15 and SB 32 because the Project's horizon (buildout) year would occur in 2019. Pursuant to guidance from the Association of Environmental Professionals (AEP), GHG emissions "…should be identified for the project horizon year and lead agencies should consider the project horizon year when applying a threshold of significance" (AEP, 2016, p. 32). Because the Project's opening year would be 2019, the Project's GHG emissions are instead evaluated against California Assembly Bill 32 (AB 32), which identifies a target to reduce GHG emissions statewide to 1990 levels by 2020. Demonstrating compliance with AB 32's target for 2020 also would show that the Project would not inhibit Riverside County's ability to achieve the 2030 target established by SB 32, as the bulk of the GHG reductions needed by 2030 would occur at the state and regional levels and compliance with the AB 32 threshold would demonstrate that the Project is on trajectory to meet the 2030 SB 32 target.

D. Local Regulations

1. SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) for the SCAG region was prepared to ensure that the Southern California region attains the per capita vehicle miles targets for passenger vehicles identified by CARB, as required by Senate Bill 375. The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The Plan charts a course for closely integrating land use and transportation, and is intended to ensure that the region can grow smartly and sustainably.

2. South Coast Air Quality Management District (SCAQMD)

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project, and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions. (Urban Crossroads, 2020b, p. 38)

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD *Draft Guidance Document – Interim CEQA GHG Significance Threshold*, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach: (Urban Crossroads, 2020b, p. 38)

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
  - Residential and Commercial land use: 3,000 MTCO2e/yr
  - Industrial land use: 10,000 MTCO2e/yr
  - Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,400 MTCO2e/yr; or mixed use: 3,000 MTCO2e/yr
- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO2 concentrations at 450 ppm, thus stabilizing global climate. (Urban Crossroads, 2020b, p. 39)

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the Project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations. (Urban Crossroads, 2020b, p. 39)

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules (Urban Crossroads, 2020b, p. 39):

- Rule 2700 defines terms and post GWPs.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

4.6.3 Basis for Determining Significance

In order to assess the significance of a proposed Project's environmental impacts it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As discussed above in subsection 4.6.4, while estimated Project-related GHG emissions can be quantified, the direct impacts of such emissions on GCC and global warming cannot be determined on the basis of available science. There is no evidence at this time that would indicate that the emissions from a project the size of the proposed Project would directly or indirectly affect the global climate.

AB 32 states, in part, that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Because global warming is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, the proposed Project would have no potential to result in a direct impact to global warming; rather, Project-related contributions to GCC, if any, only have potential significance on a cumulative basis. Therefore, the analysis below focuses on the Project's potential to contribute to GCC in a cumulatively considerable way.

The following thresholds are derived directly from Section VIII of Appendix G to the CEQA Guidelines and the County's Environmental Assessment No. 43097, and address typical adverse effects associated with greenhouse gas emissions. (OPR, 2018):

a. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment;*
b. *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

For the analysis of Threshold a., the SCAQMD's has adopted an interim screening threshold of 10,000 $MTCO_2e$ per year that is intended to apply to industrial projects where SCAQMD is the lead agency. Although the Project does not meet the definition of an "industrial" project pursuant to the County's CAP (because no structures are proposed as part of the Project), the SCAQMD's industrial threshold is likely the most applicable to the Project since mining activities have similar emission characteristics as industrial projects with stationary sources and because the SCAQMD threshold applies to industrial projects whether or not buildings are proposed. Accordingly, a screening threshold of 10,000 $MTCO_2e$ per year would be appropriate to evaluate the Project's cumulatively-considerable impacts due to GHG emissions. Notwithstanding, in the abundance of caution, the more stringent SCAQMD numeric screening threshold of 3,000 $MTCO_2e$ per year is utilized herein in accordance with SCAQMD's draft interim threshold Tier 3, which normally is applied to mixed uses. The SCAQMD determined that if a project's emissions are less than the numeric threshold of 3,000 $MTCO_2e$ per year, a less-than-significant impact would occur. (Urban Crossroads, 2020b, p. 40)

Analysis under Threshold b. involves evaluating the Project's compliance with the County's CAP. The Riverside County CAP is a geographically-specific plan that was adopted by the County of Riverside for the purpose of reducing GHG emissions under the control or influence of the County consistent with AB 32 and subsequent State legislation and State agency action to address climate change. This threshold is also consistent with the SCAQMD's draft interim threshold Tier 2, which consists of determining whether a project is consistent with a qualified greenhouse gas reduction plan. Pursuant to the County of Riverside CAP, projects that generate emissions below the CAP's screening threshold of 3,000 $MTCO_2e$ would be considered to have a less-than-significant impact due to GHGs. For projects that exceed the screening threshold, the CAP requires projects to garner at least 100 points per the CAP Screening Tables (equivalent to an approximate 49% reduction in GHG emissions) in order to demonstrate consistency with the reduction quantities anticipated in the County's GHG Technical Report. As such, projects that achieve a total of 100 points or more would be consistent with the CAP and are considered to have a less-than-significant individual and cumulative impact on GHG emissions. (Urban Crossroads, 2020b, p. 40)

4.6.4 Methodology for Estimating Greenhouse Gas Emissions

A. California Emissions Estimator Model™ (CalEEMod™)

CEQA Guidelines 15064.4(b)(1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project. On October 2, 2013, the SCAQMD in conjunction with CAPCOA released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2013.2.2. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutant (NO_X, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and GHG emissions from direct and indirect sources, and to quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality impacts. Output from the model runs are provided in Appendix 3.1 to the Project's GHGA (*Technical Appendix E*). (Urban Crossroads, 2020b, p. 42)

B. *Life Cycle Analysis*

> A full life-cycle analysis (LCA), which involves assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations is not included in this analysis due to the lack of available guidance on LCA methodology at this time. (Urban Crossroads, 2020b, pp. 42-43)

Life-cycle analysis depends on emission factors or econometric factors that are not well established for all processes. In the case of the proposed Project, it is not possible to project the precise end uses of aggregate materials produced on-site, as the end uses for aggregate materials varies depending on economic circumstances, development projects that may be implemented, etc. Furthermore, the majority of end uses of aggregate material produced on-site would occur as part of separate development proposals, which would be subject to project-level review under CEQA. Accordingly, at this time an LCA would be extremely speculative and is not legally required by CEQA (CEQA Guidelines § 15145). (Urban Crossroads, 2020b, p. 43)

C. *Project-Related Greenhouse Gas Emissions*

Operational activities associated with the proposed Project would result in emissions of CO_2, CH_4, and N_2O from On-Site Equipment, Mobile Sources (Passenger Cars and Truck Traffic), and electricity usage. (Urban Crossroads, 2020b, p. 43)

Operational Equipment

EIR Table 3-3 (previously presented) summarizes the equipment utilized at the Mine on a daily basis for the baseline operating period, proposed Project operating characteristics, and net new equipment activity. As shown, mining activities during the baseline period utilized approximately 30,388 horsepower hours per day. Based on information provided by the Project Applicant, the proposed Project would result in the generation of approximately 19,292 net new horsepower hours in addition to the baseline for a net total of 47,400 horsepower hours (approximately 68.6% increase). (Urban Crossroads, 2020b, p. 43)

Natural Gas and Electricity Use

The Project would not result in an increase in the amount of natural gas associated with aggregate usage (since mining activities and processing equipment do not currently use any natural gas); however, the Project would result in an increase in electricity usage. Based on the assumptions described in EIR subsection 3.3.2, for purposes of analysis herein it is assumed that there would be a 264.8% increase in electricity associated with aggregate production over baseline conditions. (Urban Crossroads, 2020b, p. 46)

Implementation of the proposed Project (i.e. mining activities) would result in additional electricity demands associated with the existing operations trailer, on-site equipment usage, and water usage. The annual operation electricity during the baseline period was approximately 1,242.7 Megawatt hours (Mwh). Therefore, the Project would require a 264.8% increase in electricity usage consistent with the assumption utilized for Project-related tonnage. Thus, the proposed Project would require a net increase in electricity usage of 2,048.0 Mwh annually compared to baseline conditions. (Urban Crossroads, 2020b, p. 46)

Mobile Source Emissions

As shown in the Project's Traffic Impact Analysis (*Technical Appendix E*), the Project is anticipated to generate 199 net new daily truck trips (actual vehicles) above the historical baseline and 19 net new employee trips above the historical baseline. (Urban Crossroads, 2020b, p. 42)

The CalEEMod default of a 20-mile one-way trip length for trucks was increased to 25 miles based on discussion with the Project Applicant and based on regional aggregate studies that have found that 25 miles is generally the maximum distance for aggregate to travel before the costs outweigh distance of travel. The Project is anticipated to serve a regional need and would likely reduce vehicle miles traveled (VMT) in the long term by diverting trips that would otherwise travel to other aggregate facilities in the region. Notwithstanding, for purposes of this analysis, no "credit" has been taken and emissions associated with the Project are considered "new" as a conservative measure. (Urban Crossroads, 2020b, p. 45; Berck, 2005)

The fact is that aggregate will be consumed with or without the proposed Project. The Project would not have an effect on demand for aggregate but would have an effect on the distance that aggregates travel within the region in the long term. Project aggregate made available by the proposed expansion area would replace materials hauled from farther distances in the long term and supply new demand for aggregate that will occur in the Riverside County region. This rationale is supported by Dr. Peter Berk's "Working Paper No. 994 – A Note on the Environmental Costs of Aggregate" (Berck, 2005). Dr. Berck states that: (Urban Crossroads, 2020b, p. 45)

> *"The opening of a new quarry for aggregates will change the pattern of transportation of aggregates in the area served by the quarry. In this note, we will show that, so long as aggregate producers are cost minimizing, the new pattern of transportation requires less truck transport than the pattern of transportation that existed before the opening of the new quarry. Since the costs of providing aggregates falls, it is reasonable to assume that the price of delivered aggregates also will fall. This note also shows that the demand expansion effect is of very small magnitude. Since the demand increase from a new quarry is quite small, the dominant effect is that the quarries are on average closer to the users of aggregates and, as a result, the truck mileage for aggregate hauling decreases. To summarize the effects of a new quarry project:*
>
> *a) The project in itself will not significantly increase the demand for construction materials in the region through market forces, which include the downward pressure on pricing.*
>
> *b) Truck traffic (i.e. vehicle miles traveled) in the region will not increase and may decrease as a result of the project."* (Berck, 2005, p. 3; Urban Crossroads, 2020b, p. 42)

In its guidance document, *CEQA and Climate Change*, the California Air Pollution Control Officers Association (CAPCOA) lists various mitigation measures that can be implemented to reduce AQ and GHG emissions for various projects. One particular mitigation measure for reducing air quality and GHG emissions is Mitigation Measure C-5 "Use of Local Building Materials." The Project would provide local building materials to serve the demand for aggregate resources in the local area, thus resulting in a reduction in emissions associated with transport of materials from sources of aggregate products located further away.

However, no "credit" is taken for this measure in this analysis in an effort to be conservative. (Urban Crossroads, 2020b, pp. 45-46)

4.6.5 IMPACT ANALYSIS

Threshold a: ***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Based on the methodologies and assumptions for estimating the Project's GHG emissions, as discussed in subsection 4.6.4, the total amount of net new Project-related GHG emissions would total 4,975.49 $MTCO_2e$ per year as shown on Table 4.6-4, *Net New Project Greenhouse Gas Emissions*. The net new Project-related GHG emissions would exceed the SCAQMD's threshold of 3,000 $MTCO_2e$ per year, pursuant to SCAQMD's Tier 3 threshold for mixed use developments. Although the Project's level of GHG emissions would be below the SCAQMD's industrial screening threshold of 10,000 $MTCO_2e$ per year, the analysis herein conservatively utilizes SCAQMD's Tier 3 mixed-use screening threshold of 3,000 $MTCO_2e$/yr. Based on the SCAQMD mixed-use screening threshold of 3,000 $MTCO_2e$/yr, the Project's impacts due to GHG emissions would be cumulatively considerable. It is important to note that more than 50 percent of the Project's GHG emissions are derived from vehicular activity. Neither the Project Applicant nor the Lead Agency (County of Riverside) can substantively or materially affect reductions in Project mobile-source emissions beyond the regulatory requirements. Notwithstanding, and based on SCAQMD's Tier 3 mixed-use screening threshold of 3,000 $MTCO_2e$/yr, the Project's impacts associated with GHG emissions would be significant on a cumulatively-considerable basis.

Table 4.6-4 Net New Project Greenhouse Gas Emissions

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2E
Operational Equipment	1,074.16	0.34	0.00	1,082.66
Electricity from Aggregate Processing	652.13	0.00	0.00	652.13
Mobile Sources	3,236.03	0.19	0.00	3,240.70
Total CO_2E (All Sources)	**4,975.49**			

Source: CalEEMod™ model output, See Appendix 3.1 of the GHGA (*Technical Appendix E*) for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.
Table results include scientific notation. e is used to represent times ten raised to the power of (which would be written as x 10^{b}") and is followed by the value of the exponent.
(Urban Crossroads, 2020b, Table 3-2)

Threshold b: ***Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

The Riverside County CAP is a geographically-specific plan that was adopted by the County of Riverside for the purpose of reducing GHG emissions under the control or influence of the County consistent with AB 32 and subsequent State legislation and State agency action to address climate change. Projects that achieve a

minimum of 100 points pursuant to the County's CAP Screening Tables are determined to be consistent with the reduction quantities anticipated in the County's GHG Technical Report, and consequently would be consistent with the CAP. (Urban Crossroads, 2020b, p. 47)

The County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. For example, CAP Reduction Measure R2-EE10 primarily addresses energy efficiency in new buildings, and no new buildings are proposed as part of the Project. CAP Reduction Measure R2-CE1 (Clean Energy) relates to solar panels on new buildings and wind energy generation, and is not applicable to the proposed Project because no new buildings are proposed and the Project site is not located in a portion of Riverside County with adequate wind speeds for wind energy generation. CAP Reduction Measure R2-W2 addresses water efficiency standards related to irrigation/landscaping, potable water, and reclaimed water; however, none of the available measures are applicable to mining projects, despite the fact that the Project would result in a 16.1% reduction in water usage associated with dust control as compared to baseline conditions. CAP Reduction Measure R2-T3 relates to ride-sharing and bike-to-work programs; however, with implementation of the Project there would be an increase of approximately 8 employees at the Mine, and any ride-sharing or bike-to-work programs would have only a nominal effect on the Project's GHG emissions. Similarly, CAP Reduction Measure R2-T1, which addresses alternative transportation options, only would have a nominal effect on the Project's GHG emissions due to the limited number of projected employees, and because the majority of Project-related vehicular emissions would be associated with mining equipment and haul truck trips. The Project site is not targeted for bike trails as part of the County's Bicycle Master Plan or General Plan, and the Project has very limited frontage on Gilman Springs Road; thus, CAP Reduction Measure R2-T2 is not applicable to the proposed Project. CAP Reduction Measure R2-T4 addresses electric vehicles, and similarly would not be effective in reducing the Project's GHG emissions due to the limited number of projected employees. The increase of 8 employees under the proposed Project also would result in only a nominal increase in the amount of solid waste generated by the Mine; thus, CAP Reduction Measure R2-S1 (Reduce Waste to Landfills) is not applicable to the proposed Project. As such, it is not possible for the Project to achieve a minimum of 100 points pursuant to the County's CAP Screening Tables. Therefore, because the Project would emit more than 3,000 $MTCO_2e$ (the screening threshold identified in the CAP), and because the Project would be unable to achieve the required 100 points as required by the CAP Screening Tables, the Project would not comply with the Riverside County CAP. This is evaluated as a significant impact of the proposed Project. (Urban Crossroads, 2020b, p. 47)

4.6.6 Cumulative Impact Analysis

As discussed in subsection 4.6.3, there is no evidence at this time that would indicate that the emissions from a project the size of the proposed Project would directly or indirectly affect the global climate. As such, Project impacts due to GHG emissions are inherently cumulative in nature and the Project's potential impacts would occur within the global context.

As discussed under the analysis of Threshold a., the Project would result in annual emissions of 4,975.49 $MTCO_2e$/yr. Although the Project's level of GHG emissions would be below the SCAQMD's Tier 3 industrial screening threshold of 10,000 $MTCO_2e$/yr, for purposes of analysis herein it is conservatively assumed that emissions of more than 3,000 $MTCO_2e$/yr would represent a significant impact pursuant to SCAQMD's Tier 3 screening threshold for mixed uses. Therefore, because the Project would emit more than 3,000 $MTCO_2e$/yr of GHGs, Project impacts due to GHG emissions would be significant on a cumulatively-considerable basis.

As discussed under the analysis of Threshold b., the Riverside County CAP is not applicable to non-traditional projects such as the mining activities as proposed by the Project. It would not be possible for the Project to achieve a minimum of 100 points pursuant to the CAP Screening Tables because the measures included in the Screening Tables apply primarily to new buildings, while no new buildings or structures are proposed as part of the Project. As such, the Project would conflict with the Riverside County CAP. Although unlikely, it is possible that other non-traditional developments may be proposed within Riverside County that also would not be able to achieve 100 points pursuant to the CAP Screening Tables. Therefore, Project impacts due to a conflict with the Riverside County CAP would be cumulatively considerable.

4.6.7 Significance of Impacts Before Mitigation

Threshold a: Significant Cumulatively-Considerable Impact. The total amount of net new Project-related GHG emissions would total 4,975.49 $MTCO_2e$ per year. Although the Project's level of GHG emissions would not exceed the SCAQMD's industrial screening threshold of 10,000 $MTCO_2e$ per year, for purposes of analysis herein it is assumed that GHG emission impacts would be significant if the Project were to emit more than 3,000 $MTCO_2e$/yr, in accordance with the SCAQMD Tier 3 screening threshold for mixed-use developments. Therefore, and based on SCAQMD's mixed-use screening threshold of 3,000 $MTCO_2e$/yr, the Project's impacts associated with GHG emissions would be cumulatively considerable.

Threshold b: Significant Direct and Cumulatively-Considerable Impact. The Project would emit more than 3,000 $MTCO_2e$ of GHGs, which exceeds the screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it would not be possible for the Project to achieve 100 points pursuant to the CAP Screening Tables. Therefore, the Project would result in a direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.

4.6.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

The Project would be required to comply with all mandates imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions are listed below:

- Global Warming Solutions Act of 2006 (AB32)
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles.
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020.
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions.
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.
- Senate Bill 32 (SB 32). Requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15.

Mitigation

As a proposed expansion of an existing mining operation, additional mitigation measures are not available to reduce the Project's emissions of GHGs to below the SCAQMD Tier 3 screening threshold for mixed-use developments (3,000 $MTCO_2e$/yr). EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.2, *Air Quality*, would apply and would help reduce the Project's GHG emissions.

4.6.9 Significance of Impacts After Mitigation

Threshold a.: Significant and Unavoidable Cumulatively-Considerable Impact. EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.2, *Air Quality*, would apply and would help reduce the Project's GHG emissions but not to below a level of significance. However, more than 50 percent of the Project's GHG emissions are derived from vehicle usage. Since neither the Project Applicant nor the County have regulatory authority to control tailpipe emissions, no additional feasible mitigation measures exist that would reduce GHG emissions to levels that are less-than-significant. As such, Project impacts due to GHG emissions would be significant and unavoidable on a cumulatively-considerable basis.

Threshold b.: Significant and Unavoidable Direct and Cumulatively-Considerable Impact. It is not possible to reduce the Project's level of GHG emissions to below the 3,000 $MTCO_2e$/yr screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it is not possible for the Project to achieve a minimum of 100 points pursuant to the County's CAP Screening Tables, and no feasible mitigation measures exist that would result in Project consistency with the CAP. Therefore, the Project would result in a significant and unavoidable direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.

4.7 HISTORIC AND ARCHAEOLOGICAL RESOURCES

The analysis in this Subsection is based on a site-specific cultural resources assessment report titled "A Phase I Cultural Resources Assessment for the Surface Mining Permit No. 159, Amendment No. 2 Project" (dated April 23, 2019). The report was prepared by Brian F. Smith and Associates, Inc. (BFSA) and is included as *Technical Appendix F* to this EIR. Confidential information has been redacted from *Technical Appendix F* for purposes of public review. In addition, much of the written and oral communication between Native American tribes, the County of Riverside, and BSFA is considered confidential in respect to places that have traditional tribal cultural significance (Gov. Code § 65352.4), and although relied upon in part to inform the preparation of this EIR Subsection, those communications are treated as confidential and are not available for public review. Under existing law, environmental documents must not include information about the location of archeological sites or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records Act (Cal. Code Regs. § 15120(d)).

4.7.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As shown on Figure 3-4, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

4.7.2 EXISTING CONDITIONS

A. *Prehistoric Period Setting*

The Project site is located in western Riverside County, California. The Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Shoshonean groups are the three general cultural periods represented in Riverside County, as summarized briefly below. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was represented by the Cahuilla, Gabrielino, and Luiseño Indians. Refer to Section 2.3 of the Project's cultural resources assessment (*Technical Appendix F*) for a more detailed discussion about the prehistoric cultural periods in Riverside County. (BFSA, 2018a, p. 2.0-5)

- Late Pleistocene/Paleo Indian Period (11,500 to circa 9,000 Years Before Present [YBP]). The Paleo Indian Period is associated with terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands. However, by the

terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, and greater coastal erosion; cause large lakes to recede and evaporate; caused the extinction of Pleistocene megafauna; and resulted in major vegetation changes. The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location. Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals. (BFSA, 2018a, p. 2.0-6)

- Early and Middle Holocene/Archaic Period (circa 9,000 to 1,300 YBP). Between 9,000 and 8,000 YBP, a widespread complex was established in the southern California region, primarily along the coast. This complex is locally known as the La Jolla Complex, which is regionally associated with the Encinitas Tradition and shares cultural components with the widespread Milling Stone Horizon. The coastal expression of this complex appeared in the southern California coastal areas and focused upon coastal resources and the development of deeply stratified shell middens that were primarily located around bays and lagoons. The older sites associated with this expression are located at Topanga Canyon, Newport Bay, Agua Hedionda Lagoon, and some of the Channel Islands. Radiocarbon dates from sites attributed to this complex span a period of over 7,000 years in this region, beginning over 9,000 YBP. (BFSA, 2018a, p. 2.0-6)

  The Encinitas Tradition is best recognized for its pattern of large coastal sites characterized by shell middens, grinding tools that are closely associated with the marine resources of the area, cobble-based tools, and flexed human burials. While ground stone tools and scrapers are the most recognized tool types, coastal Encinitas Tradition sites also contain numerous utilized flakes, which may have been used to pry open shellfish. Artifact assemblages at coastal sites indicate a subsistence pattern focused upon shellfish collection and nearshore fishing. This suggests an incipient maritime adaptation with regional similarities to more northern sites of the same period. Other artifacts associated with Encinitas Tradition sites include stone bowls, doughnut stones, discoidals, stone balls, and stone, bone, and shell beads. (BFSA, 2018a, pp. 2.0-6, 2.0-7)

  The coastal lagoons in southern California supported large Milling Stone Horizon populations circa 6,000 YBP, as is shown by numerous radiocarbon dates from the many sites adjacent to the lagoons. The ensuing millennia were not stable environmentally, and by 3,000 YBP, many of the coastal sites in central San Diego County had been abandoned. The abandonment of the area is usually attributed to the sedimentation of coastal lagoons and the resulting deterioration of fish and mollusk habitat, a situation well-documented at Batiquitos Lagoon. Over a 2,000-year period at Batiquitos Lagoon, dominant mollusk species occurring in archaeological middens shift from deep-water mollusks (Argopecten sp.) to species tolerant of tidal flat conditions (Chione sp.), indicating water depth and temperature changes. This situation likely occurred for other small drainages (Buena Vista, Agua Hedionda, San Marcos, and Escondido creeks) along the central San Diego coast where low flow rates did not produce sufficient discharge to flush the lagoons they fed (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo lagoons). Drainages along the northern and southern San Diego coastline were larger and flushed the coastal hydrological features they fed, keeping them open to the ocean and

allowing for continued human exploitation. Peñasquitos Lagoon exhibits dates as late as 2,355 YBP and San Diego Bay showed continuous occupation until the close of the Milling Stone Horizon. Additionally, data from several drainages in Camp Pendleton indicate a continued occupation of shell midden sites until the close of the period, indicating that coastal sites were not entirely abandoned during this time. (BFSA, 2018a, p. 2.0-7)

By 5,000 YBP, an inland expression of the La Jolla Complex is evident in the archaeological record, exhibiting influences from the Campbell Tradition from the north. These inland Milling Stone Horizon sites have been termed "Pauma Complex." By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex, it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. Evidence from the 4S Project in inland San Diego County suggests that these inland sites may represent seasonal components within an annual subsistence round by La Jolla Complex populations. Including both coastal and inland sites of this time period in discussions of the Encinitas Tradition, therefore, provides a more complete appraisal of the settlement and subsistence system exhibited by this cultural complex. (BFSA, 2018a, p. 2.0-7)

- Late Holocene/Late Prehistoric/San Luis Rey Period (1300 YBP to 1790). Approximately 1,350 YBP, a Shoshonean-speaking group from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far-reaching as the Colorado River Basin and cremation of the dead. (BFSA, 2018a, p. 2.0-8)

- Late Holocene/Late Protohistoric Period (1790 to Present). Ethnohistoric and ethnographic evidence indicates that three Shoshonean-speaking groups occupied portions of Riverside County including the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and protohistoric times are difficult to place, but the Project is located on the border of ethnographic Luiseño and Cahuilla territory. Further ethnographic information for the Luiseño, Cahuilla, and Gabrielino groups is presented in Section 2.3.4 of the Project's Cultural Resources Assessment (*Technical Appendix F*). (BFSA, 2018a, p. 2.0-8)

B. Historic Setting

The historic background of the Project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region. In the late eighteenth century, the San Gabriel (Los Angeles County), San Juan Capistrano (Orange County), and San Luis Rey (San Diego County) missions began colonizing southern California and gradually expanded their use of the interior valley (into what is now western Riverside County) for raising grain and cattle to support the missions. The San Gabriel Mission claimed lands in what is now Jurupa, Riverside, San Jacinto, and the San Gorgonio Pass, while the San Luis Rey Mission claimed land in what is now Lake Elsinore, Temecula, and Murrieta. The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions. Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order. (BFSA, 2018a, p. 2.0-11)

In the mid- to late 1770s, Juan Bautista de Anza passed through much of Riverside County while searching for an overland route from Sonora, Mexico to San Gabriel and Los Angeles, describing fertile valleys, lakes, and sub-desert areas. In 1797, Father Presidente Lausen, Father Norberto de Santiago, and Corporal Pedro Lisalde led an expedition from Mission San Juan Capistrano through southwestern Riverside County in search of a new mission site before constructing Mission San Luis Rey in northern San Diego County. While no missions were ever built in what would become Riverside County, many mission outposts, or asistencias, were established in the early years of the nineteenth century to extend the missions' influence to the backcountry. Two outposts located in Riverside County include San Jacinto and Temecula. (BFSA, 2018a, pp. 2.0-11 and 2.0-12)

Mexico gained independence in 1822 and desecularized the missions in 1832, signifying the end of the Mission Period. By this time, the missions owned some of the best and most fertile land in southern California. In order for California to develop, the land would have to be made productive enough to turn a profit. The new government began distributing the vast mission holdings to wealthy and politically connected Mexican citizens. The "grants" were called "ranchos," of which Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo were located in present-day Riverside County. Many of these ranchos have lent their names to modern-day locales. Rancho Jurupa, the first grant in present day Riverside County, was given to Juan Bandini in 1838. These ranchos were all located in the valley environments typical of western Riverside County. (BFSA, 2018a, p. 2.0-12)

In 1846, war erupted between Mexico and the United States. In 1848, with the signing of the Treaty of Guadalupe Hidalgo, the region was annexed as a territory of the United States, leading to California became a state in 1850. These events generated a steady flow of settlers into the area, including gold miners, entrepreneurs, health-seekers, speculators, politicians, adventurers, seekers of religious freedom, and individuals desiring to create utopian colonies. In early 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San

Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified the treaties, and the promise of one large reservation was rescinded. (BFSA, 2018a, pp. 2.0-12 and 2.0-13)

With the completion of the transcontinental railroad in 1869, land speculators, developers, and colonists began to invest in southern California. The first colony in what was to become Riverside County was Riverside itself. Judge John Wesley North, an abolitionist from Tennessee, brought a group of associates and co-investors out to southern California and founded Riverside on part of the Jurupa Rancho. A few years after, the navel orange was planted and found to be such a success that it quickly became the agricultural staple of the region. (BFSA, 2018a, p. 2.0-13)

By the late 1880s and early 1890s, there was growing discontent between Riverside and San Bernardino, its neighbor 10 miles to the north, due to differences in opinion concerning religion, morality, the Civil War, politics, and fierce competition to attract settlers. After a series of instances in which charges were claimed about unfair use of tax monies to the benefit of only the City of San Bernardino, several people from Riverside decided to investigate the possibility of a new county. In May of 1893, voters living within portions of San Bernardino County (to the north) and San Diego County (to the south) approved the formation of Riverside County. Early business opportunities were linked to the agriculture industry but commerce, construction, manufacturing, transportation, and tourism also provided a healthy local economy. By the time of Riverside County's formation, Riverside had grown to become the wealthiest city per capita in the country due to the successful cultivation of the navel orange. (BFSA, 2018a, p. 2.0-13)

C. Documented Prehistoric & Historic Resources

BFSA conducted an institutional records search of the Project and one-mile radius of the surrounding area to identify the presence or absence of cultural resources. The records search indicated 13 cultural resources located within a one-mile radius of the Project; however, none of the indicated records were found inside of the Project's proposed EDA. The resources identified consist mainly of food processing/bedrock milling sites associated with the seasonal drainages within Laborde Canyon, located southeast of the Project, or artifact scatters and isolates located in the Eden Hot Springs, northwest of the proposed EDA. (BFSA, 2018a, p. 4.0-1)

The Phase I survey resulted in the identification of thirteen (13) prehistoric and historic cultural resources within one-mile of the Project's proposed EDA: RIV-1409, RIV-1410, RIV-1411, RIV-1412, RIV-1413, RIV-1743, RIV-1744, RIV-2817, RIV-2818, RIV-2819, P-33-011394, P-33-012637, and P-33012638. Sites RIV-1409, RIV-1410, RIV-1411, RIV-1412, RIV-1413 were identified as prehistoric bedrock milling features. Site RIV-1743 was identified as prehistoric bedrock milling features with associated midden approximately. Site RIV-1744 was identified as "Riverside Burial"/"Riverside Skeleton" site. Sites RIV-2817, RIV-2818, and RIV-2819 were identified as prehistoric artifact scatter sites. Sites P-33011394, P-33-012637, and P-33-012638 were identified as prehistoric isolate(s) sites. (BFSA, 2018a, pp. 4.0-1 and 4.0-2)

The records search also indicated there had been 26 previous cultural resources studies conducted within one-mile of the Project site. Additionally, two of the 26 previous studies, when combined, covers the Project's

entire proposed EDA. The first study occurred in 1986 and was conducted by Michael Lynch and Associates. This survey failed to identify any cultural resources within the eastern third of the Project's proposed EDA. The second study was completed in 1991 by Chambers Group, Inc. This study covered the western two-thirds of the Project's proposed EDA and did not identify any existing resources. (BFSA, 2018a, p. 4.0-2)

In addition, no properties listed in the National Register of Historic Places (NRHP), the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility (ADOE), or the OHP Directory of Properties in the Historic Property Data File (HPD) are located within the Project site. An in-house record search conducted by BFSA also identified no GLO records that could be located online from the BLM. Historic aerial photographs of the area ranging from 1966 to 2016 were used, along with *Elsinore, California* 30-minute, 1943 *Perris, California* 15-minute, and the 1953 *El Casco, California* 7.5-minute USGS quadrangles, which did not show any structures were ever located on the Mine's property, and the only development visible in the area occurred after 1996 when the existing quarry began operations. (BFSA, 2018a, pp. 4.0-5 and 4.0-6)

BFSA also conducted a records search of the SLF of the NAHC and failed to indicate the presence of any sacred sites or locations of religious or ceremonial importance within the search area. (BFSA, 2018a, p. 4.0-6)

Cumulatively, the record searches and literature review suggest that there is a low potential for historic sites to be within the Project's proposed EDA. There is also a low to moderate potential for prehistoric sites or artifacts to be identified within the Project's proposed EDA. Prehistoric sites within one-mile of the Project's proposed EDA are found to the southeast in Labrode Canyon and to the northwest in the Eden Hot Springs area. Sites in these areas are generally found near easily accessible water sources and bedrock outcroppings. The EDA contains bedrock outcrops and seasonal drainages; however, previous surveys have failed to identify resources within the Project site. The lack of documented prehistoric resources is likely due to the terrain of the Badlands making access to water within the steep narrow canyons a challenge. Therefore, there is a low potential for primary prehistoric sites within the Project site, and if prehistoric resources do exist, they will likely be isolated artifacts. (BFSA, 2018a, p. 4.0-6)

D. Results of Field Survey

BFSA directed a pedestrian survey of the Project site on October 19, 2017. The Project site was surveyed in 15-meter transects, except where the steep slopes and heavy vegetation prohibited systematic transects. BFSA staff inspected all exposed ground surfaces, including rodent burrows and disturbed areas. A survey form, field notes, and photographs documented the survey work undertaken. During the survey, BFSA noted bedrock outcroppings throughout the Project site. All accessible outcroppings were examined for signs of prehistoric use. The outcroppings were mainly located within the west/southwest portion of the Project site and were very eroded and friable. It was also noted by BFSA that although intermittent sources of water could be located at the base of the hills within the canyons, investigations of these on-site areas did not reveal the presence of any cultural resources. Existing disturbances to the Project site were tied to the existing quarry operations. BFSA noted regularly maintained dirt roads and trails extending from the quarry out along the ridges of the Project site, which often terminated at turnouts. BFSA observed cleared areas along the dirt roads and turnouts, as well as piles of busted stone and pushed dirt. No cultural resources, either historic or

prehistoric, were discovered during the survey. The lack of prehistoric sites is likely due to the steep terrain and lack of easily-accessible dependable water sources on or near the property. (BFSA, 2018a, pp. 4.0-6 and 4.0-7)

4.7.3 Applicable Environmental Regulations

A. Federal Regulations

1. National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) was passed primarily to acknowledge the importance of protecting our nation's heritage. While Congress recognized that national goals for historic preservation could best be achieved by supporting the drive, enthusiasm, and wishes of local citizens and communities, it understood that the Federal Government must set an example through enlightened policies and practices. In the words of the Act, the Federal Government's role would be to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony." (ACHP, 2002)

NHPA and related legislation sought a partnership among the Federal Government and the States that would capitalize on the strengths of each. The Federal Government, led by the National Park Service (NPS) provides funding assistance; basic technical knowledge and tools; and a broad national perspective on America's heritage. The States, through State Historic Preservation Officers (SHPOs) appointed by the Governor of each State, would provide matching funds, a designated State office, and a statewide preservation program tailored to State and local needs and designed to support and promote State and local historic preservation interests and priorities. (ACHP, 2002)

An Advisory Council on Historic Preservation, the first and only Federal entity created solely to address historic preservation issues, was established as a cabinet-level body of Presidentially-appointed citizens, experts in the field, and Federal, State, and local government representatives, to ensure that private citizens, local communities, and other concerned parties would have a forum for influencing Federal policy, programs, and decisions as they impacted historic properties and their attendant values. (ACHP, 2002)

Section 106 of NHPA granted legal status to historic preservation in Federal planning, decision-making, and project execution. Section 106 requires all Federal agencies to take into account the effects of their actions on historic properties, and provide ACHP with a reasonable opportunity to comment on those actions and the manner in which Federal agencies are taking historic properties into account in their decisions. (ACHP, 2002)

A number of additional executive and legislative actions have been directed toward improving the ways in which all Federal agencies manage historic properties and consider historic and cultural values in their planning and assistance. Executive Order 11593 (1971) and, later, Section 110 of NHPA (1980, amended 1992), provided the broadest of these mandates, giving Federal agencies clear direction to identify and consider historic properties in Federal and federally assisted actions. The National Historic Preservation Amendments of 1992 further clarified Section 110 and directed Federal agencies to establish preservation programs

commensurate with their missions and the effects of their authorized programs on historic properties. (ACHP, 2002)

2. National Register of Historic Places (NRHP)

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the NPS's National Register of Historic Places (NRHP) is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. (NPS, n.d.)

To be considered eligible, a property must meet the National Register Criteria for Evaluation. This involves examining the property's age, integrity, and significance, as follows:

- Age and Integrity. Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?

- Significance. Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archeological investigation about our past? (NPS, n.d.)

Nominations can be submitted to a SHPO from property owners, historical societies, preservation organizations, governmental agencies, and other individuals or groups. The SHPO notifies affected property owners and local governments and solicits public comment. If the owner (or a majority of owners for a district nomination) objects, the property cannot be listed but may be forwarded to the National Park Service (NPS) for a Determination of Eligibility (DOE). Listing in the National Register of Historic Places provides formal recognition of a property's historical, architectural, or archeological significance based on national standards used by every state. (NPS, n.d.)

Under Federal Law, the listing of a property in the National Register places no restrictions on what a non-federal owner may do with their property up to and including destruction, unless the property is involved in a project that receives Federal assistance, usually funding or licensing/permitting. National Register listing does not lead to public acquisition or require public access. (NPS, n.d.)

3. National Historic Landmarks Program

National Historic Landmarks (NHLs) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, just over 2,500 historic places bear this national distinction. Working with citizens throughout the nation, the National Historic Landmarks Program draws upon the expertise of National Park Service staff who guide the nomination process for new Landmarks and provide assistance to existing Landmarks. (NPS, 2017)

4. American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) requires each executive branch agency with statutory or administrative responsibility for the management of Federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies also are required to maintain the confidentiality of sacred sites. Each executive branch agency with statutory or administrative responsibility for the management of Federal lands are required to implement procedures to ensure reasonable notice is provided of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites.

5. Native American Graves Protection and Repatriation Act (NAGPRA)

The Native American Graves Protection and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. 3001-3013) describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation. (NPS, 2016b)

One major purpose of this statute is to require that Federal agencies and museums receiving Federal funds inventory holdings of Native American human remains and funerary objects and provide written summaries of other cultural items. The agencies and museums must consult with Indian Tribes and Native Hawaiian organizations to attempt to reach agreements on the repatriation or other disposition of these remains and objects. Once lineal descent or cultural affiliation has been established, and in some cases the right of possession also has been demonstrated, lineal descendants, affiliated Indian Tribes, or affiliated Native Hawaiian organizations normally make the final determination about the disposition of cultural items. Disposition may take many forms from reburial to long term curation, according to the wishes of the lineal descendent(s) or culturally affiliated Tribe(s). (NPS, 2016b)

The second major purpose of the statute is to provide greater protection for Native American burial sites and more careful control over the removal of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony on Federal and tribal lands. NAGPRA requires that Indian tribes or Native Hawaiian organizations be consulted whenever archeological investigations encounter, or are expected to encounter, Native American cultural items or when such items are unexpectedly discovered on Federal or tribal lands. Excavation or removal of any such items also must be done under procedures required by the Archaeological Resources Protection Act. This NAGPRA requirement is likely to encourage the in-situ preservation of archaeological sites, or at least the portions of them that contain burials or other kinds of cultural items. (NPS, 2016b)

Other provisions of NAGPRA: (1) stipulate that illegal trafficking in human remains and cultural items may result in criminal penalties; (2) authorizes the Secretary of the Interior to administer a grants program to assist museums and Indian Tribes in complying with certain requirements of the statute; (3) requires the Secretary of the Interior to establish a Review Committee to provide advice and assistance in carrying out key provisions

of the statute; authorizes the Secretary of the Interior to penalize museums that fail to comply with the statute; and, (5) directs the Secretary to develop regulations in consultation with this Review Committee. (NPS, 2016b)

6. Federal Antiquities Act

The Antiquities Act is the first law to establish that archeological sites on public lands are important public resources. It obligates federal agencies that manage the public lands to preserve for present and future generations the historic, scientific, commemorative, and cultural values of the archaeological and historic sites and structures on these lands. It also authorizes the President to protect landmarks, structures, and objects of historic or scientific interest by designating them as National Monuments. (NPS, 2016a)

B. State Regulations

1. California Administrative Code, Title 14, Section 4308

Section 4308, *Archaeological Features*, of Title 14 of the California Administrative Code provides that: "No person shall remove, injure, disfigure, deface, or destroy any object of archaeological, or historical interest or value."

2. California Code of Regulations Title 14, Section 1427

California Code of Regulations Title 14, Section 1427 provides that: "No person shall collect or remove any object or thing of archeological or historical interest or value, nor shall any person injure, disfigure, deface or destroy the physical site, location or context in which the object or thing of archeological or historical interest or value is found."

3. California Register of Historic Resources

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The Register is the authoritative guide to the state's significant historical and archeological resources. The California Register program encourages public recognition and protection of resources of architectural, historical, archeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA. (OHP, n.d.)

In order for a resource to be included on the Register of Historic Resources, the resources must meet one of the following criteria:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
- Associated with the lives of persons important to local, California or national history (Criterion 2).
- Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values (Criterion 3).
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4). (OHP, n.d.)

For resources included on the Register of Historic Resources, environmental review may be required under CEQA if property is threatened by a project. Additionally, local building inspectors must grant code alternatives provided under State Historical Building Code. Further, the local assessor may enter into contract with property owner for property tax reduction pursuant to the Mills Act. A property owner also may place his or her own plaque or marker at the site of the resource. (OHP, n.d.)

Consent of owner is not required, but a resource cannot be listed over an owner's objections. The State Historical Resources Commission (SHRC) can, however, formally determine a property eligible for the California Register if the resource owner objects. (OHP, n.d.)

4. Traditional Tribal Cultural Places Act (Senate Bill 18, "SB 18")

Senate Bill 18 (SB 18) requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. SB 18 also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. (OPR, 2005)

The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level land use decisions are made by a local government. (OPR, 2005)

SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultations and notice requirements apply to adoption and amendment of both general plans (defined in Government Code § 65300 et seq.) and specific plans (defined in Government Code § 65450 et seq.). Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, existing state planning law requires local governments to use the same processes for adoption and amendment of specific plans as for general plans (see Government Code § 65453). Therefore, where SB 18 requires consultation and/or notice for a general plan adoption or amendment, the requirement extends also to a specific plan adoption or amendment. (OPR, 2005)

5. State Health and Safety Code

California Health and Safety Code (HSC) § 7050.5(b) requires that excavation and disturbance activities must cease "In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery…" until the coroner can determine regarding the circumstances, manner, and cause of any death. The coroner is then required to make recommendations concerning the treatment and disposition of the human remains. Further, this section of the code makes it a misdemeanor to intentionally disturb, mutilate or remove interred human remains. § 7051 specifies that the removal of human remains from "internment or a place of storage while awaiting internment" with the intent to sell them or to dissect them with "malice or wantonness" is a public offense punishable by imprisonment in a state prison. Lastly, HSC §§ 8010-8011 establish the California Native American Graves Protection and Repatriation Act consistent with the federal law addressing

the same. The Act stresses that "all California Indian human remains and cultural items are to be treated with dignity and respect." It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also outlines the need for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims.

6. California Code of Regulations Section 15064.5

The California Code of Regulations, Title 14, Chapter 3, § 15064.5 (the State CEQA Guidelines) establishes the procedure for determining the significance of impacts to archeological and historical resources, as well as classifying the type of resource. Cultural resources are aspects of the environment that require identification and assessment for potential significance. The evaluation of cultural resources under CEQA is based upon the definitions of resources provided in CEQA Guidelines § 15064.5, as follows:

- *A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 et seq.).*
- *A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.*
- *Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:*
    - *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
    - *Is associated with the lives of persons important in our past;*
    - *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
    - *Has yielded, or may be likely to yield, information important in prehistory or history.*
- *The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.*

4.7.4 BASIS FOR DETERMINING SIGNIFICANCE

Section V of Appendix G to the CEQA Guidelines addresses typical adverse effects to cultural resources, and includes the following threshold questions to evaluate the Project's impacts on cultural resources (OPR, 2018):

- *Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?*
- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?*
- *Disturb any human remains, including those interred outside of formal cemeteries?*

Significance thresholds set forth in EA No. 34079 (the Riverside County's Environmental Assessment Checklist for the Project), are derived from Section V of Appendix G to the CEQA Guidelines (listed above), and state that the proposed Project would have a significant impact on cultural resources if construction and/or operation of the Project would:

a. Alter or destroy an historic site;

b. Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations, § 15064.5;

c. Alter or destroy an archaeological site;

d. Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, § 15064.5; or

e. Disturb any human remains, including those interred outside of formal cemeteries.

4.7.5 IMPACT ANALYSIS

***Threshold a.:* Would the Project alter or destroy an historic site?**

***Threshold b:* Would the Project cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5?**

CEQA Guidelines § 15064.5 states that a historical resource would be significant if the resource met the criteria stated in Public Resources Code Section 21083.2, which states that a resource would be significant if it meets any of the following criteria: contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; and/or is directly associated with a scientifically recognized important prehistoric or historic event or person (CA Public Resources Code § 21083.2).

As discussed under Subsection 4.7.2, it is unlikely that any historical resources exist within the Project's proposed EDA. Under existing conditions, the Mine's property consists of approximately 1021.4 acres, of which approximately 150.4 acres are actively mined for aggregate material by approved SMP 159R1. The Mine's property does not contain any structures or other features of historic significance under existing

conditions, likely due to the inhospitable terrain and ongoing disturbance from the cutting and clearing of dirt roads and mining activities. In addition, the records search and field reconnaissance conducted by BFSA did not identify any historic resources within the vicinity of the Project's proposed EDA. Given that no historical sites, features, or artifacts were identified during the field reconnaissance or records search, the Project would not alter or destroy a historic site and would not cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations (CCR), Section 15064.5. Impacts would be less than significant and no mitigation is required. (BFSA, 2018a, Section 4.0; Section 5.0)

Threshold c: ***Would the Project alter or destroy an archaeological site?***

Threshold d: ***Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, Section 15064.5?***

CEQA Guidelines § 15064.5 states that an archeological resource would be significant if the resource met the criteria stated in Public Resources Code Section 21083.2, which states that a resource would be significant if it meets any of the following criteria: contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; and/or is directly associated with a scientifically recognized important prehistoric or historic event or person (CA Public Resources Code § 21083.2).

As discussed under Subsection 4.7.2, there is a low to moderate potential for prehistoric archeological resources to exist within the Project's proposed EDA. Under existing conditions, the Mine's property consists of approximately 1021.4 acres, of which approximately 150.4 acres are actively mined for aggregate material by approved SMP 159R1. The Mine's property does not contain any known features of archeological significance under existing conditions. In addition, the records search conducted by BFSA did not identify any archeological resources within the Project's proposed EDA. The proposed EDA contains bedrock outcrops and seasonal drainages; however, outcroppings present within the proposed EDA were all eroded and friable with no signs of archeological use. Furthermore, the intermittent sources of water that would be located at the base of the hills within the canyons are at the bottoms of slopes within the proposed EDA are steep and difficult to access, making them a poor location for prehistoric habitation sites. Therefore, based on the results of the records search and field survey, and due to the inhospitable terrain, disturbance from the cutting and clearing of dirt roads and turnouts, and the absence of recorded cultural resources within the Project's boundaries, there is little potential for cultural resources to be present or disturbed by the proposed Project. Accordingly, the Project is not likely to cause substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, Section 15064.5. Therefore, impacts would be less than significant and no mitigation is required. (BFSA, 2018a, p. 5.0-1)

Threshold e: ***Would the Project disturb any human remains, including those interred outside of formal cemeteries?***

The Project site does not contain a known cemetery nor are there any known cemeteries located within the immediate vicinity of the site. A field survey conducted by BFSA did not identify the presence of any human remains and no remains are known to exist beneath the surface of the site. Nevertheless, the remote potential

exists that human remains may be unearthed during grading and excavation activities associated with Project mining activities.

If human remains are unearthed during mining activities, the Mine operator would be required by law to comply with California Health and Safety Code, § 7050.5, "Disturbance of Human Remains." According to § 7050.5(b) and (c), if human remains are discovered, the County Coroner must be contacted and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner is required to contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. Pursuant to California Public Resources Code § 5097.98, whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, the NAHC is required to immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. According to Public Resources Code § 5097.94(k), the NAHC is authorized to mediate disputes arising between landowners and known descendants relating to the treatment and disposition of Native American human burials, skeletal remains, and items associated with Native American burials. Notwithstanding the requirements of California Health and Safety Code § 7050.5 and California Public Resources Code § 5097.98, due to the potential to discover buried human remains during mining operations, a potentially significant impact would occur and mitigation would be required.

4.7.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development Projects and planned development within the vicinity of the Project site, including buildout of the Riverside County General Plan Land Use Plan and buildout of nearby portions of the City of Moreno Valley and the City of San Jacinto. This cumulative study area is appropriate because areas within western Riverside County are similar in terms of climate, plant and animal resources, geology, and topography.

As noted above under Thresholds a. and b., the Project site does not contain any historical resources and it is unlikely that any historical resources would be located within the Project's proposed EDA. As such, the Project's impacts to historic resources would be less-than-cumulatively-considerable.

As noted above under Thresholds c. and d., the Project site does not contain any archeological resources and it is unlikely that any archeological resources would be located within the Project's proposed EDA. As such, the Project's impacts to archeological resources would be less-than-cumulatively-considerable.

As discussed under Threshold e., although the Project would be subject to compliance with the provisions of California Health and Safety Code § 7050.5 as well as Public Resources Code § 5097 et. seq., there is a potential that buried human remains could be uncovered during mining operations. Other cumulative

developments similarly would have the potential to uncover buried human remains. Accordingly, the Project's potential impacts to human remains would be cumulatively considerable prior to mitigation.

4.7.7 Significance of Impacts Before Mitigation

Thresholds a & b: Less-than-Significant Impact. The proposed Project would not alter or destroy a historic site and would not cause a substantial change in the significance of a historical resource as defined in California Code of Regulations § 15064.5. Impacts would be less than significant.

Thresholds c & d: Less-than-Significant Impact. The proposed Project would not alter or destroy an archaeological site and would not cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations § 15064.5. Impacts would be less than significant.

Threshold e: Significant Direct and Cumulatively-Considerable Impact. The Project site does not contain a cemetery and no known cemeteries are located within the immediate site vicinity. Although the Project Applicant would be required to comply with the applicable provisions of California Health and Safety Code § 7050.5 and California Public Resources Code § 5097 et. seq., the Project's potential impacts to buried human remains would be significant on a direct and cumulatively-considerable basis prior to mitigation.

4.7.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- Unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code Section 6254 (r), parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

Mitigation

The following mitigation measure is required to reduce to below a level of significance the Project's potential impact to buried human remains.

MM 4.7-1 If human remains are encountered during mining activities on site, compliance with California Health and Safety Code § 7050.5 and Public Resources Code § 5097 et. seq. shall be required. State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the

Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. Evidence of compliance with this mitigation measure, if human remains are found, shall be provided to Riverside County Planning Department upon the completion of a treatment plan and final report detailing the significance and treatment finding.

4.7.9 Significance of Impacts After Mitigation

Threshold e.: Less-than-Significant Impact with Mitigation Incorporated. In the event that human remains are discovered during mining activities, Mitigation Measure MM 4.7-1 would require the Project Applicant to comply with the applicable provisions of California Health and Safety Code § 7050.5 and California Public Resources Code § 5097 et. seq. Mandatory compliance with Mitigation Measure MM 4.7-1, State law, and applicable regulatory requirements would reduce the Project's potential impacts to buried human remains to less-than-significant-levels.

4.8 HYDROLOGY AND WATER QUALITY

The Gilman Springs Mine, as discussed in Section 2.0, *Environmental Setting*, is an existing, ongoing surface mining operation operating pursuant to an approved Surface Mining Permit (SMP 159R1). Although the County has chosen to prepare an EIR for the Project evaluated herein, the scope of review addresses those impacts resulting from the Project as described in Section 3.0, *Project Description*, and not impacts related to existing, approved operations that form the environmental baseline, as discussed in EIR Subsection 2.7, *Existing Physical Site Conditions*.

The analysis in this subsection is based on a study entitled, "Preliminary Hydrology and Hydraulics Report, Surface Mining Permit (SMP) 159R2" ("Hydrology Study"), prepared by Joseph E. Bonadiman & Associates, Inc., and dated August 2019 (Bonadiman, 2019). The Hydrology Study is included in this EIR as *Technical Appendix G1*. The analysis in this subsection also is based on a report entitled, "Storm Water Pollution Prevention Plan (SWPPP), Chandler Aggregates Gilman Springs," prepared by Chandler Aggregates Gilman Springs Inc. and dated January 31, 2018 (Chandler Aggregates, 2018). The SWPPP is included as EIR *Technical Appendix G2*.

Additionally, the Gilman Springs Mine is located within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). Accordingly, the analysis contained in this subsection is based in part on information obtained from the Santa Ana RWQCB's Santa Ana River Basin Water Quality Control Plan (updated February 2016) (RWQCB, 2016). The Gilman Springs Mine is located within the service area of the Eastern Municipal Water District (EMWD), so general information also was obtained from the EMWD 2016 Urban Water Management Plan (UWMP) (EMWD, 2015).

4.8.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 205.1 acres. As shown on Figure 3-3, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

4.8.2 EXISTING CONDITIONS

A. Regional Hydrology

The Gilman Springs Mine is located in the Santa Ana watershed, which drains a 2,650 square-mile area and is the principal surface flow water body within the region. The Santa Ana River rises in Santa Ana Canyon in the southern San Bernardino Mountains and runs southwesterly across San Bernardino, Riverside, and Orange Counties, where it discharges into the Pacific Ocean at the City of Huntington Beach. The total length of the

Santa Ana River and its major tributaries is approximately 700 miles. (SAWPA, 2014, Chapter 3) The Project site's location within the Santa Ana River Watershed is depicted on Figure 4.8-1, *Santa Ana River Watershed Map*. The Project site is located within the Gilman Hot Springs Hydrological Subarea of the San Jacinto Hydrological Area of the San Jacinto Valley Hydrologic Unit. Runoff from the San Jacinto Valley Hydrologic Unit is conveyed via the San Jacinto River towards Canyon Lake and Lake Elsinore, through the Temescal Canyon, and ultimately to the Santa Ana River. (RWQCB, 2016, p. 1-5)

B. Site Hydrology

Under existing conditions, the Gilman Springs Mine property is located north of Gilman Springs Road, southeast of the City of Moreno Valley and north of the City of San Jacinto. Historically (i.e., prior to the commencement of mining activities on site), the Project site was tributary to an approximately 2,844-acre watershed located north of the Project area; this watershed encompasses the northern-most portions of the Project site, as shown on Figure 4.8-2, *Historical Hydrologic Conditions*. Flows from this off-site area traverse the extreme northeast corner of the Mine and is conveyed off site. The southern portion of the Project site also was tributary to two off-site drainage basins located at the southeast corner of the Mine, comprising approximately 83.0 acres on and off site. The remaining portions of the Project site feature 19 separate drainage basins under historical conditions. The western approximately two-thirds of the Project site generally conveyed runoff towards the west, with the eastern third of the site draining to the east. Runoff from the central portions of the site was conveyed to the south. Table 4.8-1, *Historical Conditions Hydrograph Values*, summarizes the size of the drainage areas and their estimated peak flow rates for historical conditions.

Under existing conditions, and as shown on Figure 4.8-3, *Existing Conditions Hydrology*, the historical drainage patterns continue to exist on site, except for areas subject to mining activities. Within the areas subject to mining activities are three separate drainage basins. Flows within each drainage basin are conveyed to one of several sedimentation/settling ponds before being discharged off-site near the Mine's southern boundary. Table 4.8-2, *Existing Conditions Hydrograph Values*, summarizes the size of the drainage areas and their estimated peak flow rates for existing conditions.

C. Water Quality

The California Porter-Cologne Water Quality Control Act (Section 13000 ["Water Quality"] et seq., of the California Water Code), and the Federal Water Pollution Control Act Amendment of 1972 (also referred to as the Clean Water Act [CWA]) require that comprehensive water quality control plans be developed for all waters in the State of California. In order to accomplish this, the California State Water Resources Control Board divided the state into planning regions and the present system of nine Regional Water Quality Control Boards (RWQCBs). The Gilman Springs Mine and vicinity are located in the Santa Ana River watershed, which is within the purview of the Santa Ana RWQCB. The Santa Ana RWQCB's "Santa Ana River Basin Water Quality Control Plan" is the governing water quality plan for the region, which sets forth goals and objectives for protecting water quality within the region (RWQCB, 2016). One Water One Watershed (OWOW) is an Integrated Regional Water Management Plan (IRWMP) planning process being developed within the Santa Ana River Watershed. The OWOW 2.0 Plan, adopted by the Santa Ana Watershed Project Authority (SAWPA) on February 4, 2014, reflects a collaborative planning process that addresses all aspects of water resources in the Watershed over a 20-year time period. (SAWPA, 2014)

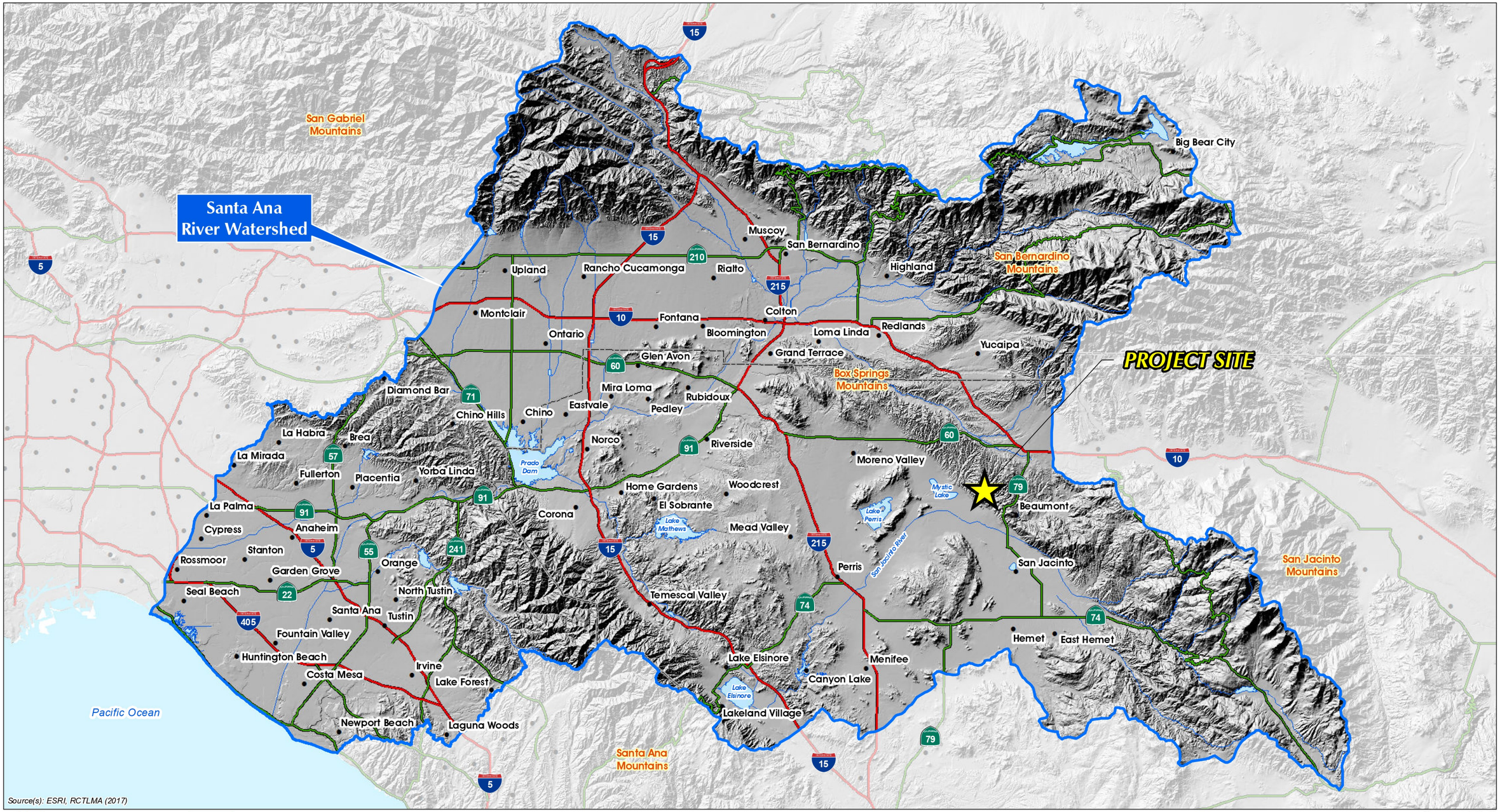
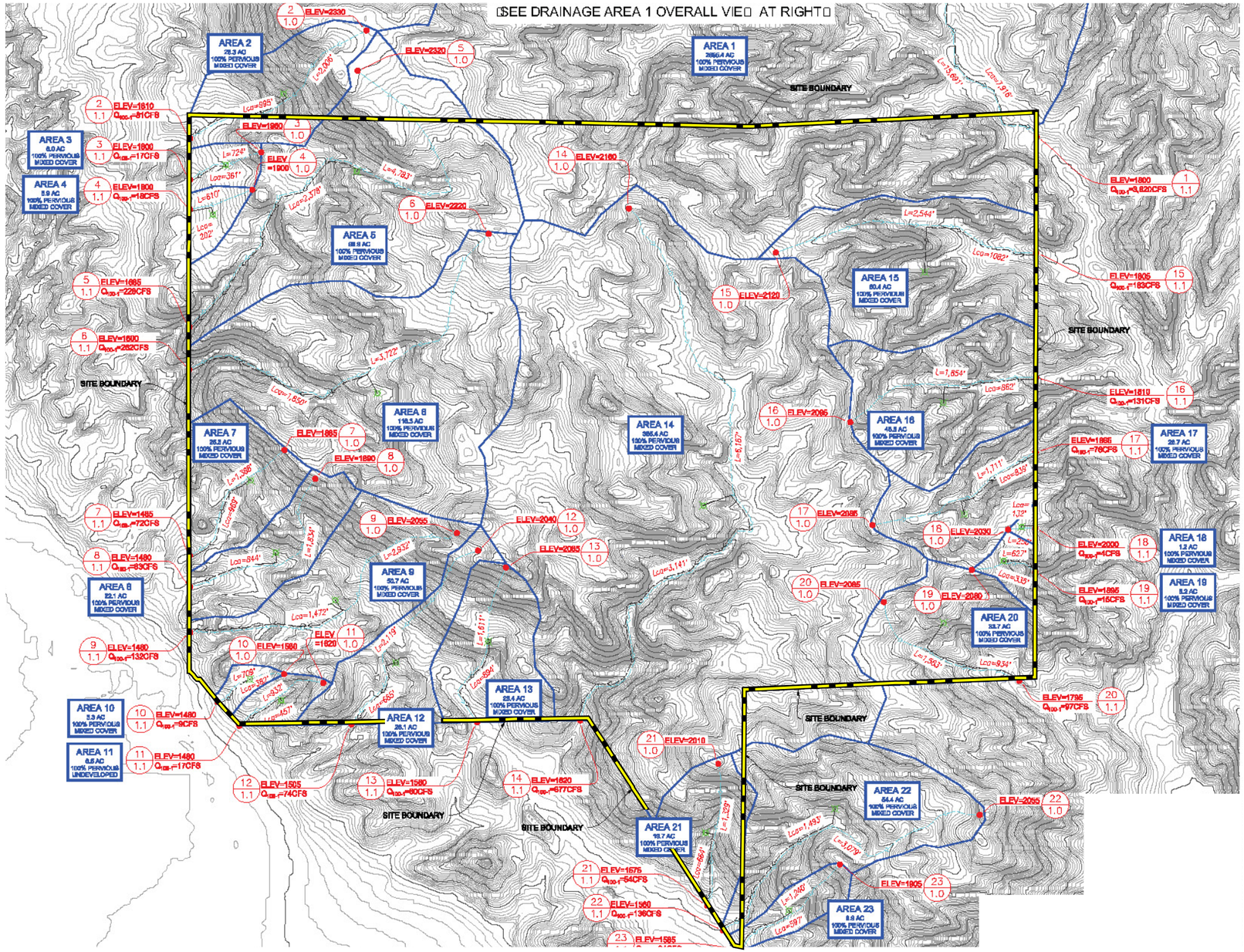
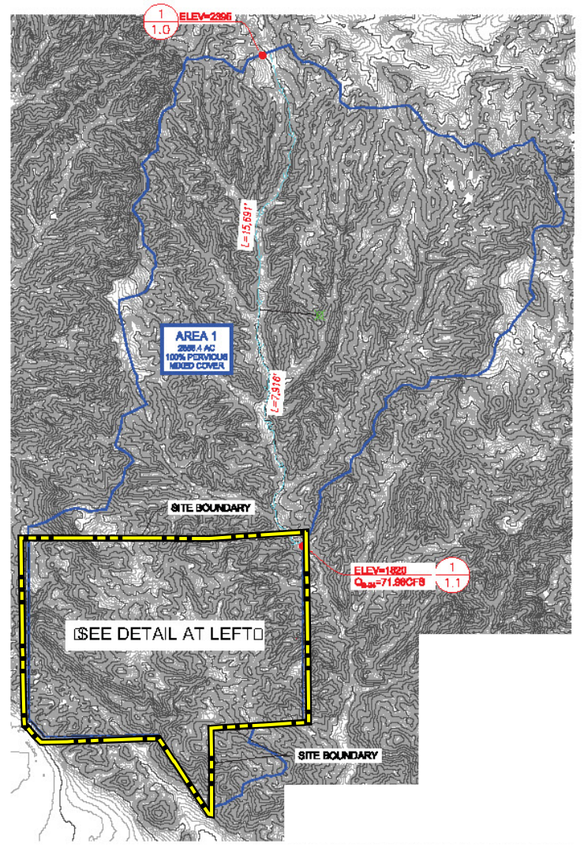


Figure 4.8-1

SANTA ANA RIVER WATERSHED MAP





Source(s): Bonadiman (09-24-2019)

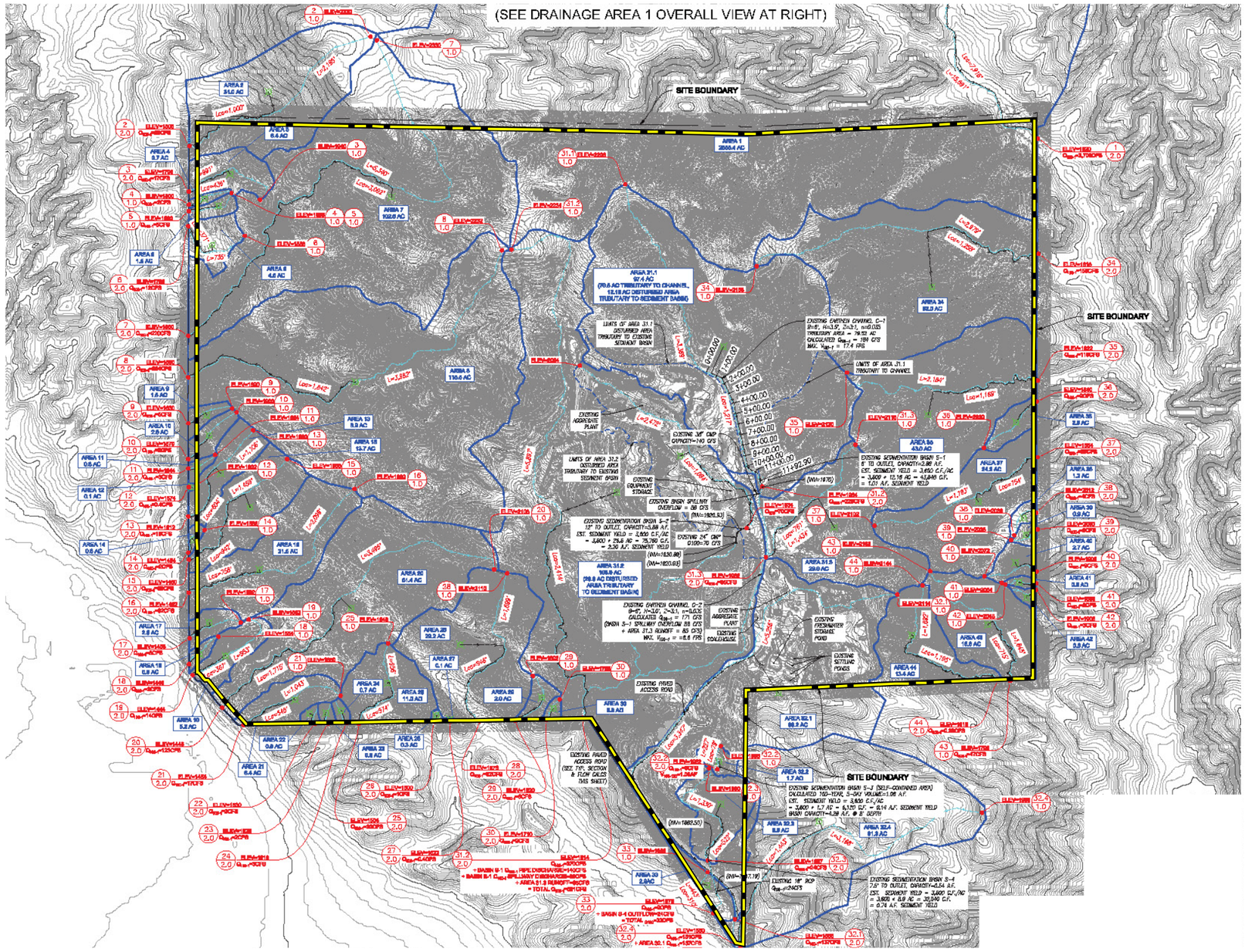
Figure 4.8-2

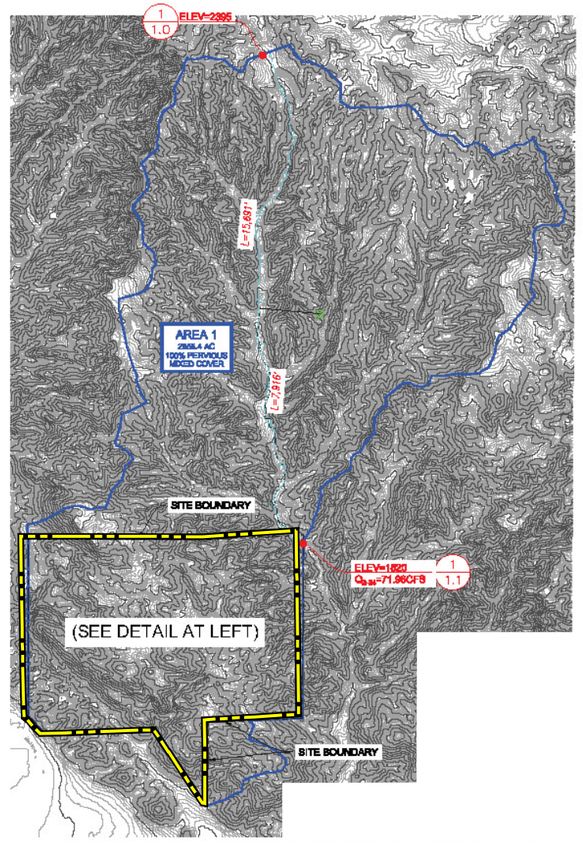
HISTORICAL HYDROLOGIC CONDITIONS

Table 4.8-1 Historical Conditions Hydrograph Values

DRAINAGE AREA	LAG (HR)	Q100-1 (CFS)	Q100-3 (CFS)	Q100-6 (CFS)	Q100-24 (CFS)	V100-1 (AF)	V100-3 (AF)	V100-6 (AF)	V100-24 (AF)
1	0.55	3,708	2,796	2,477	1,521	251.41	356.82	432.72	719.64
2	0.08	81	44	37	16	2.62	3.65	4.66	6.98
3	0.04	17	10	9	3	0.56	0.77	0.99	1.46
4	0.03	17	9	9	3	0.55	0.76	0.97	1.42
5	0.17	226	136	123	56	9.25	12.86	16.43	24.44
6	0.14	262	166	151	64	10.75	14.93	19.06	27.87
7	0.07	72	39	34	14	2.35	3.25	4.19	5.98
8	0.07	63	34	30	12	2.05	2.84	3.65	5.19
9	0.11	132	75	68	28	4.70	6.51	8.38	11.98
10	0.04	9	5	5	2	0.29	0.37	0.45	0.60
11	0.05	17	10	9	3	0.57	0.74	0.89	1.19
12	0.07	74	40	35	14	2.40	3.29	4.19	5.90
13	0.07	80	42	38	15	2.56	3.43	4.28	5.96
14	0.23	677	457	409	192	32.68	45.28	57.60	84.85
15	0.10	163	91	81	34	5.52	7.66	9.51	14.25
16	0.08	131	70	60	26	4.19	5.81	7.30	10.95
17	0.08	76	41	35	15	2.44	3.37	4.21	6.25
18	0.02	4	2	2	1	0.10	0.14	0.16	0.23
19	0.03	15	8	7	3	0.47	0.63	0.78	1.14
20	0.08	97	52	45	19	3.13	4.38	5.57	8.38
21	0.06	54	30	27	11	1.80	2.45	3.11	4.45
22	0.12	136	80	72	30	5.02	6.94	8.83	12.92
23	0.05	24	14	12	5	0.82	1.11	1.42	2.04

(Bonadiman, 2019, Table 2)





MAP LEGEND

- AREA 43 / 5.8 AC — DRAINAGE AREA & SIZE
- 1 / 1.1 — UNIT HYDROGRAPH NODE LOCATION, ELEVATION, & TOTAL PEAK Q
- ELEV=XXXX / Q=XXCFS
- PROJECT SITE BOUNDARY
- DRAINAGE AREA LIMITS
- FLOW PATHS
- Lca FLOW PATHS
- DRAINAGE AREA CENTROIDS

Source(s): Bonadiman (09-24-2019)

NOT TO SCALE

Figure 4.8-3

EXSITING CONDITIONS HYDROLOGY

Table 4.8-2 Existing Conditions Hydrograph Values

DRAINAGE AREA	LAG (HR)	Q100-1 (CFS)	Q100-3 (CFS)	Q100-6 (CFS)	Q100-24 (CFS)	V100-1 (AF)	V100-3 (AF)	V100-6 (AF)	V100-24 (AF)
1	0.55	3,708	2,796	2,477	1,521	251.41	356.82	432.72	719.64
2	0.08	89	48	41	18	2.87	3.99	5.10	7.64
3	0.05	17	10	9	4	0.59	0.83	1.06	1.56
4	0.02	2	1	1	0.4	0.06	0.09	0.11	0.17
5	0.03	5	2	2	0.8	0.14	0.19	0.25	0.36
6	0.05	12	7	6	3	0.42	0.58	0.75	1.09
7	0.20	220	137	121	57	9.50	13.21	16.87	25.09
8	0.14	254	164	149	64	10.68	14.83	18.93	27.60
9	0.02	5	2	2	1	0.14	0.19	0.24	0.35
10	0.03	8	4	4	1	0.24	0.33	0.43	0.62
11	0.01	3	1	1	0.4	0.07	0.10	0.13	0.19
12	0.01	0.4	0.2	0.2	0.1	0.01	0.01	0.02	0.02
13	0.05	19	11	10	4	0.64	0.89	1.14	1.63
14	0.02	2	1	1	0.3	0.06	0.08	0.10	0.14
15	0.07	39	21	19	8	1.27	1.76	2.27	3.24
16	0.07	62	33	29	12	2.00	2.76	3.56	5.07
17	0.03	8	4	4	1	0.23	0.32	0.41	0.58
18	0.02	3	2	1	1	0.08	0.12	0.15	0.21
19	0.05	14	8	7	3	0.48	0.67	0.86	1.21
20	0.13	123	74	67	28	4.74	6.52	8.34	11.85
21	0.05	17	10	9	3	0.57	0.74	0.91	1.22
22	0.01	2	1	1	0.3	0.06	0.08	0.10	0.14
23	0.01	2	1	1	0.3	0.06	0.08	0.10	0.14
24	0.01	3	1	1	0.4	0.07	0.09	0.12	0.16
25	0.05	30	17	15	6	1.02	1.41	1.82	2.59
26	0.01	1	0.5	0.5	0.2	0.03	0.04	0.05	0.07
27	0.004	0.4	0.2	0.2	0.1	0.01	0.01	0.02	0.02
28	0.07	82	44	38	15	2.62	3.48	4.30	5.98
29	0.03	6	3	3	1	0.19	0.26	0.33	0.48
30	0.02	2	1	1	0.3	0.06	0.08	0.10	0.14
31.1	0.13	226	140	127	55	8.99	12.46	15.87	23.50
31.2	0.20	370	230	204	96	15.91	22.58	29.43	45.48
31.3	0.07	85	46	40	17	2.74	3.81	4.86	7.16
32.1	0.21	137	89	79	38	6.29	9.00	11.83	18.56
32.2	0.01	6	3	3	1	0.29 (5-DAY)	0.43 (5-DAY)	0.58 (5-DAY)	1.08 (5-DAY)
32.3	0.05	24	14	13	5	0.83	1.17	1.51	2.27
32.4	0.12	151	90	81	34	5.67	7.86	10.02	14.74
33	0.03	9	5	4	2.0	0.26	0.34	0.41	0.57
34	0.12	156	92	82	35	5.66	7.83	9.70	14.51
35	0.10	119	65	58	24	3.95	5.48	.6.9	10.34
36	0.03	9	5	4	2	0.27	0.37	0.47	0.71
37	0.08	69	37	32	14	2.23	3.08	3.85	5.72
38	0.03	4	2	2	1	0.10	0.13	0.14	0.21
39	0.02	3	2	1	0.5	0.08	0.11	0.13	0.19
40	0.03	9	4	4	2	0.25	0.34	0.42	0.62
41	0.02	2	1	1	0.3	0.06	0.08	0.10	0.15
42	0.02	3	1	1	0.5	0.07	0.10	0.13	0.20
43	0.07	47	26	23	10	1.54	2.16	2.75	4.17
44	0.08	39	21	18	8	1.24	1.74	2.22	3.33

(Bonadiman, 2019, Table 4)

D. Groundwater

The EMWD adopted the *Groundwater Management Plan – West San Jacinto Groundwater Basin* (GMP) on June 8, 1995. The GMP is intended to manage the San Jacinto Groundwater Basin (SJGB) in a manner that would supplement EMWD's water supplies, thereby increasing the amount of locally-available water and reducing the amount of water that needs to be imported through MWD. The GMP covers approximately 256-square miles (over 164,200 acres) and has been divided into six (6) Groundwater Management Zones (GMZs). The Project site is located at the eastern edge of the San Jacinto Lower Pressure Groundwater Management Zone (GMZ). As part of the GMP, EMWD monitors groundwater quality, groundwater level, groundwater extraction, and inactive well capping and sealing programs in order to evaluate progress towards attaining the goals of the GMP. (EMWD, 1995; EMWD, 2018, Figure 7-2)

E. Flooding and Dam Inundation

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Nos. 06065C0795H and 06065C1460H, the entire 1,021.4-acre Mine is located within an unshaded "Zone X," identified by FEMA as an area determined to be outside the 0.2% (500-year) annual chance of flood. The nearest area subject to flood hazards occurs southwest of the Project site, southwest of Gilman Springs Road. (FEMA, 2014a; FEMA, 20174b)

According to Figure 10 (San Jacinto Valley Area Plan Flood Hazards) of the San Jacinto Valley Area Plan (SJVAP), the Project site is not located in an area that is subject to dam inundation. The nearest area subject to dam inundation occurs southwest of the Mine, southwest of Gilman Springs Road. (Riverside County, 2019b, SJVAP Figure 10) There are no levees in the Project area (Google Earth, 2016).

4.8.3 Applicable Environmental Regulations

The following is a brief description of the federal, state, and local environmental laws and related regulations related to hydrology and water quality.

A. Federal Regulations

1. Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry, and also has set water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. (EPA, 2017a)

2. Federal Flood Insurance Program

The U.S. Congress established the National Flood Insurance Program (NFIP) with the passage of the National Flood Insurance Act of 1968. The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the Federal Government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the Federal Government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. The Federal Insurance and Mitigation Administration (FIMA) within the Federal Emergency Management Agency (FEMA) is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that provide assistance for mitigating future damages from natural hazards. (FEMA, 2002)

3. Executive Order 11988 – Floodplain Management

Executive Order 11988 requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities" for the following actions:

- acquiring, managing, and disposing of federal lands and facilities;
- providing federally-undertaken, financed, or assisted construction and improvements; and
- conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities. (FEMA, 2015)

B. State Regulations

1. Porter-Cologne Water Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code § 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation. (SWRCB, 2014)

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous non-point source (NPS) related responsibilities, including monitoring and assessment, planning, financial assistance, and management. (SWRCB, 2014)

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for NPS discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The Storm Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions. (SWRCB, 2014)

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as the NPDES permitting program. The Porter-Cologne Act also requires adoption of water quality control plans that contain the guiding policies of water pollution management in California. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. (SWRCB, 2014)

2. California Water Code

The California Water Code is the principle state law regulating water quality in California. Water quality provisions must be complied with as contained in numerous code sections including: 1) the Health and Safety Code for the protection of ground and surface waters from hazardous waste and other toxic substances; 2) the Fish and Game Code for the prevention of unauthorized diversions of any surface water and discharge of any substance that may be deleterious to fish, plant, animal, or bird life; 3) the Harbors and Navigation Code for the prevention of the unauthorized discharge of waste from vessels into surface waters; and 4) the Food and Agriculture Code for the protection of groundwater which may be used for drinking water supplies. The California Department of Fish and Wildlife (CDFW), through provisions of the Fish & Game Code (§§ 1601 - 1603) is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW.

Surface water quality is the responsibility of the Regional Water Quality Control Board (RWQCB); water supply and wastewater treatment agencies; and city and county governments. The principal means of

enforcement by the RWQCB is through the development, adoption, and issuance of water discharge permits. RWQCB basin plans establish water quality objectives that are defined as the limits or levels of water quality constituents or characteristics for the reasonable protection of beneficial uses of water.

3. California Toxics Rule (CTR)

The California Toxics Rule (CTR) fills gap in California's water quality standards necessary to protect human health and aquatic life beneficial uses. The CTR criteria are similar to those published in the National Recommended Water Quality Criteria. The CTR supplements, and does not change or supersede, the criteria that EPA promulgated for California waters in the National Toxics Rule (NTR). The human health NTR and CTR criteria that apply to drinking water sources (those water bodies designated in the Basin Plans as municipal and domestic supply) consider chemical exposure through consumption of both water and aquatic organisms (fish and shellfish) harvested from the water. For waters that are not drinking water sources (e.g., enclosed bays and estuaries), human health NTR and CTR criteria only consider the consumption of contaminated aquatic organisms. The CTR and NTR criteria, along with the beneficial use designations in the Basin Plans and the related implementation policies, are the directly applicable water quality standards for toxic priority pollutants in California waters. (SWRCB, 2016, pp. 14-15)

4. CDFG Code Section 1600 et seq. (Lake- or Streambed Alteration Agreement Program)

Fish and Game Code § 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream, or lake. (CDFW, n.d)

It should be noted that "any river, stream or lake" includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. (CDFW, n.d)

CDFW requires a Lake and Streambed Alteration (LSA) Agreement when it determines that the activity, as described in a complete LSA Notification, may substantially adversely affect existing fish or wildlife resources. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify a project that would eliminate or reduce harmful impacts to fish and wildlife resources. Before issuing an LSA Agreement, CDFW must comply with CEQA. (CDFW, n.d)

5. Watershed Management Initiative (WMI)

The State and Regional Water Boards are currently focused on looking at entire watersheds when addressing water pollution. The Water Boards adopted the Watershed Management Initiative (WMI) to further their goals. The WMI establishes a broad framework overlying the numerous federal and state mandated priorities. As

such, the WMI helps the Water Boards achieve water resource protection, enhancement and restoration while balancing economic and environmental impacts. (SWRCB, 2013) The integrated approach of the WMI involves three main ideas:

- Use water quality to identify and prioritize water resource problems within individual watersheds. Involve stakeholders to develop solutions.
- Better coordinate point source and nonpoint source regulatory efforts. Establish working relationships between staff from different programs.
- Better coordinate local, state, and federal activities and programs, especially those relating to regulations and funding, to assist local watershed groups. (SWRCB, 2013)

C. Local Regulations

1. Riverside County General Plan

The Riverside County General Plan includes a Safety Element that addresses flood hazards within the County. The Safety Element includes a number of policies (Policies S 4.1 through S 4.11) that provide direction to County staff, decision-makers, and project applicants for attenuation of flood hazards. The Project would be subject to the4 applicable policies established in the Safety Element. (Riverside County, 2019a)

4.8.4 Basis for Determining Significance

Section IX of Appendix G to the CEQA Guidelines addresses typical adverse effects to hydrology and water quality, and includes the following threshold questions to evaluate the Project's impacts on hydrology and water quality (OPR, 2018):

- Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
- Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on- or off-site?
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?
- Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Significance thresholds are set forth in EA No. 43097 (Riverside County's Environmental Assessment Checklist), are derived from Section IX of Appendix G to the CEQA Guidelines (listed above), and state that the proposed Project would have a significant impact on hydrology and water quality if construction and/or operation of the Project would:

a. *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;*

b. *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;*

c. *Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces;*

d. *Result in substantial erosion or siltation on-site or off-site;*

e. *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site;*

f. *Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*

g. *Impede or redirect flood flows;*

h. *In flood hazard, tsunami, or seiche zones, risk the release of pollutants due to Project inundation; or*

i. *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

The significance thresholds set forth in EA No. 43097 (Riverside County's Environmental Assessment Checklist) were used to evaluate the significance of the proposed Project's impacts on hydrology and water quality, as modified by the revisions to Appendix G to the CEQA Guidelines that went into effect in December 2018.

4.8.5 IMPACT ANALYSIS

Threshold a: ***Would the Project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality?***

Under on-going mining operations, including mining within the proposed EDA, drainage patterns on site would be similar to existing conditions. Runoff from areas subject to mining activities in the north would be conveyed to a retention/sedimentation basin, where a portion of the runoff would be detained and allowed to infiltrate into the groundwater table. Remaining runoff from the northern portions of the site would be conveyed to a sedimentation basin prior to being discharged near the Mine's southern boundary. Runoff from processing areas in the southeast portion of the Mine would be conveyed to one of several retention/sedimentation basins and would be detained and subject to water quality treatment (i.e., removal of sediments) prior to being discharged from the site at the Mine's southern boundary, near the Project's access

road. Runoff from areas that are not subject to mining or processing activities would be conveyed off site via existing natural drainage channels. Runoff from areas subject to mining or processing would only contain sediments and would not contain any other water quality pollutants of concern. Because all runoff from disturbed portions of the Mine would be detained and detained on site or subject to water quality treatment prior to discharge, the Project would not violate any water quality standards or waste discharge requirements and would not substantially degrade water quality. Additionally, because sediments are the Project's primary pollutant of concern, the Project would not degrade groundwater quality under interim conditions. Impacts would be less than significant.

Following completion of mining and reclamation activities, all runoff from areas subject to mining activities in the north, including runoff within the proposed EDA, would be fully detained on site. As such, runoff within areas proposed for mining in the north, including within the proposed EDA, would have no potential to violate water quality standards or waste discharge requirements, and would not substantially degrade water quality. Runoff from areas subject to disturbance in the southeast portion of the site would be conveyed to a sedimentation/retention basin, which would detain and treat runoff prior to discharging near the Mine's southern boundary, adjacent to the Mine's access road. Runoff from the southeastern portion of the site would be treated to remove sediments, which are the only pollutant of concern for the proposed Project. Therefore, because all runoff from areas planned for disturbance by the Project either would be fully detained on site or would be treated by retention basins to remove sediments under post-mining/reclaimed conditions, impacts due to a violation of water quality standards or waste discharge requirements would not occur, and the Project would not otherwise substantially degrade water quality. Additionally, the Project would have no adverse impacts to groundwater quality. Accordingly impacts would be less than significant and no mitigation is required.

Threshold b:	***Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?***

Under existing conditions, water use at the Mine is primarily limited to water used for dust control, which is obtained from groundwater resources. As discussed in EIR Subsection 3.3.2 and previously shown on EIR Figure 3-5, under existing conditions under existing conditions approximately 44.65 acres of the Project site are subject to watering for dust control. Under the proposed Project, the Mine's access road would be paved to reduce areas subject to watering by 0.84 acre. Additionally, the Project proposes to use gravel stabilization over approximately 10.59 acres of the existing disturbed areas at the Mine, which would preclude the need for watering for dust control purposes. In areas planned for mining and disturbance by the Project, approximately 4.22 acres additional acres would require watering for dust control. With a reduction of 11.43 acres of watering on site (composed of the 0.84-acre paved roadway and gravel stabilization on 10.59 acres), and with an increase of 4.22 acres requiring watering for dust control, total areas on site that would require watering for dust control would be reduced by 7.21 acres, reducing the total areas subject to watering for dust control from 44.65 acres to approximately 37.44 acres as compared to existing conditions. Thus, total water usage for dust control purposes would be reduced by approximately 16.1% as compared to baseline conditions. Accordingly, under the proposed Project, there would be a reduced demand for groundwater resources as compared to existing conditions. Thus, the Project would not substantially deplete groundwater supplies such that there would be a

net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be less than significant.

Under on-going mining operations under the proposed Project, and similar to existing conditions, runoff from the northern areas of the site that are subject to mining activities would be conveyed to a retention/sedimentation basin prior to being discharged off site. In the southeastern portion of the Mine, and also similar to existing conditions, runoff from areas that are disturbed would be conveyed to a retention/sedimentation basin prior to being discharged off site. The Project site occurs at the eastern edge of the San Jacinto Lower Pressure Groundwater Management Zone (GMZ) of the West San Jacinto GMP. Because all runoff from the Mine would be conveyed off-site towards the San Jacinto Upper Pressure GMZ and/or would be allowed to infiltrate into the groundwater table, the Project would not adversely affect groundwater recharge under interim on-going mining operations. Therefore, impacts would be less than significant.

Following completion of mining and reclamation activities, runoff in the northern portion of the site would be fully detained on site, while runoff from the southeastern portion of the Mine that is subject to disturbance associated with processing activities would be directed to a retention/sedimentation basin, prior to being discharged off site at the Mine's southern boundary. Total runoff volumes from the southeastern portion of the site would be similar to existing and historic conditions and would be conveyed to the south and would infiltrate into the San Jacinto Lower Pressure GMZ. While the Project would detain runoff from the northern portions of the site subject to mining and reclamation activities, all detained runoff would be allowed to infiltrate and ultimately would contribute to groundwater within the San Jacinto Lower Pressure GMZ. Runoff from undisturbed areas would be conveyed via natural drainage channels, similar to existing and historic conditions, and also would contribute to groundwater within the San Jacinto Upper Pressure GMZ. Therefore, because all runoff from the site under post-mining and reclamation activities would contribute to groundwater within the San Jacinto Upper Pressure GMZ, the Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level and impacts would be less than significant.

Threshold c.:	***Would the Project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces?***
Threshold e.:	***Would the Project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site?***
Threshold f.:	***Would the Project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

The Project proposes to add approximately 54.5 acres to the disturbance limits of the Gilman Springs Mine. During on-going mining operations under the Project, and similar to existing conditions, runoff from the northern portions of areas planned for mining activities would be conveyed to a detention/siltation basin and would be detained, with a portion of the runoff being discharged off site along the Mine's southern boundary

(west of the Mine's access road). Runoff within the southeastern portion of the site would be directed towards one of several detention/sedimentation basins located in the southeastern portions of the site, which would be conveyed off site at the Mine's southern boundary following water quality treatment, near the Mine's access road. Figure 4.8-4, *Post-Reclamation Hydrologic Conditions*, shows the hydrologic conditions proposed on site following completion of reclamation activities. As shown, following the completion of mining and reclamation activities on site, all runoff in the northern portions of the site that would be subject to mining activities would be conveyed to an on-site retention basin, with runoff being fully detained on site. Within the southeastern portion of the site, runoff would continue to be directed towards a sedimentation/retention basin, before being discharged off site at the Mine's southern boundary, adjacent to the Mine's access road. Areas located outside of areas planned for mining and processing activities would convey runoff in a manner similar to existing conditions and historical conditions.

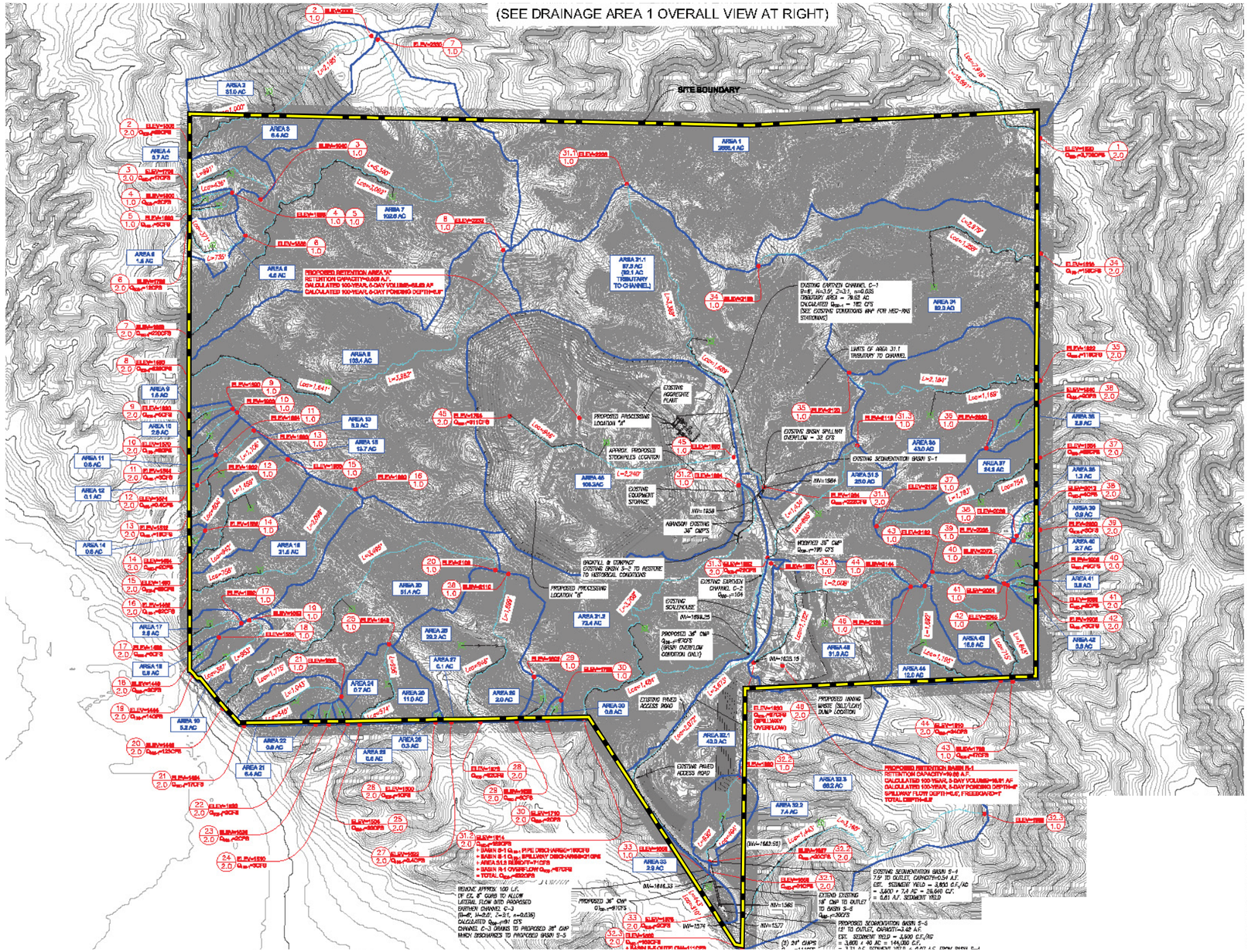
Table 4.8-3, *Summary of Drainage Conditions*, provides a summary of peak runoff flows from the site for "Historical" conditions, are the drainage conditions as they existed prior to commencement of mining activities on site; "Existing" conditions, which refers to the drainage conditions that existed when the Project's Notice of Preparation (NOP) was distributed for public review in May 2018; and "Developed" conditions, which is the drainage conditions that would exist following completion of reclamation activities pursuant to proposed SMP 159R2. It should be noted that the post-reclamation (Developed) conditions include increased runoff as a result of the 0.84 acre of paved roadways proposed by the Project to reduce water demands for dust control.

As shown in Table 4.8-3, under on-going mining activities, including mining within the proposed EDA (i.e., "Existing" conditions), peak runoff from the site would be similar to Historical conditions, with only a slight increase in peak flow rates from 2,087 cubic feet per second (CFS) to 2,099 CFS under a 100-year storm event (24-hour duration), while the total volume would be slightly increased from 964.07 acre-feet (AF) to 971.63 AF. Although runoff and volume would be increased compared to Historical conditions, runoff under the proposed Project would not be increased relative to Existing conditions. Furthermore, all runoff from areas that would be disturbed as part of existing or future mining activities on site would be conveyed to sedimentation/retention basins, which would detain flows and provide water quality treatment (i.e., to remove sediments) prior to discharge from the site. Accordingly, under on-going mining operations, including within the proposed EDA, runoff from the site would not alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious surfaces, and impacts would be less than significant.

Table 4.8-3 Summary of Drainage Conditions

CONDITION	COMBINED $Q_{100\text{-}1}$ (CFS)	COMBINED $Q_{100\text{-}3}$ (CFS)	COMBINED $Q_{100\text{-}6}$ (CFS)	COMBINED $Q_{100\text{-}24}$ (CFS)	COMBINED $V_{100\text{-}1}$ (AF)	COMBINED $V_{100\text{-}3}$ (AF)	COMBINED $V_{100\text{-}6}$ (AF)	COMBINED $V_{100\text{-}24}$ (AF)
HISTORICAL	6,136	4,252	3,775	2,087	346.23	487.99	599.35	964.07
EXISITNG	6,201	4,274	3,795	2,099	346.46	489.20	595.13	971.63
DEVELOPED	5,903	4,090	3,638	2,020	333.52	470.82	578.04	934.48

Notes: "Historical" refers to historic drainage conditions that existed before mining operations began on site; "Existing" refers to the drainage conditions that existed at the time the Project's NOP was distributed for public review in May 2018; and "Developed" refers to drainage conditions as proposed for ultimate site reclamation as part of SMP 159R2.
(Bonadiman, 2019, Table 13)



Source(s): Bonadiman (09-24-2019)

NOT TO SCALE

Figure 4.8-4

POST-RECLAMATION HYDROLOGIC CONDITIONS

Following completion of mining and reclamation activities on site (i.e., "Developed" conditions), all runoff from areas subject to mining activities in the north, including runoff within the proposed EDA, would be fully detained on site. Runoff from areas subject to disturbance in the southeast portion of the site would be conveyed to a sedimentation/retention basin, which would detain and treat runoff prior to discharging near the Mine's southern boundary, adjacent to the Mine's access road. As shown in Table 4.8-3, under reclaimed conditions peak runoff would be reduced as compared to historical and existing conditions, and the total volume of water also would be reduced. With exception of areas in the north that are subject to mining and processing, all drainage areas on site would be similar to existing conditions and would not be substantially different from historical conditions. As such, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site, and impacts would be less than significant. Additionally, because total runoff would be reduced as compared to existing conditions, the Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Similarly, because all runoff from disturbed areas would either be fully detained on site or would be detained and treated on site prior to discharge, the Project would not result in substantial additional sources of polluted runoff and impacts would be less than significant.

Threshold d.: Would the Project result in substantial erosion or siltation on-site or off-site?

Under existing conditions, approximately 150.4 acres of the Gilman Springs Mine are actively used for mining operations. The proposed Project would expand the mine's disturbance limits to accommodate an additional 54.5 acres of mining area on what is currently undeveloped land. Therefore, exposed soils on-site would be susceptible to erosion and loss of topsoil. Earth moving associated with mining activities would expose underlying soils, which could increase erosion susceptibility. It should be noted that the Project would be required to implement dust control, including the use of water and gravel stabilization, which would reduce the site's potential for erosion or siltation.

During ongoing mining operations under the Project, and similar to existing conditions, runoff from the northern portions of areas planned for mining activities would be conveyed to a detention/siltation basin and would be detained prior to portions of the runoff being discharged off site along the Mine's southern boundary (west of the Mine's access road). Runoff within the southeastern portion of the site would be directed towards one of several detention/sedimentation basins located in the southeastern portions of the site, which would be conveyed off site at the Mine's southern boundary following water quality treatment, near the Mine's access road. As previously shown on Figure 4.8-4, following the completion of mining and reclamation activities on site, all runoff in the northern portions of the site that would be subject to mining activities would be conveyed to an on-site retention basin, with runoff being fully detained on site. Within the southeastern portion of the site, runoff would continue to be directed towards a sedimentation/retention basin, before being discharged off site at the Mine's southern boundary, adjacent to the Mine's access road. Areas located outside of areas planned for mining and processing activities would convey runoff in a manner similar to existing conditions and historical conditions. Furthermore, all runoff from areas that would be disturbed as part of existing or future mining activities on site would be conveyed to sedimentation/retention basins, which would detain flows and provide water quality treatment (i.e., to remove sediments) prior to discharge from the site. Accordingly, under on-going mining operations, including within the proposed EDA, runoff from the site would not result in substantial erosion or siltation on- or off-site and impacts would be less than significant.

Threshold g.: ***Would the Project impede or redirect flood flows?***

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Nos. 06065C0795H and 06065C1460H, the entire 1,021.4-acre Mine is located within an unshaded "Zone X," identified by FEMA as an area determined to be outside the 0.2% (500-year) annual chance of flood. The nearest area subject to flood hazards occurs southwest of the Project site, southwest of Gilman Springs Road (FEMA, 2014a; FEMA, 20174b) Additionally, the Project does not propose any housing or structures with the potential to impede flood flows. The Project also has no potential to result in impacts due to redirected flood flows, as all flows would either be similar to existing conditions or would be detained on site. Therefore, impacts would be less than significant.

Threshold h.: ***In flood hazard, tsunami, or seiche zones, would the Project risk the release of pollutants due to Project inundation?***

The Project site is located approximately 46 miles northeast of the Pacific Ocean, and is therefore not subject to inundation due to tsunami hazards. As indicated above under Threshold g., the Project site is not located within a flood hazard area, and no impacts due to flood inundation would occur. Additionally, although the Project site is located approximately 6.0 miles east of Lake Perris, the Project site is located on the opposite side of the lake from the dam, and is located at a higher elevation than Lake Perris. Thus, there is no potential for the Project site to be inundated by seiches. Accordingly, no impact would occur.

Threshold i.: ***Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

The Project site is located within the jurisdiction of the Santa Ana RWQCB. Water quality information for the Santa Ana River watershed is contained in the Santa Ana Region Basin Plan (as most recently updated in February 2016) (RWQCB, 2016). In addition, the Project site is located within the West San Jacinto Groundwater Management Area (GMA), and is therefore subject to the EMWD's "Groundwater Management Plan – West San Jacinto Groundwater Basin" (EMWD, 1995; EMWD, 2018). The Project's consistency with each is discussed below.

Santa Ana Region Basin Plan

The California Porter-Cologne Water Quality Control Act (§ 13000 ("Water Quality") et seq., of the California Water Code), and the Federal Water Pollution Control Act Amendment of 1972 (also referred to as the Clean Water Act (CWA)) require that comprehensive water quality control plans be developed for all waters within the State of California. The Project site is located within the jurisdiction of the Santa Ana RWQCB. Water quality information for the Santa Ana River watershed is contained in the 2016 Santa Ana Region Basin Plan (Basin Plan). This document is herein incorporated by reference and is available for public review at the Santa Ana RWQCB office located at 3737 Main Street, Suite 500, Riverside, CA 92501-3348. (RWQCB, 2016)

The CWA requires all states to conduct water quality assessments of their water resources to identify water bodies that do not meet water quality standards. Water bodies that do not meet water quality standards are placed on a list of impaired waters pursuant to the requirements of Section 303(d) of the CWA. Under natural

conditions, downstream waters that are tributary to the Project site are impaired, including Canyon Lake and Lake Elsinore. However, storm water that falls within the mining pit is retained in that pit and infiltrates into the ground. Storm water that falls on other areas of the site is directed to a series of detention basins which retain storm water and allow it to infiltrate into the ground. These basins also allow sediment to settle out, improving the quality of storm water discharges that do occur. (Chandler Aggregates, 2018, p. 2) These conditions would be maintained under the proposed Project. The only change would be an increase in areas subject to mining, and runoff in these areas largely would be retained within the pit. Runoff in other portions of the site would continue to be treated by sedimentation basins, which would remove sediments and preclude downstream water quality impacts.

In addition, mining operations at the site are currently regulated by an approved Stormwater Pollution Prevention Plan (SWPPP), which incorporates Best Management Practices to preclude water quality impacts associated with mining operations. In accordance with RWQCB Order No. R8-2013-0024, the Project Applicant would be required to revise the SWPPP to include additional BMP measures, as necessary and appropriate, to address mining activities within the EDA. The revised SWPPP would be required subsequent to certification of this EIR, but prior to the commencement of mining activities within the EDA. The BMPs specified in the revised SWPPP would be similar to the BMP measures presently implemented on site and would be required to ensure that all potential pollutants of concern (i.e., sediments) are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the site. Mandatory compliance with the SWPPP and the BMPs presently implemented on site along with any additional BMPS that would be identified in the Project's required Industrial Activities SWPPP would ensure that the Project would not result in the discharge of polluted water that could adversely affect downstream waters or otherwise contribute to existing impairments to downstream waters.

In addition, pursuant to the requirements of the Santa Ana RWQCB and the County of Riverside, the Project Applicant would be required to comply with the NPDES General Permit to encompass the EDA, in addition to the existing mining limits that already are subject to a General Permit. An NPDES General Permit is required for all new and expanded mining facilities. An Amended Notice of Intent (NOI) would be filed certifying that the permit's eligibility conditions have been met, as there is an existing Waste Discharger Identification (WDID) number. Because the Project would comply with mandatory SWPPP requirements and all runoff from actively mined portions of the Mine would be retained on site or treated in the sedimentation basins during ongoing mining activities and would not adversely affect any downstream properties or result in polluted runoff that could conflict with the requirements of the Basin Plan, the Project would be consistent with the Santa Ana Region Basin Plan and impacts would be less than significant.

Following reclamation activities on site, runoff from the site ultimately would be conveyed to a proposed sedimentation pond within the proposed EDA, and runoff would be fully detained on site and allowed to infiltrate into the groundwater table. As there would be no sources of pollution on site, and because water would be allowed to infiltrate into the ground following removal of sediments, the Project has no potential to conflict with the Santa Ana Region Basin Plan under long-term operational conditions. No impact would occur.

Groundwater Management Plan – West San Jacinto Groundwater Basin

The EMWD adopted the *Groundwater Management Plan – West San Jacinto Groundwater Basin* on June 8, 1995. The GMP is intended to manage the San Jacinto Groundwater Basin (SJGB) in a manner that would supplement EMWD's water supplies, thereby increasing the amount of locally-available water and reducing the amount of water that needs to be imported through MWD. The GMP covers approximately 256-square miles (over 164,200 acres) and has been divided into six (6) Groundwater Management Zones (GMZs). The Project site is located at the eastern edge of the San Jacinto Lower Pressure Groundwater Management Zone (GMZ). As part of the GMP, EMWD monitors groundwater quality, groundwater level, groundwater extraction, and inactive well capping and sealing programs in order to evaluate progress towards attaining the goals of the GMP. (EMWD, 1995; EMWD, 2018, Figure 7-2)

Under existing conditions, water service at the Mine is provided via an on-site well. Water extracted from this well is used for dust control on site. As described in EIR Subsection 3.3.2.H, under existing conditions approximately 44.65 acres of the Project site are subject to watering for dust control. Under the proposed Project, the Mine's access road would be paved to reduce areas subject to watering by 0.84 acre. Additionally, the Project proposes to use gravel stabilization over approximately 10.59 acres of the existing disturbed areas at the Mine, which would preclude the need for watering for dust control purposes. In areas planned for mining and disturbance by the Project, approximately 4.22 acres additional acres would require watering for dust control. Thus, with a reduction of 11.43 acres of watering on site (composed of the 0.84-acre paved roadway and gravel stabilization on 10.59 acres), and with an increase of 4.22 acres requiring watering for dust control, total areas on site that would require watering for dust control would be reduced by 7.21 acres, reducing the total areas subject to watering for dust control from 44.65 acres to approximately 37.44 acres. Thus, total water usage for dust control purposes would be reduced by approximately 16.1% as compared to baseline conditions. Accordingly, because the total amount of groundwater used at the Mine would decrease under the Project as compared to existing conditions, impacts due to a conflict with the GMP policies related to groundwater levels and groundwater extraction would be less than significant.

With respect to drainage and runoff, and as described above, with implementation of the Project storm water that falls on areas subjected to mining in the northern portion of the site would not be discharged and would remain on site. Storm water that would fall within the mining pit would be retained in the pit and runoff would be allowed to infiltrate into the groundwater table, or runoff within the mined areas would be conveyed to a sedimentation basin. Storm water that falls on other disturbed portions of the Mine would be directed to a series of sedimentation basins that would retain storm water and allow it to infiltrate into the ground. The sedimentation basins would treat runoff to remove sediments, which are the primary pollutant of concern for the proposed Project. A small portion of runoff from the Mine occurs in undisturbed areas and these areas would continue to drain as they do under existing conditions. Thus, during on-going mining activities that would be allowed by the Project, the Project would not conflict with the GMP objectives for groundwater quality or groundwater levels. Thus, during mining operations, Project impacts due to a conflict with the West San Jacinto GMP would be less than significant.

Following reclamation activities on site, runoff from the areas subject to mining activities ultimately would be conveyed to a proposed sedimentation pond within the proposed EDA, and runoff would be fully detained on

site and allowed to infiltrate into the groundwater table. Disturbed areas in the southeastern portion of the Mine would be conveyed to a sedimentation basin for treatment prior to discharge from the site, while undisturbed portions of the Mine would continue to drain as they do under existing conditions. Additionally, groundwater extraction at the site would cease upon completion of reclamation activities. As there would be no sources of pollution on site, and because water would be allowed to infiltrate into the ground following removal of sediments, the Project would not conflict with the West San Jacinto GMP's goals related to groundwater quality and groundwater levels under post-reclamation conditions, and impacts would be less than significant.

4.8.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development within the Santa Ana River watershed. This study area was determined to be appropriate for the Project because all runoff associated with the Project would ultimately be conveyed to the Santa Ana River, and the Project only has the potential to result in cumulatively-considerable impacts when considered in conjunction with other development within the Santa Ana River watershed.

Threshold a.

Under on-going mining activities under the Project, all runoff from disturbed areas would be conveyed to retention/sedimentation basins prior to discharge from the site, which would preclude cumulatively-considerable impacts to water quality. Under post-reclamation conditions, runoff from the northern portions of the Mine that are subject to mining activities would be fully detained on site, while remaining areas on site that are subject to disturbance associated with processing activities would be conveyed to a retention/sedimentation basin prior to discharge from the site. Thus, because all runoff would be treated to remove sediments under both interim and long-term conditions, the Project would not violate water quality standards or waste discharge requirements and would not otherwise result in substantial impacts to water quality on either a direct or cumulative basis. As such, impacts would be less-than-cumulatively considerable.

Threshold b.

As discussed above, under interim conditions all runoff from the site would be treated by sedimentation basins prior to discharging a portion of the runoff from the site to downstream areas, where infiltration into the groundwater table would continue to occur as it does under existing conditions. Following reclamation, a portion of the runoff within the active mined areas would be fully detained on site and allowed to infiltrate into the groundwater table, with the remaining runoff from the site being discharged at the Mine's southern boundary following water quality treatment. Additionally, the Project would result in a reduction of groundwater used at the site by 16.1% as compared to existing conditions. Thus, the Project would not substantially deplete groundwater supplies, nor would the Project impede sustainable groundwater management of the basin. As such, the Project would result in a less-than-cumulatively considerable impact to groundwater supplies and groundwater recharge.

Thresholds c., e., and f.

Under on-going mining activities associated with the Project, the total rate and amount of runoff from the site would be similar to existing conditions; thus, the Project would not increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Additionally, under interim conditions the Project has no potential to cumulatively contribute to runoff that could exceed the capacity of downstream facilities or that could provide substantial additional sources of polluted runoff. Furthermore, because there would be no change under interim conditions, runoff from the site would not alter the existing drainage pattern of the site or downstream areas. Under post-reclamation conditions, the total rate and volume of runoff would be slightly reduced as compared to existing conditions; thus, under post-reclamation conditions, the Project would not result in flood hazards on- or off-site, would not contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems, and would not result in changes to the drainage pattern of the site or downstream areas on either a direct or cumulatively-considerable basis. Additionally, under both interim and post-reclamation conditions, all runoff would be fully detained on site or would be conveyed to retention/sedimentation basins prior to discharge from the site, which would preclude potential cumulatively-considerable impacts to water quality. Thus, impacts would be less-than-cumulatively considerable.

Threshold d.

Under both interim and post-reclamation conditions, all runoff on the Project site would be fully detained on site or would be treated by sediment basins that would remove sediments in runoff prior to discharge from the site. Exposed areas of soil also would be subject to dust control measures during interim conditions. Additionally, the Project would not result in a substantial increase in the rate or amount of runoff that could result in increased erosion hazards downstream. As such, the Project would result in less-than-cumulatively considerable impacts due to erosion and siltation.

Threshold g.

The Project site is not located within a 100-year flood hazard area, and the Project does not propose any structures or housing. Accordingly, the Project would not impede or redirect flood flows, and a cumulatively-considerable impact would not occur.

Threshold h.

The Project site is not located within or adjacent to any flood hazard areas, is not subject to tsunami hazards, and is located too far away from Lake Perris to be subject to impacts due to seiches. The Project also has no potential to cumulatively contribute to increased risks due to flood hazards, tsunamis, or seiches. Thus, a cumulatively-considerable impact would not occur.

Threshold i.

As indicated under the discussion of Threshold i., the Project would not conflict with the Santa Ana River Basin Plan or the West San Jacinto GMP. Other developments within the purview of these documents would similarly be required to comply with the requirements set forth in the Basin Plan and West San Jacinto GMP. As such, cumulatively-considerable impacts would be less than significant.

4.8.7 Significance of Impacts Before Mitigation

Threshold a.: Less-than-Significant Impact. The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, and impacts would be less than significant.

Threshold b.: Less-than-Significant Impact. Under the proposed Project, there would be a reduced demand for groundwater resources as compared to existing conditions. Thus, the Project would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be less than significant. Additionally, because all runoff from the Mine would be conveyed off-site towards the San Jacinto Upper Pressure GMZ and/or would be allowed to infiltrate into the groundwater table, the Project would not adversely affect groundwater recharge under interim mining operations. Under post-reclamation conditions, because all runoff from the site under post-mining and reclamation activities would contribute to groundwater within the San Jacinto Upper Pressure GMZ, the Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level and impacts would be less than significant.

Thresholds c., e., and f.: Less-than-Significant Impact. The Project would not substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, and would not introduce substantial amounts of new impervious surfaces. Additionally, under both interim and post-reclamation conditions, the total amount of runoff leaving the site would be similar to existing conditions, and would therefore not result in increased flood hazards on- or off-site. Additionally, because the rate and amount of runoff would be similar to existing conditions, the Project would not exceed the capacity of existing or planned stormwater drainage systems. Furthermore, because all runoff from disturbed portions of the site would be detained on site or treated by sedimentation basins prior to discharge from the site, the Project would not provide substantial additional sources of polluted runoff. Impacts would be less than significant.

Threshold d.: Less-than-Significant Impact. All runoff in the disturbed portions of the site would either be fully detained on site or would be treated by sedimentation basins prior to discharge from the site. Additionally, dust control measures, including watering and the use of gravel stabilization, would reduce the amount of dust generated in the actively mined portions of the site. As such, the Project would not result in substantial erosion or siltation on- or off-site, and impacts would be less than significant.

Threshold g.: Less-than-Significant Impact. The Project is not located within a mapped flood zone and would not impede or redirect flood flows. Impacts would be less than significant.

Threshold h.: No Impact. The Project site is not located in an area that is subject to inundation due to tsunamis, flood hazards, or seiches, and no impact would occur.

Threshold i.: Less-than-Significant Impact. The Project would be fully consistent with the Santa Ana River Basin Plan and the West San Jacinto GMP. As such, Project impacts due to a conflict with a water quality control plan or sustainable groundwater management plan would be less than significant.

4.8.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- The Project is required to comply with the provisions of the County's National Pollutant Discharge Elimination System (NPDES) Permit (Order No. R8-2013-0024, NPDES Permit No. CAS618033) and the Project's Storm Water Pollution Prevention Program (SWPPP).

Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.9 NOISE

This Subsection addresses the environmental issue of noise. The information in this Subsection is based in part on a technical report titled, "Gilman Springs Mine Noise Impact Analysis" ("NIA"), dated January 9, 2020 and appended to this EIR as *Technical Appendix H1* (Urban Crossroads, 2020c). This Subsection also relies in part on a supplemental analysis prepared to account for revisions to the proposed mining limits (EDA), and a change in the Project's opening year from 2018 to 2019 along with associated changes to the Project's contribution to traffic-related noise in the study area. This supplemental analysis is titled, "Gilman Springs Mine Supplemental Noise Assessment," is dated April 17, 2019, and is appended to this EIR as *Technical Appendix H2* (Urban Crossroads, 2019b).

4.9.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]). As evaluated in this EIR, and as explained in EIR subsections 3.3.2.A and 3.3.2.B, the Project would result in an increase in the amount of aggregate produced at the mine from 377,675 tons per year (tpy) to 1,000,000 tpy, with tonnage attributable to the Project comprising 622,235 tpy (or 62.2% of the total 1,000,000 tpy). Thus, it can be projected that approximately 62.2% of the estimated high-end daily tonnage of 4,000 tpd would be attributable to the Project, or approximately 2,489 tons per day (tpd). Accordingly, for purposes of analysis within this Subsection, it is assumed that the Project would result in the production of a maximum of 2,489 tpd.

4.9.2 ACOUSTICAL FUNDAMENTALS

A. Noise Definitions

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. (Urban Crossroads, 2020c, p. 9)

B. Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment. (Urban Crossroads, 2020c, p. 10)

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL),

representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The County of Riverside relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources. (Urban Crossroads, 2020c, p. 10)

C. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors (Urban Crossroads, 2020c, p. 10).

1. Geometric Spreading

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (Urban Crossroads, 2020c, p. 10)

2. Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (Urban Crossroads, 2020c, pp. 10-11)

3. Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (Urban Crossroads, 2020c, p. 11)

4. Shielding

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (Urban Crossroads, 2020c, p. 11)

D. Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements. (Urban Crossroads, 2020c, p. 11)

E. Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (Urban Crossroads, 2020c, p. 11)

F. Land Use Compatibility with Noise

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (Urban Crossroads, 2020c, pp. 11-12)

G. Community Response to Noise

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including: (Urban Crossroads, 2020c, p. 12)

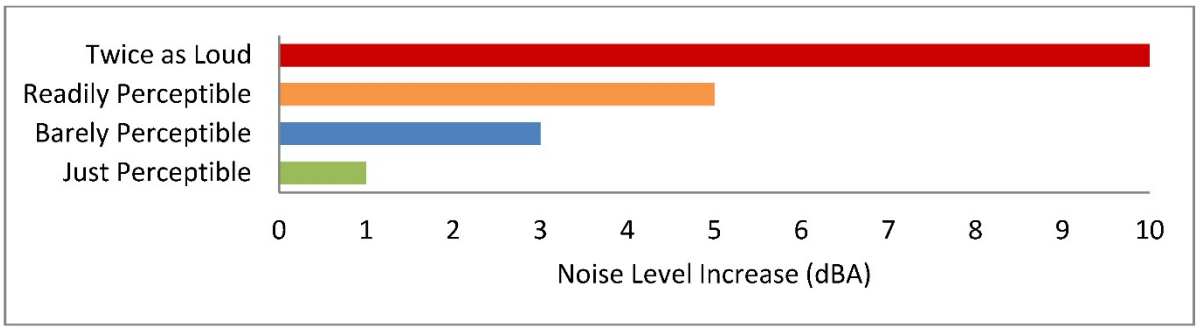
- Fear associated with noise producing activities;

- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (Urban Crossroads, 2020c, p. 12)

Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Figure 4.9-1, *Noise Level Increase Perception*. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (Urban Crossroads, 2020c, p. 12)

Figure 4.9-1 Noise Level Increase Perception



(Urban Crossroads, 2020c, Exhibit 2-B)

H. Exposure to High Noise Levels

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5-dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3-dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (Urban Crossroads, 2020c, p. 13)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment, and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. The analysis herein does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational noise levels at the nearby sensitive receiver locations in the Project study area. Further, periodic exposure to high noise levels in short duration, such as during blasting events, is typically considered an annoyance and not impactful to human health. It would take several years of exposure to high noise levels to result in hearing impairment. (Urban Crossroads, 2020c, p. 13)

I. Vibration

Per the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency. (Urban Crossroads, 2020c, p. 13)

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities. (Urban Crossroads, 2020c, p. 14)

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB,

which is the general threshold where minor damage can occur in fragile buildings. (Urban Crossroads, 2020c, p. 14)

J. Blasting Fundamentals

The intensity of the noise and vibration impacts associated with rock blasting depends on location, size, material, shape of the rock, and the methods used to crack it. While a blasting contractor can design the blasts to stay below a given vibration level that could cause damage to nearby structures, it is difficult to design blasts that produce noise levels which are not perceptible to receivers near the blast site. The noise produced by blasting activities is referred to as air overpressure, or an "airblast," which is generated when explosive energy in the form of gases escape from the detonating blast holes. Much like a point source, airblasts radiate outward in a spherical pattern and attenuate with each doubling of distance from the blast location, depending on the design of the blast and amount of containment. (Urban Crossroads, 2020c, p. 14)

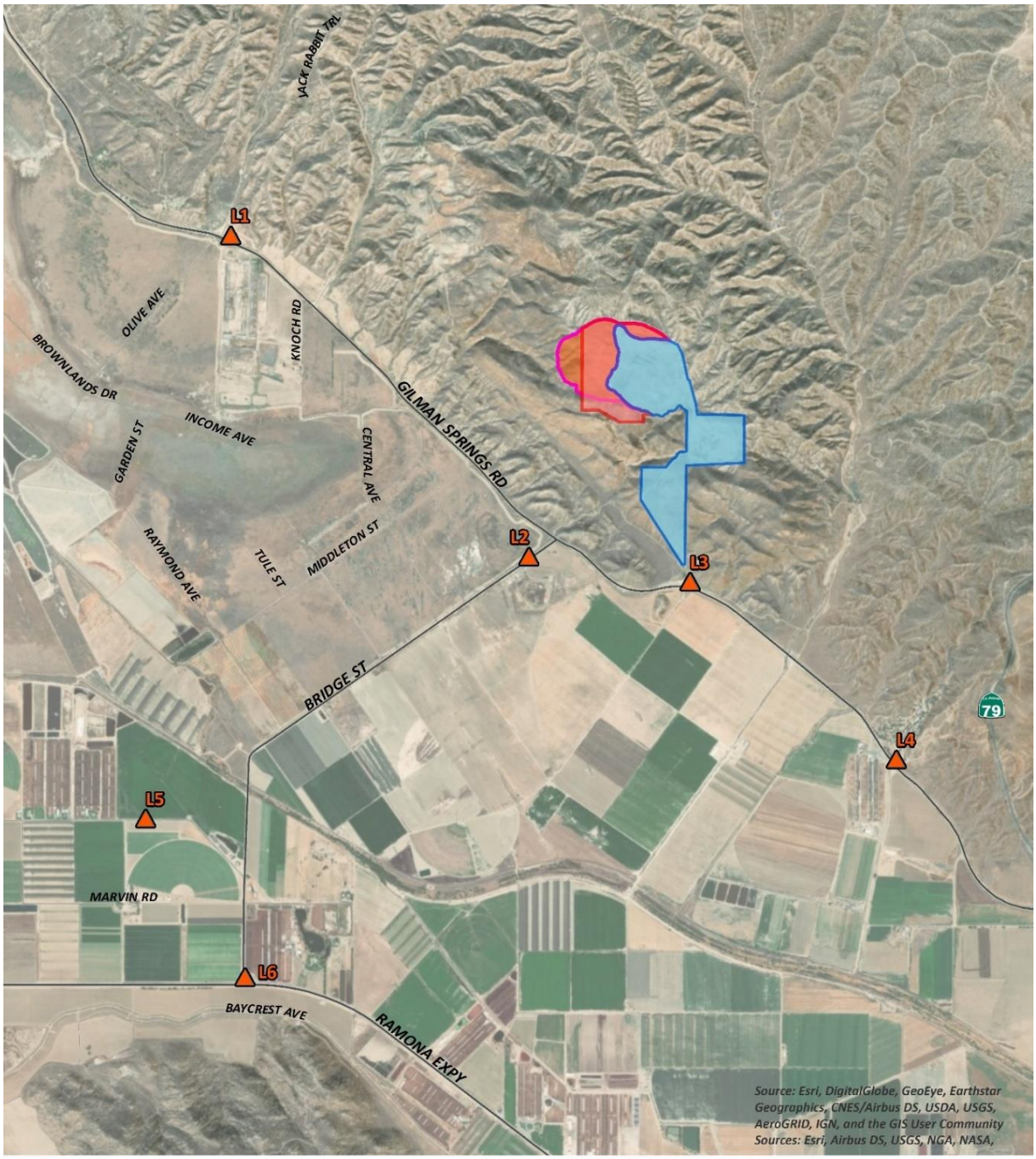
Blasting activities generally include: the pre-drilling of holes in the hard rock area; preparation and placement of the charges in the drilled holes; a pre-blast horn signal; additional pre-blast horn signals immediately prior to the blast; and the blast itself. An additional horn signal is sounded to indicate the "all clear" after the blast and the blasting contractor has inspected the blasting area. The noise from the blast itself starts with a cracking sound from the detonator, located at a distance from the charges, and ends with the low crackling sound from each charge as they are subsequently set off. Blasts typically occur for only a few seconds, depending on their design. It is important to note that no other equipment would be operating during each blast in the blast area but would commence operation once the blasting contractor indicates it is safe to do so. The blasting information provided herein is based on the 18th Edition of the International Society of Explosives Engineers' (ISEE's) Blasters' Handbook. (Urban Crossroads, 2020c, pp. 14-15)

4.9.3 Existing Conditions

To assess the existing noise level environment, Urban Crossroads collected 24-hour noise level measurements at six sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Figure 4.9-2, *Noise Measurement Locations* provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, December 12th, 2017. (Urban Crossroads, 2020c, p. 29)

A. Measurement Procedure and Criteria

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and



Source(s): Urban Crossroads (09-24-2019)

NOT TO SCALE

Figure 4.9-2

NOISE MEASUREMENT LOCATIONS

microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (Urban Crossroads, 2020c, p. 29)

B. Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the Federal Transit Administration (FTA) recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (Urban Crossroads, 2020c, p. 29)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels. (Urban Crossroads, 2020c, pp. 29-30)

C. Noise Measurement Results

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 4.9-1, *24-Hour Ambient Noise Level Measurements*, identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 of the Project's Noise Impact Analysis (*Technical Appendix H1*) provides a summary of the existing hourly ambient noise levels described below. (Urban Crossroads, 2020c, p. 31)

- Location L1 represents the noise levels northwest of the Project site on Gilman Springs Road near existing vacant land and agricultural uses. The background ambient noise levels near this location consist primarily of vehicular traffic on Gilman Springs Road. The noise level measurements collected show an overall 24-hour exterior noise level of 66.2 dBA CNEL. The hourly noise levels measured at location L1 ranged from 56.5 to 62.4 dBA Leq during the daytime hours and from 55.1 to 63.2 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated

at 59.8 dBA Leq with an average nighttime noise level of 59.6 dBA Leq. (Urban Crossroads, 2020c, p. 31)

Table 4.9-1 24-Hour Ambient Noise Level Measurements

Location[1]	Distance to Proposed Mining Limits (Miles)	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
			Daytime	Nighttime	
L1	1.6	Located northwest of the Project site on Gilman Springs Road near existing vacant land and agricultural uses.	59.8	59.6	66.2
L2	0.6	Located southwest of the Project site on Bridge Street near existing agricultural use.	62.6	59.9	67.3
L3	0.1	Located south of the Project site on Gilman Springs Road adjacent to the entrance gate for the Project.	62.5	62.1	68.8
L4	1.3	Located south of the Project site on Gilman Springs Road near existing agricultural uses and the Victory Ranch Baptist Camp west of State Route 79.	71.5	70.9	77.6
L5	2.7	Located southwest of the Project site adjacent to existing agricultural uses on Main Street.	66.7	65.4	72.2
L6	2.7	Located southwest of the Project site near existing agricultural uses on Bridge Street.	71.7	69.7	76.7

1 See Figure 4.9-2 for the noise level measurement locations.

2 Energy (logarithmic) average hourly levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2 to the Project's Noise Study (*Technical Appendix H1*). "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

(Urban Crossroads, 2020c, Table 5-1)

- Location L2 represents the noise levels southwest of the Project site on Bridge Street near existing agricultural use. The primary source of background ambient noise at this location was from traffic noise on Bridge Street. The noise level measurements collected show an overall 24-hour exterior noise level of 67.3 dBA CNEL. The hourly noise levels measured at location L2 ranged from 59.8 to 65.9 dBA Leq during the daytime hours and from 54.2 to 64.6 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 62.6 dBA Leq with an average nighttime noise level of 59.9 dBA Leq. (Urban Crossroads, 2020c, p. 31)

- Location L3 represents the noise levels south of the Project site on Gilman Springs Road adjacent to the entrance gate for the Project. Located near the Mine entrance gate, the existing noise environment

at this location is attributed to background traffic noise on Gilman Springs Road. The 24-hour CNEL indicates that the overall exterior noise level is 68.8 dBA CNEL. At location L3 the background ambient noise levels ranged from 58.5 to 66.3 dBA Leq during the daytime hours to levels of 57.4 to 65.8 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 62.5 dBA Leq with an average nighttime noise level of 62.1 dBA Leq. (Urban Crossroads, 2020c, p. 31)

- Location L4 represents the noise levels south of the Project site on Gilman Springs Road near existing agricultural uses and the Victory Ranch Baptist Camp west of State Route 79. Traffic noise from Gilman Springs Road represents the primary source of background noise at this location. The noise level measurements collected show an overall 24-hour exterior noise level of 77.6 dBA CNEL. The hourly noise levels measured at location L4 ranged from 69.3 to 74.0 dBA Leq during the daytime hours and from 66.5 to 74.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 71.5 dBA Leq with an average nighttime noise level of 70.9 dBA Leq. (Urban Crossroads, 2020c, p. 31)

- Location L5 represents the noise levels southwest of the Project site adjacent to existing agricultural uses on Main Street. In addition to the background traffic noise on Main Street, the noise levels at this location include agricultural watering activities. The 24-hour CNEL indicates that the overall exterior noise level is 72.2 dBA CNEL. At location L5 the background ambient noise levels ranged from 63.2 to 69.7 dBA Leq during the daytime hours to levels of 56.7 to 71.0 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 66.7 dBA Leq with an average nighttime noise level of 65.4 dBA Leq. (Urban Crossroads, 2020c, p. 31)

- Location L6 represents the noise levels southwest of the Project site near existing agricultural uses on Bridge Street. Traffic noise from Ramona Expressway and Bridge Street represent the primary source of background ambient noise at this location. The noise level measurements collected show an overall 24-hour exterior noise level of 76.7 dBA CNEL. The hourly noise levels measured at location L6 ranged from 67.6 to 74.5 dBA Leq during the daytime hours and from 63.3 to 73.8 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 71.7 dBA Leq with an average nighttime noise level of 69.7 dBA Leq. (Urban Crossroads, 2020c, p. 32)

Table 4.9-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L1, L2, L5, L8, L25, L50, L90, L95, and L99 percentile noise levels observed during the daytime and nighttime periods. (Urban Crossroads, 2020c, p. 32)

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network. The 24-hour existing noise level measurements shown on Table 4.9-1 present the existing ambient noise conditions. (Urban Crossroads, 2020c, p. 32)

D. Airport Noise

The Project site is not located within two miles of a public airport or within an airport land use plan. The closest potential private airstrip is the Gilman Springs Flyers airstrip located roughly 1.5 miles west of the Project site, south of Gilman Springs Road. However, this airstrip is limited to remote controlled model airplanes and does not represent a major aircraft-related noise source capable of exposing people within the Project site to excessive noise levels. Thus, the Project site is not affected by substantial amounts of airport-related noise under existing conditions. (Urban Crossroads, 2020c, p. 23)

4.9.4 APPLICABLE ENVIRONMENTAL REGULATIONS

The following is a brief description of the federal, state, and local environmental laws and related regulations related to noise

A. Federal Regulations

1. Noise Control Act of 1972

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products. (EPA, 2017f)

While primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce, control of which require national uniformity of treatment. The Environmental Protection Agency (EPA) is directed by Congress to coordinate the programs of all Federal agencies relating to noise research and noise control. (EPA, 2017f)

2. Federal Transit Administration

The Federal Transit Administration (FTA) has published a Noise and Vibration Impact Assessment (NVIA), which provides guidance for preparing and reviewing the noise and vibration sections of environmental documents. In the interest of promoting quality and uniformity in assessments, the manual is used by project sponsors and consultants in performing noise and vibration analyses for inclusion in environmental documents. The manual sets forth the methods and procedures for determining the level of noise and vibration impact resulting from most federally-funded transit projects and for determining what can be done to mitigate such impact. (FTA, 2006, p. 1-1)

The NVIA also establishes criteria for acceptable ground-borne vibration, which are expressed in terms of root mean square (rms) velocity levels in decibels and the criteria for acceptable ground-borne noise are expressed in terms of A-weighted sound levels. As shown in Table 4.9-2, *Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Assessment*, the FTA identifies three categories of land uses and provides Ground-Based Vibration (GBV) and Ground-Based Noise (GBN) criteria for each category of land use. (FTA, 2006, pp. 8-3 and 8-4)

Table 4.9-2 Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dB re 20 micro Pascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[4]	N/A[4]	N/A[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Notes:

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
5. Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

(FTA, 2006, Table 8-1)

3. Federal Aviation Administration

The Federal Aviation Administration (FAA) regulates the maximum noise level that an individual civil aircraft can emit through requiring aircraft to meet certain noise certification standards. These standards designate changes in maximum noise level requirements by "stage" designation. The standard requires that the aircraft meet or fall below designated noise levels. For civil jet aircraft, there are four stages identified, with Stage 1 being the loudest and Stage 4 being the quietest. For helicopters, two different stages exist, Stage 1 and Stage 2. As with civil jet aircraft, Stage 2 is quieter than Stage 1. In addition, the FAA is currently working to adopt the latest international standards for helicopters, which will be called Stage 3 and will be quieter than Stage 2. (FAA, 2016b)

The FAA has undertaken a phase out of older, noisier civil aircraft, resulting in some stages of aircraft no longer being in the fleet. Currently within the contiguous US, civil jet aircraft over 75,000 pounds maximum take-off weight must meet Stage 3 and Stage 4 to fly. In addition, aircraft at or under 75,000 pounds maximum take-off weight must meet Stage 2, 3, or 4 to operate within the U.S. In addition, by December 31, 2015, all

civil jet aircraft, regardless of weight must meet Stage 3 or Stage 4 to fly within the contiguous U.S. Both Stage 1 and Stage 2 helicopters are allowed to fly within the U.S. (FAA, 2016b)

The U.S. noise standards are defined in the Code of Federal Regulations (CFR) Title 14 Part 36 – *Noise Standards: Aircraft Type and Airworthiness Certification* (14 CFR Part 36). The FAA publishes certificated noise levels in the advisory circular, *Noise Levels for U.S Certificated and Foreign Aircraft.* This advisory circular provides noise level data for aircraft certificated under 14 CFR Part 36 and categorizes aircraft into their appropriate "stages." Any aircraft that is certified for airworthiness in the U.S. needs to also comply with noise standard requirements to receive a noise certification. The purpose of the noise certification process is to ensure that the latest available safe and airworthy noise reduction technology is incorporated into aircraft design and enables the noise reductions offered by those technologies to be reflected in reductions of noise experienced by communities. As noise reduction technology matures, the FAA works with the international community to determine if a new stringent noise standard is needed. If so, the international community through the International Civil Aviation Organization (ICAO) embarks on a comprehensive analysis to determine what that new standard will be. (FAA, 2016a)

The current FAA noise standards applicable to new type certifications of jet and large turboprop aircraft is Stage 4. It is equivalent to the ICAO Annex 16, Volume 1 Chapter 4 standards. Recently, the international community has established and approved a more stringent standard within the ICAO Annex 16, Volume 1 Chapter 14, which became effective July 14, 2014. The FAA is adopting this standard and promulgating the rule for Stage 5 that is anticipated to be effective for new type certificates after December 31, 2017 and December 31, 2020, depending on the weight of the aircraft. The Notice of Proposed Rule Making (NPRM) for Stage 5 was published on January 14, 2016. (FAA, 2016a)

For helicopters, the FAA has noise standards for a Stage 3 helicopter that became effective on May 5, 2014. These more stringent standards apply to new type helicopters and are consistent with ICAO Annex 16, Volume 1 Chapter 8 and Chapter 11. (FAA, 2016a)

The FAA Modernization and Reform Act of 2012, in Section 513, had a prohibition on operating certain aircraft weighing 75,000 pounds or less not complying with Stage 3 noise levels, and on July 2, 2013, the FAA published a Final Rule in the Federal Register for the *Adoption of Statutory Prohibition the Operation of Jets Weighing 75,000 Pounds or Less That Are Not Stage 3 Noise Compliant*. In 1990, Congress passed the Aviation Noise and Capacity Act, which required that by the year 2000 all jet and large turboprop aircraft at civilian airports be Stage 3. (FAA, 2016a)

4. Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency responsible for administering the Federal-aid highway program in accordance with Federal statutes and regulations. The FHWA developed the noise regulations as required by the Federal-Aid Highway Act of 1970 (Public Law 91-605, 84 Stat. 1713). The regulation, 23 CFR 772 *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, applies to highway construction projects where a State department of transportation has requested Federal funding for participation in the project. The regulation requires the highway agency to investigate traffic noise impacts in

areas adjacent to federally-aided highways for proposed construction of a highway on a new location or the reconstruction of an existing highway to either significantly change the horizontal or vertical alignment or increase the number of through-traffic lanes. If the highway agency identifies impacts, it must consider abatement. The highway agency must incorporate all feasible and reasonable noise abatement into the project design. (FHWA, 2017)

The FHWA regulations for mitigation of highway traffic noise in the planning and design of federally aided highways are contained in Title 23 of the United States Code of Federal Regulations Part 772. The regulations require the following during the planning and design of a highway project:

- Identification of traffic noise impacts;
- Examination of potential mitigation measures;
- The incorporation of reasonable and feasible noise mitigation measures into the highway project; and
- Coordination with local officials to provide helpful information on compatible land use planning and control. (FHWA, 2017)

The regulations contain noise abatement criteria, which represent the upper limit of acceptable highway traffic noise for different types of land uses and human activities. The regulations do not require meeting the abatement criteria in every instance. Rather, they require highway agencies make every reasonable and feasible effort to provide noise mitigation when the criteria are approached or exceeded. Compliance with the noise regulations is a prerequisite for the granting of Federal-aid highway funds for construction or reconstruction of a highway. (FHWA, 2017)

5. Construction-Related Hearing Conservation

The Occupational Safety and Health Administration (OSHA) hearing conservation program is designed to protect workers with significant occupational noise exposures from hearing impairment even if they are subject to such noise exposures over their entire working lifetimes. Standard 29 CFR, Part 1910 indicates the noise levels under which a hearing conservation program is required to be provided to workers exposed to high noise levels. (OSHA, 2002) This analysis does not evaluate the noise exposure of construction workers within the Project site based on CEQA requirements, and instead, evaluates the Project-related construction noise levels at the nearby sensitive receiver locations in the Project study area. Further, periodic exposure to high noise levels in short duration, such as Project construction, is typically considered an annoyance and not impactful to human health. It would take several years of exposure to high noise levels to result in hearing impairment.

B. State Regulations

1. State of California Noise Requirements

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels.

2. Building Standards Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Standards Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3. California Noise Insulation Standards

The California Noise Insulation Standards (CCR Title 25 Section 1092) establish uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 25 specifies that interior noise levels attributable to exterior sources shall not exceed 45 dBA Ldn/CNEL (i.e., the same levels that the EPA recommends for residential interiors) in any habitable room of a new dwelling. An acoustical study must be prepared for proposed multiple unit residential and hotel/motel structures where outdoor Ldn/CNEL is 60 dBA or greater. The study must demonstrate that the design of the building would reduce interior noise to 45 dBA Ldn/CNEL or lower. Because noise levels can increase over time in developing areas, Title 25 also specifies that dwellings are to be designed so that interior noise levels will meet this standard for at least ten years from the time of building permit application.

4. OPR General Plan Guidelines

Though not adopted by law, the 2003 California General Plan Guidelines, published by the California Governor's Office of Planning and Research (OPR), provides guidance for local agencies in preparing or updating General Plans. The Guidelines provide direction on the required Noise Element portion of the General Plans. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. Local governments must "analyze and quantify" noise levels and the extent of noise exposure through actual measurement or the use of noise modeling. Technical data relating to mobile and point sources must be collected and synthesized into a set of noise control policies and programs that "minimizes the exposure of community residents to excessive noise." Noise level contours must be mapped and the conclusions of the element used as a basis for land use decisions. The element must include implementation measures and possible solutions to existing and foreseeable noise problems. Furthermore, the policies and standards must be sufficient to serve as a guideline for compliance with sound transmission control requirements. The noise element directly correlates to the Land Use, Circulation, and Housing Elements. The Noise Element must be used to guide decisions concerning land use and the location of new roads and transit facilities since these are common sources of excessive noise levels. The noise levels from existing land uses, including mining, agricultural, and industrial activities, must be closely analyzed to ensure compatibility, especially where residential and other sensitive receptors have encroached into areas previously occupied by these uses. (OPR, 2017, pp. 131-132)

5. Blasting Regulations

Prior to commencement of blasting activities, an applicant is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events. Further, blasting operations are required to satisfy the maximum airblast and vibration levels identified by the U.S. Bureau of Mines (USBM) and Office of Surface Mining and Reclamation Enforcement (OSMRE). (Urban Crossroads, 2020c, p. 21)

The OSMRE Blasting Performance Standards (Chapter 30 of the Code of Federal Regulations) identifies the maximum air overpressure and vibration levels at the location of any dwelling, public building, school, church, or community or institutional building. Section 816.64 indicates that blasting shall be restricted to between sunrise and sunset per OSMRE standards, unless nighttime blasting is approved by the regulatory authority based upon a showing by the operator that the public will be protected from adverse noise and other impacts. Section 816.67 identifies maximum airblast limits, in linear dB (L), based on different frequency levels. For purposes of analysis herein, the lowest limit of 129 dB (L) is used as a conservative threshold for analyzing blasting airblasts related to Project mining operations. (Urban Crossroads, 2020c, pp. 21-22)

Vibration level limits are also identified in the OSMRE Blasting Performance Standards. Section 816.67(d)(2) identifies maximum vibration levels allowed at distance ranges from the blasting site. From zero to 300 feet, the maximum vibration level shall not exceed 1.25 inches per second (in/sec) PPV. Between 301 to 5,000 feet, maximum vibration levels shall not exceed 1.0 in/sec PPV, and at distances greater than 5,001 feet, the OSMRE maximum vibration level standard is 0.75 in/sec PPV. (Urban Crossroads, 2020c, p. 22)

While additional blasting regulations can be imposed by the permitting agency, the OSMRE blasting regulations represent conservative thresholds for the purposes of this noise study to determine potential impacts related to blasting at nearby sensitive uses, based on the lowest OSMRE airblast limit of 129 dB (L), and 0.75 in/sec PPV for vibration, to present a conservative approach. (Urban Crossroads, 2020c, p. 22)

C. Local Regulations

1. Riverside County General Plan Noise Element

The intent of the Noise Element of the Riverside County General Plan is to control and abate environmental noise, and to protect the citizens of the County of Riverside from excessive exposure to noise. The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community, and establishes noise level requirements for all land uses. To protect County of Riverside residents from excessive noise, the Noise Element contains the following policies: (Urban Crossroads, 2020c, pp. 17-18)

> *N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.*

N 1.3 Consider residential use as noise-sensitive and discourage this use in areas in excess of 65 CNEL.

N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:

a. 45 dBA 10-minute Leq between 10:00 p.m. and 7:00 a.m.;
b. 65 dBA 10-minute Leq between 7:00 a.m. and 10:00 p.m.

N 13.1 Minimize the impacts of construction noise on adjacent uses within acceptable standards.

N 13.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse impacts on surrounding areas.

N 13.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

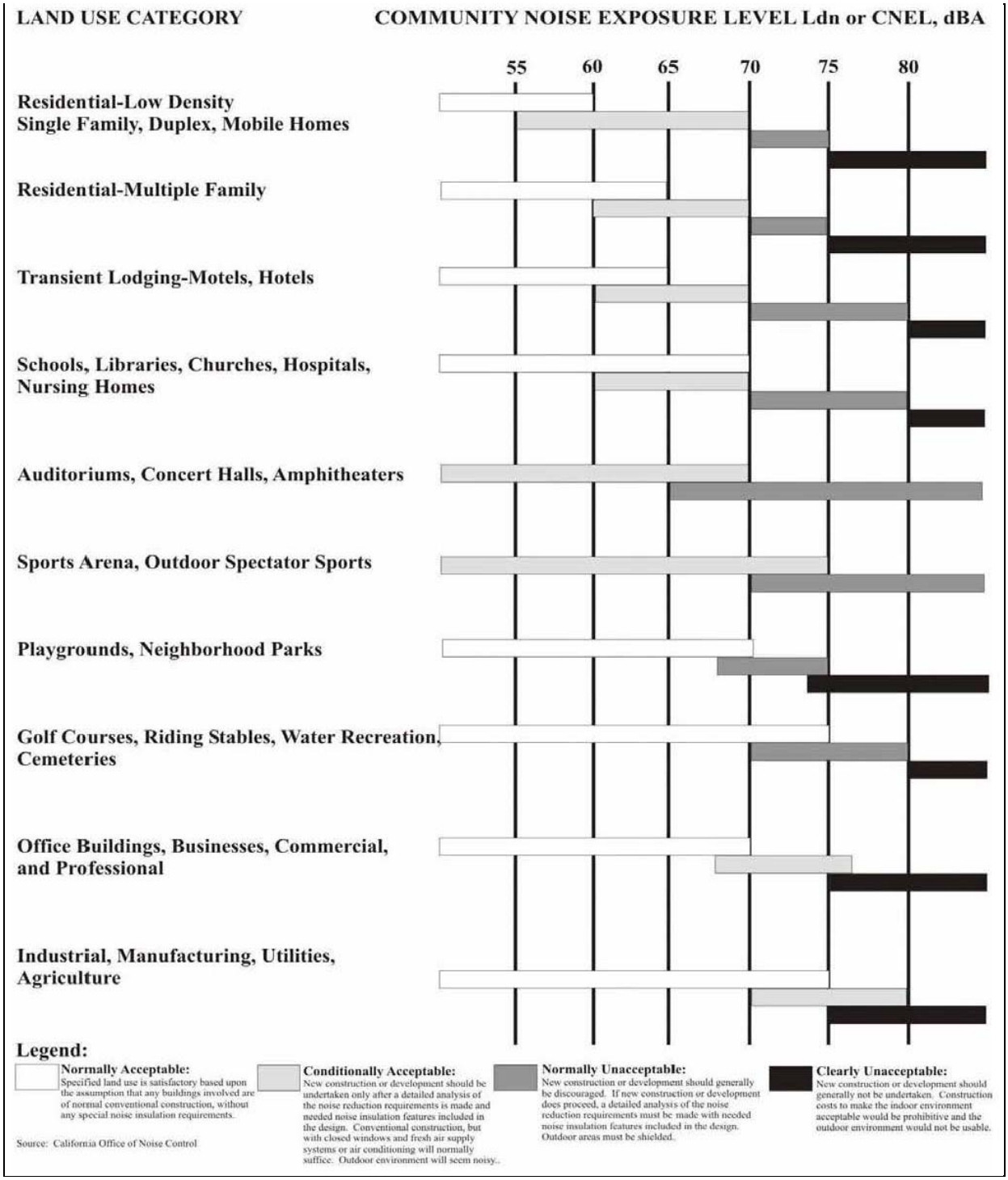
i. Temporary noise attenuation fences;
ii. Preferential location and equipment; and
iii. Use of current noise suppression technology and equipment.

N 16.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

To ensure noise-sensitive land uses are protected from high levels of noise (N 1.1), Table N-1 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element identifies residential use as a noise-sensitive land use (N 1.3) and discourages new development in areas with 65 CNEL or greater existing ambient noise levels. To prevent and mitigate noise impacts for its residents (N 1.5), County of Riverside requires noise attenuation measures for sensitive land use exposed to noise levels higher than 65 CNEL. Policy N 4.1 of the Noise Element sets a stationary-source exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA Leq for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA Leq during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. To prevent high levels of construction noise from impacting noise-sensitive land uses, policies N 13.1 through 13.3 identify construction noise mitigation requirements for new development located near existing noise-sensitive land uses. Policy 16.3 establishes the vibration perception threshold for rail-related vibration levels, used in the Project's NIA (*Technical Appendix H1*) as a threshold for determining potential vibration impacts due to Project construction. (Urban Crossroads, 2020c, p. 18)

The noise criteria identified in the County of Riverside Noise Element (Table N-1) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown in Figure 4.9-3,

Figure 4.9-3 Land Use Compatibility for Community Noise Exposure



(Urban Crossroads, 2020c, Exhibit 3-A)

Land Use Compatibility for Community Noise Exposure, is used by the County as a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. (Urban Crossroads, 2020c, p. 19)

The *Land Use Compatibility for Community Noise Exposure* matrix describes categories of compatibility and not specific noise standards. The mining use of the Project is considered normally acceptable with unmitigated exterior noise levels of less than 70 dBA CNEL based on the *Industrial, Manufacturing, Utilities, Agriculture* land use compatibility criteria shown on Figure 4.9-3. Residential designated land uses in the Project study area are considered normally acceptable with exterior noise levels below 60 dBA CNEL, and *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL. For *conditionally acceptable* exterior noise levels approaching 75 dBA CNEL for Project land uses, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.* (Urban Crossroads, 2020c, p. 19)

2. Operational Noise Standards

The County of Riverside has set exterior noise limits to control community noise impacts from non-transportation noise sources (such as playgrounds, trash compactors, air-conditioning units, etc.). Policy N 4.1 of the Noise Element sets an exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA Leq for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA Leq during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. These stationary-source noise level standards, shown on Table 4.9-3, *Operational Noise Standards*, are consistent with the County of Riverside Office of Industrial Hygiene guidelines for noise studies within the County. (Urban Crossroads, 2020c, p. 21)

3. Riverside County Airport Land Use Compatibility Plan

The Riverside County ALUCP establishes compatibility criteria for land uses in relation to the noise contour boundaries of airports within the City of Menifee. Table 2B of the ALUCP indicates that residential, commercial, and recreational uses, such as those within the Project, are considered "clearly acceptable" when located within the 50 to 55 dBA CNEL noise contour of an airport and are considered "normally acceptable" when located within the 55 dBA to 60 dBA CNEL noise contour of an airport. The Project site does not occur within the Airport Influence Area (AIA) for any airport facility, and therefore is not subject to regulations or restrictions associated with the ALUCP. (RCIT, 2019)

Table 4.9-3 Operational Noise Standards

Jurisdiction	Land Use	Time Period	Noise Level Standard (dBA L_{eq})[2]
County of Riverside[1]	Residential[1]	Daytime (7:00 a.m. - 10:00 p.m.)	65
		Nighttime (10:00 p.m. - 7:00 a.m.)	45

[1] Source: County of Riverside General Plan Noise Element, Table N-2.
[2] L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

(Urban Crossroads, 2020c, Table 3-1)

4.9.5 BASIS FOR DETERMINING SIGNIFICANCE

According to Section XIII of the CEQA Guidelines, the proposed Project would result in a significant impact to noise if the Project or any Project-related component would (OPR, 2018):

- Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Result in generation of excessive groundborne vibration or groundborne noise levels;
- Be located within the vicinity of a private airstrip or an airport lane use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the project area to excessive noise levels;

Additionally, the following thresholds are derived from EA No. 34079 (Riverside County's Environmental Assessment Checklist, see *Technical Appendix A* to this EIR), and supplemented by the thresholds listed in Appendix G to the CEQA Guidelines, in order to evaluate the significance of the proposed Project's impacts on noise. Thus, for purposes of analysis herein, the proposed Project would result in a significant impact to noise if the Project or any Project-related component would:

a. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise levels;

b. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels;

c. Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies;

d. Generation of excessive ground-borne vibration or ground-borne noise levels.

A. Noise-Sensitive Receivers

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that *there is no single noise increase that renders the noise impact significant.* (Urban Crossroads, 2020c, p. 23)

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the

existing environment to which one has adapted – the so-called ambient environment. (Urban Crossroads, 2020c, pp. 23-24)

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (Leq). (Urban Crossroads, 2020c, p. 24)

The approach used in the Project's Noise Study recognizes that there is no single noise increase that renders the noise impact significant, based on a 2008 California Court of Appeal ruling on *Gray v. County of Madera*. For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for purposes of analysis, FICON identifies a readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4.9-4, *Significance of Noise Impacts at Noise-Sensitive Receptors*, provides a summary of the potential noise impact significance criteria, based on guidance from FICON. (Urban Crossroads, 2020c, p. 24)

B. Non-Noise-Sensitive Receivers

The County of Riverside General Plan Noise Element, Table N-1, *Land Use Compatibility for Community Noise Exposure*, was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. As previously shown on Figure 4.9-3, the *normally acceptable* exterior noise levels for non-noise-sensitive land uses is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *Land Use Compatibility for Community Noise Exposure*. (Urban Crossroads, 2020c, p. 25)

Table 4.9-4 Significance of Noise Impacts at Noise-Sensitive Receptors

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

(Urban Crossroads, 2020c, Table 4-1)

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a readily perceptible 5 dBA and barely perceptible 3 dBA criteria were used. When the without Project noise levels at the non-noise-sensitive land uses are below the normally acceptable 70 dBA CNEL compatibility criteria, a readily perceptible 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the normally acceptable 70 dBA CNEL land use compatibility criteria, a barely perceptible 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the County of Riverside General Plan Noise Element, Table N-1, *Land Use Compatibility for Community Noise Exposure*, normally acceptable 70 dBA CNEL exterior noise level criteria. Table 4.9-5, *Significance Criteria Summary*, provides a summary of the noise impact significance criteria. (Urban Crossroads, 2020c, p. 25)

C. Summary of Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed Project. Table 4.9-5 shows the significance criteria summary matrix. (Urban Crossroads, 2020c, pp. 25-26)

Off-Site Traffic Noise – Significance Criteria

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
  - are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
  - range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
  - already exceed 65 dBA CNEL, and the Project creates a community noise level increase of greater than 1.5 dBA CNEL.

- When the noise levels at existing and future non-noise-sensitive land uses (e.g. office, commercial, industrial):
  - are less than the County of Riverside General Plan Noise Element, Table N-1, normally acceptable 70 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project related noise level increase; or
  - are greater than the County of Riverside General Plan Noise Element, Table N-1, normally acceptable 70 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project noise level increase.

Table 4.9-5 Significance Criteria Summary

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive[1,2]	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive	Exterior Noise Level Standards[3]	65 dBA L_{eq}	45 dBA L_{eq}
		if ambient is < 60 dBA L_{eq}[1]	≥ 5 dBA L_{eq} Project increase	
		if ambient is 60 - 65 dBA L_{eq}[1]	≥ 3 dBA L_{eq} Project increase	
		if ambient is > 65 dBA L_{eq}[1]	≥ 1.5 dBA L_{eq} Project increase	
		Vibration Level Threshold[3]	0.01 in/sec PPV	
Blasting[4]	Noise-Sensitive	Airblast Threshold	129 dB (L)	n/a
		Vibration Level Threshold	0.75 in/sec PPV	n/a

[1] Source: FICON, 1992.
[2] Source: County of Riverside General Plan Noise Element, Table N-1.
[3] Source: County of Riverside General Plan Noise Element, Table N-2 (stationary noise sources) and Policy N 16.3 (vibration).
[4] Sources: OSMRE Blasting Performance Standards (Chapter 30 of the Code of Federal Regulations) and the ISEE's Blasters' Handbook.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = nighttime blasting activities must be permitted by the regulatory authority; "PPV" = peak particle velocity.

(Urban Crossroads, 2020c, Table 4-2)

Operational Noise and Vibration – Significance Criteria

- If Project-related operational (stationary source) noise levels exceed the exterior 65 dBA Leq daytime or 45 dBA Leq nighttime noise level standards at nearby sensitive receiver locations in the County of Riverside (County of Riverside General Plan Noise Element, Table N-2).

- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
  - are less than 60 dBA Leq and the Project creates a readily perceptible 5 dBA Leq or greater Project-related noise level increase; or
  - range from 60 to 65 dBA Leq and the Project creates a barely perceptible 3 dBA Leq or greater Project-related noise level increase; or
  - already exceed 65 dBA Leq, and the Project creates a community noise level increase of greater than 1.5 dBA Leq (FICON, 1992).

- If Project generated operational vibration levels exceed the County of Riverside acceptable vibration standard of 0.01 in/sec RMS at sensitive receiver locations (County of Riverside General Plan, Policy N 16.3).

Blasting Airblasts and Vibration – Significance Criteria

- If blasting within the Project site boundaries results in:

- airblasts exceeding OSMRE standards of 129 dB (L); or
- vibration levels exceeding OSMRE standards of 0.75 in/sec PPV (OSMRE Blasting Performance Standards).

4.9.6 Methodology for Calculating Project-Related Noise Impacts

A. Sensitive Receiver Locations

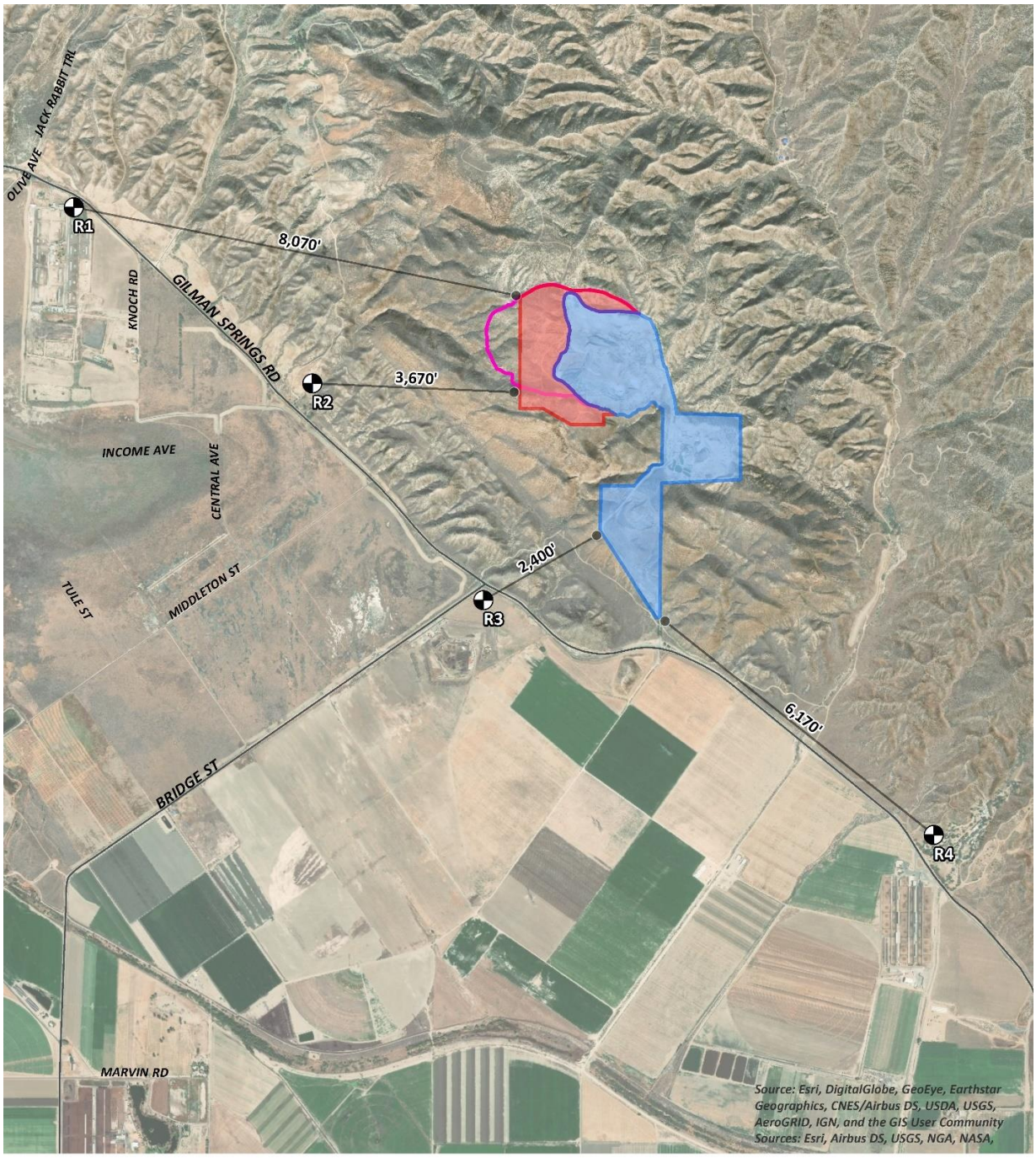
To assess the potential for long-term operational noise impacts, the following four sensitive receiver locations as shown on Figure 4.9-4, *Receiver Locations*, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. (Urban Crossroads, 2020c, p. 43)

Receiver locations are located in outdoor living areas (e.g., backyards) at 10 feet from any existing or proposed barriers or at the building façade, whichever is closer to the Project site, based on FHWA guidance, and consistent with additional guidance provided by Caltrans and the FTA. Sensitive receiver locations in the Project study area include residential uses, as described below. Other sensitive land uses in the Project study area that are located at greater distances than those identified herein would experience lower noise levels than those presented in this analysis due to the additional attenuation from distance and the shielding of intervening structures. (Urban Crossroads, 2020c, p. 43)

R1: Located approximately 8,070 feet west of the proposed mining limits, R1 represents an existing residential home located on Knoch Road. A 24-hour noise level measurement was taken near this location, L1, to describe the existing ambient noise environment. (Urban Crossroads, 2020c, p. 43; Urban Crossroads, 2019b)

R2: Location R2 represents an existing residential home located approximately 3,670 feet west of the proposed mining limits north of Gilman Springs Road. The lowest of the 24-hour ambient noise level measurements (location L1), previously shown on Table 4.9-1 is used to describe this location to present a conservative without Project condition for operational noise analysis. (Urban Crossroads, 2020c, p. 43; Urban Crossroads, 2019b)

R3: Location R3 represents the existing agricultural use located roughly 2,400 feet south of the proposed mining limits on Bridge Street. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment. (Urban Crossroads, 2020c, p. 43)



LEGEND:

- Receiver Locations
- Distance from receiver to Project site boundary (in feet)
- Existing Physical Disturbance
- Proposed Physical Disturbance
- Previous Physical Disturbance

Source(s): Urban Crossroads (09-24-2019)

NOT TO SCALE

Figure 4.9-4

RECEIVER LOCATIONS

R4: Location R4 represents the existing Victory Ranch Baptist Church Camp located roughly 6,170 feet southeast of the proposed mining limits. A 24-hour noise level measurement was taken near this location, L4, to describe the existing ambient noise environment. (Urban Crossroads, 2020c, p. 43)

B. Federal Highway Administration Traffic Noise Prediction Model

The expected roadway noise level increases from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial); the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total average daily traffic (ADT); the travel speed; the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume; the roadway grade; the angle of view (e.g., whether the roadway view is blocked); the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping); and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. This methodology is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (Urban Crossroads, 2020c, p. 33)

C. Off-Site Traffic Noise Prediction Model Inputs

Table 6-1 of the Project's Noise Study (*Technical Appendix H1*) presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 of the Noise Study identifies the six study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the County of Riverside and City of Moreno Valley General Plan Circulation Elements, and the posted vehicle speeds. Where posted vehicle speeds are unavailable, the 40-mph speed identified in the County of Riverside Office of Industrial Hygiene Noise Study Guidelines is used. The ADT volumes used in the Project's NIA are presented on Table 6-2 of the NIA and are based on the Project's Traffic Impact Analysis (*Technical Appendix J1*) and supplement thereto (*Technical Appendix J2*), for the following traffic scenarios: Existing (2019), Existing plus Ambient Growth (EA) (2019), and EA plus Cumulative Development (EAC) (2019) conditions. (Urban Crossroads, 2020c, p. 33)

Per the Project's Traffic Impact Analysis (EIR *Technical Appendix J1*) and supplement thereto (*Technical Appendix J2*), and as summarized in EIR subsection 3.3.2.F, a typical peak operating day would result in the production of 4,000 tpd of aggregate resources, of which 1,511 tpd would be attributable to existing mining operations (i.e., the historical baseline) and 2,489 tpd would be attributable to the proposed Project. At 4,000 tpd, which includes both existing and proposed tonnage, the Mine is expected to generate 30 passenger vehicle trips and 320 truck trips, for a total of approximately 350 trip-ends per day (actual vehicles). The increase in trips attributable to the proposed Project would be 19 passenger vehicle trips and 199 truck trips (actual

vehicles), for a total of 218 trip-ends per day. The Project's Noise Study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network. (Urban Crossroads, 2020c, p. 33)

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. The County's General Plan Noise Element requires that future on-site traffic noise impacts be assessed using the maximum capacity design standard for highways and major roads. However, the analysis in the Project's NIA relies on a comparative analysis of the off-site traffic noise impacts, without and with project ADT traffic volumes from the Project traffic study. The use of the maximum capacity design standards is typically reserved for determining the future long-range on-site traffic noise impacts, not the comparative contributions associated with the off-site Project traffic noise level impacts. (Urban Crossroads, 2020c, p. 34)

To quantify the off-site noise levels, the Project-related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Table 6-3 of the Project's NIA (*Technical Appendix H1*) provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the Traffic Impact Analysis. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 of the Project's Noise Study (*Technical Appendix H1*) shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-7 of the Noise Study show the vehicle mixes used for the with Project traffic scenarios. (Urban Crossroads, 2020c, p. 34)

4.9.7 IMPACT ANALYSIS

Threshold a:	***Would the Project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise levels?***
Threshold b:	***Would the Project be within the vicinity of a private airstrip, and/or would the project expose people residing or working in the project area to excessive noise levels?***

The Project site is not located within two miles of a public airport or within an airport land use plan. The closest potential private airstrip is the Gilman Springs Flyers airstrip located roughly 1.5 miles west of the Project site, south of Gilman Springs Road. However, this airstrip is limited to remote controlled model airplanes and does not represent a major aircraft-related noise source capable of exposing people within the Project site to excessive noise levels. The Project site is not located within the Airport Influence Area (AIA) for any airports. Furthermore, the mining uses proposed by the Project are not considered noise sensitive receivers. (Urban Crossroads, 2020c, p. 23; RCIT, 2019)

Threshold c:	***Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies?***

The Project has the potential to result in the generation of substantial noise levels associated with site operations, Project-related traffic, and blasting activities. Each is discussed below.

A. Operational Noise Impacts

The Project has the potential to expose nearby sensitive receptors to noise associated with mining and processing activities. Figure 4.9-5, *Operational Noise Source Locations*, depicts the locations of the noise source locations used to assess Project-related operational noise levels. Appendix 9.1 of the Project's NIA (*Technical Appendix H1*) includes the detailed calculations for the Project operational noise levels presented in this subsection. (Urban Crossroads, 2020c, p. 45; Urban Crossroads, 2019b, p. 4)

Reference Noise Levels

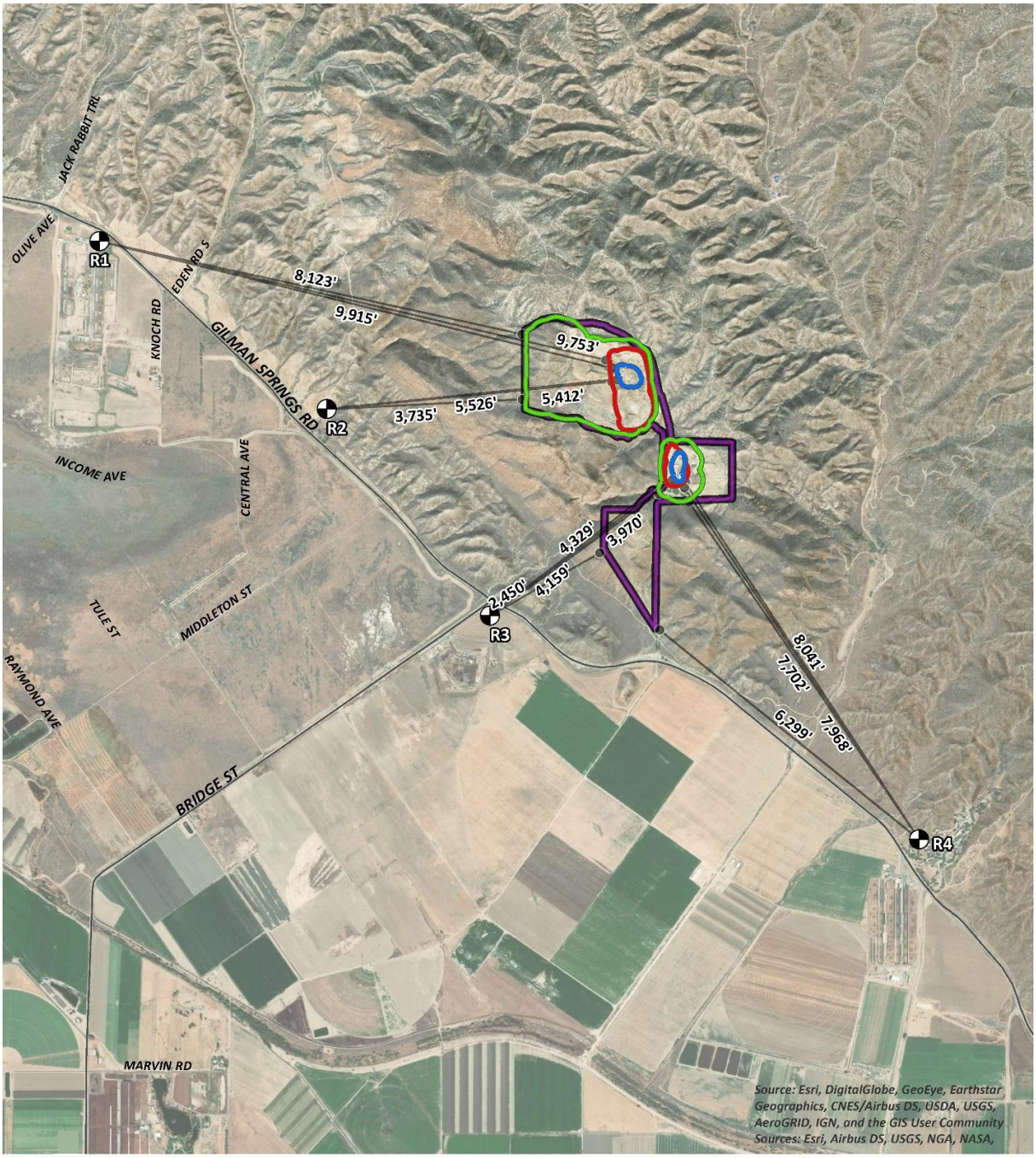
To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the operation of the proposed Project. This subsection provides a detailed description of the reference noise level measurements shown on Table 9-1 of the Project's Noise Study (*Technical Appendix H1*), which were used to estimate the Project operational noise impacts. It is important to note that the projected noise levels assume the worst-case noise environment with the crushing and screening activities, loader activities and backup alarms, haul truck loading and pass-by events in combination with heavy equipment and dozer activity all operating continuously. These sources of noise activity will likely vary throughout the day. (Urban Crossroads, 2020c, p. 45)

❑ Measurement Procedures

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (Urban Crossroads, 2020c, p. 45)

❑ Crushing & Screening Activity

To assess the potential noise impacts created by the crushing and screening activities at the Project site, reference noise levels measurements were taken of the existing crushing and screening equipment by Urban Crossroads on October 27th, 2015 in the City of Banning at the Robertson's quarry. During the mining operations, aggregate materials are separated by size into loose conical stockpiles near the crushing and screening equipment. Any coarse gravel or larger particles are crushed to produce graded sand and crushed-rock aggregates which are then transported using haul trucks. (Urban Crossroads, 2020c, p. 47)



LEGEND:

- Crushing & Screening Activities
- Loader Activity & Backup Alarms
- Heavy Equipment & Dozers
- Haul Truck Loading and Pass-by Activity
- Worst-Case Blasting Location (50-Feet from Project Boundaries)
- Distance from receiver to noise source (in feet)

Source(s): Urban Crossroads (09-24-2019)

Figure 4.9-5

NOT TO SCALE

OPERATIONAL NOISE SOURCE AND RECEIVER LOCATIONS

The reference crushing and screening activity noise level measurement includes haul truck pass-by and crushing and screening equipment activities. At a uniform reference distance of approximately 50 feet from the crusher with a noise source height of roughly 30 feet, the exterior noise levels were measured at 68.3 dBA Leq. The crushing and screening activities are expected to occur for the full hour under peak operating conditions at the Project site. (Urban Crossroads, 2020c, p. 47)

❑ Loader Activity & Backup Alarms

To assess the potential noise impacts created by loaders during mining operations within the Project site, a reference noise level measurement was taken by Urban Crossroads at the Robertson's quarry in the City of Banning on October 27th, 2015. The reference noise level measurement represents the typical operation of a 988G Caterpillar wheel loader including forward and backward movements, and backup alarm noise. (Urban Crossroads, 2020c, p. 47)

At a uniform reference distance of 50 feet from the loader, the reference noise level is 75.4 dBA Leq. The loader activity and backup alarms are estimated to occur for the full hour during the peak hour conditions. (Urban Crossroads, 2020c, p. 47)

❑ Haul Truck Loading Activity

To describe the potential noise level impacts associated with haul truck loading of aggregate materials, a reference noise level measurement was collected by Urban Crossroads on October 27th, 2015 at the Robertson's quarry in the City of Banning. The reference noise level measurement includes the movement of aggregate material on an overhead conveyor belt into a metal bin, the loading of haul truck trailers beneath the bin, and haul truck pass-by events. At 50 feet from the noise source, a reference noise level of 62.1 dBA Leq was measured. The haul truck loading activities are estimated to occur for the full hour during the peak hour conditions. (Urban Crossroads, 2020c, p. 47)

❑ Heavy Equipment and Dozer Activity

On Tuesday, October 20th, 2015, Urban Crossroads, Inc. collected short-term construction noise level measurements to describe rough grading activities in unincorporated area of Rancho Mission Viejo within the County of Orange. The reference noise level measurements describe a combination heavy equipment that includes several dozers, scrapers, water trucks and other rough grading activities. All reference measurements were taken at approximately 30 feet from the noise source. During peak activity, a reference noise level of 84.0 dBA Leq was measured. (Urban Crossroads, 2020c, p. 48)

Project Operational Noise Levels

Using the reference noise levels to represent the proposed Project's operations that include crushing and screening activities, loader activities and backup alarms, haul truck loading and pass-by events in combination with heavy equipment and dozer activity, Urban Crossroads calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. The operational noise level calculations shown on Table 4.9-6, *Unmitigated Project Operational Noise Levels*, account for the distance attenuation provided due

to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. The basic noise attenuation equation shown below is used to calculate the distance attenuation based on a reference noise level (SPL_1): (Urban Crossroads, 2020c, p. 48)

$$SPL_2 = SPL_1 - 20log(D_2/D_1)$$

Table 4.9-6 Unmitigated Project Operational Noise Levels

Receiver Location[1]	Noise Source[2]	Project Operational Noise Levels (dBA L_{eq})[3]
R1	Crushing & Screening Activity	23.8
	Loader Activity & Backup Alarms	31.1
	Heavy Equipment & Dozers	35.3
	Haul Truck Loading & Pass-bys	16.3
	Combined Noise Level:	37.0
R2	Crushing & Screening Activity	30.8
	Loader Activity & Backup Alarms	37.9
	Heavy Equipment & Dozers	42.1
	Haul Truck Loading & Pass-bys	21.4
	Combined Noise Level:	43.8
R3	Crushing & Screening Activity	30.6
	Loader Activity & Backup Alarms	37.4
	Heavy Equipment & Dozers	41.6
	Haul Truck Loading & Pass-bys	28.1
	Combined Noise Level:	43.4
R4	Crushing & Screening Activity	24.1
	Loader Activity & Backup Alarms	31.6
	Heavy Equipment & Dozers	35.8
	Haul Truck Loading & Pass-bys	20.0
	Combined Noise Level:	37.5

1 See Figure 4.9-5 for the receiver and noise source locations.
2 Reference noise sources as shown on Table 9-1 of the Project's Noise Study (*Technical Appendix H1*).
3 Operational noise level calculations are provided in Appendix 9.3 of the Project's Noise Study (*Technical Appendix H1*).
(Urban Crossroads, 2020c, Table 9-2)

Where SPL_2 is the resulting noise level after attenuation, SPL_1 is the source noise level, D_2 is the distance to the reference sound pressure level (SPL_1), and D_1 is the distance to the receiver location. (Urban Crossroads, 2020c, p. 48)

Table 4.9-6 shows the individual operational noise levels of each noise source at each of the nearby sensitive receiver locations. Table 4.9-6 indicates that the Project-only operational noise levels would range from 36.9 to 43.6 dBA Leq at the sensitive receiver locations. The Project operational noise level calculations include the attenuation provided by the difference in elevation between the Project noise sources and receiver locations, where applicable. To present a conservative approach, both Loader Activity and Backup Alarms as well as the Heavy Equipment and Dozers truck unloading/docking activity were combined and placed near the boundary. (Urban Crossroads, 2020c, p. 49)

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the County of Riverside exterior noise level standards at nearby noise-sensitive receiver locations. Table 4.9-7, *Unmitigated Operational Noise Level Compliance*, shows the operational noise levels associated with the proposed Project satisfy the exterior noise level standards at all nearby receiver locations. Therefore, operational noise impacts would be less than significant at the nearby noise-sensitive receiver locations. (Urban Crossroads, 2020c, p. 49)

Table 4.9-7 Unmitigated Operational Noise Level Compliance

Receiver Location[1]	Noise Level at Receiver Locations (dBA L_{eq})[2]	Threshold Exceeded?[3]	
		Daytime (65 dBA L_{eq})	Nighttime (45 dBA L_{eq})
R1	36.9	No	No
R2	43.6	No	No
R3	43.2	No	No
R4	37.5	No	No

1 See Figure 4.9-5 for the receiver and noise source locations.
2 Estimated Project operational noise levels as shown on Table 4.9-6.
3 Do the estimated Project operational noise levels meet the operational noise level standards (Table 4.9-3)?
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.
(Urban Crossroads, 2020c, Table 9-3)

Project Operational Noise Level Contribution

To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. Instead, they must be logarithmically added using the following base equation: (Urban Crossroads, 2020c, p. 50)

$$SPL_{Total} = 10log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise

levels describe the Project noise level contributions to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Table 4.9-8, *Daytime Operational Noise Level Contributions*, and Table 4.9-9, *Nighttime Operational Noise Level Contributions*, respectively. (Urban Crossroads, 2020c, p. 50)

As indicated on Table 4.9-8, the Project would generate an unmitigated daytime operational noise level increase of up to 0.1 dBA Leq at the nearby receiver locations. Table 4.9-9 indicates that the Project would generate an unmitigated nighttime operational noise level increase of up to 0.1 dBA Leq at the nearby receiver locations. Since the Project-related operational noise level contributions would satisfy the operational noise level increase significance criteria presented in Table 4.9-5, the increases would be less than significant. On this basis, Project operational stationary-source noise would not result in a substantial temporary/periodic or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts would be less than significant. (Urban Crossroads, 2020c, p. 50)

Table 4.9-8 Daytime Operational Noise Level Contributions

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
R1	37.0	L1	59.8	59.8	0.0	No
R2	43.8	L1	59.8	59.9	0.1	No
R3	43.4	L2	62.6	62.7	0.1	No
R4	37.5	L4	71.5	71.5	0.0	No

1 See Figure 4.9-5 for the sensitive receiver locations.
2 Total Project operational noise levels as shown on Table 4.9-7.
3 Reference noise level measurement locations as shown on Figure 4.9-2.
4 Observed daytime ambient noise levels as shown on Table 4.9-1.
5 Represents the combined ambient conditions plus the Project activities.
6 The noise level increase expected with the addition of the proposed Project activities.
7 Significance Criteria as defined in subsection 4.9.5.
(Urban Crossroads, 2020c, Table 9-4)

Table 4.9-9 Nighttime Operational Noise Level Contributions

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
R1	37.0	L1	59.6	59.6	0.0	No
R2	43.8	L1	59.6	59.7	0.1	No
R3	43.4	L2	59.9	60.0	0.1	No
R4	37.5	L4	70.9	70.9	0.0	No

1 See Figure 4.9-5 for the sensitive receiver locations.
2 Total Project operational noise levels as shown on Table 4.9-7.
3 Reference noise level measurement locations as shown on Figure 4.9-2.
4 Observed nighttime ambient noise levels as shown on Table 4.9-1.
5 Represents the combined ambient conditions plus the Project activities.
6 The noise level increase expected with the addition of the proposed Project activities.
7 Significance Criteria as defined in subsection 4.9.5.
(Urban Crossroads, 2020c, Table 9-5)

B. Traffic-Related Noise Impacts

Implementation of the proposed Project has the potential to expose sensitive receptors in the Project vicinity to excessive highway-related noise. To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the Project's Traffic Impact Analysis (*Technical Appendix H1*) and the Supplemental Traffic Assessment (*Technical Appendix H2)*. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios: (Urban Crossroads, 2020c, p. 37)

- Existing (2019) Conditions Without / With Project: This scenario refers to the existing present-day noise conditions without and with the proposed Project.

- Existing plus Ambient Growth (EA) (2019) Without / With the Project: This scenario refers to Existing plus Ambient Growth noise conditions without and with the proposed Project.

- EA plus Cumulative Development (EAC) (2019) Without / With the Project: This scenario refers to Existing plus Ambient Growth plus Cumulative Development noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the Project's Traffic Impact Analysis (*Technical Appendix H1*).

Traffic Noise Contours

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise

contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 through 7-6 of the Project's Noise Study (*Technical Appendix H1*) present a summary of the exterior traffic noise levels, without barrier attenuation, for the six study area roadway segments analyzed from the without Project to the with Project conditions in each of the following timeframes: Existing (2019), EA (2019), and EAC (2019) traffic conditions. It should be noted that the traffic volumes depicted on Tables 7-3 through 7-6 of the Noise Study reflect an opening year of 2018, while the analysis herein assumes an opening year of 2019 based on the Supplemental Noise Analysis (*Technical Appendix H2*). Noise Study Appendix 7.1 includes a summary of the traffic noise level contours for each of the traffic scenarios. (Urban Crossroads, 2020c, p. 37)

Existing Conditions Project Traffic Noise Level Contributions

Table 4.9-10, *Unmitigated Existing (2019) With Project* Traffic , presents the Existing (2019) without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 67.3 to 78.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-10 shows the Existing (2019) with Project conditions will range from 67.9 to 79.2 dBA CNEL. Table 4.9-10 shows that the Project off-site traffic noise level increases would range from 0.2 to 0.6 dBA CNEL on the study area roadway segments. Based on the significance criteria in subsection 4.9.5, the Project-related noise level increases would be less than significant under Existing conditions at the land uses adjacent to roadways conveying Project traffic. (Urban Crossroads, 2020c, p. 40)

Table 4.9-10 Unmitigated Existing (2019) With Project Traffic Noise Increases

ID	Road	Segment	CNEL at Adjacent Land Use (dBA)[1]			Noise-Sensitive Land Use?	Threshold Exceeded?[2]
			No Project	With Project	Project Addition		
1	Gilman Springs Rd.	s/o SR-60	78.2	78.6	0.4	Yes	No
2	Gilman Springs Rd.	s/o Allesandro Bl.	78.9	79.2	0.3	Yes	No
3	Gilman Springs Rd.	s/o Jack Rabbit Tr.	76.7	77.0	0.3	Yes	No
4	Gilman Springs Rd.	s/o Bridge St.	76.1	76.5	0.4	No	No
5	Gilman Springs Rd.	n/o SR-79	76.5	76.7	0.2	No	No
6	Bridge St.	w/o Gilman Springs Rd.	67.3	67.9	0.6	No	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[2] Based on the off-site traffic noise level impact significance criteria (Section 4 of the NIA).

(Urban Crossroads, 2020c, Table 7-7)

Existing Plus Ambient Growth (EA) Project Traffic Noise Level Contributions

Table 4.9-11, *Unmitigated EA (2019) With Traffic* Noise Level Increases, presents the EA (2019) without Project conditions CNEL noise levels. The EA (2019) without Project exterior noise levels are expected to range from 67.5 to 79.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-11 shows the EA (2019) with Project conditions would range from 68.1 to 79.4 dBA CNEL. As shown on Table 4.9-11, the Project off-site traffic noise level increase would range from 0.2 to 0.6 dBA CNEL. Based on the significance criteria described in subsection 4.9.5, the Project-related noise level increases would be less than significant under EA conditions at the land uses adjacent to roadways conveying Project traffic. (Urban Crossroads, 2020c, p. 41)

Table 4.9-11 Unmitigated EA (2019) With Traffic Noise Level Increases

ID	Road	Segment	CNEL at Adjacent Land Use (dBA)[1]			Noise-Sensitive Land Use?	Threshold Exceeded?[2]
			No Project	With Project	Project Addition		
1	Gilman Springs Rd.	s/o SR-60	78.3	78.7	0.4	Yes	No
2	Gilman Springs Rd.	s/o Allesandro Bl.	79.1	79.4	0.3	Yes	No
3	Gilman Springs Rd.	s/o Jack Rabbit Tr.	76.9	77.2	0.3	Yes	No
4	Gilman Springs Rd.	s/o Bridge St.	76.3	76.7	0.4	No	No
5	Gilman Springs Rd.	n/o SR-79	76.7	76.8	0.2	No	No
6	Bridge St.	w/o Gilman Springs Rd.	67.5	68.1	0.6	No	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[2] Based on the off-site traffic noise level impact significance criteria (Section 4 of the NIA).

(Urban Crossroads, 2020c, Table 7-8)

EA Plus Cumulative (EAC) Development Project Traffic Noise Level Contributions

Table 4.9-12, *Unmitigated EAC With Project Traffic Noise* Level Increases, presents the EAC (2019) without Project conditions CNEL noise levels. The EAC without Project exterior noise levels are expected to range from 67.9 to 79.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-12 shows the EAC (2019) with Project conditions would range from 68.4 to 79.4 dBA CNEL. As shown on Table 4.9-12, the Project off-site traffic noise level increases would range from 0.2 to 0.5 dBA CNEL. Based on the significance criteria in subsection 4.9.5, land uses adjacent to the study area roadway segments would experience less-than-significant noise level impacts due to unmitigated Project-related traffic noise levels. (Urban Crossroads, 2020c, p. 42)

Table 4.9-12 Unmitigated EAC With Project Traffic Noise Level Increases

ID	Road	Segment	CNEL at Adjacent Land Use (dBA)[1]			Noise-Sensitive Land Use?	Threshold Exceeded?[2]
			No Project	With Project	Project Addition		
1	Gilman Springs Rd.	s/o SR-60	78.4	78.8	0.4	Yes	No
2	Gilman Springs Rd.	s/o Allesandro Bl.	79.1	79.4	0.3	Yes	No
3	Gilman Springs Rd.	s/o Jack Rabbit Tr.	76.9	77.2	0.3	Yes	No
4	Gilman Springs Rd.	s/o Bridge St.	76.3	76.7	0.4	No	No
5	Gilman Springs Rd.	n/o SR-79	76.7	76.9	0.2	No	No
6	Bridge St.	w/o Gilman Springs Rd.	67.9	68.4	0.5	No	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[2] Based on the off-site traffic noise level impact significance criteria (Section 4 of the NIA).
(Urban Crossroads, 2020c, Table 7-9)

Summary of Project Impacts due to Traffic-Related Noise

As indicated in Table 4.9-10, Table 4.9-11, and Table 4.9-12, the Project would not exceed any of the thresholds identified in subsection 4.9.5 due to traffic-related noise under Existing plus Project, EA, or EAC conditions. Accordingly, Project impacts due to highway-related noise would be less than significant.

C. Impacts Due to Blasting

The Project proposes a slight increase in the frequency of blasting events at the Mine. Blasting is a component of current operations at the Mine. Historically, the amount of blasting within the existing site has depended on production needs and development and has averaged approximately six to nine blasts per year. Blasting would be required to occur in areas of the Project site where vegetation has already been removed. Specifically, blasting would continue to be conducted on-site in a planned and intermittent basis at a maximum of 15 blasts per year, averaging between six and nine blasts per year. The relationship between tonnage production and number of blasts is not fixed. The number of blasts per year varies depending on production needs, benching and pit development, and drilling equipment availability. The blasting operations are required to be conducted at a time and manner so that disturbance or distraction would be minimized at any sensitive receivers that would or could be proximate to the blasting area. Further, the mining operator is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events. (Urban Crossroads, 2020c, p. 52)

Based on information provided by the Project Applicant, the maximum charge weight of blasts within the proposed mining areas would be 1,500 pounds. In addition, blasting within the Project boundaries would take place at a minimum of 50 feet from the mining limits, previously shown on Figure 4.9-4. This analysis, therefore, calculates the worst-case airblast and vibration levels using the closest receiver distance of 2,400 feet, plus the additional 50-foot off-set for blasting, which results in a worst-case distance of 2,450 feet from receiver location R3 as previously shown on Figure 4.9-5. The methodology used herein is provided in the

International Society of Explosives Engineer's (ISEE's) Blasters' Handbook. As previously discussed in subsection 4.9.4, blasting operations are required to satisfy the maximum airblast and vibration levels identified by the USBM and OSMRE. For this analysis, the lowest airblast limit of 129 dB (L) is used as a conservative threshold for airblast analysis. In addition, the vibration level limit of 0.75 in/sec PPV is used. Since the actual specifications of each blast will vary in maximum charge weight, location, and other parameters required to calculate the actual airblast and vibration levels experienced at nearby sensitive receiver locations, this analysis describes potential impacts based on the worst-case maximum charge weight of 1,500 pounds at the worst-case blasting location of 50 feet from the mining limits, as shown on Figure 4.9-5. (Urban Crossroads, 2020c, p. 52)

At 2,450 feet from the worst-case blasting location closest to receiver location R3, as shown on Figure 4.9-5, airblasts are shown to approach 128 dB, and vibration levels would approach 0.10 in/sec PPV. Therefore, the worst-case airblast and vibration levels at the closest sensitive receiver location would satisfy the airblast and vibration level thresholds of 129 dB (L) and 0.75 in/sec PPV, respectively. Further, the worst-case airblast and vibration levels do not include any additional attenuation provided by the existing topography (e.g., hills and berms) between the Project operational noise sources and the nearby receiver locations, and therefore, likely overstate airblast and vibration levels generated by Project blasting activities. The airblast and vibration calculations per ISEE guidance are provided in Appendix 9.3 of the Project's Noise Study (*Technical Appendix H1*). At greater distances to the remaining sensitive receiver locations the airblast and vibration levels likely would be further reduced due to the additional attenuation provided by the added distance and intervening topography and earthen berms in the Project study area. (Urban Crossroads, 2020c, pp. 52-53)

Therefore, because the worst-case airblast and vibration levels at the closest receiver location would remain below the airblast and vibration level thresholds, Project-related blasting impacts would be less than significant. In addition, the mining operator is required to design all blasts such that they remain below the thresholds identified by the USBM and OSMRE at the time of Project blasting activities and must satisfy the permitting requirements of the State and Riverside County Sheriff's Department. Therefore, impacts related to Project blasting activities are considered less than significant. (Urban Crossroads, 2020c, p. 53)

Threshold d: ***Would the Project result in the generation of excessive ground-borne vibration or ground-borne noise levels?***

Refer to the discussion of Threshold c. for a discussion of potential ground-borne noise impacts associated with blasting activities. As indicated therein, Project-related blasting activities would be below vibration level threshold of 0.75 in/sec PPV; thus, impacts due to blasting-related ground-borne noise would be less than significant.

To assess the potential vibration impacts from truck haul trips associated with operational activities the County of Riverside threshold for vibration of 0.01 in/sec RMS is used. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. According to the FTA *Transit Noise Impact and Vibration Assessment*, trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS unless there are bumps due to frequent potholes in the road. Trucks transiting on site would be travelling at very low speeds so it is expected that delivery truck vibration impacts at the closest receiver locations would satisfy the County of

Riverside vibration threshold of 0.01 in/sec RMS, and therefore, would be less than significant. (Urban Crossroads, 2020c, p. 51)

4.9.8 Cumulative Impact Analysis

This cumulative impact analysis considers operation of the proposed Project in conjunction with other development projects in the vicinity of the Project site resulting from buildout of the applicable General Plans, except for the analysis of potential traffic-related noise impacts, which relies instead on the list of projects approach as described in EIR Subsection 4.0.2.

As described under the analysis of Thresholds a. and b., the Project site is not located within two miles of any active public airports or private airstrips and does not propose any noise sensitive land uses. Thus, the Project has no potential to result in cumulatively-considerable impacts associated with public or private airport operations.

As discussed under the analysis of Threshold c., Project operations would not expose nearby sensitive receptors to noise levels exceeding the County's daytime or nighttime thresholds. There are no other active operations in close proximity to the Mine that could create cumulatively-considerable operational noise impacts; thus, cumulatively-considerable impacts due to operational noise would be less than significant.

The analysis of Threshold c. also includes an analysis of the Project's potential to result in noise impacts due to Project-related traffic. As shown in Table 4.9-12, with consideration of traffic for cumulative developments Project-related traffic would not expose sensitive receptors to traffic-related noise increases that exceed the County's standards. As such, cumulatively-considerable traffic-related noise impacts would be less than significant.

As indicated under Threshold c., the Project would not result in significant operational noise impacts associated with blasting. As there are no other land uses in the Project's immediate vicinity that could contribute to blasting-related impacts, cumulatively-considerable impacts would not occur.

As demonstrated under Threshold d., blasting activities associated with the Project would not exceed the airblast and vibration level thresholds of 129 dB (L) and 0.75 in/sec PPV, respectively. There are no other known sources of blasting or other periodic noise in the Project vicinity; thus, impacts due to temporary or periodic noise would be less-than-cumulatively considerable.

4.9.9 Significance of Impacts Before Mitigation

Thresholds a and b: Less-than-Significant Impact. The Project would not expose people residing or working in the area to excessive noise levels associated with public or private airports, as there are no airports within two miles of the Project site.

Threshold c: Less-than-Significant Impact. The Project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards

established in the local general plan, noise ordinance, or applicable standards of other agencies. Impacts associated with site operations, Project-related traffic, and blasting activities would be less than significant.

Threshold d: Less-than-Significant Impact. Vibration levels associated with Project-related blasting and truck haul trips would be below applicable thresholds of significance. Thus, the Project would not cause the exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels, and impacts would be less than significant.

4.9.10 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within the County of Riverside. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- Pursuant to Riverside County Ordinance No. 787, the Project Applicant shall obtain a blasting permit from the Riverside County Sheriff prior to each blasting event.

Mitigation

Impacts would be less than significant; therefore, mitigation measures are not required.

4.10 PALEONTOLOGICAL RESOURCES

The analysis in this Subsection is based on a Project-specific Paleontological Resource Impact Monitoring Program (PRIMP) report titled "Paleontological Resource Impact Mitigation Program (PRIMP), Surface Mining Permit No. 159, Amendment No. 2, San Timoteo Badlands, unincorporated Riverside County, California (Case No. SMP00159R2)" (dated April 30, 2019). The report was prepared by Brian F. Smith and Associates, Inc. (BFSA) and is included as *Technical Appendix I* to this EIR.

4.10.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As shown on Figure 3-4, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west and north of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

4.10.2 EXISTING CONDITIONS

A. Paleontological Setting

As described in the PRIMP, the geology of the Project area, which bears a relationship to paleontological sensitivity, is relatively complex. The Project site is within the southeastern end of the San Timoteo Badlands formation adjacent to the Claremont strand of the San Jacinto fault complex. The central core rocks within the Project's proposed Expanded Disturbance Area (EDA) are aligned from the northwest to the southeast, parallel to the San Jacinto fault, and are composed of Cretaceous (90- to 95-million-year-old (myo)) granitic rocks and undifferentiated gneissic metasedimentary rocks of probable Paleozoic age with bands of white marble that parallel the trend of the fault-controlled structures. In addition, Miocene to Pliocene sedimentary rocks crop out adjacent to the Project's proposed EDA belonging to the Mount Eden formation, which is assigned to the Blancan North American Land Mammal Stage (NALMS) on the basis of its fossil record of terrestrial land mammals and land plants. Portions of the formation have been subdivided into several subunits, based on lithology differences. (BFSA, 2019b, pp. 1-2)

B. Paleontological Sensitivity

As part of the PRIMP, BFSA conducted a review of paleontological sensitivity maps and geologic reports. A paleontological sensitivity map was obtained from the County of Riverside Land Information System (CRLIS) in April 2019. According to CRLIS, portions of the proposed EDA have a "High" paleontological sensitivity while the remaining majority of the EDA has a "Low" paleontological sensitivity, as shown on Figure 4.10-1, *Paleontological Sensitivity Map*. The basis for assigning a High paleontological sensitivity and resource potential to an area is "the presence of geologic formations or mappable rock units that contain fossilized body

elements, and trace fossils such as tracks, nests and eggs. These fossils occur on or below the surface." The documented fossil record of terrestrial mammals and land plants from the Mount Eden formation would justify its categorization as having a "High" paleontological sensitivity. The granitic and metamorphic (metasedimentary) core rocks within the southern San Timoteo Badlands have little or no possibility of yielding any fossils and have been assigned a Low Paleontological Sensitivity. However, the areas of "High" or "Low" sensitivity as shown on Figure 4.10-1 differ somewhat from the boundaries of these rock types as shown on Figure 4.10-2, *Geology Map*, most likely due to problems of scaling the original paleontological sensitivity map down to the 1:24,000 scale of the geologic map. BFSA indicates that the geologic contacts shown on Figure 4.10-2, as being a more reliable representation of areas with a "High" or "Low" paleontological sensitivity than the contacts shown on Figure 4.10-1. (BFSA, 2019b, pp. 2-3)

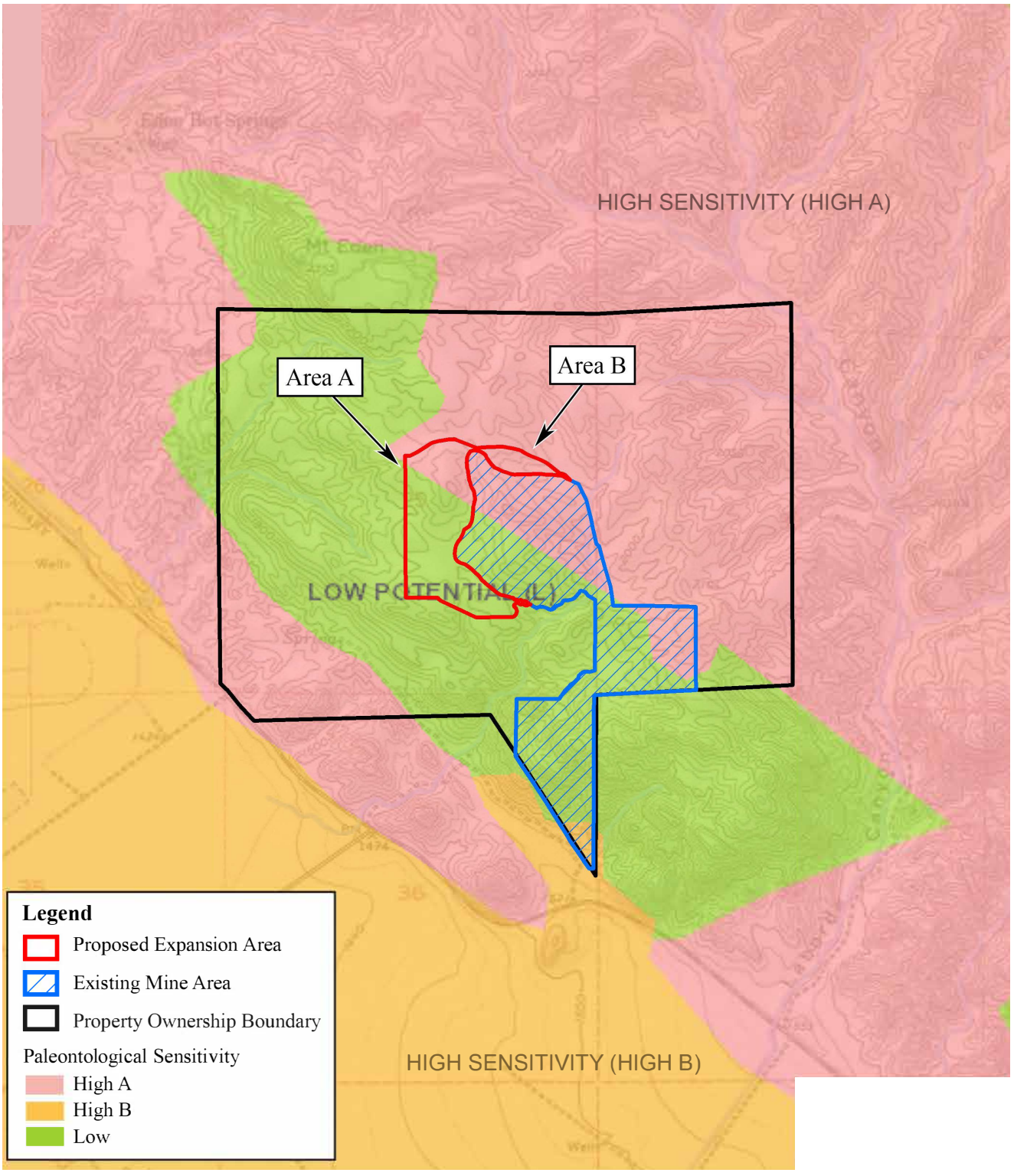
The greatest part of the proposed EDA (Area A on Figure 4.10-2) is underlain by metamorphic (metasedimentary) rocks, including marble, and has little to no likelihood of containing recognizable fossils. Area A has an area of approximately 48.5 acres. This area is assigned a "Low" paleontological sensitivity. However, Area B, as shown on Figure 4.10-2, is underlain by sedimentary rocks of the Mount Eden formation, which has a well-documented record of yielding terrestrial mammal and plant fossils in the San Timoteo Badlands, and is assigned a "High" paleontological sensitivity. Area B comprises approximately 6.0 acres. (BFSA, 2019b, p. 3)

C. Paleontological Survey

As part of the PRIMP, BFSA conducted a records search survey of the Project area. The earliest recorded fossils were found in excavated quarries, which yielded terrestrial vertebrate fossils in 1921, approximately one mile north of the Project's property. A number of published papers since 1921 have documented terrestrial fossils of the San Timoteo and Mount Eden formations. The most recent work was published in 1999, which recorded six (6) new fossil localities adjacent to the northwest corner of the Mine site. Fossil remains of plant leaves and fruits were also collected in 1934 and 1950 from adjacent Mount Eden formation exposures. In addition, unpublished museum collections and record searches for various projects include findings of the Mount Eden and San Timoteo formations exposures of rock outcrops consist of "extremely fossiliferous and have a high potential to contain significant nonrenewable paleontological resources subject to adverse impacts by excavation during development." Similar conclusions were reached in the paleontological analysis of the Mesa Verde Estates project, located northeast of the Project's proposed EDA. Lastly, a search of collections and records at the University of California Museum of Paleontology (UCMP) in Berkeley, California identified 51 fossil localities, although none were plotted on a topographic map, within the Mount Eden and San Timoteo formations. (BFSA, 2019b, p. 2)

4.10.3 Applicable Environmental Regulations

The following is a brief description of the federal, state, and local environmental laws and related regulations related to paleontological resources.

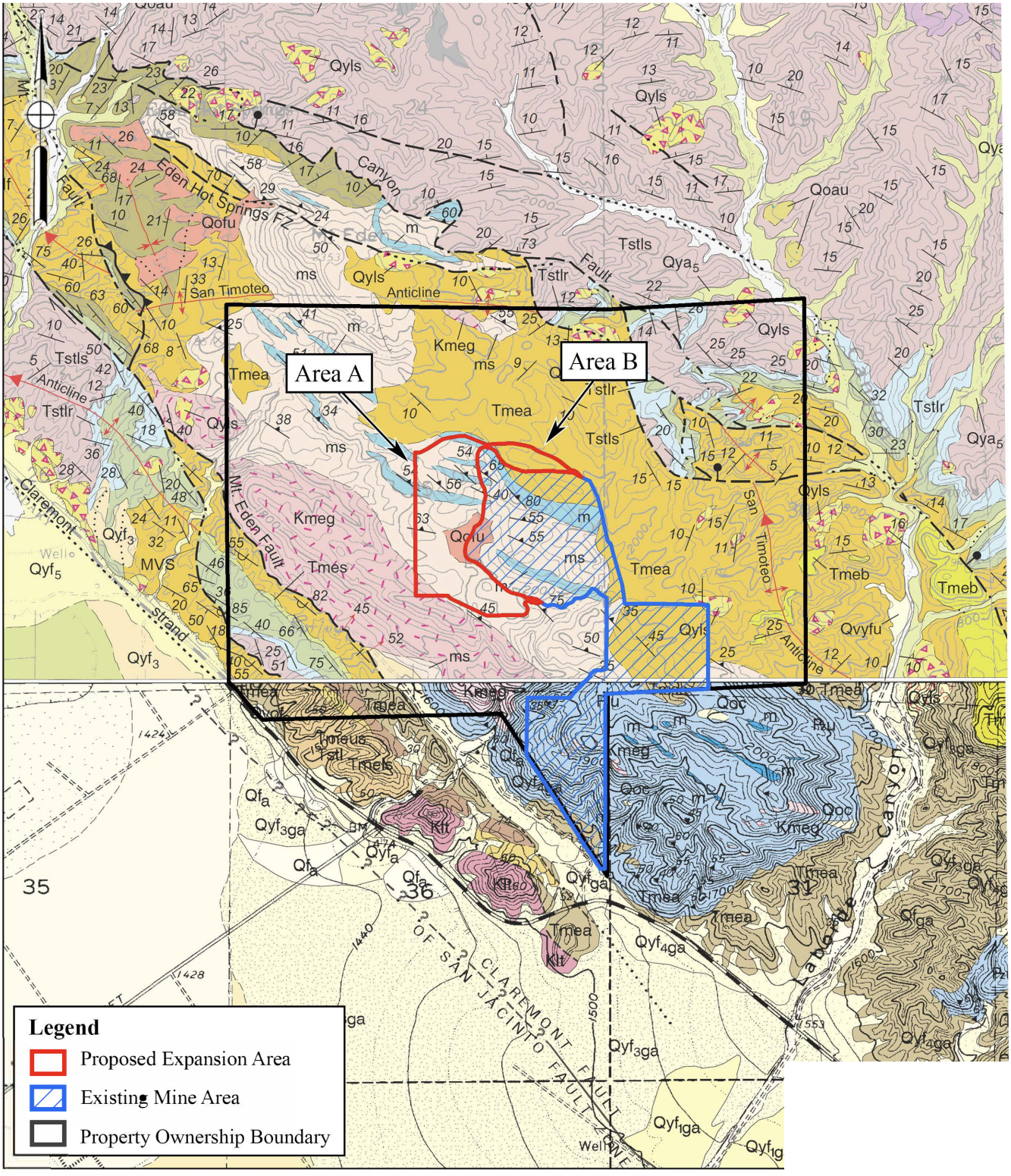


Source(s): Brian F Smith (04-30-2019)

Figure 4.10-1

NOT TO SCALE

PALEONTOLOGICAL SENSITIVITY MAP



Source(s): Brian F Smith (04-30-2019)

Figure 4.10-2

NOT TO SCALE

GEOLOGY MAP

A. Federal Regulations

1. Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) was signed into law on March 30, 2009 (Public Law 111-11, Title VI, Subtitle D; 16 U.S.C. §§ 470aaa - 470aaa-11). PRPA directs the Department of Agriculture (U.S. Forest Service) and the Department of the Interior (National Park Service, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service) to implement comprehensive paleontological resource management programs. Section 6310 of PRPA specifically states, "As soon as practical after the date of enactment of this Act, the Secretary shall issue such regulations as are appropriate to carry out this subtitle, providing opportunities for public notice and comment." (NPS, n.d.)

B. State Regulations

1. California Administrative Code, Title 14, Section 4308

Section 4308, *Archaeological Features*, of Title 14 of the California Administrative Code provides that: "No person shall remove, injure, disfigure, deface, or destroy any object of archaeological, or historical interest or value."

2. California Public Resources Code

Public Resources Code § 5097.5 states that "A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands." Public Resources Code § 30244 states that, "Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required."

C. Local Regulations

1. Riverside County Ordinance No. 578 – Establishment of Historic Preservation Districts

Ordinance No. 578 is intended to facilitate the preservation of areas deemed historically important to the County of Riverside, and specifies that an Historic Preservation District may be established if the Riverside County Board of Supervisors adopts a resolution that includes the boundaries of the Historic Preservation District and finds that the proposed Historic Preservation District is in conformity with the Cultural and Paleontological section of the Multipurpose Open Space Element of the Riverside County General Plan. Under this ordinance, no building or structure within the boundaries of an adopted Historic Preservation District can be constructed or altered. According to the Riverside County GIS database (Map My County), the Project site is not located within a Historic Preservation District. (RCIT, 2019)

2. Riverside County General Plan Multipurpose Open Space Element

The Multipurpose Open Space Element of the Riverside County General Plan identifies known paleontological resources and paleontologically sensitive areas within the County of Riverside. The Multipurpose Open Space Element also includes the following policies that are intended to ensure paleontological resources are

appropriately considered during future land development projects within the County. (Riverside County, 2019a, pp. OS-51)

- Policy OS 19.6: Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8 of the Riverside County General Plan, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.

- Policy OS 19.7: Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8 of the Riverside County General Plan, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.

- Policy OS 19.8: Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8 of the Riverside County General Plan, a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.

- Policy OS 19.9: Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet.

4.10.4 Basis for Determining Significance

The threshold is derived directly from Section VII of Appendix G to the CEQA Guidelines and the County's Environmental Assessment No. 34079, and addresses typical adverse effects associated with paleontological resources (OPR, 2018). The proposed Project would result in a significant impact to paleontological resources if the Project or any Project-related component would:

a. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.10.5 Impact Analysis

Threshold a:	***Would the Project directly or indirectly destroy a unique paleontological resource, or site, or unique geological feature?***

Under existing conditions, the Project site does not contain any visible paleontological resources or unique geologic features. As shown previously on Figure 4.10-2, the majority of the proposed EDA (Area A on Figure 4.10-2) is underlain by metamorphic (metasedimentary) rocks, including marble, and has little to no likelihood of containing recognizable fossils. Area A has an area of approximately 48.5 acres. This area is assigned a

"Low" paleontological sensitivity. However, Area B, as shown on Figure 4.10-2, is underlain by sedimentary rocks of the Mount Eden formation, which has a well-documented record of yielding terrestrial mammal and plant fossils in the San Timoteo Badlands, and is assigned a "High" paleontological sensitivity. Area B comprises approximately 6.0 acres. (BFSA, 2019b, p. 3)

Excavations associated with operation of the Project would encroach into the potentially fossil-bearing soil within the sedimentary rocks of the Mount Eden formation in the northern and northeastern portions of the proposed EDA. Therefore, the Project has the potential to impact paleontological resources that may exist below the ground surface. Therefore, the Project's potential to directly or indirectly destroy unique paleontological resources buried beneath the ground surface in the eastern and northeastern areas of the proposed EDA with a "High" paleontological sensitivity is a significant impact for which mitigation would be required.

4.10.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development projects and planned development in the vicinity of the Project Site, including buildout of the Riverside County General Plan Land Use Plan, buildout of nearby portions of the City of Moreno Valley, and buildout portions of the City of San Jacinto. These areas were selected for the cumulative impact analysis because these areas are similar geographically and topographically to the Project site.

As discussed above under Threshold a., the proposed Project has the potential to impact paleontological resources that may be buried beneath the ground surface of the Project site in the northern and northeastern portions of the proposed EDA identified as having a "High" paleontological sensitivity. As other developments in the Project region occur, it is possible that these projects may result in impacts to paleontological resources if found buried beneath the ground surface. Thus, the Project's potential impacts to subsurface paleontological resources are cumulatively significant and require mitigation.

4.10.7 Significance of Impacts Before Mitigation

Threshold a: Significant Direct and Cumulatively Considerable Impact. The Project would not impact any known paleontological resource or unique geologic feature. However, portions of the proposed EDA (northern and northeastern portions) contain sedimentary rocks of the Mount Eden formation which have high sensitivity for paleontological resources. Implementation of the Project has the potential to unearth and adversely impact paleontological resources that may be buried beneath the ground surface and discovered during Project-related grading and excavation activities. This is a potentially significant direct and cumulatively considerable impact on paleontological resource for which mitigation would be required.

4.10.8 Applicable Regulations, Design Requirements, and Mitigation

Mitigation

MM 4.10-1 Prior to the commencement of ground-disturbing activities within the EDA, a pre-construction meeting shall be held and attended by the Project Paleontologist, Project Applicant, and a

representative of the Lead Agency (County of Riverside). The nature of potential paleontological resources shall be discussed, as well as the protocol that is to be implemented following the discovery of any fossiliferous materials. The Mine Operator shall be responsible for monitoring for compliance with this requirement, and shall document the date, time, location, and attendees who participated at this meeting. Complete grading plans shall be made available to the Project Paleontologist or Paleontological Monitor prior to the start of any earthmoving activities.

MM 4.10-2 Prior to commencement of mining activities within the EDA, the Project Applicant shall provide evidence to Riverside County that mass grading and excavation activities in areas identified as likely to contain paleontological resources will be monitored by a qualified paleontologist or paleontological monitor shall occur. Monitoring shall be conducted full-time in all areas of grading or excavation in undisturbed Mount Eden formation sediments ("Area B" on EIR Figure 4.10-2) located in the northern and northeastern portions of the proposed EDA as well as locations where over-excavation of surficial alluvial sediments will encounter these formational sediments in the shallow subsurface. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid operational delays and to remove samples of sediment that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow for the removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontological personnel to have a low potential to contain fossil resources. Evidence of compliance with this mitigation measure shall be provided to Riverside County prior to commencement of mining activities within the EDA.

MM 4.10-3 If a paleontological resource is discovered on the property, discovered fossils or samples of such fossils shall be collected and identified by a qualified paleontologist. Preparation of recovered specimens to a point of identification and permanent preservation (not display), including screen-washing sediments to recover small invertebrates and vertebrates, if indicated by the results of test sampling. Evaluation and museum-level preparation of discovered fossils shall be overseen by a qualified paleontologist. Any and all fossils encountered during Project grading activities will be deposited at the Western Science Center Museum on Searl Parkway in Hemet, Riverside County, California. All costs of the paleontological monitoring and mitigation program, including any one-time charges by the receiving institution, are the responsibility of the Project Applicant. The Project Applicant shall provide evidence of compliance with this mitigation measure to Riverside County within 60 days of completion of grading activities within the "High" paleontological sensitivity area of the Project site, if such resources are found on-site.

MM 4.10-4 Within 90 days of completion of paleontological monitoring activities within the "High" paleontological sensitivity area of the Project site ("Area B" on EIR Figure 4.10-2), the Project Applicant shall prepare a final monitoring and mitigation report of findings and significance,

including lists of all fossils recovered and necessary maps and graphics to accurately record their original location. A letter documenting receipt and acceptance of all fossil collections by the receiving institution must be included in the final report. The report, when submitted to (and accepted by) the appropriate lead agency (Attn: Riverside County Transportation and Land Management Agency, Planning Department, 4080 Lemon Street, Riverside, California 92502), shall signify satisfactory completion of the Project's monitoring and mitigation program with respect to nonrenewable paleontological resources.

4.10.9 Significance of Impacts After Mitigation

Threshold a: Less-than-Significant Impact with Mitigation Incorporated. Implementation of Mitigation Measures MM 4.10-1 through MM 4.10-4 would ensure the proper identification and subsequent treatment of any paleontological resources that may be encountered in the northern and northeastern portions of the proposed EDA during ground-disturbing activities associated with implementation of the proposed Project. Therefore, with implementation of Mitigation Measures MM 4.10-1 through MM 4.10-4, the Project's direct and cumulative impacts to paleontological resources would be reduced to less-than-significant levels.

4.11 TRANSPORTATION AND TRAFFIC

The following analysis is primarily based on a traffic impact analysis (TIA) prepared by Urban Crossroads, Inc., titled *Gilman Springs Mine – Traffic Impact Analysis*, and dated April 5, 2018 (Urban Crossroads, 2018). A copy of the TIA report is included as *Technical Appendix J1* to this EIR. The TIA evaluates circulation system deficiencies that may result from the implementation of the proposed Project and recommends improvements to achieve acceptable circulation system operational conditions. As directed by the County of Riverside, the TIA was prepared in accordance with the County of Riverside Transportation Department's *Traffic Impact Analysis Preparation Guide* (April 2008), the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (December 2002), and consultation with County of Riverside staff during the scoping process. (Urban Crossroads, 2018, p. 1) The analysis in this Subsection also is based on a document entitled, *Gilman Springs Mine Supplemental Traffic Assessment* (herein, "STA"), dated March 29, 2019, prepared by Urban Crossroads, and included as EIR *Technical Appendix J2* (Urban Crossroads, 2019c). The STA was prepared to account for a change in the Project's opening year from 2018 to 2019. In addition, Urban Crossroads conducted a queuing assessment at the Project's driveway along Gilman Springs Road, the results of which are documented in a memo entitled "Gilman Springs Mine Queuing Assessment," dated August 27, 2019, and included as EIR *Technical Appendix J3* (Urban Crossroads, 2019d).

4.11.1 SCOPE OF REVIEW

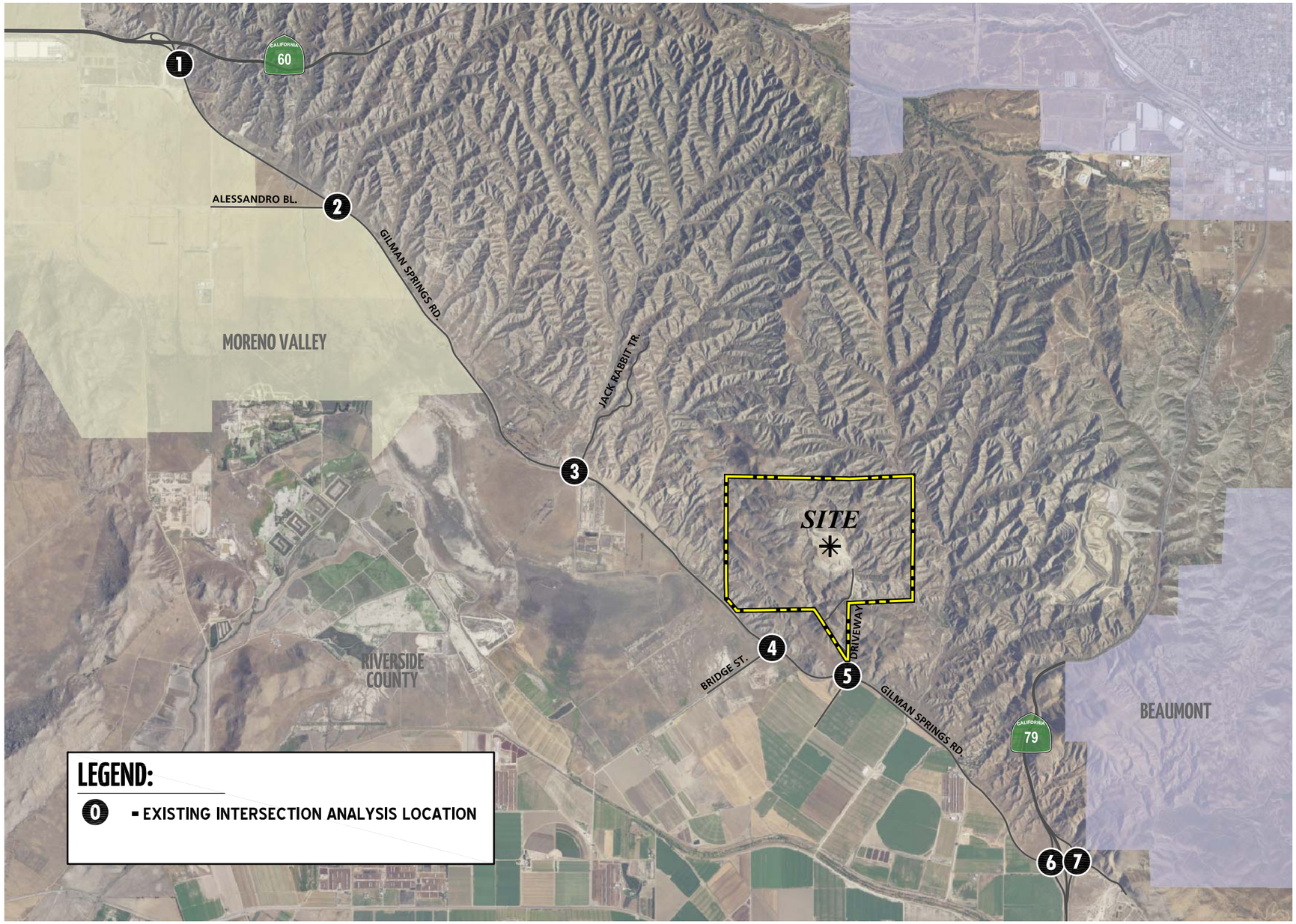
As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]). As evaluated in this EIR, and as explained in EIR subsections 3.3.2.A and 3.3.2.B, the Project would result in an increase in the amount of aggregate produced at the mine from 377,675 tons per year (tpy) to 1,000,000 tpy, with tonnage attributable to the Project comprising 622,235 tpy (or 62.2% of the total 1,000,000 tpy). Thus, it can be projected that approximately 62.2% of the estimated high-end daily tonnage of 4,000 tpd would be attributable to the Project, or approximately 2,489 tpd. Accordingly, for purposes of analysis within this Subsection, it is assumed that the Project would result in the production of a maximum of 2,489 tpd.

4.11.2 STUDY AREA DESCRIPTION

To ensure that the Project's TIA satisfies the County of Riverside's traffic study requirements, Urban Crossroads, Inc. prepared a project traffic study scoping package for review by County of Riverside staff prior to the preparation of the report. The scoping agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology, and is included in Appendix 1.1 to the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 4)

A. Intersections

The Project study area was defined in coordination with the County of Riverside. Consistent with County of Riverside traffic study guidelines, the study area includes any intersection of "Collector" or higher classification street, with "Collector" or higher classification streets, at which the proposed project will add 50 or more peak hour trips. Figure 4.11-1, *Intersection Analysis Locations*, and Table 4.11-1, *Intersection Analysis Locations*, present the study area and intersection analysis locations. (Urban Crossroads, 2018, p. 4)



Source(s): Urban Crossroads (03-07-2018)

NOT TO SCALE

Figure 4.11-1

INTERSECTION ANALYSIS LOCATIONS

Table 4.11-1 Intersection Analysis Locations

ID	Intersection Location	Jurisdiction	CMP?
1	Gilman Springs Road & SR-60 Eastbound Ramps	County of Riverside	No
2	Gilman Springs Road & Alessandro Boulevard	County of Riverside	No
3	Jack Rabbit Trail & Gilman Springs Road	County of Riverside	No
4	Bridge Street & Gilman Springs Road	County of Riverside	No
5	Driveway & Gilman Springs Road	County of Riverside	No
6	SR-79 Southbound Ramps & Gilman Springs Road	Caltrans, County of Riverside	No
7	SR-79 Northbound Ramps & Gilman Springs Road	Caltrans, County of Riverside	No

(Urban Crossroads, 2018, Table 1-1)

The "50 peak hour trip" criteria generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given project. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area). (Urban Crossroads, 2018, pp. 4-5)

It should be noted that there are no Congestion Management Program (CMP) study area intersections within the study area. (Urban Crossroads, 2018, p. 5)

B. Freeway Mainline Segments

Standard Caltrans guidance related to the geographic scope of the study area for the State Highway System (SHS) suggests traffic studies should include at a minimum all State highway facilities where the project will add over 100 peak hour trips. Because impacts to freeway segments dissipate with distance from the point of entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry is not being proposed. As such, the Project's TIA has evaluated the segments shown on Table 4.11-2, *Freeway Mainline Segment Analysis Locations*. (Urban Crossroads, 2018, p. 5)

C. Freeway Merge/Diverge Ramp Junctions

The study area freeway merge/diverge ramp junction analysis locations (i.e., the location where the ramp meets the freeway mainline) include the SR-60 Freeway and SR-79 Freeway ramp merge/diverge areas for the southbound and northbound directions of flow shown on Table 4.11-3, *Freeway Merge/Diverge Ramp Junction Analysis Locations*. (Urban Crossroads, 2018, p. 6)

Table 4.11-2 Freeway Mainline Segment Analysis Locations

ID	Freeway Mainline Segments
1	SR-60 Freeway Westbound – West of Gilman Springs Road
2	SR-60 Freeway Westbound – East of Gilman Springs Road
3	SR-60 Freeway Eastbound – West of Gilman Springs Road
4	SR-60 Freeway Eastbound – East of Gilman Springs Road
5	SR-79 Freeway Southbound – North of Gilman Springs Road
6	SR-79 Freeway Southbound – South of Gilman Springs Road
7	SR-79 Freeway Northbound – North of Gilman Springs Road
8	SR-79 Freeway Northbound – South of Gilman Springs Road

(Urban Crossroads, 2018, Table 1-2)

Table 4.11-3 Freeway Merge/Diverge Ramp Junction Analysis Locations

ID	Freeway Merge/Diverge Ramp Junctions
1	SR-60 Freeway - On-Ramp at Gilman Springs Road (Merge)
2	SR-60 Freeway - Off-Ramp at Gilman Springs Road (Diverge)
3	SR-60 Freeway - Off-Ramp at Gilman Springs Road (Diverge)
4	SR-60 Freeway - On-Ramp at Gilman Springs Road (Merge)
5	SR-79 Freeway - Off-Ramp at Gilman Springs Road (Diverge)
6	SR-79 Freeway - On-Ramp at Gilman Springs Road (Merge)
7	SR-79 Freeway - On-Ramp at Gilman Springs Road (Merge)
8	SR-79 Freeway - Off-Ramp at Gilman Springs Road (Diverge)

(Urban Crossroads, 2018, Table 1-3)

4.11.3 Methodology for Determining Transportation Facility Deficiencies

A. Level of Services (LOS)

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow. (Urban Crossroads, 2018, p. 11)

B. Intersection Capacity Analysis

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection

approaches. The HCM uses different procedures depending on the type of intersection control. (Urban Crossroads, 2018, p. 11)

1. Signalized Intersections

❑ County of Riverside

The County of Riverside requires signalized intersection operations analysis based on the methodology described in the HCM 6th Edition. Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 4.11-4, *Signalized Intersection LOS Thresholds*. (Urban Crossroads, 2018, p. 11)

Table 4.11-4 Signalized Intersection LOS Thresholds

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM 6th Edition

(Urban Crossroads, 2018, Table 2-1)

❑ California Department of Transportation (Caltrans)

Per the *Caltrans Guide for the Preparation of Traffic Impact Studies*, the traffic modeling and signal timing optimization software package Synchro (Version 10) has been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e. SR-79 Freeway ramps at Gilman Springs Road). Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM 6th Edition. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. (Urban Crossroads, 2018, p. 11)

Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network. Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis. All signalized study area intersections with the County of Riverside have also utilized the Synchro software. (Urban Crossroads, 2018, p. 12)

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM 6th Edition, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (Urban Crossroads, 2018, p. 12)

2. Unsignalized Intersections

The County of Riverside requires the operations of unsignalized intersections be evaluated using the methodology described the HCM. The LOS rating is based on the weighted average control delay expressed in seconds per vehicle, as summarized in Table 4.11-5, *Unsignalized Intersection LOS Thresholds*. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole. (Urban Crossroads, 2018, pp. 12-13)

Table 4.11-5 Unsignalized Intersection LOS Thresholds

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM 6th Edition

(Urban Crossroads, 2018, Table 2-2)

C. Freeway Off-Ramp Queuing Analysis

The study area for the Project's TIA includes the freeway-to-arterial interchange of the SR-79 Freeway at Gilman Springs Road. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing issues at the freeway ramp intersections on Gilman

Springs Road. Specifically, the queuing analysis is utilized to identify any potential queuing and "spill back" onto the SR-79 Freeway mainline from the off-ramps. (Urban Crossroads, 2018, p. 13)

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential issues/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. The queue length reported is for the lane with the highest queue in the lane group. In other words, if traffic were observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time). (Urban Crossroads, 2018, p. 13)

A footnote on the Synchro outputs indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. (Urban Crossroads, 2018, p. 13)

D. Traffic Signal Warrant Analysis Methodologies

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. The Project's TIA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD) for all study area intersections. (Urban Crossroads, 2018, p. 14)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The Caltrans CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, the Project's TIA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for the Project's TIA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of the TIA, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. (Urban Crossroads, 2018, p. 14)

Traffic signal warrant analyses were performed for the unsignalized study area intersections identified in Table 4.11-6, *Traffic Signal Warrant Analysis Locations*, while the study area intersections not listed in Table 4.11-6 are signalized under existing conditions. (Urban Crossroads, 2018, p. 14)

Table 4.11-6 Traffic Signal Warrant Analysis Locations

ID	Intersection Location	Jurisdiction	CMP?
2	Gilman Springs Road & Alessandro Boulevard	County of Riverside	No
3	Jack Rabbit Trail & Gilman Springs Road	County of Riverside	No
4	Bridge Street & Gilman Springs Road	County of Riverside	No
5	Driveway & Gilman Springs Road	County of Riverside	No
7	SR-79 Northbound Ramps & Gilman Springs Road	Caltrans, County of Riverside	No

(Urban Crossroads, 2018, Table 2-3)

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant. (Urban Crossroads, 2018, pp. 14-15)

E. Freeway Mainline Segment Analysis

The freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments have been evaluated in the Project's TIA based upon peak hour directional volumes. The freeway segment analysis is based on the methodology described in the HCM (6th Edition) and performed using Highway Capacity Software (HCS) 7 software. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 4.11-7, *Description of Freeway Mainline LOS*, illustrates the freeway segment LOS descriptions for each density range utilized for the analysis. (Urban Crossroads, 2018, p. 15)

The number of lanes for existing baseline conditions was obtained from field observations conducted by Urban Crossroads in February 2018. These existing freeway geometrics have been utilized for all analysis scenarios. The SR-60 Freeway mainline volume data was obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the SR-60 Freeway interchange at Gilman Springs Road. The data was obtained from February 2018. The SR-79 Freeway mainline volume data was obtained from the Caltrans 2016 Traffic Volumes for the segments of the SR-79 Freeway interchange at Gilman Springs Road. The data was obtained from 2016 plus 4.04% to reflect 2018 traffic conditions. In an effort to conduct a conservative analysis, the maximum value observed within the three-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic, has been utilized for the purposes of this analysis in an effort to not overstate traffic volumes and peak hour deficiencies. As such, actual vehicles (as opposed to passenger-car-equivalent [PCE] volumes) have been utilized for the purposes of the basic freeway segment analysis. (Urban Crossroads, 2018, pp. 15-16)

Table 4.11-7 Description of Freeway Mainline LOS

Level of Service	Description	Density Range (pc/mi/ln)[1]
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly, and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow.	>45.0

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)

(Urban Crossroads, 2018, Table 2-4)

F. Freeway Merge/Diverge Ramp Junction Analysis

The freeway system in the study area has been broken into segments defined by freeway-to-arterial interchange locations resulting in two existing on and off ramp locations. Although the HCM (6th Edition) indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in the Project's TIA has been performed at the Gilman Springs Road ramp locations with respect to the nearest on or off ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects Urban Crossroads has worked on along the SR-60 and SR-79 corridor. (Urban Crossroads, 2018, p. 16)

The merge/diverge analysis is based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS 7 software. The measure of effectiveness (reported in passenger car/mile/lane) is calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 4.11-8, *Description of Freeway Merge and Diverge LOS*, presents the merge/diverge area level of service descriptions for each density range utilized for the analysis. (Urban Crossroads, 2018, p. 16)

The ramp data (per the count data presented in Appendix 3.1 to the Project's TIA; refer to *Technical Appendix J1*) were utilized to flow conserve the mainline volumes to determine the SR-60 Freeway mainline volumes east of Gilman Springs Road and SR-79 Freeway mainline volumes north of Gilman Springs Road. Similar to the basic freeway segment analysis, actual vehicles (as opposed to passenger-car-equivalent volumes) have

been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis. (Urban Crossroads, 2018, p. 16)

G. *Minimum Level of Services (LOS)*

The definition of an intersection deficiency has been obtained from each of the applicable surrounding jurisdictions and are described below. (Urban Crossroads, 2018, p. 16)

Table 4.11-8 Description of Freeway Merge and Diverge LOS

Level of Service	Density Range (pc/mi/ln)[1]
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)

(Urban Crossroads, 2018, Table 2-5)

1. *County of Riverside*

Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target LOS: LOS C on all County-maintained roads and conventional State Highways. As an exception, LOS D may be allowed in Community Development areas at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways, or conventional State Highways. LOS E may be allowed in designated Community Centers to the extent that it would support transit-oriented development and pedestrian communities. As such, LOS D has been considered acceptable at any intersection within the County of Riverside because all of the study area intersections are classified as Secondary Highways or a higher classification and none occur in Community Centers. (Urban Crossroads, 2018, p. 17)

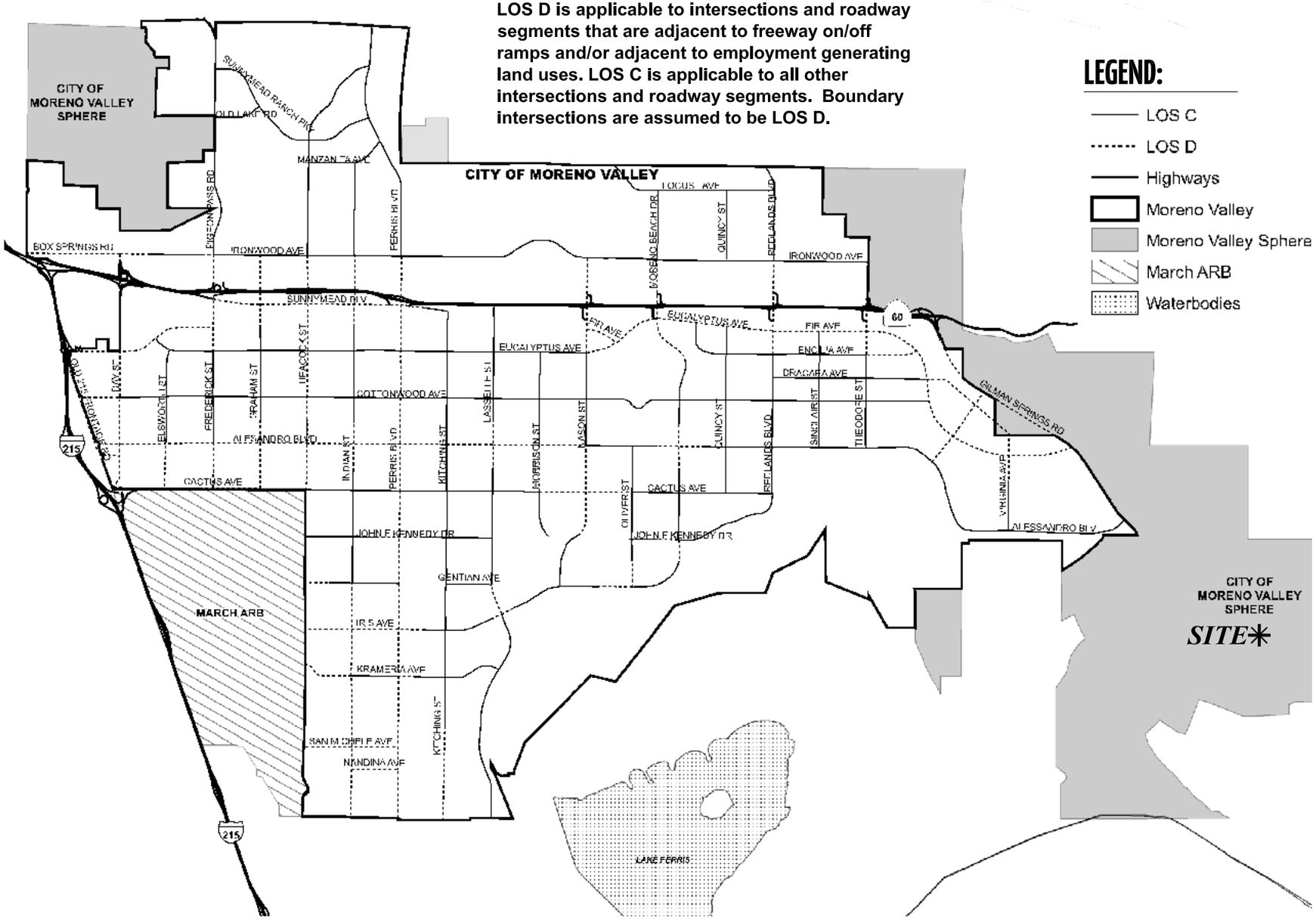
2. *City of Moreno Valley*

The definition of an intersection deficiency in the City of Moreno Valley is based on the City of Moreno Valley General Plan Circulation Element. The City of Moreno Valley General Plan states that target LOS C or LOS D be maintained along City roads (including intersections) wherever possible. Figure 4.11-2, *City of Moreno Valley Level of Service Standards*, depicts the level of service standards within the City of Moreno Valley. (Urban Crossroads, 2018, p. 17)

3. *Caltrans*

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway System (SHS) facilities; however, Caltrans acknowledges that this may not always be feasible and recommends

LOS D is applicable to intersections and roadway segments that are adjacent to freeway on/off ramps and/or adjacent to employment generating land uses. LOS C is applicable to all other intersections and roadway segments. Boundary intersections are assumed to be LOS D.



Source(s): Urban Crossroads (03-07-2018)

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Figure 4.11-2

CITY OF MORENO VALLEY LEVEL OF SERVICE STANDARDS

that the lead agency consult with Caltrans to determine the appropriate target LOS. Consistent with the County of Riverside minimum LOS of LOS D, LOS D will be used as the target LOS for arterial-to-freeway ramps. (Urban Crossroads, 2018, p. 17)

H. Deficiency Criteria

This subsection outlines the methodology used in this analysis related to identifying circulation system deficiencies.

1. Intersections

To determine whether the addition of project traffic at a study intersection would result in a deficiency, the following will be utilized:

- A deficiency occurs at study area intersections if the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and the addition of project trips causes the peak hour LOS of the study area intersection to operate at unacceptable LOS (i.e., LOS E or F). Per the County of Riverside traffic study guidelines, for intersections currently operating at unacceptable LOS (LOS E or F), a deficiency would occur if the Project contributes 50 or more peak hour trips to pre-project traffic conditions. (Urban Crossroads, 2018, p. 17)

2. Caltrans Facilities

To determine whether the addition of project traffic to the SHS freeway segments would result in a deficiency, the following will be utilized: (Urban Crossroads, 2018, p. 19)

- The traffic study finds that the LOS of a segment will degrade from D or better to E or F.
- The traffic study finds that the project will exacerbate an already deficient condition (i.e., contributing 50 or more peak hour trips). A segment that is operating at or near capacity is deemed to be deficient.

4.11.4 EXISTING CONDITIONS

The Project site is located in unincorporated Riverside County, approximately 2.6 miles north of the City of San Jacinto and approximately 2.4 miles southeast of the City of Moreno Valley. The entrance to the Project site is located along Gilman Springs Road, approximately 0.6 mile southeast of the intersection of Gilman Springs Road and Bridge Street. The Project site contains private paved and unpaved access roads under existing conditions. A description of the existing circulation network in the Project's study area is provided below. Refer to Section 3 of the Project's TIA (*EIR Technical Appendix J1*) for a discussion of the Circulation Elements of the General Plans for the County of Riverside and the City of Moreno Valley.

A. Existing Circulation Network

Pursuant to the Project's Scoping Agreement (see Appendix 1.1 of the Project's TIA, which is included as EIR *Technical Appendix J1*), the Project's study area includes a total of seven existing intersections, as shown previously on Figure 4.11-1, where the Project is anticipated to contribute 50 or more peak hour trips.

Figure 4.11-3, *Existing Number of Through Lanes and Intersection Controls*, illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls. (Urban Crossroads, 2018, p. 21)

B. Truck Routes

While the County of Riverside's General Plan recognizes the trucking industry and the importance of the region's role in the movement of goods, there are no truck routes defined within the County. However, the City of Moreno Valley has a designated truck route map, which identifies Gilman Springs Road and Alessandro Boulevard as designated City of Moreno Valley truck routes. The City of Moreno Valley's existing truck routes are shown on Figure 4.11-4, *City of Moreno Valley Existing Truck Routes*. (Urban Crossroads, 2018, p. 21)

C. Existing (2018) Traffic Counts

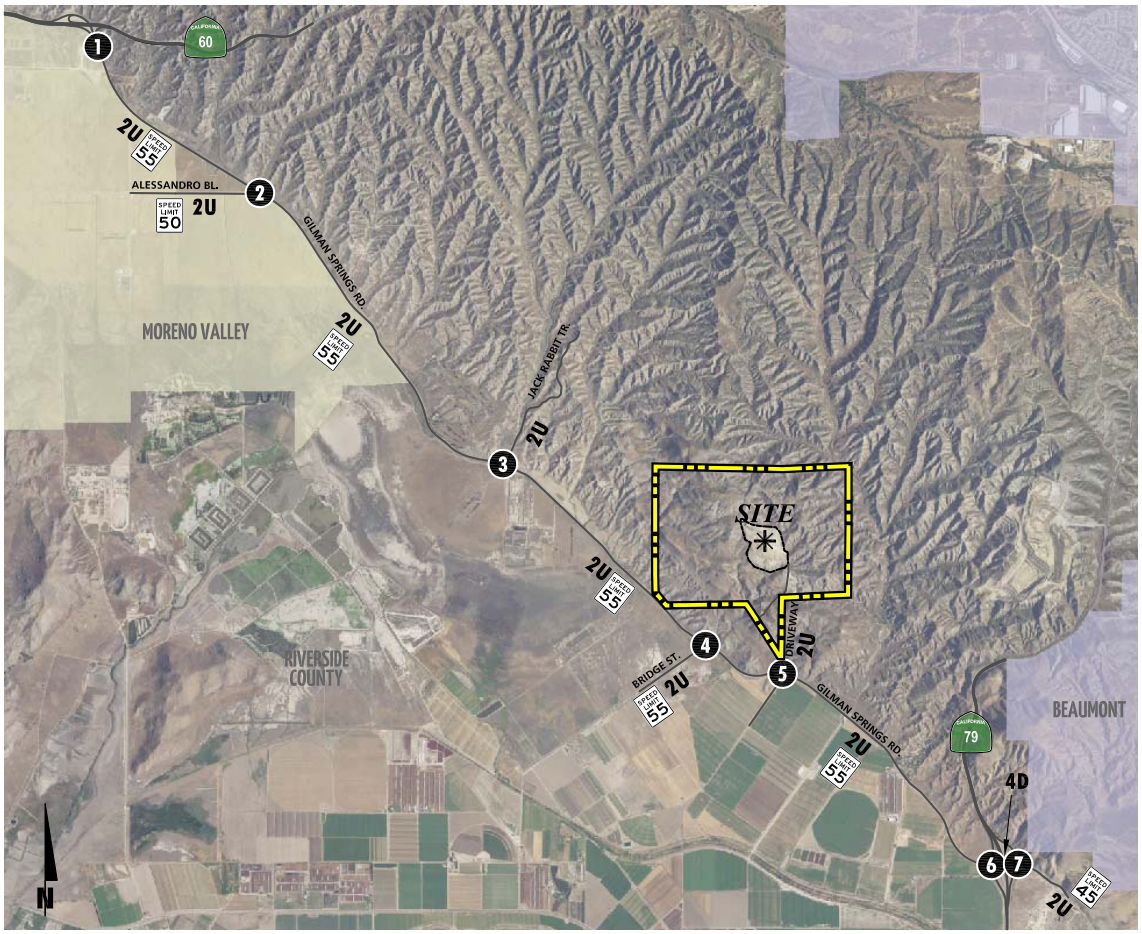
The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in February 2018. The following peak hours were selected for analysis: (Urban Crossroads, 2018, p. 31)

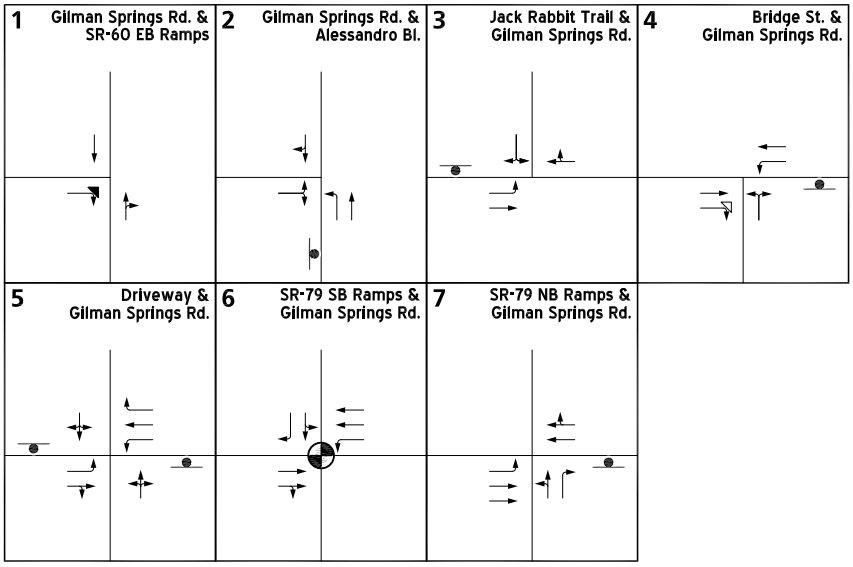
- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The weekday AM and weekday PM peak hour count data are representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field by Urban Crossroads that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1 of the Project's TIA (*Technical Appendix J1*). These raw turning volumes have been flow conserved between intersections with limited access, no access, and where there are currently no uses generating traffic (e.g., between ramp-to-arterial intersections, etc.). The traffic counts collected in February 2018 include the vehicle classifications as shown below: (Urban Crossroads, 2018, p. 31)

- Passenger Cars
- 2-Axle Trucks
- 3-Axle Trucks
- 4 or More Axle Trucks

To represent the impact large trucks, buses and recreational vehicles have on traffic flow, all trucks were converted into Passenger Car Equivalents (PCEs). By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended





LEGEND:

- = TRAFFIC SIGNAL
- = STOP SIGN
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- = FREE RIGHT TURN
- = CHANNELIZED YIELD
- DEF = DEFACTO RIGHT TURN
- SPEED LIMIT 25 = SPEED LIMIT (MPH)

Source(s): Urban Crossroads (03-07-2018)

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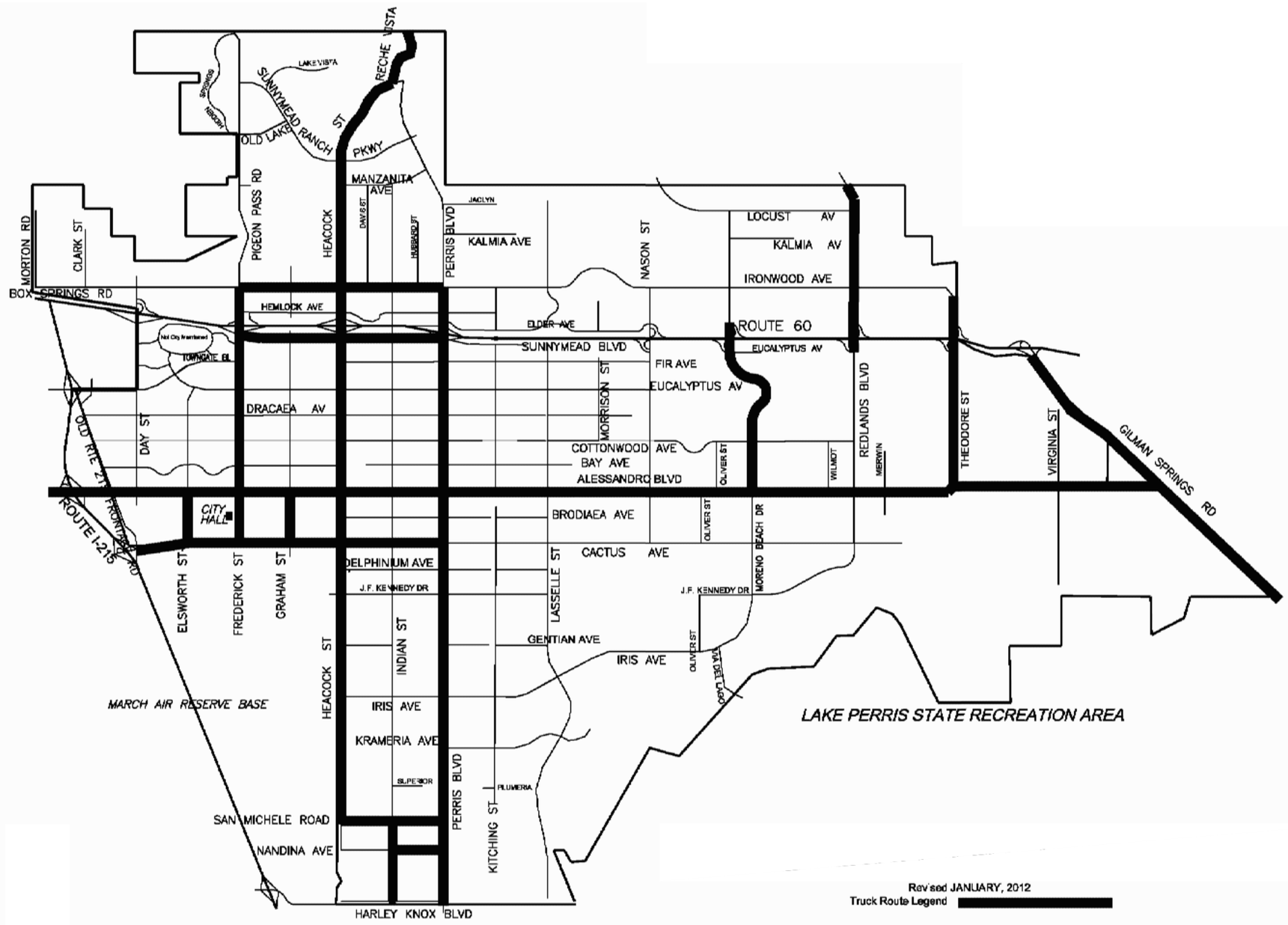
Figure 4.11-3
EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



Source(s): Urban Crossroads (03-07-2018)

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Figure 4.11-4

CITY OF MORENO VALLEY EXISTING TRUCK ROUTES

for use in the San Bernardino County CMP and are in excess of the factor recommended for use in the County of Riverside traffic study guidelines. Although the County of Riverside has a recommended PCE factor of 2.0, the San Bernardino County CMP PCE factors have been utilized in an effort to conduct a more conservative analysis. (Urban Crossroads, 2018, p. 31)

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-10 of the Project's TIA (Technical Appendix J1). Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg: (Urban Crossroads, 2018, p. 32)

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 16.8029 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 5.95 percent. As such, the above equation utilizing a factor of 16.8029 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 5.95 percent (i.e., 1/0.0595 = 16.8029) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in PCE) are also shown on Exhibit 3-10 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 32)

D. Existing Conditions Intersection Operations Analysis

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Subsection 4.11.3. The intersection operations analysis results are summarized in Table 4.11-9, *Intersection Analysis for Existing (2018) Conditions*. As shown in Table 4.11-9, the following existing study area intersections are currently operating at an unacceptable LOS during the peak hours (i.e., LOS E or worse): (Urban Crossroads, 2018, p. 32)

- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS E AM peak hour; LOS F PM peak hour
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

A summary of the peak hour intersection LOS for Existing conditions also are shown on Exhibit 3-11 of the Project's TIA (Technical Appendix J1). The intersection operations analysis worksheets are included in Appendix 3.2 of the Project's TIA.

E. Traffic Signal Warrants Analysis

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. For Existing traffic conditions, a traffic signal appears to currently be warranted at the following unsignalized study area intersections (see Appendix 3.3 to the Project's TIA *[Technical Appendix J1]*): (Urban Crossroads, 2018, p. 32)

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

Table 4.11-9 Intersection Analysis for Existing (2018) Conditions

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Gilman Springs Rd. / SR-60 EB Ramps	UC	0	1	0	0	1	0	0	0	1>>	0	0	0	0.0	0.0	A	A
2	Gilman Springs Rd. / Alessandro Bl.	CSS	1	1	0	0	1	0	0	1	0	0	0	0	11.8	29.0	B	D
3	Jack Rabbit Trail / Gilman Springs Rd.	CSS	0	0	0	0	1	0	1	1	0	0	1	0	18.6	30.2	C	D
4	Bridge St. / Gilman Springs Rd.	CSS	0	1	0	0	0	0	0	1	1	1	1	0	**>100.0**	**65.8**	**F**	**F**
5	Driveway / Gilman Springs Rd.	CSS	0	1	0	0	1	0	1	1	0	1	1	1	**36.7**	**61.4**	**E**	**F**
6	SR-79 SB Ramps / Gilman Springs Rd.	TS	0	0	0	0	1	1	0	2	0	1	2	0	7.4	12.3	A	B
7	SR-79 NB Ramps / Gilman Springs Rd.	CSS	0	1	1	0	0	0	1	2	0	0	2	0	**>100.0**	**>100.0**	**F**	**F**

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free-Right Turn Lane

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] UC = Uncontrolled; CSS = Cross-street Stop; TS = Traffic Signal

(Urban Crossroads, 2018, Table 3-1)

F. *Off-Ramp Queuing Analysis*

A queuing analysis was performed for the off-ramps at the SR-79 Freeway and Gilman Springs interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-79 Freeway. Queuing analysis findings for Existing traffic conditions are presented in Table 4.11-10, *Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2018)* Conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. (Urban Crossroads, 2018, p. 36)

Table 4.11-10 Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2018) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
SR-79 SB Ramps / Gilman Springs Road	SBL/T	1,890	90	204	Yes	Yes
	SBR	235	0	0	Yes	Yes
SR-79 NB Ramps / Gilman Springs Road	NBL/T	1,600	425	325	Yes	Yes
	NBR	435	0	0	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

(Urban Crossroads, 2018, Table 3-2)

As shown on Table 4.11-10, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing traffic conditions. Worksheets for Existing traffic conditions off-ramp queuing analysis are provided in Appendix 3.4 of the Project's TIA (Technical Appendix J1). (Urban Crossroads, 2018, p. 36)

G. *Existing Conditions Basic Freeway Segment Analysis*

Existing mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 3-12 of the Project's TIA (*Technical Appendix J1*). As shown on Table 4.11-11, *Basic Freeway Segment Analysis for Existing (2018) Conditions*, SR-60 and SR-79 Freeway segments analyzed for this study are found to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours, with the exception of the following segments: (Urban Crossroads, 2018, p. 36)

- SR-60 Freeway Westbound – West of Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound – West of Gilman Springs Road (#3) – LOS F PM peak hour only

Existing basic freeway segment analysis worksheets are provided in Appendix 3.5 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 36)

H. *Existing Conditions Freeway Merge/Diverge Analysis*

Ramp merge and diverge operations were also evaluated for Existing (2018) conditions and the results of this analysis are presented in Table 4.11-12, *Freeway Ramp Merge/Diverge Analysis for Existing (2018) Conditions*. As shown in Table 4.11-12, the SR-60 and SR-79 Freeway ramp merge and diverge areas at Gilman Springs Road are anticipated to operate at LOS D or better, with the exception of the following ramp junctions: (Urban Crossroads, 2018, p. 36)

- SR-60 Freeway – On-Ramp at Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#2) – LOS E PM peak hour only
- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#3)- LOS E AM peak hour; LOS F PM peak hour

Existing (2018) freeway ramp junction operations analysis worksheets are provided in Appendix 3.6 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 36)

Table 4.11-11 Basic Freeway Segment Analysis for Existing (2018) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Volume[2]		Density[3]		LOS[4]	
				AM	PM	AM	PM	AM	PM
SR-60 Freeway	Westbound	West of Gilman Springs Road	2	3,930	4,052	**36.3**	**38.4**	**E**	**E**
		East of Gilman Springs Road	2	3,131	3,569	25.7	31.0	C	D
	Eastbound	West of Gilman Springs Road	2	3,540	4,514	31.0	--[5]	D	**F**
		East of Gilman Springs Road	2	3,131	3,569	25.7	31.0	C	D
SR-79 Freeway	Southbound	North of Gilman Springs Road	2	1,348	1,730	10.6	13.6	A	B
		South of Gilman Springs Road	2	1,479	1,986	11.7	15.6	B	B
	Northbound	North of Gilman Springs Road	2	1,096	1,209	8.7	9.5	A	A
		South of Gilman Springs Road	2	1,239	1,221	9.7	9.6	A	A

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Directional volumes based on current PeMS data.

[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).

[4] LOS = Level of Service

[5] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2018, Table 3-3)

Table 4.11-12 Freeway Ramp Merge/Diverge Analysis for Existing (2018) Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	AM Peak Hour		PM Peak Hour	
				Density[1]	LOS[2]	Density[1]	LOS[2]
SR-60 Freeway	Westbound	On-Ramp at Gilman Springs Road	2	**40.6**	**E**	**42.8**	**E**
		Off-Ramp at Gilman Springs Road	2	27.9	D	**31.8**	**E**
	Eastbound	Off-Ramp at Gilman Springs Road	2	**32.5**	**E**	**--[3]**	**F**
		On-Ramp at Gilman Springs Road	2	29.4	D	34.8	D
SR-79 Freeway	Southbound	Off-Ramp at Gilman Springs Road	2	12.1	B	15.6	B
		On-Ramp at Gilman Springs Road	2	13.4	B	17.9	B
	Northbound	On-Ramp at Gilman Springs Road	2	9.8	B	10.8	B
		Off-Ramp at Gilman Springs Road	2	11.2	B	11.0	B

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

[1] Density is measured by passenger cars per mile per lane (pc/mi/ln).

[2] LOS = Level of Service

[3] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2018, Table 3-4)

I. Alternative Transportation

1. Bicycle and Pedestrian Facilities

The Riverside County Trails and Bikeway System is shown on Exhibit 3-7 of the Project's TIA (*Technical Appendix J1*). There are proposed Regional Trails along Gilman Springs Road and the Bridge Street alignment within the study area. The Master Plan of Trails and Bike Plan for the City of Moreno Valley are shown on Exhibits 3-8 and 3-9 of the Project's TIA, respectively. There is a planned Class II bike lane planned along the future Eucalyptus Avenue, west of Gilman Springs Road. Field observations conducted by Urban Crossroads in February 2018 indicate no pedestrian and bicycle activity within the study area. Existing pedestrian facilities currently do not exist along Gilman Springs Road. (Urban Crossroads, 2018, p. 21)

2. Transit Service

The study area is currently served by the Riverside Transit Authority (RTA), a public transit agency serving the unincorporated Riverside County region. There are currently no existing bus routes that serve the roadways within the study area in close proximity to the proposed Project. Transit service is reviewed and updated by

RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. The Project does not propose a change of land use and would be unlikely to cause RTA to adjust existing bus routes in the area. (Urban Crossroads, 2018, p. 31)

3. Existing Airport Facilities

The nearest airport (March Air Reserve Base) is approximately 4.7 miles to the west of the proposed Project's EDA. Additionally, according to Riverside County GIS, no portions of the Mine occur within any Airport Influence Area (AIA). (RCIT, 2018)

4.11.5 Applicable Regulatory Requirements

A. SCAG Regional Transportation Plan

The Southern California Association of Governments (SCAG) is a regional agency established pursuant to California Government Code § 6500, also referred to as the Joint Powers Authority law. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). The Project site is within SCAG's regional authority. On April 7, 2016, SCAG adopted the 2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) with goals to: 1) Align the plan investments and policies with improving regional economic development and competitiveness; 2) Maximize mobility and accessibility for all people and goods in the region; 3) Ensure travel safety and reliability for all people and goods in the region; 4) Preserve and ensure a sustainable regional transportation system; 5) Maximize the productivity of our transportation system; 6) Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking); 7) Actively encourage and create incentives for energy efficiency, where possible; 8) Encourage land use and growth patterns that facilitate transit and active transportation; and 9) Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies (SCAG, 2016). Performance measures and funding strategies also are included to ensure that the adopted goals are achieved through implementation of the RTP.

B. County of Riverside Congestion Management Program

The Riverside County Transportation Commission (RCTC) adopted its current Congestion Management Program (CMP) in December 2011. The purpose of the CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality. Additionally, the CMP establishes a minimum LOS of E for CMP roadway facilities within Riverside County. (RCTC, 2011, p. ES-1 and Exhibit 2-1) There are no CMP intersections within the Project's study area (Urban Crossroads, 2018, p. 5).

C. County of Riverside Circulation Element

The Riverside County General Plan includes a Circulation Element, which designates future road improvements and extensions, addresses non-motorized transportation alternatives, and identifies funding

options. The Circulation Element also identifies transportation routes, terminals, and facilities. Circulation Element Policy C 2.1 states that the County will maintain the following County-wide target LOS: LOS C on all County-maintained roads and conventional State Highways. As an exception, LOS D may be allowed in Community Development areas at intersections of any combination of Secondary Highways, Major Highways, Arterial Highways, Urban Arterial Highways, Expressways, or conventional State Highways. LOS E may be allowed in designated Community Centers to the extent that it would support transit-oriented development and pedestrian communities. (Urban Crossroads, 2018, p. 17; Riverside County, 2019a, p. C-1)

D. Transportation Uniform Mitigation Fee (TUMF) Program

The Transportation Uniform Mitigation Fee (TUMF) program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2017 to address major changes in right of way acquisition and improvement cost factors. This regional program was put into place to ensure that development pays its fair share and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County, except the City of Beaumont. (Urban Crossroads, 2018, p. 8)

TUMF fees are imposed on new residential, industrial, and commercial development through application of the TUMF fee ordinance and fees are collected at the building or occupancy permit stage. In addition, an annual inflation adjustment is considered each year in February. In this way, TUMF fees are adjusted upwards on a regular basis to ensure that the development impact fees collected keep pace with construction and labor costs, etc. (Urban Crossroads, 2018, p. 10)

E. Development Impact Fee (DIF) Program

The Project is located within the County's San Jacinto Valley Area Plan and therefore would be subject to County of Riverside Development Impact Fee (DIF), which is a program implemented by the County to address transportation infrastructure needs for new development throughout its unincorporated area. The DIF program consists of two separate transportation components: the Roads, Bridges and Major Improvements component and the Traffic Signals component. Eligible facilities for funding by the County DIF program are identified on the County's Public Needs List, which currently extends through the year 2010. A comprehensive review of the DIF program is now planned in order to update the nexus study. This will result in development of a revised "needs list" extending the program time horizon from 2010 to 2030. (Urban Crossroads, 2018, p. 10)

The cost of signalizing DIF network intersections is identified under the Traffic Signals component of the DIF program. County staff generally defines DIF eligible intersections as those consisting of two intersecting general plan roadways. If the intersection meets this requirement, it is potentially eligible for up to $235,000 of credit, which is subject to negotiations with the County. (Urban Crossroads, 2018, p. 10)

4.11.6 Basis for Determining Significance

According to Section XVII of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to transportation and traffic if the Project or any Project-related component would (OPR, 2018)

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access or access to nearby uses.

The following thresholds are derived from EA No. 34079 (Riverside County's Environmental Assessment Checklist, see Technical Appendix A to this EIR), and supplemented by the thresholds listed in Appendix G to the CEQA Guidelines, in order to evaluate the significance of the proposed Project's impacts on transportation and traffic. The proposed Project would result in a significant impact to transportation and traffic if the Project or any Project-related component would:

a. *Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;*
b. *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;*
c. *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);*
d. *Cause an effect upon, or a need for new or altered maintenance of roads;*
e. *Cause an effect upon circulation during the project's construction;*
f. *Result in inadequate emergency access or access to nearby uses; or*
g. *Include the construction or expansion of a bike system or bike lanes.*

The 2018 updates to the CEQA Guidelines include a new threshold requiring a determination of consistency with CEQA Guidelines Section 15064.3. CEQA Guidelines Section 15064.3 requires an analysis of Vehicle Miles Travelled (VMTs), in accordance with California Senate Bill (SB) 743. LOS has been used as the basis for determining the significance of traffic impacts as standard practice in CEQA documents for decades. In 2013, SB 743 was passed, which is intended to balance the need for LOS for traffic planning with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes-competing needs. At full implementation of SB 743, the California Governor's Office of Planning and Research (OPR) is expected to replace LOS as the metric against which traffic impacts are evaluated, with a metric based on VMTs. CEQA Guidelines § 15064.3(c) provides that a lead agency "may elect to be

governed by the provisions" of the section immediately; otherwise, the section's provisions do not apply to local lead agencies until July 1, 2020. At the time the EIR was released for public review, the County of Riverside had not elected to implement § 15064.3 of the CEQA Guidelines, but will be required to do so for projects anticipated to be approved subsequent to July 1, 2020. Accordingly, an analysis of VMTs is not required at this time under CEQA to determine whether the Project would have a significant transportation impact. Refer instead to the discussion and analysis of Threshold a., below. Although an analysis of VMTs is not required at this time, the Project is anticipated to serve a regional need and would likely reduce VMTs. As documented by Peter Berck at the University of California at Berkeley:

> "*The opening of a new quarry for aggregates will change the pattern of transportation of aggregates in the area served by the quarry…so long as aggregate producers are cost minimizing, the new pattern of transportation requires less truck transport than the pattern of transportation that existed before the opening of the new quarry. Since the costs of providing aggregates falls, it is reasonable to assume that the price of delivered aggregates also will fall…Since the demand increase from a new quarry is quite small, the dominant effect is that the quarries are on average closer to the users of aggregates and, as a result, the truck mileage for aggregate hauling decreases.*" (Berck, 2005, p. 3)

Thus, although an analysis of VMTs is not required at this time, the expansion of available aggregate resources at the Mine as proposed by the Project Applicant would help reduce VMTs on a regional basis by serving the local market demand for aggregate material.

4.11.7 IMPACT ANALYSIS

Threshold a:	***Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?***

The analysis of Threshold a. focuses on potential impacts to local roadway intersections, based on the LOS standards established by the County of Riverside, City of Moreno Valley, and Caltrans, as discussed in Subsection 4.11.3. A description of the traffic modeling assumptions is provided below, followed by an analysis of the Project's potential impacts to study area intersections and freeway ramp locations.

A. Traffic Modeling Description

This subsection presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to have full access on Gilman Springs Road via a private road extending from Gilman Springs Road. Regional access to the Project site is provided via the SR-60 Freeway at Gilman Springs Road interchange and SR-79 at Gilman Springs Road interchange. The Project is anticipated to be in operation by the end of 2018. (Urban Crossroads, 2018, p. 45)

1. Project Trip Generation

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. The Institute of Transportation Engineers (ITE) Trip Generation Manual is a nationally

recognized source for estimating site specific trip generation. ITE recently released an updated edition of the Trip Generation Manual (10th Edition) in September 2017. As the proposed Project's land use is rather unique and not comparable to any current ITE Trip Generation Manual rates, the traffic generating potential of the proposed Project has been estimated based on the increase in permitted annual production above the Project's historical baseline. Annual production information was obtained for a 15-year period from 2003-2017. Table 4.11-13, *Summary of Historical* Data, presents the 15-year average production quantity or historical baseline for the proposed Project. As shown in Table 4.11-13, the historical baseline has been calculated as 377,765 TPY, which when compared to the proposed permitted maximum annual production quantity of the 1.0 MTPY results in a net increase of 622,235 TPY, or a 62.22% share of the total permitted annual production quantity. (Urban Crossroads, 2018, p. 45)

Table 4.11-13 Summary of Historical Data

A. Average Historic Annual Tonnage (2003-2017):	377,765 TPY[1]
B. Proposed Project:	1,000,000 TPY
C. Project Increase (B. - A.)	622,235 TPY
D. Project Share of Total Tonnage (C. / B.):	62.22%

[1] TPY = Tons Per Year

(Urban Crossroads, 2018, Table 4-1)

An estimated daily production quantity of 4,000 TPD has been determined to be a reasonable high-end and conservative estimate for purposes of evaluating potential impacts. Based on an operations schedule of 365 days (7 days a week) the Mine could not operate at the conservatively estimated 4,000 TPD production level each day and stay within the proposed permitted annual limit of 1.0 MTPY. If the Mine were to operate at 4,000 TPD, the annual production would be 1,460,000 tons, which would exceed the Mine's limit of 1.0 MTPY. If the Mine were to remain within the 1.0 MTPY limit and produce 4,000 TPD, the Mine only would be able to operate 250 days per year. Based on the proposed operation schedule the actual average daily tonnage for the Project would be substantially less than 4,000 TPD. (Urban Crossroads, 2018, p. 45 and Table 4-2)

Table 4.11-14, *Total and Project Daily Truck Trips*, illustrates the breakdown of truck trips associated with the conservative estimate of 4,000 TPD. As indicated in Table 4.11-14, the proposed Project is estimated to generate 199 net additional daily truck trips (actual vehicles) above the historical baseline. (Urban Crossroads, 2018, p. 42)

Table 4.11-14 Total and Project Daily Truck Trips

A. Proposed Daily Tonnage for Traffic Study (TPD):	4,000 TPD
B. Average Tons Per Truck:	25 Tons
C. One-Way Trucks Per Day (A. / B.):	160 Trucks
D. Total Two-Way Total Trucks Per Day Based on 4,000 TPD (C. X 2-trips)[1]:	320 Trucks[1]
E. Total New Project Trucks Trips Per Day (D. X D. from Table 1 or 62.22% of 360)[2]:	199 Trucks[2]

[1] Total trucks based on 4,000 TPD. Total trucks per day multiplied by 2.0 to represent two-way trip ends (one inbound trip and one outbound trip).
[2] Truck trips associated with proposed Project, or net increase of 2,489 TPD (e.g., 62.22% from Table 4.11-13 of 4,000 TPD) from the existing 1,511 TPD.
(Urban Crossroads, 2018, Table 4-3)

Table 4-4 of the Project's TIA (*Technical Appendix J1*) illustrates the number of daily truck trips per day for the existing site. The data indicates the typical operational characteristics of mining operation where truck activity is heaviest in the late morning hours (at 9 AM, at the end of the typical morning peak hour of 7-9 AM), then remains relatively steady during the early afternoon hours, and finally tapers off the mid to late afternoon hours. The percentage of overall daily truck trips shown at 9 AM and 11 AM have been utilized for the typical commute hours of 7-9 AM and 4-6 PM, respectively. Peak trips during the 11 AM hour were utilized for the PM peak hour (4-6 pm) in an effort to provide a conservative analysis, as the Project is anticipated to generate fewer truck trips during the PM peak hour than during the 11 AM hour. Thus, by utilizing the 11 AM percentage of truck trips for the analysis of impacts during the PM peak hour, the analysis herein would tend to overstate the Project's impacts during the PM peak hour. (Urban Crossroads, 2018, p. 48)

Table 4.11-15, *Average Daily and Peak Hour Project Trip Generation Summary*, illustrates the daily and peak hour trip generation that would be produced under the proposed Project in both actual vehicles and Passenger Car Equivalents (PCEs). PCE factors allow the typical "real-world" mix of vehicle types to be represented as a single standardized unit, such as the passenger car, for the purposes of capacity and level of service analysis. A PCE factor of 3.0 has been applied to large 4+ axle trucks that are typically used to haul aggregate. Under the Project, a typical peak operating day would result in the production of 4,000 tpd of aggregate resources, of which 1,511 tpd would be attributable to existing mining operations (i.e., the historical baseline) and 2,489 tpd would be attributable to the proposed Project (refer to EIR subsection 3.3.2.B). As shown in Table 4.11-15, mining operations at 4,000 tpd, which includes both existing and proposed tonnage, is anticipated to generate 30 passenger vehicle trips and 320 truck trips (actual vehicles). When converted to PCEs, operations at 4,000 tpd would generate 960 PCE truck trips. Thus, mining at 4,000 tpd would generate a total of approximately 990 PCE trip-ends per day with 145 PCE AM peak hour and 133 PCE PM peak hour trips. Table 4.11-15 also summarizes the number of vehicular trips that would be generated by the Project (i.e., the increase in trips above the historical baseline, based on an increase of 2,489 tpd). As shown, the Project is expected to produce 19 passenger vehicle trips and 199 truck trips (actual vehicles). When converted to PCEs, the Project would generate 597 PCE truck trips. Thus, the Project's proposed increase of 2,489 tpd would generate a total of 616 PCE trips per day, with 90 PCE AM peak hour trips and 83 PCE PM peak hour trips. (Urban Crossroads, 2018, p. 48)

Table 4.11-15 Average Daily and Peak Hour Project Trip Generation Summary

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Trip Generation Summary – Existing + Proposed Trips (4,000 tpd)[2]									
Gilman Mine (Total)	4,000	TPD							
Passenger Cars			6	4	10	4	6	10	30
Truck Trips[3]			23	22	45	20	21	41	320
Total Trips (PCE) – 4,000 tpd[4]			**75**	**70**	**145**	**64**	**69**	**133**	**990**
Trip Generation Summary – Project Only Trips (2,489 tpd)[2]									
Gilman Mine (Project Only)	2,489	TPD							
Passenger Cars			4	2	6	2	4	6	19
Truck Trips[5]			14	14	28	12	13	26	199
Total Trips (PCE) – 2,489 tpd[4]			**47**	**44**	**90**	**40**	**43**	**83**	**616**

1. TPD = Tons Per Day
2. A total of up to 4,000 tpd is expected to be produced under the proposed Project. Of the 4,000 tpd, 1,511 tpd would be attributable to mining activities over the historical baseline, while 2,489 tpd would be attributable to the proposed Project as evaluated herein (refer to EIR subsection 3.3.2.B).
3. Total Truck Trips based on typical peak operating day of 4,000 tpd (i.e., existing plus Project Truck Trips).
4. Based on passenger car equivalent (PCE) factor of 3.0 PCE per truck.
5. Total Truck Trips based on typical peak operating day of 2,489 tpd (i.e., Project only Truck Trips).

(Urban Crossroads, 2018, Table 4-5)

2. Project Trip Distribution

Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. (Urban Crossroads, 2018, p. 48)

The Project trip distribution was developed based on anticipated travel patterns to and from the Project site for both passenger cars and truck traffic. The truck trip distribution patterns have been developed based on the anticipated travel patterns for the heavy trucks associated with the mining operations. The Project trip distribution patterns for both passenger cars and trucks were developed based on an understanding of existing travel patterns in the area, the geographical location of the site, and the site's proximity to the regional arterial and state highway system. (Urban Crossroads, 2018, p. 48)

The Project passenger car trip distribution patterns are graphically depicted on Exhibit 4-1 of the Project's TIA (*Technical Appendix J1*) and the Project truck trip distribution patterns are graphically depicted on Exhibit 4-2 of the Project's TIA. (Urban Crossroads, 2018, p. 48)

3. Modal Split

The traffic reducing potential of public transit, walking, or bicycling have not been considered in the Project's TIA. Essentially, the traffic projections are "conservative" in that these alternative travel modes might be able to reduce the forecasted traffic volumes (employee trips only). (Urban Crossroads, 2018, p. 48)

4. Project Trip Assignment

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 54)

5. Analysis Scenarios

For the purposes of the Project's TIA, the Project's potential impacts to traffic and transportation have been assessed for each of the following conditions. Each is discussed below.

- Existing (2018)
- Existing plus Project (E+P)
- Existing plus Ambient Growth plus Project (EAP) (2018)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2018)

❑ Existing Plus Project (E+P) Conditions

The Existing plus Project (E+P) analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions. The E+P scenario has been provided for information purposes. (Urban Crossroads, 2018, p. 3)

❑ Existing Plus Ambient Growth Plus Project (2018) Conditions

The Existing plus Ambient Growth plus Project (EAP) (2018) conditions analysis determines the significant traffic impacts based on a comparison of the EAP traffic conditions to Existing conditions (i.e., baseline conditions). Although the Project's opening year is the same as the baseline traffic condition, an ambient growth of 4.04% (2 percent per year over two years) has conservatively been included for EAP traffic conditions to account for background traffic growth for the purposes of the analysis. Cumulative development projects are not included as part of the EAP analysis. For the purposes of this traffic analysis, the EAP scenario has been utilized to discern significant Project impacts consistent with the County of Riverside traffic study guidelines. (Urban Crossroads, 2018, p. 3)

❑ Existing Plus Ambient Growth Plus Project Plus Cumulative (2018) Conditions

The Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2018) conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as TUMF and County DIF programs, or other approved funding mechanism can accommodate the near-term cumulative traffic at the target level of service (LOS) identified in the County of Riverside General Plan. If the "funded" improvements can provide the target LOS, then the Project's payment into TUMF and/or DIF will be considered as near-term cumulative mitigation through the conditions of approval. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-TUMF facilities) are identified as such. To account for background traffic, other known cumulative development projects in the

study area were included in addition to 4.04% of ambient growth for EAPC traffic conditions in conjunction with traffic associated with the proposed Project. Although it is unlikely that these cumulative projects would be fully built and occupied by 2019, they have been included in an effort to conduct a conservative analysis and overstate as opposed to understate potential traffic impacts. (Urban Crossroads, 2018, pp. 3-4)

The currently adopted Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (April 2016) growth forecasts for the unincorporated areas of the County of Riverside identifies projected growth in population of 359,000 in 2012 to 499,200 in 2040, or a 139.1 percent increase over the 28-year period. The change in population equates to roughly a 1.18 percent growth rate compounded annually. Similarly, growth over the same 28-year period in households is projected to increase by 145.1 percent, or 1.34 percent annual growth rate. Finally, growth in employment over the same 28-year period is projected to increase by 222.1 percent, or a 2.89 percent annual growth rate. Based on a comparison of Existing traffic volumes to the EAPC (2019) forecasts, the average growth rate is estimated at approximately 12.31 percent compounded annually between Existing and EAPC (2019) traffic conditions. (Urban Crossroads, 2018, p. 4)

6. Background Traffic

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2019 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. The currently adopted SCAG 2016 RTP/SCS (April 2016) growth forecasts for the unincorporated areas of the County of Riverside identify projected growth in population of 359,000 in 2012 to 499,200 in 2040, or a 139.1 percent increase over the 28-year period. The change in population equates to roughly a 1.18 percent growth rate compounded annually. Similarly, growth over the same 28-year period in households is projected to increase by 145.1 percent, or 1.34 percent annual growth rate. Finally, growth in employment over the same 28-year period is projected to increase by 222.1 percent, or a 2.89 percent annual growth rate. (Urban Crossroads, 2018, p. 54)

Based on a comparison of Existing traffic volumes to the EAPC (2019) forecasts, the average growth rate is estimated at approximately 12.31 percent compounded annually between Existing and EAPC (2019) traffic conditions. The annual growth rate at each individual intersection is not lower than 6.62 percent compounded annually to as high as 16.48 percent compounded annually over the same period. Therefore, the annual growth rate utilized for the purposes of this analysis would appear to conservatively approximate the anticipated regional growth in traffic volumes in the County of Riverside for EAPC traffic conditions, especially when considered along with the addition of project-related traffic. As such, the growth in traffic volumes assumed in the Project's TIA would tend to overstate as opposed to understate the potential impacts to traffic and circulation. (Urban Crossroads, 2018, p. 54)

7. Cumulative Development Traffic

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the County of Riverside, City of Moreno Valley, City of San Jacinto, and City of Beaumont. Where applicable, known and foreseeable cumulative projects anticipated to contribute measurable traffic (i.e. 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate EAPC forecasts. In other words, the list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). Refer to EIR Subsection 4.0.2, *Scope of Cumulative Effects Analysis*, for a description and map of cumulatively-considerable projects that were considered in the TIA's analysis of EAPC conditions. Any other cumulative projects that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Any additional traffic generated by other projects not on the cumulative projects list is accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections (Urban Crossroads, 2018, p. 56)

8. Near-Term Traffic Forecasts

To provide a comprehensive assessment of potential transportation network deficiencies, a "buildup" analysis was performed in support of this work effort. The "buildup" method includes background traffic and was used to approximate the EAP traffic forecasts and is intended to identify the significant impacts on both the existing and planned near-term circulation system. The "buildup" method was also utilized to approximate the EAPC traffic forecasts and is intended to identify the cumulative impacts on both the existing and planned near-term circulation system. The EAPC traffic forecasts include background traffic, traffic generated by other cumulative development projects within the study area, and the traffic generated by the proposed Project. (Urban Crossroads, 2018, p. 56)

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast the near-term 2019 traffic conditions. An ambient growth factor of 4.04% (2019) accounts for background (area-wide) traffic increases that occur over time, up to the year 2019 from the year 2018 (compounded two percent per year growth over a two-year period). Traffic volumes generated by the Project are then added to assess the EAP and EAPC traffic conditions. The 2019 roadway network is similar to the existing conditions roadway network. (Urban Crossroads, 2018, p. 56)

As noted previously, an analysis of the proposed Project at various development tiers has been assessed for the purposes of the Project's TIA. The near-term traffic analysis includes the following traffic conditions, with the various traffic components: (Urban Crossroads, 2018, p. 59)

- EAP (2019)
  - Existing 2018 counts
  - Ambient growth traffic (2%)
  - Project traffic

- EAPC (2019)
  - Existing 2018 counts
  - Ambient growth traffic (2%)
  - Cumulative Development Project traffic
  - Project traffic

B. Project Impacts to Traffic

1. Existing Plus Project (E+P) Conditions

In an effort to satisfy the CEQA Guideline § 15125(a), an analysis of existing traffic volumes plus traffic generated by the proposed Project (E+P) has been included in the analysis. This subsection discusses the traffic forecasts for E+P conditions and the resulting intersection operations and traffic signal warrant analyses. This analysis scenario has been provided for informational purposes only as Project impacts have been discerned from a comparison of Existing (2018) to EAP (2019) conditions (per the County's traffic study guidelines). (Urban Crossroads, 2018, p. 61)

❑ Roadway Improvements – E+P Conditions

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Figure 4.11-3. (Urban Crossroads, 2018, p. 61)

❑ Existing Plus Project Traffic Volume Forecasts – E+P Conditions

This scenario includes Existing traffic volumes plus Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 61)

❑ Intersection Operations Analysis – E+P Conditions

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented above. The intersection analysis results are summarized in Table 4.11-16, *Intersection Analysis for E+P Conditions*. As shown in Table 4.11-16, there are no additional study area intersections anticipated to operate at an unacceptable LOS during one or more peak hours in addition to the locations previously identified for Existing (2018) traffic conditions. (Urban Crossroads, 2018, p. 61)

Table 4.11-16 Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control[2]	Existing (2018)				E+P			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Gilman Springs Rd. / SR-60 EB Ramps	UC	0.0	0.0	A	A	0.0	0.0	A	A
2	Gilman Springs Rd. / Alessandro Bl.	CSS	11.8	29.0	B	D	12.3	31.8	B	D
3	Jack Rabbit Trail / Gilman Springs Rd.	CSS	18.6	30.2	C	D	19.5	32.9	C	D
4	Bridge St. / Gilman Springs Rd.	CSS	**>100.0**	**65.8**	**F**	**F**	**>100.0**	**83.0**	**F**	**F**
5	Driveway / Gilman Springs Rd.	CSS	**36.7**	**61.4**	**E**	**F**	**60.1**	**61.7**	**F**	**F**
6	SR-79 SB Ramps / Gilman Springs Rd.	TS	7.4	12.3	A	B	7.6	12.4	A	B
7	SR-79 NB Ramps / Gilman Springs Rd.	CSS	**>100.0**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] UC = Uncontrolled; CSS = Cross-street Stop; TS = Traffic Signal

(Urban Crossroads, 2018, Table 5-1)

Consistent with Table 4.11-16, a summary of the peak hour intersection LOS for E+P conditions is shown on Exhibit 5-2 of the Project's TIA (*Technical Appendix J1*). The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of the Project's TIA. (Urban Crossroads, 2018, p. 61)

❑ Traffic Signal Warrants Analysis – E+P Conditions

Traffic signal warrants have been performed on unsignalized intersections for E+P traffic conditions, however, there are no additional study area intersections anticipated to warrant a traffic signal for E+P traffic conditions in addition to those previously warranted under Existing (2018) traffic conditions. Worksheets for E+P traffic conditions signal warrants are provided in Appendix 5.2 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 61)

❑ Off-Ramp Queuing Analysis – E+P Conditions

A queuing analysis was performed for the off-ramps at the SR-79 Freeway and Gilman Springs interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-79 Freeway. Queuing analysis findings are presented in Table 4.11-17, *Peak Hour Freeway Off-Ramp Queuing Summary for E+P Conditions*, for E+P traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. (Urban Crossroads, 2018, p. 65)

Table 4.11-17 Peak Hour Freeway Off-Ramp Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2018)				E+P			
			95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-79 SB Ramps / Gilman Springs Road	SBL/T	1,890	90	204	Yes	Yes	90	204	Yes	Yes
	SBR	235	0	0	Yes	Yes	0	0	Yes	Yes
SR-79 NB Ramps / Gilman Springs Road	NBL/T	1,600	425	325	Yes	Yes	500	350	Yes	Yes
	NBR	435	0	0	Yes	Yes	0	0	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

(Urban Crossroads, 2018, Table 5-2)

As shown on Table 4.11-17, and consistent with Existing traffic conditions, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for E+P traffic conditions. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.3 of the Project's TIA (*Technical Appendix J1*). (Urban Crossroads, 2018, p. 65)

❑ Basic Freeway Segment Analysis – E+P Conditions

E+P peak hour mainline directional volumes are provided on Exhibits 5-3 of the Project's TIA (*Technical Appendix J1*). As shown on Table 4.11-18, *Basic Freeway Segment Analysis for E+P Conditions*, there are no additional freeway segments operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for E+P traffic conditions in addition to those previously identified under Existing conditions. E+P conditions basic freeway segment analysis worksheets are provided in Appendix 5.4 of the Project's TIA. (Urban Crossroads, 2018, p. 65)

❑ Freeway Merge/Diverge Analysis – E+P Conditions

Ramp merge and diverge operations were also evaluated for E+P conditions and the results of this analysis are presented in Table 5-4 of the Project's TIA (*Technical Appendix J1*). As shown on Table 4.11-19, *Freeway Merge/Diverge Analysis for E+P Conditions*, there are no additional freeway merge/diverge ramp junctions operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for E+P traffic conditions in addition to those previously identified under Existing conditions. E+P conditions basic freeway segment analysis worksheets are provided in Appendix 5.5 of the Project's TIA. (Urban Crossroads, 2018, p. 65)

2. EAP 2019 Conditions

This subsection discusses the methods used to develop Existing plus Ambient Growth plus Project (EAP) (2019) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

❑ Roadway Improvements – EAP (2019) Conditions

The lane configurations and traffic controls assumed to be in place for EAP conditions are consistent with those shown previously on Figure 4.11-3. (Urban Crossroads, 2018, p. 73)

Table 4.11-18 Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing				E+P			
				Density[3]		LOS[4]		Density[3]		LOS[4]	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-60 Freeway	Westbound	West of Gilman Springs Road	2	**36.3**	**38.4**	**E**	**E**	**37.2**	**38.6**	**E**	**E**
		East of Gilman Springs Road	2	25.7	31.0	C	D	25.7	31.0	C	D
	Eastbound	West of Gilman Springs Road	2	31.0	--[5]	D	**F**	31.2	--[5]	D	**F**
		East of Gilman Springs Road	2	25.7	31.0	C	D	25.7	31.0	C	D
SR-79 Freeway	Southbound	North of Gilman Springs Road	2	10.6	13.6	A	B	10.7	13.8	A	B
		South of Gilman Springs Road	2	11.7	15.6	B	B	11.7	15.6	B	B
	Northbound	North of Gilman Springs Road	2	8.7	9.5	A	A	8.7	9.5	A	A
		South of Gilman Springs Road	2	9.7	9.6	A	A	9.7	9.6	A	A

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Directional volumes based on current PeMS data.

[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).

[4] LOS = Level of Service

[5] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2018, Table 5-3)

Table 4.11-19 Freeway Merge/Diverge Analysis for E+P Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	Existing				E+P			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
SR-60 Freeway	Westbound	On-Ramp at Gilman Springs Road	2	**40.6**	**E**	**42.8**	**E**	**41.0**	**E**	**43.2**	**E**
		Off-Ramp at Gilman Springs Road	2	27.9	D	**31.8**	**E**	27.9	D	**31.8**	**E**
	Eastbound	Off-Ramp at Gilman Springs Road	2	**32.5**	**E**	**--[3]**	**F**	**32.6**	**E**	**--[3]**	**F**
		On-Ramp at Gilman Springs Road	2	29.4	D	34.8	D	29.5	D	34.9	D
SR-79 Freeway	Southbound	Off-Ramp at Gilman Springs Road	2	12.1	B	15.6	B	12.3	B	15.8	B
		On-Ramp at Gilman Springs Road	2	13.4	B	17.9	B	13.4	B	17.9	B
	Northbound	On-Ramp at Gilman Springs Road	2	9.8	B	10.8	B	9.9	B	10.9	B
		Off-Ramp at Gilman Springs Road	2	11.2	B	11.0	B	11.2	B	11.0	B

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).
[1] Density is measured by passenger cars per mile per lane (pc/mi/ln).
[2] LOS = Level of Service
[3] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2018, Table 5-4)

❑ EAP (2019) Traffic Volume Forecasts – EAP (2019) Conditions

To account for background traffic growth, an ambient growth from Existing conditions of 2% (2 percent per year over two-years) is included for EAP traffic conditions. Cumulative development projects are not included as part of the EAP analysis. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAP traffic conditions are shown on Exhibit 2 of the STA (*Technical Appendix J2*). (Urban Crossroads, 2018, p. 73)

❑ Intersection Operations Analysis – EAP (2019) Conditions

LOS calculations were conducted for the study intersections to evaluate their operations under EAP conditions with roadway and intersection geometrics consistent Existing conditions. As shown in Table 4.11-20, *Intersection Analysis for EAP (2019) Conditions*, there are no additional intersections anticipated to operate at an unacceptable LOS under EAP traffic conditions, in addition to the locations previously identified under Existing traffic conditions. (Urban Crossroads, 2019c, p. 2)

However, the proposed Project would contribute to, but would not directly cause, a deficient LOS at the following intersections that were shown to be operating at a deficient LOS under Existing conditions. Although the Project would not directly cause the deficiencies at the following intersections, Project impacts would be cumulatively considerable and mitigation would be required.

- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS F AM and peak hours
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

Table 4.11-20 Intersection Analysis for EAP (2019) Conditions

#	Intersection	Traffic Control[2]	Existing (2018)				EAP (2018) - From TIA				EAP (2019)			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Gilman Springs Rd. / SR-60 EB Ramps	UC	0.0	0.0	A	A	0.0	0.0	A	A	0.0	0.0	A	A
2	Gilman Springs Rd. / Alessandro Bl.	CSS	11.8	29.0	B	D	12.4	33.8	B	D	12.5	34.2	B	D
3	Jack Rabbit Trail / Gilman Springs Rd.	CSS	18.6	30.2	C	D	19.9	34.3	C	D	20.3	34.3	C	D
4	Bridge St. / Gilman Springs Rd.	CSS	**>100.0**	**65.8**	**F**	**F**	**>100.0**	**90.8**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**
5	Driveway / Gilman Springs Rd.	CSS	**36.7**	**61.4**	**E**	**F**	**64.1**	**67.0**	**F**	**F**	**69.7**	**74.4**	**F**	**F**
6	SR-79 SB Ramps / Gilman Springs Rd.	TS	7.4	12.3	A	B	7.6	12.7	A	B	7.7	12.9	A	B
7	SR-79 NB Ramps / Gilman Springs Rd.	CSS	**>100.0**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] UC = Uncontrolled; CSS = Cross-street Stop; TS = Traffic Signal

(Urban Crossroads, 2019c, Table 1)

The intersection operations analysis worksheets for EAP traffic conditions are included in Attachment A to the STA. (Urban Crossroads, 2019c, p. 2)

❑ Traffic Signal Warrants Analysis – EAP (2019) Conditions

Traffic signal warrants have been performed on unsignalized intersections for EAP traffic conditions and determined that there are no additional study area intersections anticipated to meet peak hour volume-based traffic signal warrants under EAP (2019) conditions (see Attachment 2 of the Project's STA [*Technical Appendix J2*]). (Urban Crossroads, 2019c, p. 2)

Additionally, the Project would contribute traffic to the following study area intersections that were shown to meet signal warrants under Existing conditions. Accordingly, the addition of Project traffic to the following intersections that meet signal warrants would represent cumulatively considerable impacts and mitigation would be required.

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

There are no additional study area intersections anticipated to warrant a traffic signal for EAP (2019) traffic conditions. Worksheets for EAP (2019) traffic conditions signal warrants are provided in Attachment B of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 2)

❑ Off-Ramp Queuing Analysis – EAP (2019) Conditions

A queuing analysis was performed for the off-ramps at the SR-79 Freeway and Gilman Springs interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-79 Freeway. Queuing analysis findings are presented in Table 4.11-21, *Peak Hour Freeway Off-Ramp Queuing Summary for EAP (2019) Conditions*. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. (Urban Crossroads, 2018, p. 77)

Table 4.11-21 Peak Hour Freeway Off-Ramp Queuing Summary for EAP (2019) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	EAP (2018) - From TIA				EAP (2019)			
			95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-79 SB Ramps / Gilman Springs Road	SBL/T	1,890	92	209	Yes	Yes	96	212	Yes	Yes
	SBR	235	0	0	Yes	Yes	0	0	Yes	Yes
SR-79 NB Ramps / Gilman Springs Road	NBL/T	1,600	525	375	Yes	Yes	560	403	Yes	Yes
	NBR	435	0	0	Yes	Yes	0	0	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

(Urban Crossroads, 2018, Table 6-2)

As shown on Table 4.11-21, and consistent with Existing and E+P traffic conditions, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAP (2019) traffic conditions. Accordingly, Project impacts to off-ramp queuing locations would be less than significant under EAP (2019) Conditions. Worksheets for EAP traffic conditions off-ramp queuing analysis are provided in Attachment 2 to the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 2)

❑ Basic Freeway Segment Analysis – EAP (2019) Conditions

EAP (2019) peak hour mainline directional volumes are provided on Exhibit 3 of the Project's STA (*Technical Appendix J2*). As shown on Table 4.11-22, *Basic Freeway Segment Analysis for EAP (2019) Conditions*, there are no additional freeway segments operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAP (2019) traffic conditions in addition to those previously identified under Existing conditions. EAP (2019) conditions basic freeway segment analysis worksheets are provided in Attachment D of the Project's STA. (Urban Crossroads, 2019c, p. 4)

Although Table 4.11-22 shows that the following freeway segments would operate at a deficient LOS under EAP (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these freeway segments, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2). Accordingly, Project impacts to the following segments of SR-60 would be less than significant under EAP (2019) conditions.

- SR-60 Freeway Westbound – West of Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound – West of Gilman Springs Road (#3) – LOS F PM peak hour only

Table 4.11-22 Basic Freeway Segment Analysis for EAP (2019) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing				EAP (2018) - From TIA				EAP (2019)			
				Density[3]		LOS[4]		Density[3]		LOS[4]		Density[3]		LOS[4]	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR-60 Freeway	Westbound	West of Gilman Springs Road	2	**36.3**	**38.4**	**E**	**E**	**38.6**	**40.2**	**E**	**E**	**40.2**	**41.8**	**E**	**E**
		East of Gilman Springs Road	2	25.7	31.0	C	D	26.4	31.9	D	D	27.1	33.0	D	D
	Eastbound	West of Gilman Springs Road	2	31.0	--[5]	D	**F**	32.2	--[5]	D	**F**	33.2	--[5]	D	**F**
		East of Gilman Springs Road	2	25.7	31.0	C	D	26.4	31.9	D	D	27.1	33.0	D	D
SR-79 Freeway	Southbound	North of Gilman Springs Road	2	10.6	13.6	A	B	11.0	14.0	A	B	11.2	14.3	B	B
		South of Gilman Springs Road	2	11.7	15.6	B	B	12.0	15.9	B	B	12.2	16.2	B	B
	Northbound	North of Gilman Springs Road	2	8.7	9.5	A	A	8.9	9.7	A	A	9.1	9.9	A	A
		South of Gilman Springs Road	2	9.7	9.6	A	A	9.9	9.8	A	A	10.1	10.0	A	A

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Directional volumes based on current PeMS data.

[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).

[4] LOS = Level of Service

[5] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2019c, Table 3)

❑ Freeway Merge/Diverge Analysis – EAP (2019) Conditions

Ramp merge and diverge operations were also evaluated for EAP (2019) conditions and the results of this analysis are presented in Table 4.11-23, *Freeway Merge/Diverge Analysis for EAP (2019) Conditions*. Although Table 4.11-23 shows that the following freeway merge/diverge locations would operate at a deficient LOS under EAP (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these locations, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2) Thus, Project impacts to the following merge/diverge locations would be less than significant under EAP (2019) conditions.

- SR-60 Freeway – Westbound On-Ramp at Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway – Westbound Off-Ramp at Gilman Springs Road (#2) – LOS E PM peak hour only
- SR-60 Freeway – Eastbound Off-Ramp at Gilman Springs Road (#3)- LOS E AM peak hour; LOS F PM peak hour
- SR-60 Freeway – Eastbound, On-Ramp at Gilman Springs Road (#4) – LOS E PM peak hour only

Table 4.11-23 Freeway Merge/Diverge Analysis for EAP (2019) Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	Existing				EAP (2018) - From TIA				EAP (2019)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
SR-60 Freeway	Westbound	On-Ramp at Gilman Springs Road	2	**40.6**	E	**42.8**	E	**42.5**	E	**44.8**	E	**44.1**	E	**46.6**	E
		Off-Ramp at Gilman Springs Road	2	27.9	D	**31.8**	E	28.5	D	**32.5**	E	29.1	D	**33.1**	E
	Eastbound	Off-Ramp at Gilman Springs Road	2	**32.5**	E	--[3]	F	**33.3**	E	--[3]	F	**34.0**	E	--[3]	F
		On-Ramp at Gilman Springs Road	2	29.4	D	34.8	D	30.2	D	35.9	D	31.0	D	**36.9**	E
SR-79 Freeway	Southbound	Off-Ramp at Gilman Springs Road	2	12.1	B	15.6	B	12.5	B	16.2	C	12.8	B	16.5	C
		On-Ramp at Gilman Springs Road	2	13.4	B	17.9	B	13.7	B	18.3	C	14.0	B	18.7	C
	Northbound	On-Ramp at Gilman Springs Road	2	9.8	B	10.8	B	10.1	B	11.1	B	10.3	B	11.3	B
		Off-Ramp at Gilman Springs Road	2	11.2	B	11.0	B	11.5	B	11.2	B	11.7	B	11.5	B

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).
[1] Density is measured by passenger cars per mile per lane (pc/mi/ln).
[2] LOS = Level of Service
[3] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2019c, Table 4)

EAP (2019) freeway ramp junction operations analysis worksheets are provided in Attachment E of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2018, p. 77)

3. *EAPC 2019 Conditions*

This subsection discusses the methods used to develop Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2019) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

❑ Roadway Improvements

The lane configurations and traffic controls assumed to be in place for EAPC (2019) conditions are consistent with those shown previously on Figure 4.11-3. (Urban Crossroads, 2018, p. 85)

❑ EAPC (2019) Traffic Volume Forecast

To account for background traffic, other known cumulative development projects in the study area were included in addition to 4.04% of ambient growth for EAPC traffic conditions in conjunction with traffic associated with the proposed Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAPC (2019) traffic conditions are shown on Exhibit 4 of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c)

❑ Intersection Operations Analysis – EAPC 2019 Conditions

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC conditions with roadway and intersection geometrics consistent with Existing conditions. As shown in Table 4.11-24, *Intersection Analysis for EAPC (2019) Conditions*, the following additional study area intersections are anticipated to operate at unacceptable LOS under EAPC (2019) traffic conditions, in addition to the locations previously identified under Existing and EAP (2019) conditions. Because impacts to the following intersections would be the result of cumulative traffic, the addition of Project traffic to the following intersection represents cumulatively-considerable impacts for which mitigation would be required. (Urban Crossroads, 2018, p. 85)

- Gilman Springs Rd. & Alessandro Bl. (#2) – LOS E PM peak hour only
- Jack Rabbit Trail & Gilman Springs Rd. (#3) – LOS E PM peak hour only

Table 4.11-24 Intersection Analysis for EAPC (2019) Conditions

#	Intersection	Traffic Control[2]	EAPC (2018) - From TIA				EAPC (2019)			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Gilman Springs Rd. / SR-60 EB Ramps	UC	0.0	0.0	A	A	0.0	0.0	A	A
2	Gilman Springs Rd. / Alessandro Bl.	CSS	13.1	**37.9**	B	E	13.2	**40.6**	B	E
3	Jack Rabbit Trail / Gilman Springs Rd.	CSS	31.3	**44.2**	D	E	32.3	**46.5**	D	E
4	Bridge St. / Gilman Springs Rd.	CSS	**>100.0**	**>100.0**	F	F	**>100.0**	**>100.0**	F	F
5	Driveway / Gilman Springs Rd.	CSS	**77.6**	**79.3**	F	F	**84.2**	**89.5**	F	F
6	SR-79 SB Ramps / Gilman Springs Rd.	TS	8.0	13.1	A	B	8.1	13.4	A	B
7	SR-79 NB Ramps / Gilman Springs Rd.	CSS	**>100.0**	**>100.0**	F	F	**>100.0**	**>100.0**	F	F

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] UC = Uncontrolled; CSS = Cross-street Stop; TS = Traffic Signal

(Urban Crossroads, 2019c, Table 6)

Consistent with EAP (2019) conditions, the Project would result in cumulatively-considerable impacts to the following intersections under EAPC (2019) conditions, requiring mitigation:

- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS E AM peak hour; LOS F PM peak hour
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for EAPC (2019) traffic conditions are included in Attachment G of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 4)

❑ Driveway Queuing Analysis – EAPC 2019 Conditions

Urban Crossroads conducted an analysis of projected queuing at the Project's driveway at Gilman Springs Road, the results of which are included as *Technical Appendix J3*. The analysis utilizes the software program SimTraffic, which uses the input parameters from Synchro to generate random simulations. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. The random simulations can also be used to determine the average and 95th percentile queues for study area intersections. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many jurisdictions utilize the 95th percentile queues for design purposes. (Urban Crossroads, 2019d, p. 1)

The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths for the left turn lane into the Project site from Gilman Springs Road. The SimTraffic simulations has been recorded 5 times, during the weekday AM and weekday PM peak hours for EAPC traffic conditions, and have been seeded for 30-minutes with 60-minute recording intervals. (Urban Crossroads, 2019d, p. 1)

Based on the simulations for EAPC traffic conditions, the 95th percentile queue during the AM peak hour is 7-feet while the PM peak hour 95th percentile queue is 20-feet for the southbound left turn lane (the analysis worksheet shows eastbound left turn lane for the southbound left turn movement due to roadway orientation assumptions in the analysis software). As such, the existing 160-foot left turn pocket on Gilman Springs Road which serves the Project has sufficient storage to accommodate projected future Project traffic. The existing 160-foot left turn lane provides enough storage to accommodate 2 WB-67 trucks. The queuing worksheets have been provided in Attachment A to the Project's Queuing Assessment (EIR *Technical Appendix J3*). (Urban Crossroads, 2019d, p. 1)

❑ Traffic Signal Warrants Analysis – EAPC (2019) Conditions

There are no additional study area intersections anticipated to meet traffic signal warrants for EAPC (2019) traffic conditions, in addition to those previously warranted under Existing and EAP traffic conditions. As previously discussed, the Project would contribute to, but would not directly cause, the need for signalization at the following intersections; thus, Project impacts to the following intersections would be cumulatively considerable and mitigation would be required. (Urban Crossroads, 2019c, p. 4)

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

Worksheets for EAPC (2019) traffic conditions signal warrants are provided in Attachment H to the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 4)

❑ Off-Ramp Queuing Analysis – EAPC (2019) Conditions

A queuing analysis was performed for the off-ramps at the SR-79 Freeway and Gilman Springs interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the

ramp-to-arterial intersections and may potentially "spill back" onto the SR-79 Freeway. Queuing analysis findings are presented in Table 4.11-25, *Peak Hour Freeway Off-Ramp Queuing Summary for EAPC (2019) Conditions*. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. (Urban Crossroads, 2018, p. 89)

As shown on Table 4.11-25, and consistent with Existing and EAP (2019) traffic conditions, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2019) traffic conditions. Accordingly, Project impacts to off-ramp queuing analysis locations would be less than significant under EAPC (2019) conditions. Worksheets for EAPC traffic conditions off-ramp queuing analysis are provided in Attachment I of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 4)

Table 4.11-25 Peak Hour Freeway Off-Ramp Queuing Summary for EAPC (2019) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	EAPC (2018) - From TIA				EAPC (2019)			
			95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-79 SB Ramps / Gilman Springs Road	SBL/T	1,890	98	213	Yes	Yes	103	218	Yes	Yes
	SBR	235	7	4	Yes	Yes	8	4	Yes	Yes
SR-79 NB Ramps / Gilman Springs Road	NBL/T	1,600	625	450	Yes	Yes	670	460	Yes	Yes
	NBR	435	0	25	Yes	Yes	0	3	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

(Urban Crossroads, 2019c, Table 7)

❑ Basic Freeway Segment Analysis – EAPC (2019) Conditions

EAPC (2019) peak hour mainline directional volumes are provided on Exhibits 7-3 of the Project's TIA (*Technical Appendix J1*). As shown on Table 4.11-26, *Basic Freeway Segment Analysis for EAPC (2019) Conditions*, there are no additional freeway segments operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAPC (2019) traffic conditions in addition to those previously identified under Existing conditions. EAPC (2019) conditions basic freeway segment analysis worksheets are provided in Appendix 7.4 of the Project's TIA. (Urban Crossroads, 2019c, p. 4)

Although Table 4.11-26 shows that the following freeway segments would operate at a deficient LOS under EAPC (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these freeway segments, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2). Accordingly, Project impacts to the following segments of SR-60 would be less than significant under EAPC (2019) conditions.

- SR-60 Freeway Westbound – West of Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound – West of Gilman Springs Road (#3) – LOS F PM peak hour only

Table 4.11-26 Basic Freeway Segment Analysis for EAPC (2019) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing				EAPC (2018) - From TIA				EAPC (2019)			
				Density[3]		LOS[4]		Density[3]		LOS[4]		Density[3]		LOS[4]	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR-60 Freeway	Westbound	West of Gilman Springs Road	2	**36.3**	**38.4**	**E**	**E**	**38.7**	**41.3**	**E**	**E**	**40.2**	**43.1**	**E**	**E**
		East of Gilman Springs Road	2	25.7	31.0	C	D	26.5	32.0	D	D	27.2	33.0	D	D
	Eastbound	West of Gilman Springs Road	2	31.0	--[5]	D	**F**	32.4	--[5]	D	**F**	33.4	--[5]	D	**F**
		East of Gilman Springs Road	2	25.7	31.0	C	D	26.4	32.0	D	D	27.2	33.1	D	D
SR-79 Freeway	Southbound	North of Gilman Springs Road	2	10.6	13.6	A	B	11.0	14.1	A	B	11.2	14.3	B	B
		South of Gilman Springs Road	2	11.7	15.6	B	B	12.0	15.9	B	B	12.2	16.2	B	B
	Northbound	North of Gilman Springs Road	2	8.7	9.5	A	A	8.9	9.9	A	A	9.1	10.1	A	A
		South of Gilman Springs Road	2	9.7	9.6	A	A	10.0	9.8	A	A	10.2	10.0	A	A

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).
[1] Number of lanes are in the specified direction and is based on existing conditions.
[2] Directional volumes based on current PeMS data.
[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).
[4] LOS = Level of Service
[5] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2019c, Table 8)

❑ Freeway Merge/Diverge Analysis – EAPC (2019) Conditions

Ramp merge and diverge operations were also evaluated for EAPC (2019) conditions and the results of this analysis are presented in Table 4.11-27, *Freeway Merge/Diverge Analysis for EAPC (2019) Conditions*. As shown on Table 4.11-27, there are no additional freeway merge/diverge ramp junctions operating at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAPC (2019) traffic conditions in addition to those previously identified under Existing conditions. EAPC conditions basic freeway segment analysis worksheets are provided in Attachment K of the Project's STA (*Technical Appendix J2*). (Urban Crossroads, 2019c, p. 4)

Although Table 4.11-27 shows that the following freeway merge/diverge locations would operate at a deficient LOS under EAPC (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these locations, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2) Thus, Project impacts to the following merge/diverge locations would be less than significant under EAPC (2019) conditions.

- SR-60 Freeway – On-Ramp at Gilman Springs Road (#1) – LOS E AM and PM peak hours

- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#2) – LOS E PM peak hour only
- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#3)- LOS E AM peak hour; LOS F PM peak hour
- SR-60 Freeway Eastbound, On-Ramp at Gilman Springs Road (#4) – LOS E PM peak hour only

Table 4.11-27 Freeway Merge/Diverge Analysis for EAPC (2019) Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	Existing				EAPC (2018) - From TIA				EAPC (2019)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
SR-60 Freeway	Westbound	On-Ramp at Gilman Springs Road	2	**40.6**	**E**	**42.8**	**E**	**42.5**	**E**	**45.2**	**E**	**44.1**	**E**	**47.1**	**E**
		Off-Ramp at Gilman Springs Road	2	27.9	D	**31.8**	**E**	28.6	D	**32.5**	**E**	2.1	D	**33.1**	**E**
	Eastbound	Off-Ramp at Gilman Springs Road	2	**32.5**	**E**	--[3]	**F**	**33.4**	**E**	--[3]	**F**	**34.1**	**E**	--[3]	**F**
		On-Ramp at Gilman Springs Road	2	29.4	D	34.8	D	30.3	D	36.0	D	31.0	D	37.1	D
SR-79 Freeway	Southbound	Off-Ramp at Gilman Springs Road	2	12.1	B	15.6	B	12.6	B	16.2	C	12.9	B	16.5	C
		On-Ramp at Gilman Springs Road	2	13.4	B	17.9	B	13.7	B	18.3	C	14.0	B	18.7	C
	Northbound	On-Ramp at Gilman Springs Road	2	9.8	B	10.8	B	10.2	B	11.2	B	10.4	B	11.4	B
		Off-Ramp at Gilman Springs Road	2	11.2	B	11.0	B	11.5	B	11.2	B	11.8	B	11.5	B

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).
[1] Density is measured by passenger cars per mile per lane (pc/mi/ln).
[2] LOS = Level of Service
[3] HCS7 does not report density for freeway facilities operating at LOS F.

(Urban Crossroads, 2019c, Table 9)

Threshold b: ***Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?***

The Riverside County Transportation Commission (RCTC) adopted its current Congestion Management Program (CMP) in December 2011. There are two Congestion Management Program (CMP) facilities in the Project's study area: SR-60 and SR-79. However, the Project would contribute fewer than 25 peak hour trips to these facilities, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities. (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2; RCTC, 2011, Exhibit 2-1) Thus, the Project has no potential to result in direct or cumulatively-considerable impacts to CMP facilities within the Project's study area. Accordingly, the Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, and impacts would be less than significant.

Threshold c: ***Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?***

The Project does not propose any improvements to roadways or intersections; thus, the Project would not increase hazards due to a design feature. The Project site occurs in a rural area with agricultural uses occurring to the southwest of the Mine. Traffic generated by the Project primarily would consist of haul truck trips, which would not conflict with existing traffic along Gilman Springs Road, including traffic associated with existing agricultural uses. Accordingly, the Project would not substantially increase hazards due to a design feature or incompatible uses, and impacts would be less than significant.

Threshold d: ***Would the Project cause an effect upon, or a need for new or altered maintenance of roads?***

The Project consists of a proposal to expand mining operations at an existing mine site. The Project does not propose to construct or alter any existing roadways or intersections. While new roads may be constructed on site as part of on-going mining operations, such on-site roadways would be privately maintained and thus would not result in or require maintenance of new roadways by the County. Although the Project would increase the number of truck trips to and from the site and would extend the life of mining operations at the site, any incremental increase in the need to maintain public roadway facilities resulting from the Project's increase in traffic would be offset by tax revenue generated by the expanded mining activities. There are no components of the proposed Project that would result in or require a substantial increase in expenditures by Riverside County for public road maintenance such that environmental impacts would result. As such, Project impacts would be less than significant.

Threshold e: ***Would the Project cause an effect upon circulation during the project's construction?***

The Project proposes to expand areas approved for mining on site, the Project does not propose any roadway or intersection improvements, and as a proposed expansion to an existing mine operation the Project would not involve a construction phase. As such, the Project would not cause an effect upon circulation during the Project's construction, and no impact would occur.

Threshold f: ***Would the Project result in inadequate emergency access or access to nearby uses?***

The Project consists of a proposal to expand areas subject to mining activities within an existing active mine site; thus, the Project would have no impact on emergency access to nearby uses. Within the Project site, paved and unpaved roadways would be maintained to provide access, including emergency access, to all active mining areas within the site. As such, the Project would not result in inadequate emergency access or access to nearby uses, and impacts would be less than significant.

Threshold i: ***Would the Project include the construction or expansion of a bike system or bike lanes?***

According to Figure 8 (Trails and Bikeway System) of the San Jacinto Valley Area Plan (SJVAP) of the County's' General Plan, there are no bike or pedestrian facilities planned along Gilman Springs Road. An "Open Space Trail" is planned to traverse the northern portions of the 1,037.5-acre Mine, but is planned well to the north of areas subject to mining under existing conditions and the Project's proposed EDA; thus, the

Project would not conflict with the County's planned "Open Space Trail" through the Project site. Additionally, the Reche Canyon/Badlands Area Plan (RCBAP) of the County's General Plan designates Gilman Springs Road to the west of the Project site for a "Regional Trail;" however, the Project would not conflict with the installation of this trail, which does not occur along the Project's frontage with Gilman Springs Road. (Riverside County, 2019a, SJVAP Figure 8 and RCBAP Figure 8) The proposed Project does not propose the construction of expansion of a bike system or bike lanes. Therefore, the Project would not include the construction or expansion of a bike system or bike lanes, and no impact would occur.

4.11.8 CUMULATIVE IMPACT ANALYSIS

For purposes of evaluating the Project's cumulatively-considerable impacts to traffic, the analysis relies on the list approach, which includes present, and reasonably foreseeable projects known to the Lead Agency (Riverside County), the City of Moreno Valley, the City of San Jacinto, and the City of Beaumont at the time the Project's Notice of Preparation (NOP) was distributed for public review on May 16, 2018. This approach was determined to be appropriate by Riverside County because the County determined that the comprehensive list of cumulative projects provides a sufficient amount of information to enable an analysis of near-term cumulative effects on transportation/traffic. Refer to EIR Table 4.0-1 for a list of cumulative projects considered in the analysis. Additionally, an ambient growth factor of 2% has been applied to Existing traffic counts to account for ambient growth that would occur between the date the Project's NOP was circulated for public review (May 16, 2018) and when operations under the Project would commence in 2019.

A. Threshold a.

As indicated under the analysis of Threshold a. in Subsection 4.11.7, under EAP (2019) conditions, the Project would result in cumulatively-considerable impacts to the following intersections:

- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS F AM and peak hours
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

As also indicated in the analysis of Threshold a., the Project would result in cumulatively-considerable impacts to the following intersections due to signal warrants under EAP (2020) conditions:

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

The analysis of Threshold a. shows that the Project would not result in any off-ramp queuing analysis impacts under EAP (2019) conditions.

Although Table 4.11-22 shows that the following freeway segments would operate at a deficient LOS under EAP (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these freeway segments, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans'

facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2). Accordingly, Project impacts to the following segments of SR-60 would be less than significant under EAP (2019) conditions.

- SR-60 Freeway Westbound – West of Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound – West of Gilman Springs Road (#3) – LOS F PM peak hour only

Although Table 4.11-23 shows that the following freeway merge/diverge locations would operate at a deficient LOS under EAP (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these locations, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2) Thus, Project impacts to the following merge/diverge locations would be less than significant under EAP (2019) conditions.

- SR-60 Freeway – Westbound On-Ramp at Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway – Westbound Off-Ramp at Gilman Springs Road (#2) – LOS E PM peak hour only
- SR-60 Freeway – Eastbound Off-Ramp at Gilman Springs Road (#3)- LOS E AM peak hour; LOS F PM peak hour
- SR-60 Freeway – Eastbound, On-Ramp at Gilman Springs Road (#4) – LOS E PM peak hour only

As indicated under the analysis of Threshold a., under EAPC (2019) conditions the Project would result in cumulatively-considerable impacts to the following intersections:

- Gilman Springs Rd. & Alessandro Bl. (#2) – LOS E PM peak hour only
- Jack Rabbit Trail & Gilman Springs Rd. (#3) – LOS E PM peak hour only
- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS E AM peak hour; LOS F PM peak hour
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

As also indicated under the analysis of Threshold a., the following intersections warrant a traffic signal under EAPC (2019) conditions; therefore, Project impacts to the following intersections would be cumulatively considerable.

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

The analysis under Threshold a. also demonstrates that the Project would not result in any direct or cumulatively-considerable impacts due to queuing issues at off-ramps at the SR-79 Freeway and Gilman Springs interchange.

Although Table 4.11-26 shows that the following freeway segments would operate at a deficient LOS under EAPC (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these freeway segments, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans'

facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2). Accordingly, Project impacts to the following segments of SR-60 would be less-than-cumulatively considerable.

- SR-60 Freeway Westbound – West of Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound – West of Gilman Springs Road (#3) – LOS F PM peak hour only

Additionally, although Table 4.11-27 shows that the following freeway merge/diverge locations would operate at a deficient LOS under EAPC (2019) conditions, the Project would contribute fewer than 25 peak hour trips to these locations, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2) Thus, Project impacts to the following merge/diverge locations would be less-than-cumulatively considerable.

- SR-60 Freeway – On-Ramp at Gilman Springs Road (#1) – LOS E AM and PM peak hours
- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#2) – LOS E PM peak hour only
- SR-60 Freeway – Off-Ramp at Gilman Springs Road (#3)- LOS E AM peak hour; LOS F PM peak hour

B. *Threshold b.*

There are two Congestion Management Program (CMP) facilities in the Project's study area: SR-60 and SR-79. However, the Project would contribute fewer than 25 peak hour trips to these facilities, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities. (Urban Crossroads, 2018, Exhibit 4-3; Caltrans, 2002, p. 2; RCTC, 2011, Exhibit 2-1) Thus, the Project has no potential to result in cumulatively-considerable impacts to CMP facilities within the Project's study area. Accordingly, the Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, and impacts would be less-than-cumulatively considerable.

C. *Threshold c.*

The Project does not propose any improvements to roadways or intersections. Traffic signals would improve intersections operations, and thus the Project would not increase hazards due to a design feature. The Project site occurs in a rural area with agricultural uses occurring to the southwest of the Mine. Traffic generated by the Project primarily would consist of haul truck trips, which would not conflict with existing traffic along Gilman Springs Road, including traffic associated with existing agricultural uses. Accordingly, the Project would not substantially increase hazards due to a design feature or incompatible uses, and impacts would be less-than-cumulatively considerable.

D. *Threshold d.*

The Project does not propose to construct or alter any existing roadways or intersections. While new roads may be constructed on site as part of on-going mining operations, such on-site roadways would be privately maintained and thus would not result in or require maintenance of new roadways by the County. Although the

Project would increase the number of truck trips to and from the site and would extend the life of mining operations at the site, any incremental increase in the need to maintain public roadway facilities resulting from Project-related traffic would be offset by tax revenue generated by the expanded mining activities. There are no components of the proposed Project that would result in or require a substantial increase in expenditures by Riverside County for public road maintenance such that environmental impacts would result on either a direct or cumulative basis. As such, Project impacts would be less-than-cumulatively considerable.

E. Threshold e.

The Project proposes to expand areas approved for mining on site, and the Project does not propose any roadway or intersection improvements and the Project would not involve a construction phase. As such, the Project would not cause an effect upon circulation during the Project's construction, and cumulatively-considerable impacts would not occur.

F. Threshold f.

The Project consists of a proposal to expand areas subject to mining activities within an existing active mine site; thus, the Project would have no impact on emergency access to nearby uses. Within the Project site, paved and unpaved roadways would be maintained to provide access, including emergency access, to all active mining areas within the site. As such, the Project would not contribute to inadequate emergency access or access to nearby uses, and impacts would be less-than-cumulatively considerable.

G. Threshold g.

As indicated under the analysis of Threshold g. in Subsection 4.11.7, the only planned trail or bikeway in the Project area is an "Open Space Trail," which is planned in the northern portions of the 1,021.4-acre Mine, but well to the north of existing and proposed mining activities. The Project would not interfere with the County's ability to establish an "Open Space Trail." There are no other adopted policies, plans, or programs regarding bike systems or bike lanes applicable to the Project area. No expansion or construction of bike systems or bike lanes is proposed as part of the Project, and impacts would be less-than-cumulatively considerable.

4.11.9 Significance of Impacts Before Mitigation

Threshold a: Significant Cumulatively-Considerable Impact. The Project would result in the following cumulatively-considerable impacts under EAP (2019) and EAPC (2019) conditions, as summarized in Table 4.11-28, *Summary of Project Intersection Impacts by Study Scenario*, and Table 4.11-29, *Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario*. In addition to the impact summaries provided below, the Project's Queuing Assessment (*Technical Appendix J3*) demonstrates that Project impacts due to queuing at the Project's driveway at Gilman Springs Road would be less than significant.

❑ EAP (2019) Conditions

Cumulatively-Considerable Impacts to Intersections – EAP (2019) Conditions:

- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS F AM and peak hours

- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

Table 4.11-28 Summary of Project Intersection Impacts by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	--	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	C*
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	C*	C*
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.

* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Table 4.11-29 Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	C*	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	--
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	--	--
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.

* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Cumulatively-Considerable Impacts due to Traffic Signal Warrants – EAP (2019) Conditions

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

❑ EAPC (2019) Conditions

Cumulatively-Considerable Impacts to Intersections – EAPC (2019) Conditions:

- Gilman Springs Rd. & Alessandro Bl. (#2) – LOS E PM peak hour only
- Jack Rabbit Trail & Gilman Springs Rd. (#3) – LOS E PM peak hour only
- Bridge St. & Gilman Springs Rd. (#4) – LOS F AM and PM peak hours
- Gilman Springs Rd. & Driveway (#5) – LOS E AM peak hour; LOS F PM peak hour
- SR-79 NB Ramps & Gilman Springs Rd. (#7) – LOS F AM and PM peak hours

Cumulatively-Considerable Impacts due to Traffic Signal Warrants – EAPC (2019) Conditions:

- Gilman Springs Rd. & Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

Threshold b: Less-than-Significant Impact. The Project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways, and impacts would be less than significant.

Threshold c: Less-than-Significant Impact. The Project would not substantially increase hazards due to a design feature or incompatible uses, and impacts would be less than significant.

Threshold d: Less-than-Significant Impact. There are no components of the proposed Project that would result in or require a substantial increase in expenditures by Riverside County for public road maintenance such that environmental impacts would result. As such, Project impacts would be less than significant.

Threshold e: No Impact. The Project proposes to expand areas approved for mining on site, and the Project does not propose any roadway or intersection improvements and the Project would not involve a construction phase. As such, the Project would not cause an effect upon circulation during the Project's construction, and no impact would occur.

Threshold f: Less-than-Significant Impact. The Project would not result in inadequate emergency access or access to nearby uses, and impacts would be less than significant.

Threshold g: No Impact. The Project does not propose nor require the construction or expansion of a bike system or bike lanes, and no impact would occur.

4.11.10 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within Riverside County. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- Prior to commencement of mining activities as authorized under Amendment No. 2 to Surface Mining Permit No. 159 (SMP 159R2), the Project Applicant shall pay appropriate Development Impact Fee Program (DIF) fees at the rates then in effect in accordance with Riverside County Ordinance No. 659.

- Prior to commencement of mining activities as authorized under Amendment No. 2 to Surface Mining Permit No. 159 (SMP 159R2), the Project Applicant shall pay appropriate Western Riverside County

Transportation Uniform Mitigation Fee Program Ordinance (TUMF) fees at the rates then in effect in accordance with Riverside County Ordinance No. 824.

Mitigation

MM 4.11-1 Prior to commencement of mining activities as authorized under SMP 159R2, the Project Applicant shall make a fair-share monetary contribution to the County of Riverside, to be held in trust, for the installation of a traffic signal at the intersection of Jack Rabbit Trail. & Gilman Springs Rd. (#3). The Project's fair share of the required improvement is 35.5%.

MM 4.11-2 Prior to commencement of mining activities as authorized under SMP 159R2, the Project Applicant shall make a fair-share monetary contribution to the County of Riverside, to be held in trust, for the installation of a traffic signal at the intersection of the Project's Driveway & Gilman Springs Rd. (#5). The Project's fair share of the required improvement is 54.7%.

4.11.11 Significance of Impacts After Mitigation

Threshold a.: Cumulatively-Considerable and Unavoidable Impact. Provided below is a summary of the significance of Project impacts following payment of DIF and TUMF fees, and payment of fair-share fees pursuant to Mitigation Measures MM 4.11-1 and MM 4.11-2.

❑ EAP (2019) Conditions Following Mitigation

Intersections – EAP (2019) Conditions with Improvements

As shown in Table 4.11-30, *Intersection Analysis for EAP (2019) Conditions with Improvements*, with improvements planned by TUMF (i.e., installation of a traffic signal), the intersection of Bridge St. & Gilman Springs Rd. (#4) would operate at an acceptable LOS B during both peak hours. However, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Bridge St. & Gilman Springs Rd. (#4) would remain significant and unavoidable on a cumulative basis under EAP (2019) conditions.

As shown in Table 4.11-30, with installation of a traffic signal the intersection of Gilman Springs Rd. & Driveway (#5) would operate at an acceptable LOS B during both peak hours. Although the Project is required to contribute a fair share towards the cost of installing the intersection pursuant to Mitigation Measure MM 4.11-2, there is currently no fee program in place for the required improvement. Thus, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Gilman Springs Rd. & Driveway (#5) would remain significant and unavoidable on a cumulative basis under EAP (2019) conditions.

As shown in Table 4.11-30, with improvements planned by TUMF (i.e., installation of a traffic signal), the intersection of SR-79 NB Ramps & Gilman Springs Rd. (#7) would operate at an acceptable LOS B during both peak hours. However, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of SR-79 NB

Ramps & Gilman Springs Rd. (#7) would remain significant and unavoidable on a cumulative basis under EAP (2019) conditions.

Table 4.11-30 Intersection Analysis for EAP (2019) Conditions with Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
4	Bridge St. / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	0	0	0	0	0	1	1	1	1	0	**>100.0**	**>100.0**	**F**	**F**
	- With Improvements	**TS**	0	1	0	0	0	0	0	1	1	1	1	0	12.1	15.0	B	B
5	Driveway / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	1	1	0	1	1	1	**69.7**	**74.4**	**F**	**F**
	- With Improvements	**TS**	0	1	0	0	1	0	1	1	0	1	1	1	13.2	11.2	B	B
7	SR-79 NB Ramps / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	1	0	0	0	1	2	0	0	2	0	**>100.0**	**>100.0**	**F**	**F**
	- With Improvements	**TS**	0	1	1	0	0	0	1	2	0	0	2	0	18.0	11.0	B	B

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvements

(Urban Crossroads, 2019c, Table 5)

Traffic Signal Warrants – EAP (2019) Conditions with Improvements

The Project would be required to contribute TUMF fees, a portion of which would be used for the installation of traffic signals at the following locations; however, because it cannot be assured that the traffic signals would be operational at the time mining activities commence pursuant to SMP 159R2, Project impacts due to signal warrants at the following locations would be significant and unavoidable on a cumulative basis under EAP (2019) conditions:

- Gilman Springs Rd. and Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

❑ EAPC (2019) Conditions Following Mitigation

Intersections – EAPC (2019) Conditions with Improvements

As shown in Table 4.11-31, *Intersection Analysis for EAPC (2019) Conditions*, with improvements planned by TUMF (i.e., installation of a traffic signal) at the intersection of Gilman Springs Rd. and Alessandro Bl. (#2), the LOS at this intersection would improve from LOS E in the PM peak hour to an acceptable LOS C in the PM peak hour under EAPC (2019) conditions. However, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Gilman Springs Rd. and Alessandro Bl. (#2) would remain significant and unavoidable on a cumulative basis under EAPC (2019) conditions.

Table 4.11-31 Intersection Analysis for EAPC (2019) Conditions

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
2	Gilman Springs Rd. / Alessandro Bl.																	
	- Without Improvements	CSS	1	1	0	0	1	0	0	1	0	0	0	0	13.2	**40.6**	B	E
	- With Improvements	**TS**	1	1	0	0	1	0	0	1	0	0	0	0	13.3	27.8	B	C
3	Jack Rabbit Trail / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	0	0	0	1	0	1	1	0	0	1	0	32.3	**46.5**	D	E
	- With Improvements	**TS**	0	0	0	0	1	0	1	1	0	0	1	0	11.7	10.5	B	C
4	Bridge St. / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	0	0	0	0	0	1	1	1	1	0	**>100.0**	**>100.0**	F	F
	- With Improvements	**TS**	0	1	0	0	0	0	0	1	1	1	1	0	13.4	17.0	B	B
5	Driveway / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	1	1	0	1	1	1	**84.2**	**89.5**	F	F
	- With Improvements	**TS**	0	1	0	0	1	0	1	1	0	1	1	1	13.8	11.7	B	B
7	SR-79 NB Ramps / Gilman Springs Rd.																	
	- Without Improvements	CSS	0	1	1	0	0	0	1	2	0	0	2	0	**>100.0**	**>100.0**	F	F
	- With Improvements	**TS**	0	1	1	0	0	0	1	2	0	0	2	0	19.1	11.6	B	B

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvements

(Urban Crossroads, 2019c, Table 10)

As shown in Table 4.11-31, with installation of a traffic signal the intersection of Jack Rabbit Trail & Gilman Springs Rd. (#3) would operate at an acceptable LOS B in the AM peak hour and an acceptable LOS C during the PM peak hour. Although the Project is required to contribute a fair share towards the cost of installing a traffic signal at this intersection pursuant to Mitigation Measure MM 4.11-1, there is currently no fee program in place for the required improvement. Thus, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Jack Rabbit Trail & Gilman Springs Rd. (#3) would remain significant and unavoidable on a cumulative basis under EAPC (2019) conditions.

As shown in Table 4.11-31, with improvements planned by TUMF (i.e., installation of a traffic signal), the intersection of Bridge St. & Gilman Springs Rd. (#4) would operate at an acceptable LOS B during both peak hours. However, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Bridge St. & Gilman Springs Rd. (#4) would remain significant and unavoidable on a cumulative basis under EAPC (2019) conditions.

As shown in Table 4.11-31, with installation of a traffic signal the intersection of Gilman Springs Rd. & Driveway (#5) would operate at an acceptable LOS B during both peak hours. Although the Project is required to contribute a fair share towards the cost of installing the intersection pursuant to Mitigation Measure MM

4.11-2, there is currently no fee program in place for the required improvement. Thus, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of Gilman Springs Rd. & Driveway (#5) would remain significant and unavoidable on a cumulative basis under EAPC (2019) conditions.

As shown in Table 4.11-31, with improvements planned by TUMF (i.e., installation of a traffic signal), the intersection of SR-79 NB Ramps & Gilman Springs Rd. (#7) would operate at an acceptable LOS B during both peak hours. However, it cannot be assured that the traffic signal would be operational by the time mining activities under SMP 159R2 would commence. Accordingly, Project impacts to the intersection of SR-79 NB Ramps & Gilman Springs Rd. (#7) would remain significant and unavoidable on a cumulative basis under EAPC (2019) conditions.

Traffic Signal Warrants – EAPC (2019) Conditions with Improvements

The Project would be required to contribute TUMF fees, a portion of which would be used for the installation of traffic signals at the following locations; however, because it cannot be assured that the traffic signals would be operational at the time mining activities commence pursuant to SMP 159R2, Project impacts due to signal warrants at the following locations would be significant and unavoidable on a cumulative basis under EAPC (2019) conditions:

- Gilman Springs Rd. and Alessandro Bl. (#2)
- Bridge St. & Gilman Springs Rd. (#4)
- SR-79 NB Ramps & Gilman Springs Rd. (#7)

4.12 TRIBAL CULTURAL RESOURCES

The analysis in this Subsection is based on a site-specific cultural resources assessment report titled "A Phase I Cultural Resources Assessment for the Surface Mining Permit No. 159, Amendment No. 2 Project" (dated April 23, 2019). The report was prepared by Brian F. Smith and Associates, Inc. (BFSA) and is included as *Technical Appendix F* to this EIR. Confidential information has been redacted from *Technical Appendix F* for purposes of public review. In addition, much of the written and oral communication between Native American tribes, the County of Riverside, and BSFA is considered confidential in respect to places that have traditional tribal cultural significance (Gov. Code § 65352.4), and although relied upon in part to inform the preparation of this EIR Subsection, those communications are treated as confidential and are not available for public review. Under existing law, environmental documents must not include information about the location of archeological sites or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records Act (Cal. Code Regs. § 15120(d)).

4.12.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As shown on Figure 3-4, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Accordingly, for purposes of analysis herein, the physical limits of new disturbance attributable to Project-related mining activities would be limited to the proposed 54.5-acre EDA.

4.12.2 EXISTING CONDITIONS

A. Prehistoric Period Setting

The Project site is located in western Riverside County, California. The Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Shoshonean groups are the three general cultural periods represented in Riverside County, as summarized briefly below. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was represented by the Cahuilla, Gabrielino, and Luiseño Indians. Refer to Section 2.3 of the Project's cultural resources assessment (*Technical Appendix F*) for a more detailed discussion about the prehistoric cultural periods in Riverside County. (BFSA, 2018a, p. 2.0-5)

- Late Pleistocene/Paleo Indian Period (11,500 to circa 9,000 Years Before Present [YBP]). The Paleo Indian Period is associated with terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands. However, by the

terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, and greater coastal erosion; cause large lakes to recede and evaporate; caused the extinction of Pleistocene megafauna; and resulted in major vegetation changes. The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location. Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals. (BFSA, 2018a, p. 2.0-6)

- Early and Middle Holocene/Archaic Period (circa 9,000 to 1,300 YBP). Between 9,000 and 8,000 YBP, a widespread complex was established in the southern California region, primarily along the coast. This complex is locally known as the La Jolla Complex, which is regionally associated with the Encinitas Tradition and shares cultural components with the widespread Milling Stone Horizon. The coastal expression of this complex appeared in the southern California coastal areas and focused upon coastal resources and the development of deeply stratified shell middens that were primarily located around bays and lagoons. The older sites associated with this expression are located at Topanga Canyon, Newport Bay, Agua Hedionda Lagoon, and some of the Channel Islands. Radiocarbon dates from sites attributed to this complex span a period of over 7,000 years in this region, beginning over 9,000 YBP. (BFSA, 2018a, p. 2.0-6)

  The Encinitas Tradition is best recognized for its pattern of large coastal sites characterized by shell middens, grinding tools that are closely associated with the marine resources of the area, cobble-based tools, and flexed human burials. While ground stone tools and scrapers are the most recognized tool types, coastal Encinitas Tradition sites also contain numerous utilized flakes, which may have been used to pry open shellfish. Artifact assemblages at coastal sites indicate a subsistence pattern focused upon shellfish collection and nearshore fishing. This suggests an incipient maritime adaptation with regional similarities to more northern sites of the same period. Other artifacts associated with Encinitas Tradition sites include stone bowls, doughnut stones, discoidals, stone balls, and stone, bone, and shell beads. (BFSA, 2018a, pp. 2.0-6, 2.0-7)

  The coastal lagoons in southern California supported large Milling Stone Horizon populations circa 6,000 YBP, as is shown by numerous radiocarbon dates from the many sites adjacent to the lagoons. The ensuing millennia were not stable environmentally, and by 3,000 YBP, many of the coastal sites in central San Diego County had been abandoned. The abandonment of the area is usually attributed to the sedimentation of coastal lagoons and the resulting deterioration of fish and mollusk habitat, a situation well-documented at Batiquitos Lagoon. Over a 2,000-year period at Batiquitos Lagoon, dominant mollusk species occurring in archaeological middens shift from deep-water mollusks (Argopecten sp.) to species tolerant of tidal flat conditions (Chione sp.), indicating water depth and temperature changes. This situation likely occurred for other small drainages (Buena Vista, Agua Hedionda, San Marcos, and Escondido creeks) along the central San Diego coast where low flow rates did not produce sufficient discharge to flush the lagoons they fed (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo lagoons). Drainages along the northern and southern San Diego coastline were larger and flushed the coastal hydrological features they fed, keeping them open to the ocean and

allowing for continued human exploitation. Peñasquitos Lagoon exhibits dates as late as 2,355 YBP and San Diego Bay showed continuous occupation until the close of the Milling Stone Horizon. Additionally, data from several drainages in Camp Pendleton indicate a continued occupation of shell midden sites until the close of the period, indicating that coastal sites were not entirely abandoned during this time. (BFSA, 2018a, p. 2.0-7)

By 5,000 YBP, an inland expression of the La Jolla Complex is evident in the archaeological record, exhibiting influences from the Campbell Tradition from the north. These inland Milling Stone Horizon sites have been termed "Pauma Complex." By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex, it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. Evidence from the 4S Project in inland San Diego County suggests that these inland sites may represent seasonal components within an annual subsistence round by La Jolla Complex populations. Including both coastal and inland sites of this time period in discussions of the Encinitas Tradition, therefore, provides a more complete appraisal of the settlement and subsistence system exhibited by this cultural complex. (BFSA, 2018a, p. 2.0-7)

- Late Holocene/Late Prehistoric/San Luis Rey Period (1300 YBP to 1790). Approximately 1,350 YBP, a Shoshonean-speaking group from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far-reaching as the Colorado River Basin and cremation of the dead. (BFSA, 2018a, p. 2.0-8)

- Late Holocene/Late Protohistoric Period (1790 to Present). Ethnohistoric and ethnographic evidence indicates that three Shoshonean-speaking groups occupied portions of Riverside County including the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and protohistoric times are difficult to place, but the Project is located on the border of ethnographic Luiseño and Cahuilla territory. Further ethnographic information for the Luiseño, Cahuilla, and Gabrielino groups is presented in Section 2.3.4 of the Project's Cultural Resources Assessment (*Technical Appendix F*). (BFSA, 2018a, p. 2.0-8)

B. Documented Prehistoric & Historic Resources

BFSA conducted an institutional records search of the Project and one-mile radius of the surrounding area to identify the presence or absence of cultural resources. The records search indicated 13 cultural resources located within a one-mile radius of the Project; however, none of the indicated records were found inside of the Project's proposed EDA. The resources identified consist mainly of food processing/bedrock milling sites associated with the seasonal drainages within Laborde Canyon, located southeast of the Project, or artifact scatters and isolates located in the Eden Hot Springs, northwest of the proposed EDA. (BFSA, 2018a, p. 4.0-1)

The Phase I survey resulted in the identification of thirteen (13) prehistoric and historic cultural resources within one-mile of the Project's proposed EDA: RIV-1409, RIV-1410, RIV-1411, RIV-1412, RIV-1413, RIV-1743, RIV-1744, RIV-2817, RIV-2818, RIV-2819, P-33-011394, P-33-012637, and P-33012638. Sites RIV-1409, RIV-1410, RIV-1411, RIV-1412, RIV-1413 were identified as prehistoric bedrock milling features. Site RIV-1743 was identified as prehistoric bedrock milling features with associated midden approximately. Site RIV-1744 was identified as "Riverside Burial"/"Riverside Skeleton" site. Sites RIV-2817, RIV-2818, and RIV-2819 were identified as prehistoric artifact scatter sites. Sites P-33011394, P-33-012637, and P-33-012638 were identified as prehistoric isolate(s) sites. (BFSA, 2018a, pp. 4.0-1 and 4.0-2)

The records search also indicated there had been 26 previous cultural resources studies conducted within one-mile of the Project site. Additionally, two of the 26 previous studies, when combined, covers the Project's entire proposed EDA. The first study occurred in 1986 and was conducted by Michael Lynch and Associates. This survey failed to identify any cultural resources within the eastern third of the Project's proposed EDA. The second study was completed in 1991 by Chambers Group, Inc. This study covered the western two-thirds of the Project's proposed EDA and did not identify any existing resources. (BFSA, 2018a, p. 4.0-2)

In addition, no properties listed in the National Register of Historic Places (NRHP), the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility (ADOE), or the OHP Directory of Properties in the Historic Property Data File (HPD) are located within the Project site. An in-house record search conducted by BFSA also identified no GLO records that could be located online from the BLM. Historic aerial photographs of the area ranging from 1966 to 2016 were used, along with *Elsinore, California* 30-minute, 1943 *Perris, California* 15-minute, and the 1953 *El Casco, California* 7.5-minute USGS quadrangles, which did not show any structures were ever located on the Mine's property, and the only development visible in the area occurred after 1996 when the existing quarry began operations. (BFSA, 2018a, pp. 4.0-5 and 4.0-6)

BFSA also conducted a records search of the SLF of the NAHC and failed to indicate the presence of any sacred sites or locations of religious or ceremonial importance within the search area. (BFSA, 2018a, p. 4.0-6)

Cumulatively, the record searches and literature review suggest that there is a low potential for historic sites to be within the Project's proposed EDA. There is also a low to moderate potential for prehistoric sites or artifacts to be identified within the Project's proposed EDA. Prehistoric sites within one-mile of the Project's proposed EDA are found to the southeast in Labrode Canyon and to the northwest in the Eden Hot Springs

area. Sites in these areas are generally found near easily accessible water sources and bedrock outcroppings. The EDA contains bedrock outcrops and seasonal drainages; however, previous surveys have failed to identify resources within the Project site. The lack of documented prehistoric resources is likely due to the terrain of the Badlands making access to water within the steep narrow canyons a challenge. Therefore, there is a low potential for primary prehistoric sites within the Project site, and if prehistoric resources do exist, they will likely be isolated artifacts. (BFSA, 2018a, p. 4.0-6)

C. Results of Field Survey

BFSA directed a pedestrian survey of the Project site on October 19, 2017. The Project site was surveyed in 15-meter transects, except where the steep slopes and heavy vegetation prohibited systematic transects. BFSA staff inspected all exposed ground surfaces, including rodent burrows and disturbed areas. A survey form, field notes, and photographs documented the survey work undertaken. During the survey, BFSA noted bedrock outcroppings throughout the Project site. All accessible outcroppings were examined for signs of prehistoric use. The outcroppings were mainly located within the west/southwest portion of the Project site and were very eroded and friable. It was also noted by BFSA that although intermittent sources of water could be located at the base of the hills within the canyons, investigations of these on-site areas did not reveal the presence of any cultural resources. Existing disturbances to the Project site were tied to the existing quarry operations. BFSA noted regularly maintained dirt roads and trails extending from the quarry out along the ridges of the Project site, which often terminated at turnouts. BFSA observed cleared areas along the dirt roads and turnouts, as well as piles of busted stone and pushed dirt. No cultural resources, either historic or prehistoric, were discovered during the survey. The lack of prehistoric sites is likely due to the steep terrain and lack of easily-accessible dependable water sources on or near the property. (BFSA, 2018a, pp. 4.0-6 and 4.0-7)

4.12.3 Applicable Regulatory Requirements

The following is a brief description of the federal, state, and local environmental laws and related regulations governing the protection of cultural and tribal cultural resources.

A. Federal Regulations

1. National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) was passed primarily to acknowledge the importance of protecting our nation’s heritage. While Congress recognized that national goals for historic preservation could best be achieved by supporting the drive, enthusiasm, and wishes of local citizens and communities, it understood that the Federal Government must set an example through enlightened policies and practices. In the words of the Act, the Federal Government's role would be to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony." (NPS, 2018c)

NHPA and related legislation sought a partnership among the Federal Government and the States that would capitalize on the strengths of each. The Federal Government, led by the National Park Service (NPS) provides funding assistance; basic technical knowledge and tools; and a broad national perspective on America's

heritage. The States, through State Historic Preservation Officers (SHPOs) appointed by the Governor of each State, would provide matching funds, a designated State office, and a statewide preservation program tailored to State and local needs and designed to support and promote State and local historic preservation interests and priorities. (NPS, 2018c)

An Advisory Council on Historic Preservation, the first and only Federal entity created solely to address historic preservation issues, was established as a cabinet-level body of Presidentially-appointed citizens, experts in the field, and Federal, State, and local government representatives, to ensure that private citizens, local communities, and other concerned parties would have a forum for influencing federal policy, programs, and decisions as they impacted historic properties and their attendant values. (NPS, 2018c)

Section 106 of NHPA granted legal status to historic preservation in federal planning, decision-making, and project execution. Section 106 requires all federal agencies to take into account the effects of their actions on historic properties and provide ACHP with a reasonable opportunity to comment on those actions and the manner in which Federal agencies are taking historic properties into account in their decisions. (NPS, 2018c)

A number of additional executive and legislative actions have been directed toward improving the ways in which all federal agencies manage historic properties and consider historic and cultural values in their planning and assistance. Executive Order 11593 (1971) and, later, Section 110 of NHPA (1980, amended 1992), provided the broadest of these mandates, giving federal agencies clear direction to identify and consider historic properties in federal and federally assisted actions. The National Historic Preservation Amendments of 1992 further clarified Section 110 and directed federal agencies to establish preservation programs commensurate with their missions and the effects of their authorized programs on historic properties.

2. National Historic Landmarks Program

National Historic Landmarks (NHLs) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, just over 2,500 historic places bear this national distinction. Working with citizens throughout the nation, the National Historic Landmarks Program draws upon the expertise of National Park Service staff who guide the nomination process for new Landmarks and provide assistance to existing Landmarks. (NPS, 2017a)

3. American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) requires each executive branch agency with statutory or administrative responsibility for the management of federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies also are required to maintain the confidentiality of sacred sites. Each executive branch agency with statutory or administrative responsibility for the management of federal lands are required to implement procedures to ensure reasonable notice is provided of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites.

4. Native American Graves Protection and Repatriation Act (NAGPRA)

The Native American Graves Protection and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. 3001-3013) describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation. (NPS, 2018a)

One major purpose of this statute is to require that federal agencies and museums receiving Federal funds inventory holdings of Native American human remains and funerary objects and provide written summaries of other cultural items. The agencies and museums must consult with Indian Tribes and Native Hawaiian organizations to attempt to reach agreements on the repatriation or other disposition of these remains and objects. Once lineal descent or cultural affiliation has been established, and in some cases the right of possession also has been demonstrated, lineal descendants, affiliated Indian Tribes, or affiliated Native Hawaiian organizations normally make the final determination about the disposition of cultural items. Disposition may take many forms from reburial to long term curation, according to the wishes of the lineal descendent(s) or culturally affiliated Tribe(s). (NPS, 2018a)

The second major purpose of the statute is to provide greater protection for Native American burial sites and more careful control over the removal of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony on Federal and tribal lands. NAGPRA requires that Indian tribes or Native Hawaiian organizations be consulted whenever archaeological investigations encounter, or are expected to encounter, Native American cultural items or when such items are unexpectedly discovered on Federal or tribal lands. Excavation or removal of any such items also must be done under procedures required by the Archaeological Resources Protection Act. This NAGPRA requirement is likely to encourage the in-situ preservation of archaeological sites, or at least the portions of them that contain burials or other kinds of cultural items. (NPS, 2018a)

Other provisions of NAGPRA: (1) stipulate that illegal trafficking in human remains and cultural items may result in criminal penalties; (2) authorizes the Secretary of the Interior to administer a grants program to assist museums and Indian Tribes in complying with certain requirements of the statute; (3) requires the Secretary of the Interior to establish a Review Committee to provide advice and assistance in carrying out key provisions of the statute; 4) authorizes the Secretary of the Interior to penalize museums that fail to comply with the statute; and, (5) directs the Secretary to develop regulations in consultation with this Review Committee. (NPS, 2018a)

5. Federal Antiquities Act

The Antiquities Act is the first law to establish that archaeological sites on public lands are important public resources. It obligates federal agencies that manage the public lands to preserve for present and future generations the historic, scientific, commemorative, and cultural values of the archaeological and historic sites and structures on these lands. It also authorizes the President to protect landmarks, structures, and objects of historic or scientific interest by designating them as National Monuments. (NPS, 2018b)

B. State Regulations

1. California Administrative Code, Title 14, Section 4308

Section 4308, *Archaeological Features*, of Title 14 of the California Administrative Code provides that: "No person shall remove, injure, disfigure, deface, or destroy any object of archaeological, or historical interest or value."

2. California Code of Regulations Title 14, Section 1427

California Code of Regulations Title 14, Section 1427 provides that: "No person shall collect or remove any object or thing of archaeological or historical interest or value, nor shall any person injure, disfigure, deface or destroy the physical site, location or context in which the object or thing of archaeological or historical interest or value is found."

3. Traditional Tribal Cultural Places Act (Senate Bill 18, "SB 18")

Senate Bill 18 (SB 18) requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. SB 18 also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. (OPR, 2005)

The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level land use decisions are made by a local government. (OPR, 2005)

SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code § 65300 *et seq.*) and specific plans (defined in Government Code § 65450 *et seq.*). Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, existing state planning law requires local governments to use the same processes for adoption and amendment of specific plans as for general plans (see Government Code § 65453). Therefore, where SB 18 requires consultation and/or notice for a general plan adoption or amendment, the requirement extends also to a specific plan adoption or amendment. (OPR, 2005)

4. Assembly Bill 52 (AB 52)

The legislature added new requirements regarding tribal cultural resources in Assembly Bill 52 (AB 52). By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. (OPR, 2015)

The Public Resources Code now establishes that "[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.) (OPR, 2015)

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code § 20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. These rules apply to projects that have a notice of preparation for an environmental impact report or negative declaration or mitigated negative declaration filed on or after July 1, 2015. (OPR, 2015)

§ 21074 of the Public Resources Code defines "tribal cultural resources." In brief, in order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or

(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource. (OPR, 2015)

In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the state register of historic resources. In applying those criteria, a lead agency must consider the value of the resource to the tribe. (OPR, 2015)

5. State Health and Safety Code

California Health and Safety Code (HSC) § 7050.5(b) requires that excavation and disturbance activities must cease "In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery…" until the coroner can determine regarding the circumstances, manner, and cause of any death. The coroner is then required to make recommendations concerning the treatment and disposition of the human remains. Further, this section of the code makes it a misdemeanor to intentionally disturb, mutilate or remove interred human remains. § 7051 specifies that the removal of human remains from "internment or a place of storage while awaiting internment" with the intent to sell them or to dissect them with "malice or wantonness" is a public offense punishable by imprisonment in a state prison. Lastly, HSC §§ 8010-8011 establish the California Native American Graves Protection and Repatriation Act consistent with the federal law addressing the same. The Act stresses that "all California Indian human remains and cultural items are to be treated with dignity and respect." It encourages voluntary disclosure and return of remains and cultural items by publicly

funded agencies and museums in California. It also outlines the need for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims.

6. California Code of Regulations Section 15064.5

The California Code of Regulations, Title 14, Chapter 3, § 15064.5 (the State CEQA Guidelines) establishes the procedure for determining the significance of impacts to archaeological and historical resources, as well as classifying the type of resource. Cultural resources are aspects of the environment that require identification and assessment for potential significance. The evaluation of cultural resources under CEQA is based upon the definitions of resources provided in CEQA Guidelines § 15064.5, as follows:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 *et seq.*).
- A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;
    - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    - Has yielded, or may be likely to yield, information important in prehistory or history.
- The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

4.12.4 BASIS FOR DETERMINING SIGNIFICANCE

According to Section XVIII of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to tribal resources if the Project or any Project-related component would (OPR, 2018):

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defines in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    - Listed or eligible for listing in the California Register of Historical resources or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or;
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying for the criteria set forth in (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Significance thresholds set forth in EA No. 34079 (the Riverside County's Environmental Assessment Checklist for the Project), are derived from Section V of Appendix G to the CEQA Guidelines (listed above), and state that the proposed Project would have a significant impact on tribal resources if construction and/or operation of the Project would: (OPR, 2018):

a. *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defines in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

    1. *Listed or eligible for listing in the California Register of Historical resources or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or;*

    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 Public Resources Code section 5024.1. In applying for the criteria set forth in (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

4.12.5 IMPACT ANALYSIS

Threshold a: ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defines in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

1. ***Listed or eligible for listing in the California Register of Historical resources or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or;***
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 Public Resources Code section 5024.1. (In applying for the criteria set forth in (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe).***

In compliance with Assembly Bill 52 (AB52), notices regarding the proposed Project were mailed to all the tribes within the project's vicinity on February 7, 2018. Riverside County staff received notification from the Morongo Band of Mission Indians, the San Manuel Band of Mission Indians, and the Soboba Band of Luiseño Indians within the 30-day period, requesting to initiate consultation. Letters were received by the County in response to the AB52 notifications by the tribes. The Rincon Band of Luiseño Indians responded requested consultation on March 7, 2018. The Pechanga Band of Luiseño Indians responded requesting consultation on February 8, 2018. Twenty-Nine Palms Band of Mission Indians and Soboba Band of Luiseño responded requesting consultation on March 8, 2018. Morongo Band of Mission Indians responded requesting consultation on February 12, 2018. Riverside County staff sent the Project's cultural resources assessment (*Technical Appendix F*) and Project exhibits to the Morongo Tribe on February 13, 2016. Riverside County staff met with the Morongo Tribe on February 14, 2016, and sent conditions of approval for the Project to the Morongo Tribe on April 26, 2018.

Riverside County staff met with the San Manuel Tribe on December 27, 2016 and sent conditions of approval for the Project. County staff sent conditions of approval to Soboba Band of Luiseño on April 26, 2018. County staff sent email asking if there were comments or concerns to the Soboba Band of Luiseño on April 26, 2018. The Twenty-Nine Palms Band of Mission Indians requested cultural reports and County staff sent the cultural report on March 14, 2018. County staff met with the tribe and sent conditions of approval to Twenty-Nine Palms Band of Mission Indians Tribe on November 19, 2018. On February 20, 2018, County staff sent conditions of approval to Rincon Band of Luiseño Indians. County staff sent email asking if there were comments or concerns to the Rincon Band of Luiseno Indians February 22, 2018. On February 21, 2018, County staff sent a cultural report to Pechanga Band of Luiseño Indians. On February 23, 2018, County staff sent the Project exhibits to Pechanga Band of Luiseño Indians. On March 13, 2018, staff resent the Project's cultural resources assessment (*Technical Appendix F*) and Project exhibits to Pechanga Band of Luiseño Indians. On March 28, 2018, County staff met with the tribe and the Pechangas agreed to submit language on sensitivity and the cultural significance of area. On November 8, 2018, County staff sent an email requesting information. On February 20, 2019 and June 17, 2019, County staff again sent emails re-requesting

information. County staff sent the cultural resources assessment (*Technical Appendix F*) and Project exhibits on February 13, 2018 to the Morongo Band of Mission Indians. County staff met with the tribe and sent conditions of approval to Morongo Band of Mission Indians Tribe on February 26, 2018. On June 18, 2018, County staff sent the cultural report and conditions of approval to the Twenty-Nine Palms Band of Mission Indians Tribe.

The Morongo Tribe consultation was formally concluded on November 7, 2018. The San Manuel Tribe consultation was formally concluded on February 12, 2018. The Soboba Tribe consultation was formally concluded on March 12, 2019. The Twenty-Nine Palms Band of Mission Indians consultation was formally concluded on December 5, 2018. The Rincon Band of Luiseno Indians consultation was formally concluded on February 20, 2019. The San Manuel Tribe consultation was formally concluded on February 12, 2018. The Ramona Band of Cahuilla Indians consultation was formally concluded on March 7, 2018. The Colorado River Indian Tribe consultation was formally concluded on March 7, 2018. The Fort Yuma Quechan Indian consultation was formally concluded on Tribe March 7, 2018. The Pala Band of Mission Indians consultation was formally concluded on Tribe March 7, 2018. The Agua Caliente Band of Cahuilla Indians consultation was formally concluded on Tribe August 7, 2018.

Based on the results of the tribal consultation efforts, there were no tribal cultural resources identified within the Project's proposed EDA. As such, Project impacts to tribal cultural resources would be less than significant.

4.12.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development Projects and planned development within the vicinity of the Project site, including buildout of the Riverside County General Plan Land Use Plan and buildout of nearby portions of the City of Moreno Valley and the City of San Jacinto. This cumulative study area is appropriate because areas within western Riverside County are similar in terms of climate, plant and animal resources, geology, and topography.

As indicated in the discussion above, the County conducted consultation with local tribes in conformance with AB 52. No tribal cultural resources were identified on site as part of the consultation efforts. Other developments within the region would similarly be required to comply with the provisions of AB 52, and would be required to incorporate mitigation measures to reduce potential impacts to tribal cultural resources to less-than-significant levels. Accordingly, Project impacts to tribal cultural resources would be less-than-cumulatively considerable.

4.12.7 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. The proposed Project was subject to consultation efforts between Riverside County and local tribes, as required by AB 52. As a result of this consultation effort, no tribal cultural resources were identified. Accordingly, Project impacts to tribal cultural resources would be less than significant.

4.12.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable City Regulations and Design Requirements

The following are applicable regulations and design requirements within the County of Riverside. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable City regulations and design requirements.

- Unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code Section 6254 (r), parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

Mitigation

Although impacts to Tribal Cultural Resources would be less than significant, EIR Mitigation Measure MM 4.7-1, which is included in EIR Subsection 4.7, *Historical Archaeological Resources*, shall apply. Mitigation Measure MM 4.7-1 requires compliance with California Health and Safety Code § 7050.5 and Public Resources Code § 5097 et. seq. in the event that human remains are uncovered during site mining activities.

4.13 UTILITIES AND SERVICE SYSTEMS

This Subsection addresses the topics of water service and supply; wastewater collection and treatment; stormwater drainage management; solid waste collection and disposal; and utilities. The analysis contained in this Subsection is based in part on information obtained from the Eastern Municipal Water District (EMWD) *2015 Urban Water Management Plan (UWMP)* (EMWD, 2016a). A complete list of references can be found in EIR Section 7.0, *References*.

4.13.1 SCOPE OF REVIEW

As discussed in EIR Section 3.0, *Project Description*, the Project involves an expansion of permitted mining areas on site to encompass an additional 54.5 acres ("Expanded Disturbance Area" [EDA]), thereby increasing areas permitted for mining activities at the Mine from 150.4 acres to 204.9 acres. As shown on Figure 3-4, *Existing and Proposed Limits of Physical Disturbances*, areas subject to new disturbances as part of the Project would occur to the west and north of the northwestern portion of the areas approved for mining pursuant to the approved SMP 159R1. The Project would not affect mining activities within the 150.4 acres of the site that are already approved for mining activities by SMP 159R1, as these areas would be allowed to be mined and disturbed whether or not the proposed Project is approved. Additionally, as evaluated in this EIR and as explained in EIR subsections 3.3.2.A and 3.3.2.B, the Project would result in an increase in the amount of aggregate produced at the mine from 377,675 tons per year (tpy) to 1,000,000 tpy, with tonnage attributable to the Project comprising 622,235 tpy (or 62.2% of the total 1,000,000 tpy). Thus, it can be projected that approximately 62.2% of the estimated high-end daily tonnage of 4,000 tpd would be attributable to the Project, or approximately 2,489 tpd. Accordingly, for purposes of analysis within this Subsection, it is assumed that the Project would result in the production of a maximum of 2,489 tpd and result in an increase in areas subject to mining by 54.5 acres.

4.13.2 EXISTING CONDITIONS

A. *Existing Water Use*

Under existing conditions, all water used on-site consists of groundwater pumped from on-site wells. Water usage at the Project site (herein, "Mine") primarily consist of dust control within disturbed portions of the Mine so as to reduce the generation of particulate matter and to prevent substantial erosion. As previously shown on Figure 3-5, *Dust Control Measures*, approximately 44.65 acres of the Project site are subject to watering for dust control under existing conditions.

B. *Water Service and Supply*

The EMWD service area includes 555 square miles of Riverside County, which includes seven (7) incorporated cities in addition to unincorporated areas in the County of Riverside. EMWD provides both water and sewer service to most of the areas it serves; however, in some places EMWD provides only sewer or water service or provides wholesale water to a purveyor agency. EMWD also sells recycled water to the Rancho California Water District (RCWD) and Elsinore Valley Municipal Water District (EVMWD) and has an emergency connection with the City of Perris' North Perris Water System. (EMWD, 2016a, pp. 3-2 - 3-3)

There are four (4) sources of water supply to the EMWD: imported water from Metropolitan Water District of Southern California (MWD), local groundwater, desalinated groundwater, and recycled water. Potable imported water is treated and delivered to EMWD directly from MWD's two (2) large filtration plants: The Henry J. Mills (Mills) Water Treatment Plant and the Robert F. Skinner (Skinner) Water Treatment Plant. The Mills Water Treatment Plant treats water from Northern California and provides it to EMWD through two (2) connection points located in the northeast portion of EMWD's service area. The Skinner Water Treatment Plant treats a blend of Colorado River water and water from Northern California and provides it to EMWD through a connection point in the southwest portion of EMWD's service area. (EMWD, 2016a, p. 3-3)

EMWD owns and operates two (2) microfiltration plants (the Perris Water Filtration Plant and the Hemet Water Filtration Plant) that filter raw imported water delivered through MWD, removing particulate contaminants to achieve potable water standards. Raw water from MWD also is used for groundwater replenishment in the eastern part of EMWD. Untreated water from MWD used for agricultural purposes is delivered in the northeast for use by EMWD retail and wholesale accounts and in the south for RCWD agricultural accounts. (EMWD, 2016a, p. 3-3)

EMWD produces potable and brackish groundwater from two (2) management plan areas within the San Jacinto Groundwater Basin that underlie the EMWD service area: The West San Jacinto Groundwater Basin Management Plan area (West San Jacinto Basin) and the Hemet/San Jacinto Water Management Plan area (Hemet/San Jacinto Basin). The West San Jacinto Basin in which approximately half of the 1,021.4-acre Mine is located includes the Perris North, Perris South, San Jacinto Lower Pressure, and Menifee Management Zones, and the Lakeview portion of the Lakeview/Hemet North Management Zone (EMWD, 2016c, Figure 7-1). The Hemet/San Jacinto Basin in which a small portion of the Mine is located consists of the Hemet South, Canyon, and San Jacinto Upper Pressure Management Zones, as well as the Hemet North portion of the Lakeview/Hemet North Management Zone (EMWD, 2016d, Figure 9-1). EMWD produces water for potable use or blending in four (4) of the management zones: Perris North, Hemet South, San Jacinto Upper Pressure and Canyon. Groundwater wells are mostly located within the San Jacinto Watershed and serve the northern portion of the EMWD, with the largest amount of production taking place around the cities of Hemet and San Jacinto. (EMWD, 2016a, p. 3-3)

EMWD also maintains a regional recycled water system that provides tertiary-treated recycled water to customers for agricultural, landscape irrigation, environmental, and industrial use. EMWD's recycled water system consists of four (4) regional water reclamation facilities (RWRFs) that treat municipal sewage and produce water for recycling. The four RWRFs include: The San Jacinto Valley RWRF, the Moreno Valley RWRF, the Temecula Valley RWRF, and the Perris Valley RWRF. The four RWRFs are connected via a network of pipelines and several distribution storage ponds which manage the delivery of recycled water. (EMWD, 2016a, p. 3-3)

For a more detailed description of the EMWD's complex groundwater supply, please refer to Section 4.4, *Geology and Soils*, and Section 4.7, *Hydrology and Water Quality*, in this EIR, as well as the EMWD *2015 UWMP* (EMWD, 2016a).

Table 4.13-1, *Historic Water Consumption within the EMWD Urban Water Service Area*, depicts the recent water deliveries within the EMWD Urban Water Service Area. As shown, although the population has increased from 292,123 to 500,589 between 1999 and 2008 (or an increase of 71.3%), total water usage only increased by 40.1% from 61,906,352 gallons per day (gpd) to 86,702,794 gpd, representing a reduction in the per-capita consumption rate from 212 gallons per capita per day (GPCD) in 1999 to 173 GPCD in 2008. As shown in Table 4.13-1, the average baseline GPCD during this 10-year period is 197 GPCD. Additionally, Table 4.13-2, *Total Demand Projections*, presents projected water demand within EMWD through year 2040.

Table 4.13-1 Historic Water Consumption within the EMWD Urban Water Service Area

Base Years	Service Area Population	Gross Water Use (AF)	Daily Per Capita Water Use (GPCD)
1999	292,123	69,390	212
2000	303,678	72,005	212
2001	317,457	70,059	197
2002	357,783	81,283	203
2003	364,893	86,289	211
2004	389,897	79,977	183
2005	430,314	94,677	196
2006	468,467	100,831	192
2007	486,901	104,378	191
2008	500,589	97,184	173
10-Year Average Baseline GPCD			**197**

(EMWD, 2016a, Table 5-4)

Table 4.13-2 Total Demand Projections

	2015	2020	2025	2030	2035	2040
Retail Potable and Raw Water Demand	78,937	100,500	111,500	122,900	134,000	144,500
Wholesale Potable and Raw Water Demand	21,768	50,500	54,100	57,700	61,200	64,800
Total Potable and Raw Water Demand	**100,705**	**151,000**	**165,600**	**180,600**	**195,200**	**209,300**
Retail Recycled Water Demand	44,150	45,245	48,334	50,017	51,800	53,300
Wholesale Recycled Water Demand	1,235	1,656	4,766	5,183	5,600	5,600
Total Recycled Water Demand	**45,385**	**46,901**	**53,100**	**55,200**	**57,400**	**58,900**
Total Water Demand	**146,090**	**197,901**	**218,700**	**235,800**	**252,600**	**268,200**

(EMWD, 2016a, Table ES-2)

Table 4.13-3, *Projected Water Supplies*, presents the projected water supply up to year 2040 for urban water use within the EMWD in daily per capita water use in acre feet. As shown, the EMWD forecasts being able

to meet water demands from its wholesale and retail customers through the year 2040, primarily through purchasing or importing water from MWD.

Table 4.13-3 Projected Water Supplies

Supply	2015	2020	2025	2030	2035	2040
Retail						
Imported Water	56,397	81,197	89,097	100,497	111,597	122,097
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100
Recycled Water	44,150	45,245	48,334	50,017	51,800	53,300
Total Retail Supply	**123,087**	**145,745**	**159,834**	**172,917**	**185,800**	**197,800**
Wholesale						
Imported Water	21,768	50,500	54,100	57,700	61,200	64,800
Recycled Water	1,235	1,656	4,766	5,183	5,600	5,600
Total Wholesale Supply	**23,003**	**52,156**	**58,866**	**62,883**	**66,800**	**70,400**
Total Water Supply	**146,090**	**197,901**	**218,700**	**235,800**	**252,600**	**268,200**

(EMWD, 2016a, Table ES-3)

C. *Sewer Service and Treatment*

EMWD provides wastewater collection, treatment, and recycled water services throughout the Project area. As mentioned in Subsection 4.13.2.B above, four (4) operational RWRFs are operated throughout EMWD, and include the San Jacinto Valley RWRF, the Moreno Valley RWRF, the Temecula Valley RWRF, and the Perris Valley RWRF. As shown below in Table 4.13-4, *Wastewater Treatment Capacity*, the four (4) RWRFs have a combined capacity of 72,977,944 gpd. In addition to treatment facilities, EMWD has several recycled water storage ponds throughout EMWD service area. (EMWD, 2016a, p. 6-6)

Table 4.13-4 Wastewater Treatment Capacity

Facility	Treatment Capacity (AFY)
San Jacinto Valley	15,700
Moreno Valley	17,900
Temecula Valley	20,200
Perris Valley	28,000
Total	**81,800**

(EMWD, 2016a, Table 6-7)

Collectively, the four (4) RWRFs within EMWD collect and treat approximately 46 million gpd of wastewater and have a capacity to treat approximately 56 million gpd (EMWD, 2017). Sewer flows from the Project site

collect at the Sun City RWRF and divert to the Perris Valley RWRF for treatment, which has a daily capacity of 22 million gpd and typical daily flows of 13.8 million gpd (EMWD, 2016b; EMWD, n.d.).

EMWD treats all of the wastewater collected in its service area to tertiary standards and disposes of its recycled water in one of three ways: 1) customer sales; 2) discharge to Temescal Creek; or, 3) through percolation and evaporation while stored in ponds throughout EMWD. In 2015, EMWD collected and treated a total of 48,665 acre-feet (AF) of wastewater at its four (4) RWRFs. All of the recycled water sold by EMWD originates from wastewater collected and treated within EMWD's retail service area. Therefore, these volumes are accounted for in the 48,655 AF. (EMWD, 2016a, p. 6-9)

D. Stormwater Drainage

Under existing conditions, and as previously shown on Figure 4.7-3, *Existing Conditions Hydrology*, the historical drainage patterns continue to exist on-site, except for areas subject to mining activities. Within the areas subject to mining activities are two separate drainage basins. The primary drainage basin conveys runoff from active mining areas in the north to a detention/siltation pond, where runoff is then conveyed off-site near the Mine's southern boundary. The second drainage area drains to a series of detention basins in the southeastern portion of the Mine and is then conveyed off-site to the south.

E. Solid Waste Collection and Disposal

The RCDWR is responsible for the landfill disposal of non-hazardous county waste within the County and operates six (6) active landfills in addition to holding a contract agreement to dispose of waste at the private El Sobrante Landfill (Riverside County, 2015, p. 4.17-36). Solid Waste from the Project site would be taken to the Moreno Valley Transfer Station before being loaded into larger trucks and transferred to the El Sobrante Landfill for disposal. The El Sobrante Landfill is located at 10910 Dawson Canyon Road in Riverside County, east of the Interstate 15 and south of the City of Corona. Solid waste could also be taken to the Lamb Canyon Landfill or the Badlands Landfill, which are both located within Riverside County. The following is a description of these facilities:

- El Sobrante Landfill. The El Sobrante Landfill is located in the southeast area of the City of Corona at 10910 Dawson Canyon Road and accessed from Interstate-15 (I-15) at Temescal Canyon Road. The landfill is operated and owned by USA Waste Services of California, Inc. The existing landfill encompasses 1,322 acres, of which 485 acres are permitted for refuse disposal. The landfill is currently permitted to receive 16,054 tpd. As of April 6, 2009, the landfill had a total remaining disposal capacity of 145,530 tons. The El Sobrante landfill is projected to reach capacity at the earliest in 2045. (CalRecycle, 2018a)

- Lamb Canyon Landfill. The Lamb Canyon Landfill is located between the City of Beaumont and the City of San Jacinto at 16411 Lamb Canyon Road (SR-79), south of Interstate 10 and north of SR-74. The landfill is owned and operated by Riverside County (approximately 1.2 miles east of the Mine). The Lamb Canyon Landfill is currently permitted to receive 5,500 tons of refuse per day (tpd) and had an estimated total remaining disposal capacity of approximately 19,242,950 tons as of January 8, 2015.

The current landfill remaining disposal capacity is estimated to last, at a minimum, until approximately 2029. (CalRecycle, 2018b)

- Badlands Landfill. The Badlands Landfill is located northeast of the City of Moreno Valley at 31125 Ironwood Avenue and accessed from State Highway 60 at Theodore Avenue. The landfill is owned and operated by Riverside County. The existing landfill encompasses 278 acres, of which 150 acres are permitted for refuse disposal. The landfill is currently permitted to receive 4,800 tpd. As of January 1, 2015, the landfill had a total remaining disposal capacity of approximately 15,748,799 cubic yards. The Badlands Landfill is projected to reach capacity at the earliest in 2022. (CalRecycle, 2018c)

4.13.3 Applicable Environmental Regulations

A. Federal Regulations

1. Applicable Water Supply Regulations

❑ **Clean Water Act**

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry, and also has set water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. (EPA, 2017e)

❑ **Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The 1996 amendments to SDWA require that EPA consider a detailed risk and cost assessment, and best available peer-reviewed science, when developing these standards. State governments, which can be approved to implement these rules for EPA, also encourage attainment of secondary standards (nuisance-related). Under the Act, EPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids. (EPA, 2017b)

B. State and Local Regulations

1. Applicable Water Supply Regulations

❑ Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act was established to ensure adequate water supplies are available for future uses. To promote the conservation and efficient use of water, the Act requires local agencies to adopt a water efficient landscape ordinance. When such an ordinance had not been adopted, a finding as to why (based on the climatic, geologic, or topographical conditions) such an ordinance is not necessary, must be adopted. In the absence of such an ordinance or findings, the policies and requirements contained in the "model" ordinance drafted by the State of California shall apply within the affected jurisdiction.

❑ Water Recycling in Landscaping Act

In 2000, Senate Bill 2095 (Water Recycling in Landscaping Act) was approved by Governor Davis requiring any local public or private entity that produces recycled water and determines that within 10 years it will provide recycled water within the boundaries of a local agency, to notify the local agency of that fact. In turn, local agencies are required to adopt and enforce within 180 days a specified recycled water ordinance, unless the local agency adopted a recycled water ordinance or other regulation requiring the use of recycled water in its jurisdiction prior to January 1, 2001. (DWR, 2004)

❑ Urban Water Management Planning Act

The Urban Water Management Planning Act (UWMP Act) was proposed and adopted to ensure that water planning is conducted at the local level, as the State of California recognized that two water agencies in the same region could have very different impacts from a drought. The UWMP Act requires water agencies to develop Urban Water Management Plans (UWMPs) over a 20-year planning horizon, and further required UWMPs to be updated every five years. UWMPs are exempt from compliance with CEQA. (DWR, 2016, p. 1-2)

The UWMPs provide a framework for long term water planning and inform the public of a supplier's plans for long-term resource planning that ensures adequate water supplies for existing and future demands. This part of the California Water Code (CWC) requires urban water suppliers to report, describe, and evaluate:

- Water deliveries and uses;
- Water supply sources;
- Efficient water uses;
- Demand management measures; and
- Water shortage contingency planning. (DWR, 2016, p. 1-3)

The UWMP Act has been modified over the years in response to the State's water shortages, droughts, and other factors. A significant amendment was made in 2009, after the drought of 2007-2009 and as a result of the governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as SB X7-7. This Act required agencies to establish water use

targets for 2015 and 2020 that would result in statewide savings of 20 percent by 2020. Beginning in 2016, retail water suppliers are required to comply with the water conservation requirements in SB X7-7 in order to be eligible for State water grants or loans. Retail water agencies are required to set targets and track progress toward decreasing daily per capita urban water use in their service area, which will assist the State in meeting its 20 percent reduction goal by 2020. (DWR, 2016, p. 1-2)

❑ Government Code § 66473.7(b)(2) (Senate Bill 221)

Under Senate Bill (SB) 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. SB 221 is intended as a 'fail safe' mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins. SB 221 requires the legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove a tentative map, must include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply must be requested by the subdivision applicant or local agency, at the discretion of the local agency, and id based on written verification from the applicable public water system within 90 days of a request. SB 221 does not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households. (DWR, 2003)

❑ California Senate Bill 610

The California Water Code (Water Code) §§ 10910 through 10915 were amended by the enactment of SB 610 in 2002. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by a proposed project, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. (DWR, 2003) For the purposes of SB 610, "project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.
(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
(4) A proposed hotel or motel, or both, having more than 500 rooms.
(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
(6) A mixed-use project that includes one or more of the projects specified in this subdivision.
(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project. (DWR, 2003)

As described previously in EIR subsection 3.3.2.H, implementation of the proposed Project would result in a net reduction of approximately 16.1% as compared to existing/baseline conditions. Thus, because the Project would result in a net reduction in water demand, a water supply assessment is not required for the proposed Project.

❑ CA. Water Code § 10610 et seq. (Senate Bill 901)

Signed into law on October 16, 1995, Senate Bill (SB) 901 required every urban water supplier to identify as part of its urban water management plan, the existing and planned sources of water available to the supplier over a prescribed 5-year period. The code requires the water service purveyor to assess the projected water demand associated with a proposed project under environmental review. Later provisions of SB 901 required compliance in the event that the proposed Project involved the adoption of a specific plan, amendment to, or revision of the land use element of a general plan or specific plan that would result in a net increase in the state population density. Upon completion of the water assessment, cities and counties may agree or disagree with the conclusions of the water service purveyors but cannot approve projects in the face of documented water shortfalls without first making certain findings.

❑ Executive Order B-29-15

Executive Order (EO) B-29-15 ordered the State Water Resources Control Board (SWRCB) to impose restrictions to achieve a 25-percent reduction in potable urban water usage through February 28, 2016; directed the California Department of Water Resources (DWR) to lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes; and directed the California Energy Commission to implement a statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices. (DWR, 2017a)

❑ Executive Order B-37-16

Signed on May 9, 2016, EO B-37-16 established a new water use efficiency framework for California. The order bolstered the state's drought resilience and preparedness by establishing longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans, and improving agricultural water management and drought plans. (DWR, 2017a)

❑ Executive Order B-40-17

Signed on April 7, 2017, EO B-40-17 ended the drought state of emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne, where emergency drinking water projects will continue to help address diminished groundwater supplies. It maintains water reporting requirements and prohibitions on wasteful practices. The order was built on actions taken in Executive Order B-37-16, which remains in effect. In a related action, state agencies, including the Department of Water Resources (DWR), released a plan to continue making water conservation a way of life. (DWR, 2017a)

❑ Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California's groundwater resources at a local level by local agencies. SGMA required, by June 30, 2017, the formation of locally-controlled groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins (basins). A GSA is responsible for developing and implementing a groundwater sustainability plan (GSP) to meet the sustainability goal of the basin to ensure that it is operated within its sustainable yield, without causing undesirable results. The GSP Emergency Regulations for evaluating GSPs, the implementation of GSPs, and coordination agreements were adopted by DWR and approved by the California Water Commission on May 18, 2016. (DWR, 2017b)

2. Applicable Solid Waste Regulations

❑ California Solid Waste Integrated Waste Management Act (AB 939, 1989)

The Integrated Waste Management Act (IWMA) established an integrated waste management hierarchy to guide the California Integrated Waste Management Board (CIWMB) and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal (it should be noted that the CIWMB no longer exists, and its duties have been assumed by CalRecycle). As part of the IWMA, the CIWMB was given a purpose to mandate the reduction of disposed waste. (CalRecycle, 1997a) The IWMA also required:

- the establishment of a task force to coordinate the development of city Source Reduction and Recycling Elements (SRREs) and a countywide siting element. (CalRecycle, 1997a)

- each city, by July 1, 1991, to prepare, adopt and submit a SRRE to the county which includes the following components: waste characterization; source reduction; recycling; composting; solid waste facility capacity; education and public information; funding; special waste (asbestos, sewage sludge, etc.); and household hazardous waste. (CalRecycle, 1997a)

- each county, by January 1, 1991, to prepare a SRRE for its unincorporated area, with the same components described above, and a countywide siting element, specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction which cannot be reduced or recycled for a 15-year period.

- each county to prepare, adopt, and submit to the Board an Integrated Waste Management Plan (IWMP), which includes all of the elements described above. (CalRecycle, 1997a)

- each city or county plan to include an implementation schedule which shows: diversion of 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995 through source reduction, recycling, and composting activities; and, diversion of 50 percent of all solid waste by January 1, 2000 through source reduction, recycling, and composting activities. (CalRecycle, 1997a)

- the CIWMB to review the implementation of each SRRE at least once every two years. (CalRecycle, 1997a)

- the IWMA required the CIWMB, in conjunction with an inspection conducted by a Lead Enforcement Agency (LEA), to conduct at least one inspection per year of each solid waste facility in the state. (CalRecycle, 1997a)

Additionally, the IWMA established a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities. (CalRecycle, 1997a)

❑ **Waste Reuse and Recycling Act (AB 1327)**

The Waste Reuse and Recycling Act (WRRA) required the CIWMB to approve a model ordinance for adoption by any local government for the transfer, receipt, storage, and loading of recyclable materials in development projects by March 1, 1993. The WRRA also required local agencies to adopt a local ordinance by September 1, 1993 or allow the model ordinance to take effect. The WRRA requires all development projects that are commercial, industrial, institutional, or marina in nature and where solid waste is collected and loaded, to provide an adequate area for collecting and loading recyclable materials over the lifetime of the project. The area is required to be provided before building permits are issued. (CalRecycle, 1997b)

❑ **Mandatory Commercial Recycling Program (AB 341)**

Assembly Bill (AB) 341 (Chapter 476, Statutes of 2011 [Chesbro, AB 341]) directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB-341 was designed to help meet California's recycling goal of 75% by the year 2020. AB 341 requires all commercial businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. In addition, multi-family apartments with five or more units are also required to form a recycling program. (CalRecycle, 2017)

❑ **2016 California Green Building Standards Code (CAL Green; Part 11 of Title 24, California Code of Regulations)**

CALGreen became effective January 1, 2017, and is applicable to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California (including residential structures and elementary schools). § 5.408.3 of CALGreen requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on-site until the storage site is developed.

3. Applicable Energy Conservation Regulations

❑ **California Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CA. Code Regs. 6)**

The Building Energy Efficiency Standards were first adopted in 1976 and have been updated periodically since then as directed by statute. In 1975 the Department of Housing and Community Development adopted

rudimentary energy conservation standards under their State Housing Law authority that were a precursor to the first generation of the Standards. However, the Warren-Alquist Act was passed one year earlier with explicit direction to the Energy Commission (formally titled the State Energy Resources Conservation and Development Commission) to adopt and implement the Standards. The Energy Commission's statute created separate authority and specific direction regarding what the Standards are to address, what criteria are to be met in developing the Standards, and what implementation tools, aids, and technical assistance are to be provided. (CEC, 2015)

The Standards contain energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. Public Resources Code Sections 25402 subdivisions (a)-(b) and 25402.1 emphasize the importance of building design and construction flexibility by requiring the Energy Commission to establish performance standards, in the form of an "energy budget" in terms of the energy consumption per square foot of floor space. For this reason, the Standards include both a prescriptive option, allowing builders to comply by using methods known to be efficient, and a performance option, allowing builders complete freedom in their designs provided the building achieves the same overall efficiency as an equivalent building using the prescriptive option. Reference Appendices are adopted along with the Standards that contain data and other information that helps builders comply with the Standards. (CEC, 2015)

The 2016 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential Standards include improvements for attics, walls, water heating, and lighting. The most significant efficiency improvements to the nonresidential Standards include alignment with the ASHRAE 90.1 2013 national standards. New efficiency requirements for elevators and direct digital controls are included in the nonresidential Standards. The 2016 Standards also include changes made throughout all of its sections to improve the clarity, consistency, and readability of the regulatory language. (CEC, 2015)

Public Resources Code Section 25402.1 also requires the Energy Commission to support the performance standards with compliance tools for builders and building designers. The Alternative Calculation Method (ACM) Approval Manual adopted by regulation as an appendix of the Standards establishes requirements for input, output, and calculational uniformity in the computer programs used to demonstrate compliance with the Standards. From this, the Energy Commission develops and makes publicly available free, public domain building modeling software in order to enable compliance based on modeling of building efficiency and performance. The ACM Approval Manual also includes provisions for private firms seeking to develop compliance software for approval by the Energy Commission, which further encourages flexibility and innovation. (CEC, 2015)

❑ California Solar Rights and Solar Shade Control Acts

The Solar Rights Act sets parameters for establishing solar easements, prohibits ordinances and private covenants which restrict solar systems, and requires communities to consider passive solar and natural heating and cooling opportunities in new construction. This Act is applicable to all California cities and counties.

California's solar access laws appear in the state's Civil, Government, Health and Safety, and Public Resources Codes. California Pub Res Code § 25980 sets forth the Solar Shade Control Act, which encourages the use of trees and other natural shading except in cases where the shading may interfere with the use of active and passive solar systems.

❑ Alternative Fuels Plan

On September 24, 2009, the California Air Resources Board (CARB) adopted amendments to the "Pavley" regulations that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September amendments will cement California's enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments will also prepare California to harmonize its rules with the federal rules for passenger vehicles. (CARB, 2017a)

The U.S. EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles On June 30, 2009. The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005, and was denied by the U.S. EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions." (CARB, 2017a)

The ARB's Board originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. These regulations were authorized by the 2002 legislation Assembly Bill 1493 (Pavley). (CARB, 2017a)

The regulations had been threatened by automaker lawsuits and were stalled by the U.S. EPA's delay in reviewing and then initially denying California's waiver request. The parties involved entered a May 19, 2009 agreement to resolve these issues. With the granting of the waiver on June 30, 2009, it is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. (CARB, 2017a)

The CARB has adopted a new approach to passenger vehicles – cars and light trucks – by combining the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. (CARB, 2017a)

4. Sewer & Stormwater Systems

❑ Stormwater Discharges RWQCB Order No. R8-2010-0033

On January 29, 2010, the Santa Ana RWQCB adopted Order No. R8-2010-0033 (NPDES No. CAS618033), National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for The Riverside County Flood Control and Water Conservation District, The County of Riverside, and The Incorporated Cities

of Riverside County Within the Santa Ana Region (Order No. R8-2010-0033, or "Regional MS4 Permit"). The Regional MS4 Permit applies to the County of Riverside and several incorporated cities in the Riverside County region. The Regional MS4 Permit was subsequently amended one time on June 7, 2013 to include the cities of Eastvale and Jurupa Valley. NPDES Permit Order No. R8-2010-0033 regulates discharge of urban runoff within the Project area, with the Regional MS4 Permit establishing an outcome-based approach with measurable results, and mandates compliance with its urban runoff principles and practices at the jurisdictional and at the watershed levels.

4.13.4 Basis for Determining Significance

According to Section XIX of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to utilities and service systems if the Project or any Project-related component would (OPR, 2018):

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- Result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comply with federal, state, and local management and reduction statutes and regulation related to solid waste.

Additionally, the following thresholds are derived from EA No. 34079 (Riverside County's Environmental Assessment Checklist, see *Technical Appendix A* to this EIR), and supplemented by the thresholds listed in Appendix G to the CEQA Guidelines, in order to evaluate the significance of the proposed Project's impacts on utilities and service systems. The proposed Project would result in a significant impact to utilities and service systems if the Project or any Project-related component would:

a. *Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage systems, whereby the construction or relocation would cause significant environmental effects;*

b. *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;*

c. *Require or result in the construction of new wastewater treatment facilities, including septic systems, or expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects;*

d. Result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

e. Generate solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;

f. Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes including the CIWMP (County Integrated Waste Management Plan);

g. Impact the following facilities requiring the construction of new facilities or the expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects:

- *Electricity;*
- *Natural gas;*
- *Communications systems;*
- *Street lighting;*
- *Maintenance of public facilities, including roads; or*
- *Other governmental services.*

4.13.5 IMPACT ANALYSIS

Threshold a:	***Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage systems, whereby the construction or relocation would cause significant environmental effects?***
Threshold b:	***Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?***

Water Facilities

Under existing conditions, water usage at the Mine is primarily associated with dust control and is used over approximately 44.65 acres of the site. All water used at the Mine under existing conditions comes from on-site groundwater wells. As explained in EIR Subsection 3.3.2.J and as shown previously on EIR Figure 3-5, under the proposed Project a portion of the Mine's access road (0.84 acre) would be paved and gravel stabilization would occur on approximately 10.59 acres of the site, while water would be used for dust control on approximately 4.22 acres that are planned for mining activities under the Project. In total, the Project would result in a reduction in areas subject to water for dust control by 7.21 acres, from 44.65 acres under existing conditions to 37.44 acres under proposed conditions. Thus, overall water demand at the Mine would be reduced approximately 16.1% under the Project as compared to existing/baseline conditions. Because the existing wells on-site provide adequate water supplies for dust control under existing conditions, and because less water would be needed for dust control under the Project as compared to existing conditions, it can therefore be concluded that the existing wells would adequately serve the proposed Project during normal, dry, and multiple dry years. Accordingly, the Project would not result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects, and impacts would be less than significant. Additionally, the Project would be adequately served by

existing water supplies from existing entitlements and resources, and impacts associated with new or expanded entitlements would be less than significant.

Wastewater Treatment Facilities

The Project does not propose the construction or expansion of any new wastewater treatment facilities, such as septic systems. Similar to existing conditions, all wastewater from the site would be handled via portable toilets that are regularly emptied by a rental service company. Although the Project would result in an increase in employees on-site from seven (7) to 15 employees, such an increase would not result in a substantial increase in demand for wastewater treatment. Waste from the portable toilets would be disposed of by a rental service company in accordance with all applicable regulatory requirements. Thus, the Project would not require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects, and no impact would occur.

In the event that the rental service company seeks to dispose of wastewater at a facility that is over capacity, the rental service company would be required to utilize a different wastewater treatment facility. Accordingly, the Project would not result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, and impacts would be less than significant.

Storm Water Drainage Facilities

Under on-going mining operations, runoff from the disturbed portions of the Mine would be treated by existing sedimentation basins. Following site reclamation, runoff in the EDA would be fully detained on site, requiring no new storm water drainage systems. Remaining runoff from the site would be treated by sedimentation basins proposed in the southeastern portion of the site. All areas proposed for sedimentation basins as part of the Project would occur with areas currently permitted for mining activities, or in areas that would be permitted for mining and disturbance as part of the Project. There are no components of the proposed Project's drainage system that have not already been addressed throughout this EIR. Where physical impacts are determined to be significant, mitigation measures have been imposed on the Project to reduce impacts to below a level of significance. Accordingly, impacts due to the construction or expansion of new storm water drainage systems would be less than significant.

Threshold c:	***Would the Project require or result in the construction of new wastewater treatment facilities, including septic systems, or expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?***
Threshold d:	***Would the Project result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

The Project does not propose the construction or expansion of any new wastewater treatment facilities, such as septic systems. Similar to existing conditions, all wastewater from the site would be handled via portable toilets that are regularly emptied by a rental service company. Although the Project would result in an increase in employees on-site from seven (7) to 15 employees, such an increase would not result in a substantial increase

in demand for wastewater treatment. Waste from the portable toilets would be disposed of by the rental service company in accordance with all applicable regulatory requirements. Thus, the Project would not require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects, and no impact would occur.

In the event that the rental service company seeks to dispose of wastewater at a facility that is over capacity, the rental service company would be required to utilize a different wastewater treatment facility. Accordingly, the Project would not result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, and impacts would be less than significant.

Threshold e: ***Would the Project generate solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

The proposed Project would generate an incremental increase in solid waste volumes requiring off-site disposal, primarily due to the projected eight (8) additional workers on-site. The modest increase in the number of employees on-site would not result in an exceedance, on either a direct or cumulatively-considerable basis, of the capacity at any landfill. Furthermore, Project-generated solid waste would be conveyed to one of several landfills (El Sobrante, Badlands, or Lamb Canyon Landfills) operated or managed by the Riverside County Department of Waste Resources (RCDWR). These existing landfills are required to comply with federal, State, and local statutes and regulations related to solid waste. Landfills within RCDWR's jurisdiction adhere to State guidelines which specify that a minimum of 15 years of system-wide landfill capacity shall be provided (CalRecycle, 1997a). Accordingly, the Project would not generate solid waste in excess of State or Local standards, or otherwise impair the attainment of solid waste reduction goals. Impacts would be less than significant.

Threshold f: ***Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid wastes including the CIWMP (County Integrated Waste Management Plan)?***

The Project would be required to comply with County waste reduction programs pursuant to the State's Integrated Waste Management Act and Riverside County Ordinance No. 745, *Solid Waste Collection and Disposal*. Project-generated solid waste would be conveyed to one of several landfills operated or managed by the RCDWR. These existing landfills are required to comply with federal, State, and local statutes and regulations related to solid waste. The Project also would be required to comply with federal, State, and local statutes that would reduce the amount of solid waste generated by the proposed Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. The Project would comply with all applicable solid waste statutes and regulations; as such, impacts would be less than significant.

Threshold g: ***Would the project impact the following facilities requiring the construction of new facilities or the expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects:***

Electricity?

Natural gas?

Communications systems?

Street lighting?

Maintenance of public facilities, including roads?

Other governmental services?

The proposed Project would involve the continuation and expansion of an existing mining operation and would not result in a substantial increase in daily operational characteristics at the site. All utilities needed to serve the Mine are currently in place. Specifically, electricity would continue to be provided via existing connections to the existing mining processing equipment. No new natural gas would be required for the Project; thus, no new natural gas facilities would be constructed for the Project. There would be no need for new or expanded communication systems, as all such systems already are in place. The Project does not propose nor require installation of new street lighting, and thus no impacts would occur associated with street lighting. Accordingly, Project impacts due to the construction or expansion of electricity, natural gas, communication systems, and street lighting would be less than significant.

Although the Project does not propose any roadway improvements, implementation of the Project would extend the duration (i.e., years) over which mining activities would occur on site. As a result, traffic generated by the Mine would contribute to the need for road maintenance during mining operations within the EDA. Although the Project would contribute to the need for roadway maintenance in the area, the need for roadway maintenance is already accounted for as part of Riverside County's annual budget, and the Project's contribution to the need for roadway maintenance would not result in the County being unable to fund other measures or programs that protect the environment. Therefore, the Project's demand for roadway maintenance over a longer duration of time than would occur without the proposed Project would be less than significant.

There are no other governmental services or facilities that would be impacted by the Project, or that would require the construction or expansion of any facilities; thus, impacts would be less than significant.

As evaluated in this EIR, the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions (refer to EIR subsection 3.3.2.G). All of the increase in demand is associated with the mining processing equipment. However, there are no adopted energy conservation plans that are applicable to the proposed Project. Furthermore, and as discussed in EIR Subsection 4.4, *Energy*, the Project would not result in the wasteful or inefficient use of energy, as the increase in electricity demand is associated with the provision of additional aggregate resources within the local area. As noted in EIR Subsection 4.2 (refer to the analysis of Thresholds b. and c.), new or expanded mining operations do not significantly increase the demand for construction materials in the region, but rather reduce the distance that aggregate materials are transported. As such, if the proposed Project is not approved, then electricity

consumption would occur at a different aggregate mine site to meet the local area demand for aggregate resources. (Berck, 2005) Thus, because there is no adopted energy conservation plan and because the Project would not result in the inefficient or wasteful use of energy resources, Project impacts would be less than significant.

4.13.6 CUMULATIVE IMPACT ANALYSIS

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development in the vicinity of the Project site, including buildout of the Riverside County General Plan Land Use Plan. This study area was selected because utilities and service systems are provided to all the existing and planned developments in the surrounding areas by the same service providers.

Water Treatment Facilities

The proposed Project would result in a reduction in the demand for water at the Mine by approximately 16.1% as compared to baseline conditions. Water used at the Mine for dust control purposes is obtained from existing wells on site. Furthermore, the Project does not require treated (potable) water, as groundwater is sufficient for dust control purposes. While other developments in the cumulative study area have the potential to result in the need for relocating or constructing new or expanded water treatment facilities, the Project would not contribute to the need for such new or expanded facilities. Therefore, the Project would result in a less-than-cumulatively considerable impact to water treatment facilities.

Water Supplies

The proposed Project would result in a reduction in the demand for water at the Mine by approximately 16.1% as compared to baseline conditions. Although other development in the cumulative study area would result in a net increase in demand for water supplies from EMWD, the Project would not contribute to such a need because the Mine site already is adequately served by groundwater resources. The Project's impact to water supplies would therefore be less-than-cumulatively-considerable.

Wastewater Treatment Facilities

The Project would result in an increase in employees on-site from seven (7) to 15 employees, which would not result in a substantial increase in demand for wastewater treatment. All wastewater generated by the Project would be handled via portable toilets would be disposed of by the rental service company in accordance with all applicable regulatory requirements. The Project has no potential to result in or require the construction of new wastewater treatment facilities. Additionally, in the event that the rental service company seeks to dispose of wastewater at a facility that is over capacity, the rental service company would be required to utilize a different wastewater treatment facility. Thus, the Project would result in no cumulatively-considerable impacts to wastewater treatment facilities and wastewater treatment capacity.

Storm Water Drainage

Cumulative impacts associated with the provision of storm water drainage facilities are evaluated throughout the appropriate issue areas in this EIR. In all cases, where cumulatively-considerable impacts associated with any Project component are identified, mitigation measures have been imposed to reduce such impacts to the maximum feasible extent. Accordingly, impacts associated with the provision of stormwater drainage facilities to serve the proposed Project would be less-than-cumulatively considerable.

Landfill Capacity

As previously discussed in the analysis provided under Threshold e., solid waste generated by construction and operation of the Project would represent nominal proportions of the daily disposal capacity at the potential transfer station (MVTS) and landfills (El Sobrante Landfill, Lamb Canyon Landfill, and/or Badlands Landfill). The transfer station and landfills are currently projected to remain open until as far into the future as 2045 (El Sobrante Landfill) and have sufficient daily capacity to handle solid waste generated by the Project and other cumulative developments both during construction and long-term operation. The proposed Project would not directly result in the need for expanded solid waste disposal facilities, as the El Sobrante Landfill, Lamb Canyon Landfill, and Badlands Landfill have sufficient existing capacity to handle solid waste generated by the proposed Project. Rather, the Project's incremental contribution to solid waste generation may contribute to an ultimate need for expanding the solid waste disposal facilities that would serve the Project and/or the construction of additional solid waste disposal facilities. Moreover, it is possible that as other developments in the region are proposed, the RCDWR and WMIE may opt to construct new solid waste disposal facilities to serve those developments, and such facilities may or may not receive solid waste generated by the proposed Project. Although the Project has the potential to cumulatively contribute to the demand for new/expanded solid waste disposal facilities, the construction of which could significantly impact the environment, it is too speculative for evaluation in the absence of a proposed expansion or development plan (CEQA Guidelines § 15145). Therefore, the Project's cumulative impacts to solid waste disposal facilities are evaluated as less than significant.

Solid Waste Regulations

The proposed Project would adhere to regulations set forth by local and State regulations (including AB 341 and AB 939) during both construction and long-term operations. Other cumulative developments would also be required to comply with such regulations. As such, the Project as well as other cumulative developments in the area would not result in cumulative impacts with respect to compliance with federal, State, and local statutes and regulations related to solid wastes. Impacts would be less-than-cumulatively-considerable.

Construction or Expansion of Facilities

The proposed Project would involve the continuation and expansion of an existing mining operation and would not result in a substantial increase in daily operational characteristics at the site. All utilities needed to serve the Mine are currently in place. Specifically, electricity would continue to be provided via existing connections to the existing mining processing equipment. No new natural gas would be required for the Project; thus, no new natural gas facilities would be constructed for the Project. There would be no need for new or expanded communication systems, as all such systems already are in place. The Project does not propose nor require

installation of new street lighting, and thus no impacts would occur associated with street lighting. Accordingly, Project impacts due to the construction or expansion of electricity, natural gas, communication systems, and street lighting would be less-than-cumulatively considerable.

The Project would extend the duration (i.e., years) over which mining activities would occur on site and would therefore cumulatively contribute to the need for road maintenance in the long term. However, the Project's incremental demand for roadway maintenance would not result in the County's inability to provide funding for programs or improvements needed to protect the environment. Thus, the Project's cumulative contribution to the need for roadway maintenance would be less than significant.

There are no other governmental services or facilities that would be impacted by the Project, and the Project would not result in or require the construction or expansion of any facilities; thus, impacts would be less-than-cumulatively considerable.

The Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions (refer to EIR subsection 3.3.2.G). However, there are no adopted energy conservation plans that are applicable to the proposed Project. Nonetheless, the Project would not result in the wasteful or inefficient of electricity. As explained under the analysis of Threshold g., new or expanded mining operations do not significantly increase the demand for construction materials in the region, but rather reduce the distance that aggregate materials are transported. As such, if the proposed Project is not approved, then electricity consumption would occur at a different aggregate mine site to meet the local area demand for aggregate resources. If an increase in electricity consumption did not occur on site, it would occur off-site in another location to meet the local area's demand for aggregate resources. (Berck, 2005) Thus, because there is no adopted energy conservation plan and because the Project would not result in the inefficient or wasteful use of energy resources, Project impacts would be less-than-cumulatively considerable.

4.13.7 Significance of Impacts Before Mitigation

Thresholds a. and b.: Less-than-Significant Impact. Overall water demand at the Mine would be reduced approximately 16.1% under the Project as compared to existing/baseline conditions. The existing wells on-site provide adequate water supplies for dust control under existing conditions, and because less water would be needed for dust control under the Project as compared to existing conditions, it can therefore be concluded that the existing wells would adequately serve the proposed Project without the need for new or expanded water supply facilities. No new water facilities would be required to serve the proposed Project. Additionally, all wastewater generated by the Mine under existing and proposed conditions is handled via portable toilets that would regularly be emptied by a service company. As such, the Project would not result in impacts due to the need for new or expanded wastewater treatment facilities. Additionally, impacts associated with storm drainage facilities are evaluated throughout this EIR, and would be less than significant or reduced to less-than-significant levels with implementation of the mitigation measures identified in this EIR.

Thresholds c. and d.: No Impact. The Project would not require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects. Additionally, all wastewater from the site would be handled via portable toilets and

would be disposed of by the rental service company in accordance with all applicable regulatory requirements. The rental service company would be required to dispose of wastewater at a facility that has adequate capacity. Thus, no impact would occur.

Threshold e.: Less-than-Significant Impact. The Project would generate a nominal increase in the amount of solid waste produced on-site due to the addition of eight (8) new employees. This nominal increase in solid waste generation would not result in the generation of solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure. There are also no components of the Project that would impair the attainment of solid waste reduction goals. Impacts would be less than significant.

Threshold f.: Less-than-Significant Impact. The Project would comply with all applicable federal, State, and local statutes and regulations related to solid waste disposal, reduction, and recycling, and impacts would be less than significant.

Threshold g.: Less-than-Significant-Impact. The Project would not result in or require the construction or expansion of electrical, natural gas, or telecommunication facilities, and does not propose or require the installation of new street lighting. The Project would not affect other government facilities. Although the Project would result in an increased need for roadway maintenance in the long term, costs associated with such increased maintenance would not affect existing or future County plans or programs that protect the environment. Although the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions, the Project would not result in the inefficient or wasteful use of energy. Additionally, the Project would not result in or require the construction or expansion of new electrical facilities. Impacts would be less than significant.

4.13.8 Applicable Regulations, Design Requirements, and Mitigation

Applicable Regulations and Design Requirements

The following are applicable regulations and design requirements within the County of Riverside. Although these requirements technically do not meet CEQA's definition for mitigation, they are imposed herein to ensure Project compliance with applicable County regulations and design requirements.

- The Project is required to comply with the Riverside Countywide Integrated Waste Management Plan (CIWMP). The CIWMP requires up to 50 percent of its solid waste needs to be diverted from area landfills. In conformance with the CIWMP, the Project Applicant is required to work with future contract refuse haulers to implement recycling and waste reduction programs for solid wastes. The CIWMP outlines goals, policies, and programs that comply with the provisions of AB 939 and its diversion mandates.

- The Project is required to comply with the provisions of the California Solid Waste Integrated Waste Management Act, (AB 939, 1989) which mandates a reduction of disposed waste throughout California.

- The Project is required to comply with the provisions of the Mandatory Commercial Recycling Program (AB 341). AB 341 made a legislative declaration that it is the policy goal of the state that not less than 75% of solid waste generated be source reduced, recycled, or composted by the year 2020, and required the Department of Resources Recycling and Recovery, by January 1, 2014, to provide a report to the Legislature that provides strategies to achieve that policy goal and also includes other specified information and recommendations.

Mitigation

Impacts would be less than significant; therefore, no mitigation is required.

5.0 OTHER CEQA CONSIDERATIONS

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

The CEQA Guidelines require that an EIR disclose the significant environmental effects of a project which cannot be avoided if the proposed project is implemented (CEQA Guidelines § 15126(b)). As described in detail in Section 4.0 of this EIR, the proposed Project is anticipated to result in impacts to the environment that cannot be reduced to below a level of significance after the implementation of relevant standard conditions of approval, compliance with applicable laws and regulations, and application of feasible mitigation measures. The significant environmental effects of the proposed Project that cannot be feasibly mitigated are as follows:

- Air Quality Threshold a: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Operational-source emissions with implementation of Mitigation Measures MM 4.2-1 and MM 4.2-2 would continue to exceed the SCAQMD regional thresholds for NO_X, PM_{10}, and $PM_{2.5}$. Although the required mitigation would reduce the Project's impacts, it is important to note that more than 50 percent of the Project's NO_X emissions would be derived from vehicular activity and more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, because mitigation is not available to reduce the Project's operational emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD regional thresholds, the Project would result in a conflict with the SCAQMD AQMP. The Project's impacts due to a conflict with the AQMP would be significant and unavoidable on a direct and cumulatively-considerable basis.

- Air Quality Threshold b: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Even with implementation of the recommended mitigation measures and compliance with SCAQMD Rules 402, 403, and 1157, the Project still would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. No feasible mitigation measures exist to reduce the Project's emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below a level of significance beyond the mitigation measures and regulatory requirements already identified in subsection 4.2.8. More than 50% of the Project's NO_X emissions are associated with on-site mobile operational equipment and haul truck trips (i.e., combustible engines), and the Project Applicant does not have the regulatory authority to control tailpipe emissions; thus, no additional feasible mitigation measures exist that would reduce the Project's NO_X emissions to levels that are less than significant. Additionally, more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, the Project's operational emissions of NO_X, PM_{10}, and $PM_{2.5}$ represent a significant and unavoidable direct and cumulatively-considerable impact for which additional feasible mitigation is not available.

- Greenhouse Gas Emissions Threshold a: Significant and Unavoidable Cumulatively-Considerable Impact. The total amount of net new Project-related GHG emissions would total 4,975.49 MTCO2e per year. Although the Project's level of GHG emissions would not exceed the SCAQMD's industrial screening threshold of 10,000 MTCO2e per year, for purposes of analysis herein it is assumed that GHG emission impacts would be significant if the Project were to emit more than 3,000 MTCO2e/yr, in accordance with the SCAQMD Tier 3 screening threshold for mixed-use developments. Therefore, and based on SCAQMD's mixed-use screening threshold of 3,000 MTCO2e/yr, the Project's impacts associated with GHG emissions would be cumulatively considerable. EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.25, *Air Quality*, would apply and would help reduce the Project's GHG emissions but not to below a level of significance. However, more than 50 percent of the Project's GHG emissions are derived from vehicle usage. Since neither the Project Applicant nor the County have regulatory authority to control tailpipe emissions, no additional feasible mitigation measures exist that would reduce GHG emissions to levels that are less-than-significant. As such, Project impacts due to GHG emissions would be significant and unavoidable on a cumulatively-considerable basis.

- Greenhouse Gas Emissions Threshold b.: Significant and Unavoidable Direct and Cumulatively-Considerable Impact. It is not possible to reduce the Project's level of GHG emissions to below the 3,000 $MTCO_2e$/yr screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it is not possible for the Project to achieve a minimum of 100 points pursuant to the County's CAP Screening Tables, and no feasible mitigation measures exist that would result in Project consistency with the CAP. Therefore, the Project would result in a significant and unavoidable direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.

- Transportation and Traffic Threshold a.: Cumulatively-Considerable and Unavoidable Impact. Table 5-1, *Summary of Project Intersection Impacts by Study Scenario*, provides a summary of the Project's impacts to study area intersections under Existing Plus Ambient Plus Project (EAP) 2019 and Existing Plus Ambient Plus Project Plus Cumulative (2019) conditions. Table 5-2, *Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario*, provides a summary of the Project's impacts due to traffic signal warrants. Mitigation is proposed for Project impacts to study area intersections, including payment of Development Impact Fee (DIF) fees, Transportation Uniform Mitigation Fee (TUMF) fees, and fair-share monetary contributions for required improvements. However, because it cannot be assured that improvements needed to achieve an acceptable level of service at study area intersections and due to traffic signal warrants would be in place prior to commencement of expanded mining activities as proposed by the Project, the Project's impacts to the facilities identified in Table 5-1 and Table 5-2 would be significant and unavoidable in the near-term prior to construction of the required improvements.

Table 5-1 Summary of Project Intersection Impacts by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	--	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	C*
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	C*	C*
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Table 5-2 Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	C*	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	--
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	--	--
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

5.2 Significant Irreversible Environmental Impacts Which Would be Involved in the Proposed Action Should it be Implemented

The CEQA Guidelines require EIRs to address any significant irreversible environmental changes that would be involved in the proposed action should it be implemented (CEQA Guidelines § 15126.2(c)). An environmental change would fall into this category if: a) the project would involve a large commitment of non-renewable resources; b) the primary and secondary impacts of the project would generally commit future generations to similar uses; c) the project involves uses in which irreversible damage could result from any potential environmental accidents; or d) the proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy).

Determining whether the proposed Project may result in significant irreversible environmental changes requires a determination of whether key non-renewable resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Natural resources in the form of energy resources would be used during the proposed Project, but mining of the Project site as proposed is not expected to negatively affect the availability of such resources, including resources that may be non-renewable (e.g., fossil fuels). The Project would allow continued use of the property's aggregate resources, which are of value to the

State and the region. The proposed Project would not involve the use of large sums or sources of non-renewable energy.

The Project would be required to comply with federal, State, and local regulations related to hazardous materials, which would ensure that continued mining activities at the Mine as a result of the proposed Project would not have the potential to cause significant irreversible damage to the environment, including damage that may result from upset or accident conditions.

As evaluated in this EIR, the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions (refer to EIR subsection 3.3.2.G). All of the increase in demand is associated with the mining processing equipment. The Project also would result in an increase in demand for fossil fuels associated with employee vehicular trips, haul truck trips to and from the site, and on-site mobile mining equipment. However, as noted in EIR Subsection 4.2 (refer to the analysis of Thresholds b. and c.), new or expanded mining operations do not significantly increase the demand for construction materials in the region, but rather reduce the distance that aggregate materials are transported. As such, if the proposed Project is not approved, then electricity and fossil fuel consumption would occur in association with a different aggregate mine site to meet the local area demand for aggregate resources. (Berck, 2005) Therefore, the proposed Project would not result in the wasteful use of energy or the consumption of resources that are not justified based on the scale of the proposed Project.

5.3 Growth Inducing Impacts of the Proposed Project

CEQA requires a discussion of the ways in which the proposed Project could be growth inducing. The CEQA Guidelines identify a project as growth inducing if it would foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines § 15126.2(d)). New employees and new residential populations represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

A project could indirectly induce growth at the local level by increasing the demand for additional goods and services associated with an increase in population or employment and thus reducing or removing the barriers to growth. This typically occurs in suburban or rural environs where population growth results in increased demand for service and commodity markets responding to the new population. Because the Project proposes to expand existing mining operations at the Gilman Springs Mine, the Project would not involve the expansion of existing utilities or facilities and would not entail the development of buildings or housing that could induce growth.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population in excess of what is assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies such as the Southern California Association of Governments (SCAG). Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth beyond the levels currently permitted by local or regional plans

and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

The expansion of existing mining activities proposed would not directly promote growth or development on adjacent and surrounding properties. Because development on nearby parcels would be consistent with the County's General Plan, growth-inducing impacts of the Project would be less than significant.

Furthermore, continued aggregate processing would fill a market demand for aggregate materials within the region, and would not result in an increase in demand for aggregate materials. The fact is that aggregate will be consumed with or without the proposed Project. The Project would not have an effect on demand for aggregate but would have an effect on the distance that aggregates travel within the region. Project aggregate would replace materials hauled from farther distances and supply new demand for aggregate that will occur in the Riverside County region. This rationale is supported by Dr. Peter Berck's "Working Paper No. 994 – A Note on the Environmental Costs of Aggregate" (Department of Agricultural and Resource Economics and Policy, Division of Agricultural and Natural Resources, University of California Berkley, January 2005). Dr. Berck states that: (Berck, 2005, p. 3; Urban Crossroads, 2020a)

> *"The opening of a new quarry for aggregates will change the pattern of transportation of aggregates in the area served by the quarry. In this note, we will show that, so long as aggregate producers are cost minimizing, the new pattern of transportation requires less truck transport than the pattern of transportation that existed before the opening of the new quarry. Since the costs of providing aggregates falls, it is reasonable to assume that the price of delivered aggregates also will fall. This note also shows that the demand expansion effect is of very small magnitude. Since the demand increase from a new quarry is quite small, the dominant effect is that the quarries are on average closer to the users of aggregates and, as a result, the truck mileage for aggregate hauling decreases. To summarize the effects of a new quarry project:*
>
> *a) The project in itself will not significantly increase the demand for construction materials in the region through market forces, which include the downward pressure on pricing.*
>
> *b) Truck traffic (i.e. vehicle miles traveled) in the region will not increase and may decrease as a result of the project."* (Berck, 2005, p. 3; Urban Crossroads, 2020a)

Furthermore, a study prepared by the San Diego Association of Governments (SANDAG) found that when aggregate is transported by truck to the point of use, the price of the material increases about 15 cents per ton for every mile hauled, and concluded that "…the point of diminishing marginal benefit – that is, where the largest number of projects can be served with the least additional distance – occurs at the 20- to 25-mile driveshed" (SANDAG, 2011, pp. ES-4 and 3-9).

Thus, because the Project would not increase the demand for aggregate resources but would rather reduce the distance that such materials must travel, the Project would not result in growth-inducing impacts associated with the mining of aggregate resources.

Indirect growth-inducing impacts at the local level result from a demand for additional goods and services associated with the increase in people in the area, including employees. This occurs in suburban or rural environments where population growth results in increased demand for service and commodity markets responding to the new population. This type of growth is, however, a regional phenomenon resulting from introduction of a major employment center or regionally significant housing project. The implementation of the proposed Project would not result in indirect growth-inducing impacts of the region because the Project proposes expansion of existing mining activities and would only result in the introduction of eight new employees on-site. The introduction of eight new employees would not be growth inducing.

5.4 Effects Found Not to be Significant During the Initial Study Process

CEQA Guidelines § 15128 requires that an EIR:

> *"…contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."*

An Initial Study was prepared for the proposed Project, which is included as *Technical Appendix A* to this EIR. Through the Initial Study process, Riverside County determined that the proposed Project could potentially cause adverse effects, thereby requiring preparation of an EIR. The Initial Study concluded that the Project would have no potential to cause significant effects to the following environmental issue areas: Agricultural and Forest Resources; Hazards and Hazardous Materials; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; and Recreation. Therefore, these issue areas are not required to be discussed in Section 4.0, *Environmental Analysis*, of this EIR. A brief summary of the seven issues found not to be significant is presented below, with a more detailed analysis provided in the Project's Initial Study contained in *Technical Appendix A*.

5.4.1 Agriculture and Forest Resources

Threshold a:	***Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?***

According to mapping information available from the California Department of Conservation's (CDC) Farmland Mapping and Monitoring Program (FMMP), the 1,021.4-acre Gilman Springs Mine site (including the proposed EDA) is identified as "Farmland of Local Importance" and "Other Lands." There are no portions of the Mine or lands abutting the Mine that are classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). (CDC, 2017) Therefore, the Project does not have the potential to directly or indirectly convert Farmland to non-agricultural use, and no impact would occur.

Threshold b: ***Would the Project conflict with existing agricultural zoning, agricultural use or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve?***

According to Riverside County GIS, the Project site is zoned "Mineral Resources & Related Manufacturing (M-R-A)" and "Controlled Development (W-2)" (RCIT, 2019). According to Riverside County Ordinance No. 625 ("Right-to-Farm Ordinance"), agricultural zones include "Light Agriculture (A-1)," "Light Agriculture with Poultry (A-P)," "Heavy Agriculture (A-2)," "Agriculture-Dairy (A-D)," and "Citrus/Vineyard (C/V)." Thus, the existing M-R-A and W-2 zoning designations that apply to the Mine are not agricultural zones. Accordingly, the Project has no potential to conflict with agricultural zoning on-site. The only areas surrounding the Mine that are agriculturally zones are areas to the south and west of the Mine, which are zoned for "Heavy Agriculture – 10-acre minimum (A-2-10)." However, the Project proposes to expand an existing mining operation to encompass an additional 54.5 acres. There are no components of the proposed Project or the existing characteristics at the Mine that would result in a conflict with the nearby agricultural properties. As such, impacts would be less than significant.

Existing agricultural operations occur south and west of the Mine site (Google Earth, 2016). However, the Project proposes to expand an existing mining operation to encompass an additional 54.5 acres. There are no components of the existing or proposed activities at the Mine that would result in a conflict with existing agricultural uses to the south and west. Accordingly, a less-than-significant impact would occur.

According to mapping information from the California Department of Conservation (CDC), no portions of the Mine are subject to Williamson Act Contracts. The nearest Williamson Act-contracted lands occur approximately 0.8 mile west of the Mine's boundary (approximately 1.2 miles west of the proposed EDA). Additionally, according to Riverside County GIS, no portion of the Mine is located within a Riverside County Agricultural Preserve. The nearest County Agriculture Preserve is the Lakeview Agriculture Preserve No. 6, which is located approximately 0.8 mile west of the Mine boundary (approximately 1.2 miles west of the Project's proposed EDA). Several additional County Agricultural Preserves exist further to the south of the Mine. Although there are existing Williamson Act-contracted lands and County Agricultural Preserves in the Mine's vicinity, there are no components of the proposed Project that would conflict with existing agricultural uses within these off-site areas. Accordingly, a less-than-significant impact would occur. (CDC, 2016; RCIT, 2019)

Threshold c: ***Cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625 "Right-to-Farm")?***

Although the existing Mine encompasses approximately 1,021.4 acres in size and abuts several agricultural uses occurring to the south and west of the Mine, the Project proposes only an expansion in areas permitted for mining activities by approximately 54.5 acres located in the central portion of the 1,021.4-acre Mine. The 54.5-acre EDA is not located within 300 feet of the Mine boundaries and is not located within 300 feet of agriculturally zoned property. Furthermore, mining activities proposed by the Project would not be incompatible with agricultural uses in the surrounding area. Furthermore, the provisions of Ordinance No. 625 apply only to tentative land division proposals that occur within 300 feet of land zoned primarily for

agricultural purposes, and the Project does not propose any tentative land divisions; thus, the Project has no potential to conflict with Ordinance No. 625. Accordingly, no impact would occur.

Threshold e: ***Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?***

As indicated in Threshold 5.4.1 (a), there are no "Farmland" designations within the Mine's site. However, lands designated as Prime Farmland, Statewide Importance, and Unique Farmland occur south and west of the Mine's existing and proposed mining limits. The Project proposes to expand mining activities on 54.5 acres, located in the central portions of the 1,021.4-acre Mine, and the 54.5-acre EDA is approximately 0.9 miles north of the nearest lands classified as containing Important Farmland (CDC, 2017; Google Earth, 2016). Furthermore, there are no components of the proposed Project that would affect, either directly or indirectly, existing agricultural uses in the area. Therefore, the Project has no potential to result in other changes to the existing environment that could result in the conversion of Farmland to non-agricultural use, and impacts would be less than significant.

Threshold f: ***Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Govt. Code section 51104(g))?***

The Mine is not designated as forest land, timberland, or timberland zoned Timberland Production, nor is it surrounded by forest land, timberland, or timberland zoned Timberland Production land. The Mine and surrounding areas are zoned for manufacturing, agricultural, residential, landfill, and open space uses. Accordingly, the proposed Project would not have the potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). As such, no impact would occur.

Threshold g: ***Would the Project result in the loss of forest land or conversion of forest land to non-forest use?***

The Mine and surrounding areas are not part of a forest. The Mine is used as an active aggregate quarry with undeveloped areas surrounding the active portions of the Mine, none of which contains dense stands of trees that would be considered forest resources. (Google Earth, 2016) Accordingly, the proposed Project would not have the potential to result in the loss of forest land or the conversion of forest land to non-forest use. As such, no impact would occur.

Threshold f: ***Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?***

As indicated in Threshold 5.4.1(g), the Mine and surrounding area are not part of a forest. Therefore, the proposed Project does not involve other changes in the existing environment, which due to their location or nature, could result in conversion of forest land to non-forest use. As such, no impact would occur.

5.4.2 Hazards and Hazardous Materials

Threshold a: ***Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

The only hazardous materials associated with existing and planned operations of the 1,021.4-acre Gilman Springs Mine are associated with oils and fuels for mining-related equipment. However, no such fuels or oils are stored on-site, as fuel is delivered to the Mine on an as-needed basis. The proposed Project would therefore result in an incremental increase in the need for fuel and oil deliveries to the Mine. However, it is not expected that the increased fuel deliveries to the Mine would substantially increase hazards to the public or the environment as compared to existing conditions.

In addition, the routine transport of aggregate materials would not result in any significant hazards to the public or the environment. Waste generated on-site is limited to non-hazardous waste piles and refuse from site workers. On-site waste piles ultimately would be graded in accordance with the SMP 159R2 reclamation plan, while refuse would be disposed of in accordance with County waste requirements. Accordingly, potential impacts due to the routine transport, use, and disposal of hazardous materials would be less than significant.

Threshold b: ***Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

Refer to the discussion under Threshold 5.4.2(a), above. The routine transport of aggregate materials and fuels to and from the Mine would not result in any significant hazards to the public or the environment. Accordingly, potential impacts due to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant.

Threshold c: ***Would the Project impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan?***

The 1,021.4-acre Gilman Springs Mine is not identified along an emergency access route on any local or regional plans. Although Gilman Springs Road could serve as an emergency access route in the Mine's vicinity, there are no components of the Project that would obstruct access along Gilman Springs Road. Accordingly, there would be no impact due to interference with an adopted emergency response plan or emergency evacuation plan.

Threshold d: ***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?***

The nearest school to the Project site is the Wellwood Elementary School, located approximately 4.5 miles from the proposed EDA in Beaumont, CA. There are no planned schools within one-quarter mile of the Project site. Thus, the Project has no potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Moreover, the Project involves aggregate mining and processing activities, and the Mine does not store any petroleum products on-site that could pose a risk to Wellwood Elementary School. There are no components of the Project that would result in the emission or storage of acutely hazardous materials, substances, or waste within one-quarter mile of a school. Accordingly, hazardous materials impacts to nearby school facilities would be less than significant.

Threshold e: ***Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

Subsection 4.13.2, *Existing Environmental Setting – Hazardous Materials and Safety*, of the General Plan Update EIR lists the Lockheed Propulsion site No. 1 and Site No. 2 as known Major Hazardous Material Sites in Riverside County. These sites are located immediately to the north of the Mine's property, approximately 0.33 mile from the Project's proposed EDA. However, no hazardous materials sites are identified on the 1,021.4-acre Gilman Springs Mine site, including within the proposed EDA. A site-specific Phase 1 Environmental Site Assessment (ESA) has been prepared for the property, which identifies the Lockheed property as a Recognized Environmental Concern (REC) but notes that a Remedial Action Plan (RAP) has been approved for implementation by the Department of Toxic Substances Control (DTSC). Due to remediation, the Phase 1 ESA concludes that magnitude of this REC is low. The Phase 1 ESA also notes that the storage of petroleum products on-site is considered a REC, the magnitude of which is considered "low" based on the relatively limited and localized aerial extent of observed impact and the low cost of remediation. (PEE, 2017, pp. 2-3) The Phase 1 ESA does not identify any hazardous materials sites on the property that have been identified on lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As such, impacts would be less than significant.

Threshold f: ***Would the Project result in an inconsistency with an Airport Master Plan?***

The 1,021.4-acre Gilman Springs Mine is located in unincorporated areas of Riverside County along Gilman Springs Road. The Mine is not located within any Airport Master Plan. The nearest Airport Master Plan (March Air Reserve Base) is approximately 4.7 miles to the west of the proposed Project's EDA. Additionally, according to Riverside County GIS, no portions of the Mine occur within any Airport Influence Area (AIA). Therefore, the Project would not result in an inconsistency with an Airport Master Plan and no impact would occur.

Threshold g: ***Would the Project require review by the Airport Land Use Commission?***

According to Riverside County GIS, the Project site is not located within the AIA for any airports (RCIT, 2019). Thus, the Project would not require review by the Airport Land Use Commission (ALUC), and no impact would occur.

Threshold h: ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?***

According to Riverside County GIS, the Project site is not located within the AIA for any airports (RCIT, 2019). Additionally, there are no public airports within two miles of the Mine boundaries (Google Earth, 2016). Thus, the Project would not result in airport-related safety hazards for people working in the Project area, and impacts would be less than significant.

Threshold i: ***For a project within the vicinity of a private airstrip, or heliport, would the project result in a safety hazard for people residing or working in the project area?***

There are no private airport facilities within two miles of the Mine. Thus, the Project would not expose future site workers to hazards associated with private airport or heliport operations and no impact would occur. (Google Earth, 2016)

5.4.3 Land Use and Planning

Threshold a: ***Would the Project result in a substantial alteration of the present or planned land use of an area?***

The Gilman Springs Mine comprises approximately 1,021.4 acres of land, of which approximately 150.4 acres are currently used for mining activities. Expansion of the site's disturbance limits to accommodate an additional 54.5 acres of mining area would not result in a substantial alteration of the present or planned land use of the area. Additionally, the Mine's property is designated by the Riverside County General Plan as "Open Space – Rural (OS-RUR)" and "Open Space – Mineral Resources (OS-MR)," which both allow for mineral extrication and processing facilities (Riverside County, 2019b). Therefore, no impact would occur.

Threshold b: ***Would the Project affect land use within a city sphere of influence and/or within adjacent city or county boundaries?***

According to Riverside County GIS, the Mine is adjacent to, but outside of the City of Moreno Valley Sphere of Influence (SOI). The Mine also is located 0.8 mile southwest of the nearest portion of the City of Beaumont SOI and 1.1-mile northwest of the City of San Jacinto SOI. Accordingly, the Project has no potential to affect land use within a city SOI. The Riverside County General Plan designates properties abutting the Mine for "Open Space – Rural (OS-RUR)," "Rural Residential," "Open Space – Conservation Habitat (OS-CH)," and "Agriculture (AG)." Although the Mine abuts these off-site areas, the proposed EDA occurs within the central portions of the 1,021.4-acre Mine, approximately 0.4 mile east of the Mine's western boundary, 0.3 mile south

of the Mine's northern boundary, 0.3 mile north of the southern Mine boundary, and 0.6 mile west of the Mine's eastern boundary. Accordingly, the expansion of mining operations on-site as proposed by the Project would not adversely affect future land uses on adjacent properties. Thus, impacts due to a conflict with land use designations on adjacent lands would be less than significant.

Threshold c: ***Would the Project be consistent with the site's existing or proposed zoning?***

The 1,021.4-acre Gilman Springs Mine site is currently zoned "Controlled Development (W-2)" with small portions of the property to the south near Gilman Springs Road zoned as "Mineral Resources & Related Manufacturing (M-R-A)." The site's existing and proposed mining activities are allowed uses under both the W-2 and M-R-A zones; thus, the Project would not conflict with the site's existing zoning designations. Additionally, no change of zone is proposed as part of the Project. Therefore, no impact would occur.

Threshold d: ***Would the Project be compatible with existing surrounding zoning?***

Existing surrounding zoning designations include "Controlled Development (W-2)," "Residential Agricultural – 2 ½-acre Minimum (R-A-2 ½)," and "Residential Agricultural – 20-acre Minimum (R-A-20)" to the west; "Manufacturing – Medium (M-M)" and "Manufacturing – Heavy (M-H)" to the north; W-2 to the east; and W-2 and "Heavy Agricultural – 10-acre Minimum (A-2-10)" to the south. As noted under the discussion of Threshold 5.4.3(a), mining activities are an allowed use within the W-2 zone, and mining operations on-site therefore would not conflict with lands to the west, south, and east that are zoned for W-2. Mining activities also are an allowed use within the A-2 zone; thus, the Project would not conflict with surrounding lands zoned for A-2 uses. The Project also would not conflict with the M-M and M-H zoning designations to the north, as mining activities and light and heavy industrial land uses are compatible land uses. Mining activities proposed by the Project have the potential to conflict with lands to the west that are zoned for R-A-2 ½ and R-A-20, as these zones permit residential uses and neither allow for mining operations. However, the proposed expansion areas occur approximately 0.4 mile from the western Mine boundary, and approximately 0.6 mile from the nearest existing residential home. Furthermore, the line-of-sight between the existing residence and the EDA is obstructed by intervening topography, and views of the EDA would further diminish as mining activities within the EDA progress. Based on the foregoing analysis, impacts due to a conflict with surrounding zoning would be less than significant.

Threshold e: ***Would the Project be compatible with existing and planned surrounding land uses?***

General Plan land use designations surrounding the Project site include the following: "Open Space – Rural (OS-RUR)," "Rural Residential (RR)," and "Open Space – Recreation (OS-R)" to the west; OS-RUR to the north; "Open Space – Conservation Habitat (OS-CH)" and OS-RUR to the east; and "Agricultural (AG)," "Open Space – Conservation (OS-C)," OS-RUR, and OS-CH to the south. Although the Mine abuts these off-site areas, the proposed EDA occurs within the central portions of the 1,021.4-acre Mine, approximately 0.4 mile east of the Mine's western boundary, 0.3 mile south of the Mine's northern boundary, 0.3 mile north of the southern Mine boundary, and 0.6 mile west of the Mine's eastern boundary. Thus, the Project's proposed mining expansion areas would be sufficiently buffered from these off-site properties such that a conflict with the existing planned land uses would not occur.

With respect to existing surrounding land uses, areas to the north is open space that was historically used by Grand Central Rocket Company and Lockheed Propulsion Company for rocket motor testing operations and small rocket motor assembly; areas to the east consist of open space and the Lamb Canyon Landfill; areas to the south consist of open space and agricultural uses; and areas to the west consist of open space, a single-family residence, and agricultural uses. Mining activities proposed by the Project would be compatible with the surrounding open space and agricultural uses. With respect to the existing single-family residence to the west, the Project's proposed EDA is located 0.4 mile east of the Mine's western boundary, and the EDA is not currently visible from this off-site single-family residence due to intervening topography. Moreover, as mining activities within the EDA progress mining operations would further be obstructed from view. Thus, the Project as proposed would be compatible with surrounding uses, and a less-than-significant impact would occur.

Threshold f: ***Would the Project be consistent with the land use designations and policies of the General Plan (including those of any applicable Specific Plan)?***

The Project site is designated by the General Plan for OS-RUR and "Open Space – Mineral Resources (OS-MIN)" land uses, both of which explicitly allow for mineral extraction. Thus, the Project would be fully consistent with the site's existing General Plan land use designations. There are no specific plans that apply to the Project site. According to Figure 4 of the San Jacinto Valley Area Plan (SJVAP), the Project site is not located within any Policy Areas. Additionally, based on a review of the individual policies of the SJVAP and the General Plan, the Project would not conflict with any applicable policy of the General Plan that was adopted for the purpose of reducing or mitigating environmental effects. Accordingly, impacts would be less than significant.

Threshold g: ***Would the Project disrupt or divide the physical arrangement of an established community (including a low income or minority community)?***

With respect to existing surrounding land uses, areas to the north consists of open space that was historically used by Grand Central Rocket Company and Lockheed Propulsion Company for rocket motor testing operations and small rocket motor assembly; areas to the east consist of open space and the Lamb Canyon Landfill; areas to the south consist of open space and agricultural uses; and areas to the west consist of open space, a single-family residence, and agricultural uses. Mining activities proposed by the Project would be compatible with the surrounding open space and agricultural uses. With respect to the existing single-family residence to the west, the Project's proposed EDA is located 0.4 mile east of the Mine's western boundary, and the EDA is not currently visible from this off-site single-family residence due to intervening topography. Moreover, as mining activities within the EDA progress, mining operations would further be obstructed from view. As such, the Project's proposed expansion of existing mining activities would not disrupt or divide the physical arrangement of an established community (including low-income or minority community). Therefore, no impact would occur.

5.4.4 MINERAL RESOURCES

Threshold a:	***Would the Project result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?***

The Project seeks to expand access to available mineral resources on the site. As such, the project would not result in the loss of a mineral resources site important to the region or the residents of the State. Therefore, no impact would occur.

Threshold b:	***Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?***

The eastern approximately half of the Project site, including the majority of the proposed EDA, is designated by the General Plan for "Open Space – Mineral Resources (OS-MR)." The Project seeks to expand access to available mineral resources on the site. As such, the project would not result in the loss of a mineral resources site recovery site delineated on a local general plan, specific plan, or other land use plan, and no impact would occur.

Threshold c:	***Would the Project be an incompatible land use located adjacent to a State classified or designated area or existing surface mine?***

According to mapping information available from the California Department of Conservation, the areas surrounding the Project site are not a State-classified or designated area for mineral resources. Additionally, under existing conditions the only mining activities in the Project's vicinity occur on-site. If mining operations were to be established in the future on surrounding properties, the Project would inherently be compatible with such uses. Accordingly, no impact would occur.

Threshold d:	***Would the Project expose people or property to hazards from proposed, existing or abandoned quarries or mines?***

The Gilman Springs Mine comprises approximately 1,021.4 acres of land, of which approximately 150.4 acres are currently permitted for mining activities. The Project proposes to expand existing mining activities by 54.5 acres, for a total of 204.9 acres of areas permitted for mining activities. In compliance with SMARA, SMP 159R2 includes a reclamation plan and standards. Additionally, the Project Applicant would be required to post financial assurances as required by SMARA in order to ensure that reclamation activities occur. Because the Project would be required by SMP 159R2 and SMARA to assure the Mine is ultimately reclaimed in a manner that does not present hazards to the public or the environment, impacts would be less than significant.

5.4.5 POPULATION AND HOUSING

Threshold a: ***Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?***

The 1,021.4-acre Gilman Springs Mine does not contain any residential structures under existing conditions and contains no residents (Google Earth, 2016). As such, the expansion of mining operations on-site would not result in the displacement of substantial numbers of existing housing, which could necessitate the construction of replacement housing elsewhere. Accordingly, no impact would occur.

Threshold b: ***Would the Project create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income?***

The proposed Project would expand an existing mining operation and would result in up to eight (8) new employees on-site. Although increased employment opportunities would occur on-site, the relatively minor increase in employment on-site would not create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income. Accordingly, no impact would occur.

Threshold c: ***Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?***

Refer to the discussion in Threshold 5.4.5(a), above. No impact would occur.

Threshold d: ***Would the Project affect a County Redevelopment Project Area?***

According to Riverside County GIS, the Project site is not located within or near a County Redevelopment Area (RCIT, 2019). Thus, no impact would occur.

Threshold e: ***Would the Project cumulatively exceed official regional or local population projections?***

The 1,021.4-acre Gilman Springs Mine does not contain any residential structures under existing conditions (Google Earth, 2016). Additionally, the Project does not propose to build any residential structures on-site. Although the proposed Project would expand an existing mining operation and would result in up to eight (8) new employees on-site, the relatively minor increase in employment likely would be accommodated by the County's existing workforce. As such, the expansion of mining operations on-site would not cumulatively exceed official regional or local population projections. Accordingly, no impact would occur.

Threshold f: ***Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

The proposed Project would expand an existing mining operation and would result in up to eight (8) new employees on-site. Although increased employment opportunities would occur on-site, the relatively minor

increase in employment on-site would not induce substantial population growth. In addition, the Project does not involve the construction of any infrastructure that could otherwise induce substantial population growth. Accordingly, no impact would occur.

5.4.6 PUBLIC SERVICES

Threshold a:	***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services?***

The proposed Project involves the continuation and expansion of an existing mining operation, which is provided fire protection services under existing conditions by the Riverside County Fire Department. The closet fire station to the 1,021.4-acre Gilman Springs Mine is Station 78, which is located approximately 6.7 roadway miles to the south (RCIT, 2019; RCFD, 2018). The Project would result in a net increase of eight (8) employees at the site. The existing 1,021.4-acre Gilman Springs Mine site already generates a demand for fire protection services. The Project would extend the Mine's operating hours (as discussed in EIR Section 3.0, *Project Description*); however, the increased hours of mining and processing activities would not result in nor require new or physically altered fire protection facilities, nor the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection. There are no components of the proposed Project that would require an expansion of fire protection services or facilities that could result in adverse environmental effects. Furthermore, the Project Applicant would be required to adhere to Riverside County Ordinance No. 659, which requires payment of a Development Impact Fee (DIF) to assist the County in providing for fire protection facilities, including fire stations. Payment of the DIF fee would ensure that funds are available for capital improvements, such as land/equipment purchases and fire station construction. Accordingly, with payment of DIF fees there would be a less-than-significant impact to fire protection services.

Threshold b:	***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for sheriff protection services?***

Sheriff services to the Project area would be provided by the Moreno Valley Sheriff's Station, located at 22850 Calle San Juan De Los Lagos, Moreno Valley, CA 92552. The proposed Project involves the continuation and expansion of an existing mining operation, which is provided law enforcement services under existing conditions by the Riverside Sheriff's Department. The Project would potentially result in a net increase of eight (8) employees at the site, and also would extend the Mine's operating hours (as discussed in EIR Section 3.0, *Project Description*). However, the existing 1,021.4-acre Gilman Springs Mine site already generates a demand for police protection services, and the Project would not substantially increase the existing demand on

this public service. In addition, the Project does not propose any change in the scope of operations or hours of operation that would require an expansion of law enforcement facilities. Furthermore, the Project Applicant would be required to comply with Riverside County Ordinance No. 659, which requires a DIF payment to the County for impacts to public services and facilities, including sheriff facilities and services. Payment of the DIF fee would ensure that funds are available for either the purchase of new equipment and/or the hiring of additional sheriff personnel to maintain the County's desired level of service for sheriff protection. Accordingly, there would be a less-than-significant impact to police protection services and no need for physical alterations of police stations to service the Project.

Threshold c:	***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services?***

The proposed Project does not involve the construction of any new homes and would result in only up to eight (8) new employees on-site. As such, there would be no discernible increase or decrease in demand for school services resulting from Project implementation and no need for physical alterations to school facilities. No impact would occur.

Threshold d:	***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for health services?***

The proposed Project does not involve the construction of any new homes and would potentially result in only up to eight (8) new employees on-site. As such, there would be no discernible increase or decrease in demand for health services resulting from Project implementation and no need for physical alterations to health facilities. Additionally, the Project Applicant would be required to comply with County Ordinance No. 659, which requires a DIF fee payment to the County that is partially allocated to public health services and facilities. No impact would occur.

5.4.7 RECREATION

Threshold a:	***Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?***

The Project does not involve or propose any recreational facilities. Additionally, the Project does not propose to construct any residential structures on-site, and therefore would not generate a demand for recreational facilities. Furthermore, the Mine is located within the Valley-Wide Recreation & Parks District, which does not identify any the need for parkland resources or in-lieu fees associated with non-residential development. Therefore, the Project would not include recreational facilities or require the construction or expansion of

recreational facilities which might have an adverse physical effect on the environment, and no impact would occur.

Threshold b:	***Would the Project include the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

The Project does not involve or propose any recreational facilities. Additionally, the Project does not propose to construct any residential structures on-site. The Project would result in an increase in the number of employees on-site by up to eight employees, but it is not expected that workers associated with the Project would result in parkland demand such that substantial physical deterioration of parkland facilities in the area would occur or be accelerated. Accordingly, no impact would occur.

Threshold c:	***Is the project located within a Community Service Area (CSA) or recreation and park district with a Community Parks and Recreation Plan (Quimby fees)?***

According to Riverside County GIS, the Gilman Springs Mine is not located within or near any Community Service Area (CSA). The Project site is, however, located within the Valley Wide Recreation & Park District (VWRPD). However, the Project does not propose any residential uses. According to the VWRPD Master Plan (2010), parkland dedication or in-lieu fees only are required for residential uses. As such, the Project would not conflict with the VWRPD Master Plan and would not be required to contribute Quimby fees. Therefore, no impact would occur.

Threshold d:	***Would the Project interfere with recreational trails that connect to regional and local trails or the project splits or eliminates an existing recreational trail?***

The Project proposes to expand existing mining activities on-site by 54.5 acres, for a total of 204.9 acres of mining activities. The proposed Project does not involve or propose to construct any trail facilities. According to the SJVAP, Figure 8, *San Jacinto Valley Area Plan Trails and Bikeway System*, an "Open Space Trail" is planned to traverse the northern portions of the Mine site, and outside all of the areas currently subject to or proposed for mining activities. Although the expansion of mining activities on-site would be visible from these proposed trail segments, the Project involves and expansion of an existing mining operation, and views from these trails already are impacted by the existing mining activities on-site. Accordingly, the Project would not conflict with the County's recreational trails designations for the site, and impacts would be less than significant.

5.4.8 WILDFIRE

Subsequent to distribution of the Project's NOP or public review on May 16, 2018, on December 27, 2018 the State of California adopted updates to the CEQA Guidelines, including Appendix G to the CEQA Guidelines. As part of the revisions to Appendix G, the issue of Wildfire was added as a new topic, whereas wildfire hazards had previously been evaluated under the analysis of impacts due to Hazards and Hazardous Materials. As part of the Initial Study that was included in the NOP, the topic of Hazards and Hazardous Materials,

including wildfire hazards, was scoped out of the list of topics requiring detailed evaluation in this EIR. Provided below is a summary of potential wildfire impacts that could result from the Project.

Threshold j: ***If located in or near a State Responsibility Area ("SRA"), lands classified as very high fire hazard sever8ity zone, or other hazardous fire areas that may be designated by the Fire Chief, would the Project:***

- ***Substantially impair an adopted emergency response plan or emergency evacuation plan?***
- ***Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***
- ***Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***
- ***Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***
- ***Expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?***

According to Figure 4.13.7, *Wildland Fire Hazard Severity Zones*, of the EIR prepared for the General Plan Update, the 1,021.4-acre Gilman Springs Mine is located in an area with "Very High" susceptibility to wildfires (Riverside County, 2015, p. 4.13-47). However, the Project would not involve the construction of any structures that could result in significant risk of loss, injury, or death involving wildland fire hazards. Although the Project would involve new employees on-site, it is expected that the existing access roads to the Mine would allow for evacuation of employees during any wildfire events. Additionally, there are no components of the proposed Project that would impair an adopted emergency response plan or emergency evacuation plan, as no such plans apply to the Project site. There are no components of the Project that, due to slope, prevailing winds, or other factors, would exacerbate wildfire risks. In fact, mining activities proposed by the Project would result in the elimination of natural vegetation that poses a wildfire hazard under existing conditions. Although under ultimate site reclamation conditions the site would be revegetated, the relatively steep slopes that would be created by the Project would support scant amounts of vegetation that would reduce fire hazards as compared to the existing, natural conditions. No additional infrastructure would be required to reduce fire hazards as part of the Project. Accordingly, a less-than-significant impact due to fire hazards would occur.

6.0 ALTERNATIVES

CEQA Guidelines § 15126.6(a) describes the scope of analysis that is required when evaluating alternatives to proposed projects, as follows:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."*

As discussed in EIR Section 4.0, *Environmental Analysis*, the proposed Project would result in significant adverse environmental effects that cannot be mitigated to below levels of significance after the implementation of Project design features, mandatory regulatory requirements, and feasible mitigation measures. The unavoidable significant impacts are:

- Air Quality Threshold a: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Operational-source emissions with implementation of Mitigation Measures MM 4.2-1 and MM 4.2-2 would continue to exceed the SCAQMD regional thresholds for NO_X, PM_{10}, and $PM_{2.5}$. Although the required mitigation would reduce the Project's impacts, it is important to note that more than 50 percent of the Project's NO_X emissions would be derived from vehicular activity and more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, because mitigation is not available to reduce the Project's operational emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD regional thresholds, the Project would result in a conflict with the SCAQMD AQMP. The Project's impacts due to a conflict with the AQMP would be significant and unavoidable on a direct and cumulatively-considerable basis.

- Air Quality Threshold b: Significant Direct and Cumulatively-Considerable Unavoidable Impact. Even with implementation of the recommended mitigation measures and compliance with SCAQMD Rules 402, 403, and 1157, the Project still would exceed the numerical thresholds of significance established by the SCAQMD for emissions of NO_X, PM_{10}, and $PM_{2.5}$. No feasible mitigation measures exist to reduce the Project's emissions of NO_X, PM_{10}, or $PM_{2.5}$ to below a level of significance beyond the mitigation measures and regulatory requirements already identified in subsection 4.2.8. More than 50% of the Project's NO_X emissions are associated with on-site mobile operational equipment and haul truck trips (i.e., combustible engines), and the Project Applicant does not have the regulatory authority

to control tailpipe emissions; thus, no additional feasible mitigation measures exist that would reduce the Project's NO_X emissions to levels that are less than significant. Additionally, more than 95 percent of the Project's PM_{10} and $PM_{2.5}$ emissions would be associated with dust resulting from aggregate processing and handling. Further, the Project already implements best management practices to reduce fugitive dust-related emissions. (Urban Crossroads, 2020a, pp. 2-3) Accordingly, the Project's operational emissions of NO_X, PM_{10}, and $PM_{2.5}$ represent a significant and unavoidable direct and cumulatively-considerable impact for which additional feasible mitigation is not available.

- Greenhouse Gas Emissions Threshold a: Significant and Unavoidable Cumulatively-Considerable Impact. The total amount of net new Project-related GHG emissions would total 4,975.49 MTCO2e per year. Although the Project's level of GHG emissions would not exceed the SCAQMD's industrial screening threshold of 10,000 MTCO2e per year, for purposes of analysis herein it is assumed that GHG emission impacts would be significant if the Project were to emit more than 3,000 MTCO2e/yr, in accordance with the SCAQMD Tier 3 screening threshold for mixed-use developments. Therefore, and based on SCAQMD's mixed-use screening threshold of 3,000 MTCO2e/yr, the Project's impacts associated with GHG emissions would be cumulatively considerable. EIR Mitigation Measure MM 4.2-1, which is included in EIR Subsection 4.25, *Air Quality*, would apply and would help reduce the Project's GHG emissions but not to below a level of significance. However, more than 50 percent of the Project's GHG emissions are derived from vehicle usage. Since neither the Project Applicant nor the County have regulatory authority to control tailpipe emissions, no additional feasible mitigation measures exist that would reduce GHG emissions to levels that are less-than-significant. As such, Project impacts due to GHG emissions would be significant and unavoidable on a cumulatively-considerable basis.

- Greenhouse Gas Emissions Threshold b.: Significant and Unavoidable Direct and Cumulatively-Considerable Impact. It is not possible to reduce the Project's level of GHG emissions to below the 3,000 $MTCO_2e$/yr screening threshold identified by the Riverside County CAP. Additionally, the County's adopted CAP Screening Tables have been established primarily for traditional residential and non-residential development. Since the Project (a proposed expansion of a mining operation) does not fit within the type of development contemplated when developing the CAP Screening Tables (CAP Appendix D), the measures available in the CAP screening tables are not applicable to the proposed Project. As such, it is not possible for the Project to achieve a minimum of 100 points pursuant to the County's CAP Screening Tables, and no feasible mitigation measures exist that would result in Project consistency with the CAP. Therefore, the Project would result in a significant and unavoidable direct and cumulatively-considerable impact due to a conflict with the Riverside County CAP.

- Transportation and Traffic Threshold a.: Cumulatively-Considerable and Unavoidable Impact. Table 6-1, *Summary of Project Intersection Impacts by Study Scenario*, provides a summary of the Project's impacts to study area intersections under Existing Plus Ambient Plus Project (EAP) 2019 and Existing Plus Ambient Plus Project Plus Cumulative (2019) conditions. Table 6-2, *Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario*, provides a summary of the Project's impacts due to traffic signal warrants. Mitigation is proposed for Project impacts to study area intersections, including

payment of Development Impact Fee (DIF) fees, Transportation Uniform Mitigation Fee (TUMF) fees, and fair-share monetary contributions for required improvements. However, because it cannot be assured that improvements needed to achieve an acceptable level of service at study area intersections and due to traffic signal warrants would be in place prior to commencement of expanded mining activities as proposed by the Project, the Project's impacts to the facilities identified in Table 6-1 and Table 6-2 would be significant and unavoidable in the near-term prior to construction of the required improvements.

Table 6-1 Summary of Project Intersection Impacts by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	--	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	C*
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	C*	C*
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

Table 6-2 Summary of Project Impacts Due to Traffic Signal Warrants by Study Scenario

#	Intersection	EAP 2019	EAPC 2019
1	Gilman Springs Rd. / SR-60 EB Ramps	--	--
2	Gilman Springs Rd. / Alessandro Bl.	C*	C*
3	Jack Rabbit Trail / Gilman Springs Rd.	--	--
4	Bridge St. / Gilman Springs Rd.	C*	C*
5	Driveway / Gilman Springs Rd.	--	--
6	SR-79 SB Ramps / Gilman Springs Rd.	--	--
7	SR-79 NB Ramps / Gilman Springs Rd.	C*	C*

Notes: C = Cumulative Impact; EAP = Existing Plus Ambient Plus Project; EAPC = Existing Plus Ambient Plus Project Plus Cumulative.
* = Impact is significant and unavoidable following mitigation because it cannot be assured that required improvements would be in place prior to commencement of mining activities within the proposed EDA.

6.1 ALTERNATIVES UNDER CONSIDERATION

CEQA Guidelines § 15126.6(e) requires that an alternative be included that describes what would reasonably be expected to occur on the property in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (i.e., "no project" alternative). For development projects that include a revision to an existing land use plan, the "no project" alternative is considered to be the continuation of the existing land use plan into the future. For projects other than a land use plan (for example, a development project on an identifiable property), the "no project" alternative is considered to be a circumstance under which the project does not proceed (CEQA Guidelines

§ 15126.6(e)(3)(A-B). For the alternatives analysis in this EIR, the potential scenario where the Project does not proceed is considered to be the "No Project Alternative"

The following scenarios are identified by the County of Riverside as potential alternatives to implementation of the proposed Project. The Historical Baseline Alternative (HBA) is considered the Environmentally Superior Alternative pursuant to CEQA Guidelines § 15126.6.

6.1.1 No Project Alternative

The No Project Alternative (herein, "NPA") considers no mining activities within the Expanded Disturbance Area (EDA). Mining would be allowed to continue within the approximately 150.4 acres of the approximately 1,021.4-acre Mine property that are permitted for mining activities under the existing Amendment No. 1 to Surface Mining Permit No. 159 (SMP 159R1). This alternative was selected by the Lead Agency for the purpose of conducting a comparative analysis of the environmental effects of the proposed Project to the environmental effects of the NPA which would leave the EDA in its existing condition. If the Project were not approved, it is reasonable to expect that the EDA's undeveloped property would remain vacant and no mining would occur within the EDA.

6.1.2 Historical Baseline Alternative (HBA)

The Historical Baseline Alternative (HBA) considers a scenario where the approved mining limits would be expanded by 54.5 acres, consistent with the proposed Project, but with a reduced limit on annual tonnage that is commensurate with the historical baseline average tonnage produced at the Mine. As indicated in EIR Table 2-1, between 2003 and 2017 the Mine produced an average of 377,675 tons per year (tpy). Thus, under the HBA, while the mining limits would increase by 54.5 acres, the annual tonnage would be capped at 377,675 tpy, rather than the 1,000,000 tpy proposed by the Project. All other components of the HBA would be identical to the proposed Project. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would not result in any new air quality emissions or traffic as compared to existing conditions. This alternative also serves as the Environmentally Superior Alternative for the Project, pursuant to CEQA Guidelines § 15126.6(e)(2).

6.1.3 Reduced Mining Alternative (RMA)

The Reduced Mining Alternative (RMA) considers an expansion of mining activities similar to the proposed Project, but with a reduced annual tonnage limit that still exceeds the historical baseline average for aggregate material produced at the site but that is less than the annual tonnage proposed as part of the Project. Specifically, under the RMA a maximum of 688,838 tpy would be allowed to be mined at the site, or approximately half of the increase in annual tonnage proposed by the Project. Thus, under the RMA there would be an increase of 311,163 tpy as compared to the historical baseline average of 377,765 tpy. As with the proposed Project, the areas subject to mining would be increased under the RMA by 54.5 acres. All other components of the RMA would be similar to the proposed Project. This alternative was selected for consideration to compare the environmental effects of the proposed Project with an alternative that would result in reduced tonnage, and thus reduced operational impacts to air quality or traffic.

6.2 ALTERNATIVES CONSIDERED AND REJECTED

An EIR is required to identify any alternatives that were considered by the Lead Agency but were rejected as infeasible. Among the factors described by CEQA Guidelines § 15126.6 in determining whether to exclude alternatives from detailed consideration in the EIR are: a) failure to meet most of the basic project objectives, b) infeasibility, or c) inability to avoid significant environmental impacts. With respect to the feasibility of potential alternatives to the proposed Project, CEQA Guidelines § 15126.6(f)(1) notes:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site…"*

In determining an appropriate range of alternatives to be evaluated in this EIR, a number of possible alternatives were initially considered and, for a variety of reasons, rejected. Alternatives were rejected because either: 1) they could not accomplish the basic objectives of the Project, 2) they would not have resulted in a reduction of significant adverse environmental impacts, or 3) they were considered infeasible to construct or operate. A summary of the alternatives that were considered but rejected are described below.

6.2.1 ALTERNATIVE SITES

CEQA does not require that an analysis of alternative sites always be included in an EIR. However, if the surrounding circumstances make it reasonable to consider an alternative site then this alternative should be considered and analyzed in the EIR. In making the decision to include or exclude analysis of an alternative site, the *"key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR"* (CEQA Guidelines § 15126.6(f)(2)).

Based on a review of aerial photography, the County of Riverside General Plan Land Use Map, and a list of approved/pending development proposals within nearby portions of the County of Riverside, City of Beaumont, the City of San Jacinto, and the City of Moreno Valley that are included in the Project's Traffic Impact Analysis (EIR *Technical Appendix J1*; refer to EIR Table 4.0-1 for a list of cumulative developments), there are no other available properties under the control of the Project Applicant that are designated for surface mining operations that have the potential for expansion to encompass areas that would provide for an additional approximately 30,000,000 tons of aggregate material. All lands within the Project vicinity that are already being mined are under ownership of other parties and are being mined in accordance with existing vested and/or approved mining operations.

If alternative sites located within the Project vicinity not zoned for mining are considered, it is unlikely that the impacts of such a new mining operation on lands not previously subject to mining activities would reduce or avoid any of the Project's significant environmental effects. The Project's significant air quality impacts are associated with regional emissions of NO_X, and mining on another property likely would have similar daily

emissions of NO_X as compared to the proposed Project because it would require similar mining equipment and haul trucks. With respect to traffic impacts, all of the Project's significant and unavoidable impacts are due to the fact that the timing of regionally-funded improvements cannot be assured and required improvements may not be in place at the time mining activities under the Project commence. Development of a new mine on an alternative site location is likely to have similar if not more severe cumulatively-considerable traffic impacts because it would not be possible to establish a new mine that contains approximately 30,000,000 tons of available aggregate material reserves without resulting in cumulatively-considerable traffic impacts that would similarly be significant and unavoidable.

For these reasons, an alternative sites analysis is not required for the proposed Project pursuant to CEQA Guidelines § 15126.6(f).

6.3 ALTERNATIVES ANALYSIS

The following discussion compares the impacts of each alternative considered by the Lead Agency with the impacts of the proposed Project, as detailed in EIR Subsection 4.0, Environmental Analysis. A conclusion is provided for each impact as to whether the alternative results in one of the following (1) reduction or elimination of the proposed Project's impact, (2) greater impact(s) than would occur under the proposed Project, (3) the same impact as the proposed Project, or (4) a new impact in addition to the proposed Project's impacts. Table 6-3, *Alternatives to the Proposed Project – Comparison of Environmental Impacts*, compares the environmental hazard and resource impacts of the alternatives with those of the proposed Project and identifies the ability of the alternative to meet the basic objectives of the Project. As described in EIR Subsection 3.1, the proposed Project's basic objectives are:

A. To increase the availability of high-quality aggregate reserves within the local area in order to help meet the regional demand for aggregate material and make the best use of the Mine's aggregate resources by revising approved SMP 159R1 to accommodate an expansion of the approved limits of aggregate mining activities.

B. To facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary.

C. To establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity.

D. To reclaim the 204.9 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County.

E. To assist Riverside County in achieving the conservation objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

F. To establish updated standards for operational mining activities at the Gilman Springs Mine site that provide flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands.

6.3.1 No Project Alternative (NPA)

The No Project Alternative (NPA) allows decision-makers to compare the environmental impacts of approving the proposed Project to the environmental impacts that would occur if the Mine were to continue operating under approved SMP 159R1. Under this alternative, no mining would occur within the EDA. Under SMP 159R1, approximately 150.4 acres of the 1,021.4-acre Mine are currently subject to mining, processing, and reclamation activities and would continue to be mined until the final grades established by the SMP 159R1 reclamation plan are achieved on site. Under this alternative, there would be no change in the Mine's annual tonnage limit of 1,000,000 tons per year (tpy), and mining, processing, and export activities within 300 feet of the Mine's boundaries would continue to be limited to between from between 7:00 a.m. and 10:00 p.m., Monday through Saturday except holidays. For purposes of analysis herein, it is assumed that under the No Project Alternative, a maximum of 1,512 tons per day (tpd) would be mined (as 2,489 tpd are assumed by this EIR to be attributable to SMP 159R2 out of a maximum daily production average of 4,000 tpd).

A. Aesthetics

Mining activities under the proposed Project and the NPA would not be prominently visible from any officially-designated scenic highways, nor would such activities be visible from State- or County-eligible scenic highways. Nonetheless, because the NPA would result in less physical disturbance than the proposed Project, impacts to scenic highways would be slightly reduced under the NPA, although such impacts would not be significant under either the Project or NPA.

Neither the proposed Project nor the NPA would substantially damage a scenic vista or scenic resource, including trees, rock outcroppings, or unique or landmark features. Although impacts would be less than significant under both the Project and NPA, impacts would be slightly reduced under the NPA because fewer areas would be subject to mining activities under the NPA.

Lighting at the Mine would be similar under both the proposed Project and the NPA. Thus, impacts due to interference with use of the Mt. Palomar Observatory as protected through Riverside County Ordinance No. 655 would be less than significant under both the proposed Project and NPA, and impacts would be similar. Additionally, impacts associated with new sources of substantial light or glare which adversely affects day or nighttime views in the area would be similar under both the Project and NPA and such impacts would be less than significant. In addition, neither the NPA or the proposed Project would expose residential properties to unacceptable light levels, and impacts would be similar and less than significant.

B. Air Quality

As evaluated herein, the NPA would result in the production of approximately 1,512 tpd while the Project would result in the production of up to 4,000 tpd.

Neither the proposed Project nor the NPA would result in a conflict with the growth assumptions made by the South Coast Air Quality Management District (SCAQMD) 2016 Air Quality Management Plan (AQMP). However, the proposed Project would exceed the AQMP Regional Thresholds for emissions of NO_X, PM_{10}, and $PM_{2.5}$; thus, the Project would conflict with the AQMP. The NPA would result in emissions that are

approximately 37.8% of the Project's level of emissions. With such a reduction in emissions of NO_X, PM_{10}, and $PM_{2.5}$, emissions under the NPA would be below the SCAQMD Regional Thresholds, as discussed below. Therefore, implementation of the NPA would avoid the Project's significant and unavoidable impact due to a conflict with the SCAQMD 2016 AQMP.

Both the proposed Project and the NPA would result in operational emissions of NO_X, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO. However, daily emissions under the NPA would be approximately 37.8% of the emissions that would occur under the proposed Project. Under the NPA, emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be reduced to below the SCAQMD Regional Thresholds for these pollutants. Specifically, during summer, the NPA would generate 39.9 pounds per day (lbs/day) of NO_X emissions, 111.9 lbs/day of PM_{10} emissions, and 31.6 lbs/day of $PM_{2.5}$ emissions, all of which would be below the SCAQMD Regional Thresholds for these pollutants. Similarly, during winter the NPA would generate 40.2 lbs/day of NO_X, 111.9 lbs/day of PM_{10}, and 31.6 lbs/day of $PM_{2.5}$ emissions, all of which would be below the SCAQMD Regional Thresholds for these pollutants. (Urban Crossroads, 2020a, Table 3-3) Thus, implementation of the NPA would eliminate the Project's significant and unavoidable impact due to regional NO_X, PM_{10}, and PM2.5 emissions, while also reducing the Project's less-than-significant impacts due to emissions of VOCs, SO_x, and CO.

With respect to localized emissions, the NPA also would result in reduced emissions in comparison to the proposed Project. Although the Project's localized impacts associated with CO, NO_2, PM_{10}, and $PM_{2.5}$ would be less than significant; localized emissions of these pollutants would be reduced under the NPA due to the reduction in daily mining tonnage. Neither the proposed Project nor the NPA have the potential to cause or contribute to CO "hot spots," and impacts would be similar and less than significant.

Neither the proposed Project nor the NPA would introduce sensitive receptors within one mile of an existing substantial point source emitter. No impacts would occur under either the NPA or the proposed Project.

Neither the proposed Project nor the NPA would create objectionable odors affecting a substantial number of people. However, because under the proposed Project areas subject to mining would be closer to existing homes than would occur under the NPA, the Project's less-than-significant odor impacts associated with mining equipment exhaust would be slightly reduced under the NPA.

C. Biological Resources

With mitigation, the proposed Project would result in less-than-significant impacts due to a conflict with the Multiple Species Habitat Conservation Plan (MSHCP); however, the NPA would not involve any new mining activities within the 54.5-acre EDA. Under the NPA there would be no dedication of approximately 430.1 acres of the Mine as part of MSHCP Conservation Area in Proposed Core 3. However, implementation of the NPA would provide more habitat and therefore would more effectively achieve the MSHCP conservation objectives for the Mine area. The NPA also would avoid the Project's impacts to 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM (Ordinary High Water Mark) that are CDFW streambed habitats, as well as 0.15 acre of tamarisk scrub riparian habitat, which represent Riparian Riverine habitats pursuant MSHCP Section 6.1.2; thus, impacts due to a conflict with MSHCP Section 6.1.2 would be reduced under the NPA. The NPA would result in a reduction in MSHCP conservation

areas that could be affected by indirect effects; thus, the Project's impacts due to a conflict with MSHCP Section 6.1.4 would be reduced under the NPA. Focused surveys for the burrowing owl would be required to mitigate the Project's impacts due to a conflict with MSHCP Section 6.3.2; thus, with implementation of mitigation, neither the Project nor the NPA would significantly impact burrowing owls. Neither the Project nor the NPA would impact Narrow Endemic Plant Species because no such species are expected to occur and the Mine is not within a Narrow Endemic Plant Species Survey Area (NPSSA) pursuant to MSHCP Section 6.1.3. Neither the proposed Project nor the NPA would involve fuel management, and therefore no impacts due to a conflict with MSHCP Section 6.4 would occur under the Project or NPA. Based on the foregoing, both the NPA and proposed Project would result in less-than-significant impacts (after mitigation) due to a conflict with the MSHCP, but impacts would be reduced under the NPA because no new mining would be allowed within the 54.5-acre EDA.

The Survey Area, including the EDA, contains habitat for Plummer's mariposa lily and this species has a moderate potential to occur. No other sensitive plant species are expected to occur. Although Plummer's mariposa lily is a covered species under the MSHCP and impacts would be less than significant under both the Project and NPA, impacts to this species would be reduced under the NPA because the 54.5-acre EDA would not be subject to mining activities. Similarly, the only sensitive animal species observed within the Study Area are coast horned lizard, coastal whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, coastal California gnatcatcher, San Diego black-tailed jackrabbit, and San Diego desert woodrat. All of these animal species are covered species under the MSHCP and do not require species-specific mitigation; thus, impacts would be less than significant under both the Project and NPA. Nonetheless, because no new mining would occur within the 54.5-acre EDA under the NPA, impacts to sensitive animal species would be reduced under the NPA. Impacts due to habitat modification would be less than significant under both the Project and NPA with mandatory compliance to the biological requirements of the MSHCP, although impacts would be reduced under the NPA due to the reduction in areas subject to mining.

Neither the proposed Project nor the NPA would result in impacts due to a substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, and neither would impede the use of native wildlife nursery sites. However, under the NPA the 54.5-acre EDA would not be subject to new impacts due to mining, and therefore would result in reduced impacts to wildlife movement.

Implementation of the NPA would avoid the Project's impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS and impacts to 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats, as well as impacts to 0.15 acre of tamarisk scrub riparian habitat. Although impacts to sensitive natural plant communities would be mitigated to less-than-significant levels under the proposed Project, impacts would be reduced under the NPA because the 54.5-acre EDA (and associated streambeds) would not be subject to impacts from mining activities.

Neither the Project nor the NPA has the potential to conflict with Riverside County Ordinance No. 559, which applies only to sites above an elevation of 5,000 feet. Neither the Project nor the NPA would conflict with the Stephen's Kangaroo Rat (SKR) Habitat Conservation Plan (HCP) because the Mine is not located in an area targeted for conservation under the SKR HCP, and because the Project would be subject to payment of fees pursuant to Riverside County Ordinance No. 663. The Survey Area does not contain any oak trees; thus, no impacts would occur under either the Project or NPA due to a conflict with the County's Oak Tree Management Guidelines. Therefore, neither the NPA nor the proposed Project would conflict with local policies or ordinances protecting biological resource, and impacts would be similar.

D. Energy

Neither the Project nor the NPA would result in the inefficient, wasteful or unnecessary consumption of energy, and neither would cause or result in the need for additional energy producing or transmission facilities. As such, impacts due to wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant for both the Project and NPA, although the NPA would have reduced impacts due to increase in the amount of energy that would be consumed as part of the Project.

E. Geology and Soils

The EDA is not located within an Alquist Priolo Earthquake Fault Zone and there are no known faults traversing the EDA. Both the Project and the NPA would be subject to strong seismic ground shaking, although both the NPA and Project have been designed to ensure that all slopes are stable and could resist collapse in the event of an earthquake. As such, impacts due to earthquake faults would be less than significant and similar under both the NPA and proposed Project.

Based on the presence of non-liquefiable bedrock as well as the depth to groundwater, that the potential for liquefaction and other shallow groundwater-related hazards at the site is considered to be very low. Thus, impacts due to liquefaction hazards would be less than significant under both the proposed Project and the NPA, and impacts would be similar.

The proposed Project and NPA would have less-than-significant and similar impacts associated with landslide, lateral spreading, collapse, rockfall hazards and ground subsidence. Moreover, neither the Project nor the NPA would involve the introduction of any permanent structures that could be subject to such hazards. The Project would be subject to compliance the recommendations of the site-specific slope stability investigation (*Technical Appendix D*) as a standard condition of Project approval, while mining under the NPA would occur pursuant to the approved mining plan included as part of SMP 159R1. Thus, impacts associated with landslide, lateral spreading, collapse, rockfall hazards or ground subsidence would be less than significant under both the NPA and proposed Project, and impacts would be similar.

F. Greenhouse Gas Emissions

As evaluated herein, the NPA would result in the production of approximately 1,512 tpd while the Project would result in the production of up to 4,000 tpd.

Although the Project's greenhouse gas (GHG) emissions would be below the SCAQMD interim industrial screening threshold of 10,000 Metric Tons of Carbon Dioxide equivalents ($MTCO_2e$), the analysis in EIR Subsection 4.6, *Greenhouse Gas Emissions*, conservatively utilizes SCAQMD's Tier 3 mixed-use screening threshold of 3,000 $MTCO_2e$/yr. The Project would emit 4,975.49 $MMTCO_2e$ per year, resulting in a significant and unavoidable impact on a cumulatively-considerable basis. GHG emissions under the NPA would comprise only 37.8% of the emissions that would occur under the proposed Project. Thus, implementation of the NPA would result in emissions of 1,881 $MTCO_2e$/yr, which would be below the SCAQMD's Tier 3 mixed-use screening threshold of 3,000 $MTCO_2e$/yr. Thus, implementation of the NPA would avoid the Project's significant and unavoidable cumulatively-considerable impacts due to emissions of GHGs.

The Project would emit more than 3,000 $MTCO_2e$ of GHGs, which exceeds the screening threshold identified by the Riverside County CAP. Additionally, because the Project does not consist of a traditional residential or non-residential development, it is not feasible for the Project to achieve a minimum of 100 points pursuant to the CAP Screening Tables. As such, the Project would result in a significant and unavoidable impact due to a conflict with the County's CAP. As discussed above, under the NPA emissions would be reduced to approximately 1,881 $MTCO_2e$/yr, which would be below the CAP's screening threshold of 3,000 $MTCO_2e$ of GHGs. As such, the NPA would avoid the Project's significant and unavoidable impact due to a conflict with the County's CAP.

G. Historic and Archaeological Resources

There are no historical resources within the 54.5-acre EDA. Thus, no impacts to historical resources or sites would occur under the Project or the NPA, and impacts would be similar.

Although there is little potential for cultural resources to be present or disturbed by the proposed Project, there is a low to moderate potential for prehistoric archeological resources to exist within the Project's proposed EDA. Thus, although both the Project and NPA have the potential to impact previously undiscovered archaeological resources or sites, the potential for uncovering such resources would be increased under the proposed Project as compared to the NPA due to proposed mining impacts within the 54.5-acre EDA under the proposed Project.

There are no known human remains within the Mine site. If human remains were uncovered under either the proposed Project or NPA, the Mine Operator would be required to comply with California Health and Safety Code, § 7050.5 and California Public Resources Code § 5097 et. seq., which would reduce such impacts to less-than-significant levels. Nonetheless, although the Project's impacts would be less than significant with mitigation requiring compliance with California Health and Safety Code § 7050.5 and California Public Resources Code § 5097 et. seq., impacts would be slightly increased under the Project as compared to the NPA because there is greater potential to uncover human remains within the 54.5-acre EDA, which would not be subject to mining activities under the NPA.

The Mine is not located on Tribal Lands and does not contain any existing religious or sacred uses. However, according to County Draft EIR No. 521, Figure 4.9.1, *Southern California Traditional Tribal Areas*, the Project site is located in proximity to the Cahuilla Traditional Tribal Area (Riverside County, 2015, Figure 4.9.1).

Accordingly, the potential does exist that buried or masked elements of Tribal Land uses could be present beneath the site's surface. The Project's archaeologist requested a review of the Sacred Lands Files (SLF) by the Native American Heritage Commission (NAHC) in May 2016, and an update in December 2016, to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within one mile of the Project. The NAHC SLF search did not indicate the presence of any sacred sites or locations of religious or ceremonial importance within the search radius (BFSA, 2018a, p. 3.0-5). Therefore, impacts to religious or sacred features would not occur under the proposed Project or the NPA, and impacts would be similar.

H. Hydrology and Water Quality

During on-going mining operations under the proposed Project, the site's hydrology would be similar to existing conditions, with runoff from the northern portions of areas planned for mining activities would be conveyed to a detention/siltation basin, prior to being discharged off site along the Mine's southern boundary (west of the Mine's access road). Impacts due to drainage patterns and the rates and amounts of runoff would therefore be similar under both the Project and NPA. Both the NPA and the proposed Project would be required to ensure that drainage from the site following reclamation activities does not result in a substantial change to the existing drainage pattern that could result in substantial erosion or exceed the capacity of existing or planned stormwater drainage systems. Measures also would be required to ensure runoff from the site is treated for water quality prior to discharge in order to prevent polluted runoff from leaving the site. Thus, impacts due to erosion and siltation, exceeding the capacity of storm drainage systems, and polluted runoff would be less than significant under the proposed Project and the NPA, and impacts would be similar.

Similarly, impacts due to a violation of water quality standards or waste discharge requirements, and impacts due to substantial degradation of water quality, would be less than significant under the proposed Project and the NPA, and impacts would be similar.

Under the proposed Project, areas subject to watering for dust control would be reduced by 16.1% as compared to baseline conditions. Because the NPA would continue the existing operations on site, the NPA would therefore have a greater potential to affect groundwater supplies. Although impacts to groundwater supplies would be less than significant under the NPA, impacts would be increased in comparison to the proposed Project. Neither the Project nor the NPA would result in significant impacts due to interference with groundwater recharge, as no impervious surfaces are proposed under either alternative; thus, impacts to groundwater recharge would be less than significant and similar under both the Project and NPA.

Neither the Project nor the NPA would involve the placement of housing or structures within a 100-year flood hazard area. No impact would occur under either alternative, and impacts would be the same.

Under both the Project and NPA, under on-going mining activities under the Project the total amount of runoff from the Project site would be similar to existing conditions, and there would be no change in the total amount of surface runoff from the Mine or in the absorption rates. Under reclaimed conditions, both the Project and the NPA would result in a slight decrease in the peak rate and total volume of runoff, although such impacts would be less than significant and would be similar under both the Project and NPA.

Both the Project and NPA would require retention/sedimentation basins during on-going mining activities and under post-reclamation activities, which could result in adverse effects associated with vectors or odors. However, these basins are not located near any sensitive receptors that could be affected by vectors or odors. Nonetheless, because the EDA is located in closer proximity to residential uses than the existing approved mining limits, the Project's less-than-significant impacts would be slightly reduced under the NPA.

I. Noise

As evaluated herein, the NPA would result in the production of approximately 1,512 tpd while the Project would result in the production of up to 4,000 tpd.

The closest potential private airstrip is the Gilman Springs Flyers airstrip located roughly 1.5 miles west of the Mine, south of Gilman Springs Road. However, this airstrip is limited to remote controlled model airplanes and does not represent a major aircraft-related noise source capable of exposing people within the Mine to excessive noise levels. The Mine is not located within the Airport Influence Area (AIA) for any airports. Furthermore, the mining uses proposed by the Project and the NPA would not be considered noise sensitive receivers. Thus, impacts due to public or private airport-related noise would be less than significant under both the Project and NPA, and impacts would be similar.

Although the Project would result in less-than-significant transportation-related noise impacts, traffic generated by the NPA would comprise only approximately 37.8% of the traffic that would be generated by the Project (1,512 tpd ÷ 4,000 tpd x 100 = 37.8%). Thus, implementation of the NPA would reduce the Project's less-than-significant traffic-related noise impacts.

There are no other sources of noise not otherwise analyzed herein associated with the NPA or the proposed Project. No other noise impacts would occur, and impacts would be similar under both the Project and NPA.

Although operational noise impacts associated with the Project would be less than significant, the Project would involve mining within the 54.5-acre EDA, which occurs closer to a nearby residence to the west. Furthermore, the Project would allow for mining activities to occur over a longer duration (i.e., years) as compared to the NPA. Thus, implementation of the NPA would reduce the Project's less-than-significant operational noise impacts.

Although blasting activities associated with the Project would result in airblast and vibration levels at the closest receiver location that would remain below the airblast and vibration level thresholds, the Project proposes a slight increase in the frequency of blasting events. Thus, implementation of the NPA would reduce the Project's less-than-significant impacts due to blasting-related periodic increased noise increases.

Neither the Project nor the NPA would cause or contribute to the exposure of persons to or generation of noise levels in excess of standards established in the Riverside County General Plan, Riverside County ordinances, or applicable standards of other agencies. However, because the intensity of mining operations would be reduced under the NPA, the Project's less-than-significant impacts also would be reduced under the NPA.

Although the Project would result in less-than-significant impacts due to vibration impacts from truck haul trips, the NPA would result in only 37.8% of the traffic that would be generated by the Project. Thus, the NPA would reduce the Project's less-than-significant impacts due to excessive ground-borne vibration or ground-borne noise levels.

J. Paleontological Resources

There are no known paleontological resources present at the Mine. However, portions of the Mine, including portions of the EDA, are underlain by sedimentary rocks of the Mount Eden formation, which has a well-documented record of yielding terrestrial mammal and plant fossils in the San Timoteo Badlands, and is assigned a "High" paleontological sensitivity. The Project would be subject to a Paleontological Resource Impact Mitigation Program (PRIMP), while the NPA would be required to comply with conditions of approval related to paleontological resources that are imposed pursuant to SMP 159R1. Nonetheless, because the Project would result in an increase in areas subject to mining by 54.5 acres, and because the 54.5-acre EDA contains sediments that have a "High" paleontological sensitivity, the Project's less-than-significant impacts (with mitigation) to paleontological resources would be reduced under the NPA.

K. Transportation and Traffic

As evaluated herein, the NPA would result in the production of approximately 1,512 tpd while the Project would result in the production of up to 4,000 tpd.

Implementation of the NPA would result in approximately 37.8% of the traffic that would be generated by the Project. While it is likely that the NPA would cumulatively contribute to existing and projected congestion at study area intersections, implementation of the NPA would result in a substantial decrease in impacts to study area facilities. Additionally, the NPA would not result in an increase in traffic as compared to historic baseline conditions. Thus, all of the Project's cumulatively-considerable and unavoidable impacts to intersections and due to traffic signal warrants would be avoided under the NPA as compared to the proposed Project.

The Riverside County Transportation Commission (RCTC) adopted its current Congestion Management Program (CMP) in December 2011. There are two Congestion Management Program (CMP) facilities in the Project's study area: SR-60 and SR-79. However, both the Project and the NPA would contribute fewer than 25 peak hour trips to these facilities, which is below the threshold at which Caltrans normally requires analysis of potential impacts to Caltrans' facilities. Thus, the Project and the NPA have no potential to result in direct or cumulatively-considerable impacts to CMP facilities within the Project's study area. Nonetheless, because traffic would be reduced under the NPA, the Project's less-than-significant impacts to study area facilities would be reduced under the NPA.

Under both the NPA and proposed Project, there would be no improvements to roadways or intersections; thus, impacts due to an increase in hazards due to a design feature would be less than significant and similar under both alternatives. Additionally, traffic generated by the NPA and proposed Project would consist primarily of haul truck trips, which would not conflict with existing traffic along Gilman Springs Road, including traffic associated with existing agricultural uses. Accordingly, neither the Project nor the NPA would substantially

increase hazards due to a design feature or incompatible uses, and impacts would be less than significant and would be similar.

Both the Project and the NPA would result in the generation of haul truck traffic that would incrementally increase the County's need to fund maintenance of study area facilities. However, traffic generated under the NPA would be substantially reduced in comparison to the Project. Moreover, implementation of the Project would extend the duration (i.e., years) over which mining activities would occur, and would therefore result in the need for roadway maintenance over a longer period of time. Accordingly, implementation of the NPA would reduce the Project's less-than-significant impacts due to the need for road maintenance.

Neither the Project nor the NPA propose roadway or intersection improvements. As such, impacts to circulation as a result of construction would not occur under either the Project or NPA, and impacts would be similar.

Under both the Project and NPA, adequate emergency access routes would be maintained on site to allow for appropriate ingress and egress for emergency vehicles. Thus, impacts due to inadequate emergency access would be less than significant under both the Project and NPA, and impacts would be similar.

Neither the proposed Project nor the NPA would conflict with adopted policies, plans or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities. Impacts would be less than significant and would be similar under either alternative.

L. Tribal Cultural Resources

Under the NPA, there would be no expansion in areas subject to mining activities. As such, no impact to tribal cultural resources would occur. Although impacts would be less than significant under both the Project and NPA, impacts would be reduced under the NPA as compared to the Project.

M. Utilities and Service Systems

Implementation of the Project would result in a reduction in water consumption associated with dust control by 16.1% as compared to baseline conditions. Thus, less water would be utilized under the Project than under the NPA. However, neither the Project nor the NPA would require or result in the construction of new water treatment facilities or expansion of existing facilities, and the Project and the NPA would be served based on existing entitlements and resources. Nonetheless, impacts to water supply would be slightly reduced under the Project as compared to the NPA.

Under both the NPA and proposed Project, wastewater generated at the Mine would be handled via portable toilets that are regularly emptied by a rental service company. There are no components of the NPA or proposed Project that would require the construction of new wastewater treatment facilities, and neither the NPA nor the Project would result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the

provider's existing commitments. Impacts would be less than significant and would be similar under the NPA and proposed Project.

The Project would result in an increase of eight (8) workers on site, while there would be no increase in employees under the NPA. Thus, the Project would result in a nominal increase in the generation of solid waste as compared to the NPA. Although impacts to landfill capacity would be less than significant under either alternative, impacts would be nominally reduced under the NPA.

Both the Project and NPA would be required to comply with County waste reduction programs pursuant to the State's Integrated Waste Management Act and Riverside County Ordinance No. 745, *Solid Waste Collection and Disposal*. Solid waste generated at the Mine would be conveyed to one of several landfills operated or managed by the Riverside County Department of Waste Resources (RCDWR). These existing landfills are required to comply with federal, State, and local statutes and regulations related to solid waste. The Project and NPA also would be required to comply with federal, State, and local statutes that would reduce the amount of solid waste generated by the proposed Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. Accordingly, impacts due to a conflict with federal, state, and local statutes and regulations related to solid wastes including the CIWMP (County Integrated Waste Management Plan) would be less than significant under both the Project and NPA, and impacts would be similar.

The Project and NPA would not result in or require the construction or expansion of electricity, natural gas, communication systems, or other government services, and the Project and NPA would not conflict with any adopted energy conservation plans. Both the Project and NPA would result in the need for new retention/detention basins as part of site reclamation activities, although impacts associated with the construction of such facilities is evaluated throughout this subsection and determined to be less than significant with implementation of mitigation. Nonetheless, the Project would result in a larger mining footprint, and detention facilities associated with the Project would result in an increase in physical impacts as compared to the NPA. Additionally, because the Project would extend the duration (i.e., years) over which mining activities would occur and would generate traffic, impacts due to roadway maintenance would slightly increase under the proposed Project but would remain below a level of significance.

N. Conclusion

Implementation of the NPA would not result in any new impacts to the 54.5-acre EDA, and as evaluated herein would result in a substantial reduction in the amount of resources that are extracted and exported from the site. Almost all of the Project's impacts would be reduced or would be similar under this alternative, with exception of water supply which would slightly increase under the NPA. Because this Alternative would avoid almost all of the Project's impacts, it warrants consideration as the "environmentally superior alternative." However, pursuant to CEQA Guidelines § 15126.6(e)(2), if a no project alternative is identified at the "environmentally superior alternative" then the EIR shall also identify an environmentally superior alternative among the other alternatives. Accordingly, the Historical Baseline Alternative (HBA), as described in Subsection 6.1.2, is identified as the environmentally superior alternative.

The NPA would fail to meet most of the Project's objectives. The NPA would not increase the availability of high-quality aggregate resources within the local area and would not facilitate more efficient export processing by altering the days and hours of operation within 300 feet of the Mine site's boundary. The NPA also would not establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity. The NPA would effectively meet the Project's objectives to reclaim the site in conformance with SMARA and the requirements of Riverside County. However, the NPA would not meet the Project's objective to assist Riverside County in achieving the conservation objectives of the Western Riverside County MSHCP, as no land would be dedicated towards the MSHCP reserve system. The NPA also would not establish updated standards for operational mining activities at the Gilman Springs Mine site in a manner that provides flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands.

6.3.2 Historical Baseline Alternative (HBA)

The Historical Baseline Alternative (HBA) considers a scenario where the approved mining limits would be expanded by 54.5 acres, consistent with the proposed Project, but with a reduced limit on annual tonnage that is commensurate with the historical baseline average tonnage produced at the Mine. As indicated in EIR Table 2-1, between 2003 and 2017 the Mine produced an average of 377,675 tons per year (tpy). Thus, under the HBA, while the mining limits would increase by 54.5 acres, the annual tonnage would be capped at 377,675 tpy, rather than the 1,000,000 tpy that is proposed by the Project and allowed under the current permits for the Mine. All other components of the HBA would be identical to the proposed Project. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would not result in any new air quality emissions or traffic as compared to existing conditions.

A. Aesthetics

The Project site, including the proposed EDA, are not prominently visible from any state scenic highways. Additionally, areas proposed for disturbance under the HBA would be identical to the proposed Project. Thus, impacts to scenic resources visible from State scenic highways would be less than significant under both the Project and HBA, and impacts would be similar.

Under the HBA, areas subject to mining and disturbance would be identical to the proposed Project. As with the proposed Project, the HBA would not substantially damage scenic resources, obstruct any prominent scenic vistas or views open to the public, or result in the creation of an aesthetically offensive site open to public view. However, due to the reduction in annual tonnage that can be produced at the Mine under the HBA, mining and reclamation activities would occur over a longer period of time as compared to the proposed Project. While impacts to scenic vistas would be less than significant under both the Project and HBA, reclamation activities would take longer under the HBA as compared to the proposed Project; thus, due to the extended lifetime of the Mine under the HBA, impacts to scenic resources, scenic vistas or views, and due to aesthetically offensive site conditions would slightly increase under the HBA as compared to the proposed Project.

Under the HBA, areas subject to mining and disturbance would be identical to the proposed Project. As with the proposed Project, from public viewing areas surrounding the Mine the EDA would not be prominently visible, particularly as mining progresses in the EDA and is obscured from view by the existing hillsides that surround the Mine. Furthermore, following reclamation, the site would be revegetated. However, and as noted above, mining and reclamation activities would occur over a longer period of time under the HBA as compared to the Project. As such, impacts to the existing visual character or quality of public views of the site and its surroundings would be increased under the HBA as compared to the proposed Project, although impacts still would be less than significant.

Both the Project and HBA would be subject to compliance with Riverside County Ordinance No. 655. As such, impacts under the Project and HBA would be less than significant and would be similar.

Both the Project and HBA would be subject to compliance with Riverside County Ordinances No. 655 and 915, which regulate lighting within the County. With mandatory compliance with these ordinances, the Project and HBA would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts would be less than significant, and the level of impact would be similar under the Project and HBA.

As noted above, both the Project and HBA would be subject to County ordinances related to lighting. As such, impacts due to the exposure of residential property to unacceptable light levels would be less than significant under the Project and HBA, and the level of impact would be similar.

B. Air Quality

Under the HBA, there would be no increase in annual or daily mining tonnage as compared to existing (baseline) conditions. As such, the HBA would not result in increased operations on site, nor would it result in an increase in traffic as compared to existing conditions. Accordingly, the HBA would avoid the Project's significant and unavoidable impacts due to a conflict with the SCAQMD 2016 AQMP.

Additionally, because there would be no increase in traffic or operations on site, the HBA would not exceed any of the SCAQMD regional thresholds of significance. As such, the HBA would avoid the Project's significant and unavoidable impacts due to emissions of NO_X, PM_{10}, and $PM_{2.5}$ that exceed the SCAQMD's Regional Thresholds for these pollutants.

Similarly, because there would be no increase in traffic or site operations under the HBA, the HBA would result in reduced localized emissions as compared to the proposed Project. Although both the Project and the HBA would result in less-than-significant localized air quality impacts, impacts would be reduced under the HBA. Neither the HBA nor the Project would result in or contribute to a CO hot spot, and impacts would be similar and less than significant.

Although the Project would result in less-than-significant impacts due to odors, because operations under the HBA would be less intense and there would be less traffic, impacts due to odors would be reduced under the HBA as compared to the proposed Project.

C. *Biological Resources*

Areas planned for physical impacts would be identical under the HBA and proposed Project. Both the Project and the HBA would result in impacts to MSHCP Riparian/Riverine resources, which would represent a conflict with MSHCP Section 6.1.2 prior to mitigation. Additionally, both the Project and HBA have the potential to result in indirect impacts to lands targeted for conservation by the MSHCP, which represents a significant impact due to a conflict with MSHCP Section 6.1.4. Additionally, the proposed EDA could be occupied by the burrowing owl prior to initial ground-disturbing activities, which could result in impacts to burrowing owls in conflict with MSHCP Section 6.3.2; thus, impacts would be significant prior to mitigation. Following mitigation, impacts due to a conflict with the MSHCP would be reduced to less-than-significant levels, and the level of impact would be similar for the Project and HBA.

Similarly, both the Project and the HBA would result in less-than significant impacts to sensitive plant species and animals. The Project and HBA would result in similar less-than-significant impacts to vegetation communities, including impacts to 0.15 acre of impact to tamarisk scrub, 19.5 acres of impacts to chamise chaparral, 1.4 acres of impact to Riversidean sage scrub, Artemisia californica-dominated, 20.3 acres of impact to Riversidean sage scrub, Encelia farinosa-dominated, 0.8 acre of impact to Riversidean sage scrub, Encelia farinosa-dominated-disturbed, 8.9 acres of impact to non-native grassland, and 3.4 acres of impact to disturbed land. However, both the Project and the HBA have the potential to result in impacts to migratory bird nests including eggs and young, although mitigation would be required that would reduce these impacts to less-than-significant levels.

Additionally, neither the proposed Project nor the HBA would result in impacts to wildlife movement corridors or native wildlife nursery sites.

Both the Project and the HBA would result in impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS; 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats; as well as 0.15 acre of tamarisk scrub riparian habitat. Impacts to jurisdictional drainages would be reduced to less-than-significant levels with mitigation under both the Project and HBA, and the level of impact would be identical. Additionally, the proposed Project and the HBA would result in less-than-significant impacts to sensitive natural communities.

Neither the Project nor the HBA would conflict with policies or ordinances protecting biological resources, including Riverside County Ordinance No. 559; the SKR HCP and Riverside County Ordinance No. 663; and the Riverside County Oak Tree Management Guidelines. No impact would occur under either the Project or HBA, and the level of impact would be the same.

D. *Energy*

Under the HBA, mining operations would be less intense on a daily and annual basis as compared to operations that would be associated with the Project. Because mining activities would occur over a longer duration, it is likely that the total energy demand under the HBA would be reduced in comparison to the Project over the lifetime of mining activities, as it is anticipated that there would be more fuel-efficient and energy-efficient

equipment and vehicles in the long term. As such, impacts due to energy consumption would be reduced under the HBA as compared to the Project, although impacts would be less than significant under the Project and HBA.

Neither the Project nor the HBA would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant, and would be similar under both the Project and HBA.

E. Geology and Soils

Areas planned for mining and disturbance would be identical under the Project and HBA. Both the Project and the HBA would be required to comply with the Project's Slope Stability Investigation (*Technical Appendix D*), which would address slope stability hazards associated with proposed mining operations. As such, impacts due to earthquake faults, liquefaction, strong seismic ground shaking, unstable geologic units, seiches, mudflow, volcanic hazards, topographic changes, steep slopes, negation of subsurface sewage disposal systems, loss of topsoil, expansive soils, soils incapable of accommodating septic systems, and wind erosion would be identical under the Project and HBA. Impacts would be less than significant under both the Project and HBA.

F. Greenhouse Gas Emissions

Under the HBA, there would be no increase in site operations or vehicular traffic as compared to existing conditions. As such, the HBA would not result in any increase in GHG emissions from the site as compared to existing conditions, while the Project would result in an increase of 4,975.49 $MTCO_2e$ per year. As such, the HBA would avoid the Project's significant and unavoidable cumulatively-considerable impacts due to GHG emissions.

Both the Project and HBA would be subject to all applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. However, because the Project would emit more than 3,000 $MTCO_2e$ (the screening threshold identified in the CAP), and because the Project would be unable to achieve the required 100 points as required by the CAP Screening Tables, the Project would not comply with the Riverside County CAP. The HBA, by contrast, would not result in a net increase in emissions on an annual basis, and therefore would be below the CAP screening threshold of 3,000 $MTCO_2e$/yr. As such, the HBA would avoid the Project's significant and unavoidable impacts due to a conflict with the CAP.

G. Historic and Archaeological Resources

Areas planned for mining and disturbance would be identical under the Project and HBA. No historical sites, features, or artifacts were identified during the field reconnaissance or records search conducted by BFSA. As such, neither the Project nor the HBA would result in impacts to historical resources. Impacts would be less than significant, and the level of impact would be the same under the proposed Project and HBA.

Based on the results of the records search and field survey, and due to the inhospitable terrain, disturbance from the cutting and clearing of dirt roads and turnouts, and the absence of recorded cultural resources within

the Mine's boundaries, there is little potential for cultural resources to be present. As such, neither the Project nor the HBA would result in impacts to archaeological resources, and the level of impact would be the same.

No human remains are known to occur within the Mine boundaries. Notwithstanding, in the event human remains are uncovered during mining activities under either the Project or HBA, the provisions of California Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would apply (as required by EIR Mitigation Measure MM 4.7-1) and would reduce potential impacts to less-than-significant levels. Impacts would be the same under the proposed Project and HBA.

H. Hydrology and Water Quality

Neither the Project nor the HBA would violate water quality standards or waste discharge requirements. Impacts would be less than significant, and the level of impact would be the same.

Under both the proposed Project and the HBA, the amount of water used for dust control would be reduced in comparison to existing conditions; thus, both the Project and the HBA would result in similar less-than-significant impacts to groundwater supplies.

Areas planned for mining and disturbance would be identical under the proposed Project and HBA. Neither the Project nor the HBA would substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, and would not introduce substantial amounts of new impervious surfaces. Additionally, under both interim and post-reclamation conditions, the total amount of runoff leaving the site would be similar to existing conditions, and would therefore not result in increased flood hazards on- or off-site under either the Project or HBA. Additionally, because the rate and amount of runoff would be similar to existing conditions, the Project and the HBA would not exceed the capacity of existing or planned stormwater drainage systems. Furthermore, because all runoff from disturbed portions of the site would be detained on site or treated by sedimentation basins prior to discharge from the site, the Project and the HBA would not provide substantial additional sources of polluted runoff. Impacts would be less than significant under both the proposed Project and the HBA, and the level of impact would be the same.

Under both the Project and the HBA, all runoff in the disturbed portions of the site would either be fully detained on site or would be treated by sedimentation basins prior to discharge from the site. Additionally, dust control measures, including watering and the use of gravel stabilization, would reduce the amount of dust generated in the actively mined portions of the site. As such, neither the Project nor the HBA would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant, and the level of impact would be the same.

The proposed EDA is not located within a mapped flood zone and would not impede or redirect flood flows. Impacts under both the Project and HBA would be less than significant, and the level of impact would be the same.

The EDA is not located in an area that is subject to inundation due to tsunamis, flood hazards, or seiches. No impact would occur under either the Project or the HBA.

Both the Project and the HBA would be fully consistent with the Santa Ana River Basin Plan and the West San Jacinto GMP. As such, impacts due to a conflict with a water quality control plan or sustainable groundwater management plan would be less than significant under both the Project and HBA, and the level of impact would be the same.

I. Noise

The EDA is not located within two miles of a public airport or within an airport land use plan. Thus, the Project and HBA would not expose people residing or working in the area to excessive noise levels associated with public or private airports. Impacts would be less than significant, and the level of impact would be similar.

Under the HBA, there would be no increase in the intensity of site operations or in the amount of traffic as compared to existing conditions. However, the HBA would result in the expansion of mining limits in the same manner as proposed for the Project, which would bring mining areas closer to nearby sensitive receptors. Based on the analysis prepared for the Project, neither the Project nor the HBA would result in significant noise impacts affecting nearby sensitive receptors due to a substantial temporary or permanent increase in ambient noise levels in the Project vicinity. However, due to the reduced intensity of site operations associated with the HBA, impacts to nearby sensitive receptors would be decreased in comparison to the Project.

According to the FTA Transit Noise Impact and Vibration Assessment, trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS unless there are bumps due to frequent potholes in the road. As such, there would be less-than-significant impacts under the proposed Project and HBA regarding generation of excessive ground-borne vibration or ground-borne noise levels. However, because the HBA would not result in increases in truck trips as compared to existing conditions, impacts would be slightly reduced under the HBA as compared to the proposed Project.

J. Paleontological Resources

Areas planned for mining and disturbance would be identical under the Project and HBA. As with the proposed Project, implementation of the HBA has the potential to result in significant impacts to previously undiscovered paleontological resources that may exist beneath the site's surface. Both the Project and the HBA would be subject to Mitigation Measures MM 4.10-1 through MM 4.10-4, which would reduce impacts to paleontological resources to less-than-significant levels. Impacts to paleontological resources under the Project and HBA would be the same.

K. Transportation and Traffic

Under the HBA, there would be no increase in truck or passenger vehicle traffic as compared to existing conditions. As such, the HBA would avoid the Project's cumulatively-considerable and unavoidable impacts to transportation, resulting in no need for mitigation.

Neither the Project nor the HBA would conflict with the Riverside County Congestion Management Program, and impacts would be less than significant and similar.

No roadway improvements would occur under the Project or the HBA. As such, neither the Project nor the HBA has the potential to substantially increase hazards due to a design feature. Additionally, Mine-related traffic would not be incompatible with traffic from surrounding land uses. Impacts would be less than significant, but would be slightly reduced under the HBA due to the reduction in traffic associated with the HBA as compared to the proposed Project.

Because the HBA would not increase traffic relative to existing conditions, the HBA would not result in any increased need for roadway maintenance by Riverside County. Although impacts due to roadway maintenance would be less than significant under the Project, impacts would be reduced under the HBA as compared to the Project due to the reduction in traffic.

Neither the HBA nor the Project would have a construction phase, and no traffic impacts would occur related to construction activities under either alternative.

Neither the Project nor the HBA would result in inadequate emergency access. Impacts would be less than significant and similar under the Project and HBA.

Neither the Project nor the HBA would involve construction or expansion of a bike system or bike lanes, and no impact would occur.

L. Tribal Cultural Resources

Based on the AB 52 consultation process conducted between Riverside County staff and local tribes, no tribal cultural resources were identified within the proposed EDA. As such, neither the Project nor the HBA would result in impacts to tribal cultural resources, and the level of impact would be the same because areas proposed for physical impact are the same between both alternatives.

M. Utilities and Service Systems

Under both the Project and the HBA, overall water demand for dust control would be reduced by approximately 16.1% as compared to existing conditions, and there would only be a nominal increase in generation of wastewater. As such, the Project and HBA would not require or result in the relocation or construction of new or expanded water or wastewater treatment, whereby the construction or relocation would cause significant environmental effects. Additionally, there would be sufficient water supplies available to serve the Project and HBA in addition to reasonably foreseeable future development. Impacts associated with proposed drainage facilities would be the same, and would be less than significant based on the analysis of impacts as presented throughout this EIR. The level of impact would be similar.

Both the Project and HBA would be served by portable toilets, and thus would have no potential to require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects. Additionally, wastewater generated on-site would be collected by a wastewater disposal company, and would be conveyed to a wastewater treatment facility with adequate capacity. Although impacts would be less than significant under the Project and HBA,

impacts would be slightly reduced under the HBA as compared to the Project due to the slight increase in on-site employees associated with the proposed Project.

Neither the Project nor the HBA would generate solid waste in excess of State or local standards, or otherwise impair the attainment of solid waste reduction goals, and impacts would be less than significant. Impacts would be slightly reduced under the HBA due to reduction in the number of employees as compared to the Project.

The Project and the HBA would be required to comply with County waste reduction programs pursuant to the State's Integrated Waste Management Act and Riverside County Ordinance No. 745. Solid waste would be conveyed to one of several landfills operated or managed by the RCDWR. These existing landfills are required to comply with federal, State, and local statutes and regulations related to solid waste. The Project and HBA also would be required to comply with federal, State, and local statutes that would reduce the amount of solid waste generated by the proposed Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. The Project and the HBA would comply with all applicable solid waste statutes and regulations; as such, impacts would be less than significant. However, impacts would be slightly reduced under the HBA due to the reduction in the number of employees as compared to the proposed Project.

Neither the Project nor the HBA would result in or require the construction or expansion of electrical, natural gas, or telecommunication facilities, and do not propose or require the installation of new street lighting. The Project and the HBA would not affect other government facilities. However, the Project would result in increased need for roadway maintenance as compared to the HBA due to the increase in traffic. Additionally, the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions, while there would be no increase in electricity demand under the HBA. Impacts under the HBA and Project would be less than significant, but would be slightly reduced under the HBA due to the reduction in traffic and energy demand.

N. Conclusion

As compared to the proposed Project, the HBA would result in reduced impacts to air quality, energy, greenhouse gas emissions, noise, transportation/traffic, and utilities/service systems. The HBA would result in increased impacts to aesthetics due to the extended period of mining that would occur under the HBA as compared to the Project. The Project and the HBA would result in the same or similar impacts to biological resources, geology/soils, historic/archaeological resources, hydrology/water quality, paleontological resources, and tribal cultural resources. Notably, the HBA would avoid the Project's significant and unavoidable impacts to air quality, due to greenhouse gas emissions, and to transportation/traffic.

The HBA generally would meet the Project's objectives, but less effectively than the proposed Project due to the reduction in annual (and daily) tonnage limits. The HBA would meet the objective to increase the availability of high-quality aggregate reserves within the local area, however, less aggregate material would be produced on an annual basis. The HBA would meet the Project's objective to facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary. The HBA would not meet the objective to establish an annual tonnage limit

on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity, as annual tonnage limits would be restricted under the HBA as compared to the proposed Project. The HBA would meet the Project's objective to reclaim the 204.9 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County. The HBA would meet the Project's objective to assist Riverside County in achieving the conservation objectives of the Western Riverside County MSHCP. The HBA would not be as effective as the proposed Project, however, in providing flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands, as the annual tonnage limit would restrict the Mine operator's ability to meet market demands in the local area.

6.3.3 Reduced Mining Alternative (RMA)

The Reduced Mining Alternative (RMA) considers an expansion of mining activities similar to the proposed Project, but with a reduced annual tonnage limit that still exceeds the historical baseline average for aggregate material produced at the site but that is less than the annual tonnage proposed as part of the Project. Specifically, under the RMA a maximum of 688,838 tpy would be allowed to be mined at the site, or approximately half of the increase in annual tonnage proposed by the Project. Thus, under the RMA there would be an increase of 311,163 tpy as compared to the historical baseline average of 377,765 tpy. As with the proposed Project, the areas subject to mining would be increased under the RMA by 54.5 acres. All other components of the RMA would be similar to the proposed Project. This alternative was selected for consideration to compare the environmental effects of the proposed Project with an alternative that would result in reduced tonnage, and thus reduced operational impacts to air quality or traffic.

A. Aesthetics

The Project site, including the proposed EDA, are not prominently visible from any state scenic highways. Additionally, areas proposed for disturbance under the RMA would be identical to the proposed Project. Thus, impacts to scenic resources visible from State scenic highways would be less than significant under both the Project and RMA, and impacts would be similar.

Under the RMA, areas subject to mining and disturbance would be identical to the proposed Project. As with the proposed Project, the RMA would not substantially damage scenic resources, obstruct any prominent scenic vistas or views open to the public, or result in the creation of an aesthetically offensive site open to public view. However, due to the reduction in annual tonnage that can be produced at the Mine under the RMA, mining and reclamation activities would occur over a longer period of time as compared to the proposed Project. While impacts to scenic vistas would be less than significant under both the Project and RMA, reclamation activities would take longer under the RMA as compared to the proposed Project; thus, due to the extended lifetime of the Mine under the RMA, impacts to scenic resources, scenic vistas or views, and due to aesthetically offensive site conditions would slightly increase under the RMA as compared to the proposed Project.

Under the RMA, areas subject to mining and disturbance would be identical to the proposed Project. As with the proposed Project, from public viewing areas surrounding the Mine the EDA would not be prominently

visible, particularly as mining progresses in the EDA and is obscured from view by the existing hillsides that surround the Mine. Furthermore, following reclamation, the site would be revegetated. However, and as noted above, mining and reclamation activities would occur over a longer period of time under the RMA as compared to the Project. As such, impacts to the existing visual character or quality of public views of the site and its surroundings would be increased under the RMA as compared to the proposed Project, although impacts still would be less than significant.

Both the Project and RMA would be subject to compliance with Riverside County Ordinance No. 655. As such, impacts under the Project and RMA would be less than significant and would be similar.

Both the Project and RMA would be subject to compliance with Riverside County Ordinances No. 655 and 915, which regulate lighting within the County. With mandatory compliance with these ordinances, the Project and RMA would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts would be less than significant, and the level of impact would be similar under the Project and RMA.

As noted above, both the Project and RMA would be subject to County ordinances related to lighting. As such, impacts due to the exposure of residential property to unacceptable light levels would be less than significant under the Project and RMA, and the level of impact would be similar.

B. Air Quality

Under the RMA, air quality emissions would be roughly half of what would be generated by the proposed Project. As such, and based on the Project's air quality emissions as presented in EIR Table 4.2-13, emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be reduced to below the SCAQMD regional thresholds. Accordingly, the RMA would avoid the Project's significant and unavoidable impacts due to a conflict with the SCAQMD 2016 AQMP. Additionally, the RMA would avoid the Project's significant and unavoidable impacts due to emissions of NO_X, PM_{10}, and $PM_{2.5}$ that exceed the SCAQMD's Regional Thresholds for these pollutants.

Similarly, the RMA would produce approximately half of the amount of traffic as compared to the proposed Project, the RMA would result in reduced localized emissions as compared to the proposed Project. Although both the Project and the RMA would result in less-than-significant localized air quality impacts, impacts would be reduced under the RMA. Neither the RMA nor the Project would result in or contribute to a CO hot spot, and impacts would be similar and less than significant.

Although the Project would result in less-than-significant impacts due to odors, because operations under the RMA would be less intense and there would be less traffic, impacts due to odors would be reduced under the RMA as compared to the proposed Project.

C. Biological Resources

Areas planned for physical impacts would be identical under the RMA and proposed Project. Both the Project and the RMA would result in impacts to MSHCP Riparian/Riverine resources, which would represent a

conflict with MSHCP Section 6.1.2 prior to mitigation. Additionally, both the Project and RMA have the potential to result in indirect impacts to lands targeted for conservation by the MSHCP, which represents a significant impact due to a conflict with MSHCP Section 6.1.4. Additionally, the proposed EDA could be occupied by the burrowing owl prior to initial ground-disturbing activities, which could result in impacts to burrowing owls in conflict with MSHCP Section 6.3.2; thus, impacts would be significant prior to mitigation. Following mitigation, impacts due to a conflict with the MSHCP would be reduced to less-than-significant levels, and the level of impact would be similar for the Project and RMA.

Similarly, both the Project and the RMA would result in less-than significant impacts to sensitive plant species and animals. The Project and RMA would result in similar less-than-significant impacts to vegetation communities, including impacts to 0.15 acre of impact to tamarisk scrub, 19.5 acres of impacts to chamise chaparral, 1.4 acres of impact to Riversidean sage scrub, Artemisia californica-dominated, 20.3 acres of impact to Riversidean sage scrub, Encelia farinosa-dominated, 0.8 acre of impact to Riversidean sage scrub, Encelia farinosa-dominated-disturbed, 8.9 acres of impact to non-native grassland, and 3.4 acres of impact to disturbed land. However, both the Project and the RMA have the potential to result in impacts to migratory bird nests including eggs and young, although mitigation would be required that would reduce these impacts to less-than-significant levels.

Additionally, neither the proposed Project nor the RMA would result in impacts to wildlife movement corridors or native wildlife nursery sites.

Both the Project and the RMA would result in impacts to 0.21 acre (3,620 linear feet) of ephemeral stream that is non-wetland WUS; 0.21 acre (3,620 linear feet) of ephemeral stream and 615 linear feet of features with discontinuous OHWM that are CDFW streambed habitats; as well as 0.15 acre of tamarisk scrub riparian habitat. Impacts to jurisdictional drainages would be reduced to less-than-significant levels with mitigation under both the Project and RMA, and the level of impact would be identical. Additionally, the proposed Project and the RMA would result in less-than-significant impacts to sensitive natural communities.

Neither the Project nor the RMA would conflict with policies or ordinances protecting biological resources, including Riverside County Ordinance No. 559; the SKR HCP and Riverside County Ordinance No. 663; and the Riverside County Oak Tree Management Guidelines. No impact would occur under either the Project or RMA, and the level of impact would be the same.

D. Energy

Under the RMA, mining operations would be less intense on a daily and annual basis as compared to operations that would be associated with the Project. Because mining activities would occur over a longer duration, it is likely that the total energy demand under the RMA would be reduced in comparison to the Project over the lifetime of mining activities, as it is anticipated that there would be more fuel-efficient and energy-efficient equipment and vehicles in the long term. As such, impacts due to energy consumption would be reduced under the RMA as compared to the Project, although impacts would be less than significant under the Project and RMA.

Neither the Project nor the RMA would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant, and would be similar under both the Project and RMA.

E. Geology and Soils

Areas planned for mining and disturbance would be identical under the Project and RMA. Both the Project and the RMA would be required to comply with the Project's Slope Stability Investigation (*Technical Appendix D*), which would address slope stability hazards associated with proposed mining operations. As such, impacts due to earthquake faults, liquefaction, strong seismic ground shaking, unstable geologic units, seiches, mudflow, volcanic hazards, topographic changes, steep slopes, negation of subsurface sewage disposal systems, loss of topsoil, expansive soils, soils incapable of accommodating septic systems, and wind erosion would be identical under the Project and RMA. Impacts would be less than significant under both the Project and RMA.

F. Greenhouse Gas Emissions

Under the RMA, operational activities, including traffic, would be approximately half of the increase associated with the proposed Project. Thus, while the Project would result in an increase of 4,975.49 $MMTCO_2e$ per year, the RMA would result in an increase of only 2,487.75 $MTCO_2e$ per year. While the proposed Project would not meet the SCAQMD Tier 3 threshold for mixed-use developments of 3,000 $MTCO_2e$/yr, emissions under the RMA would be less-than 3,000 $MTCO_2e$/yr. Thus, implementation of the RMA would avoid the Project's significant and unavoidable cumulatively-considerable impact due to GHG emissions.

Both the Project and RMA would be subject to all applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. However, because the Project would emit more than 3,000 $MTCO_2e$ (the screening threshold identified in the CAP), and because the Project would be unable to achieve the required 100 points as required by the CAP Screening Tables, the Project would not comply with the Riverside County CAP. The RMA would result in an increase of approximately 2,487.75 $MTCO_2e$/yr of GHG emissions, which would be below the CAP screening threshold of 3,000 $MTCO_2e$. As such, implementation of the RMA would avoid the Project's significant and unavoidable impacts due to a conflict with the CAP.

G. Historic and Archaeological Resources

Areas planned for mining and disturbance would be identical under the Project and RMA. No historical sites, features, or artifacts were identified during the field reconnaissance or records search conducted by BFSA. As such, neither the Project nor the RMA would result in impacts to historical resources. Impacts would be less than significant, and the level of impact would be the same under the proposed Project and RMA.

Based on the results of the records search and field survey, and due to the inhospitable terrain, disturbance from the cutting and clearing of dirt roads and turnouts, and the absence of recorded cultural resources within the Mine's boundaries, there is little potential for cultural resources to be present. As such, neither the Project nor the RMA would result in impacts to archaeological resources, and the level of impact would be the same.

No human remains are known to occur within the Mine boundaries. Notwithstanding, in the event human remains are uncovered during mining activities under either the Project or RMA, the provisions of California Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would apply (as required by EIR Mitigation Measure MM 4.7-1) and would reduce potential impacts to less-than-significant levels. Impacts would be the same under the proposed Project and RMA.

H. Hydrology and Water Quality

Neither the Project nor the RMA would violate water quality standards or waste discharge requirements. Impacts would be less than significant, and the level of impact would be the same.

Under both the proposed Project and the RMA, the amount of water used for dust control would be reduced in comparison to existing conditions; thus, both the Project and the RMA would result in similar less-than-significant impacts to groundwater supplies.

Areas planned for mining and disturbance would be identical under the proposed Project and RMA. Neither the Project nor the RMA would substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, and would not introduce substantial amounts of new impervious surfaces. Additionally, under both interim and post-reclamation conditions, the total amount of runoff leaving the site would be similar to existing conditions, and would therefore not result in increased flood hazards on- or off-site under either the Project or RMA. Additionally, because the rate and amount of runoff would be similar to existing conditions, the Project and the RMA would not exceed the capacity of existing or planned stormwater drainage systems. Furthermore, because all runoff from disturbed portions of the site would be detained on site or treated by sedimentation basins prior to discharge from the site, the Project and the RMA would not provide substantial additional sources of polluted runoff. Impacts would be less than significant under both the proposed Project and the RMA, and the level of impact would be the same.

Under both the Project and the RMA, all runoff in the disturbed portions of the site would either be fully detained on site or would be treated by sedimentation basins prior to discharge from the site. Additionally, dust control measures, including watering and the use of gravel stabilization, would reduce the amount of dust generated in the actively mined portions of the site. As such, neither the Project nor the RMA would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant, and the level of impact would be the same.

The proposed EDA is not located within a mapped flood zone and would not impede or redirect flood flows. Impacts under both the Project and RMA would be less than significant, and the level of impact would be the same.

The EDA is not located in an area that is subject to inundation due to tsunamis, flood hazards, or seiches. No impact would occur under either the Project or the RMA.

Both the Project and the RMA would be fully consistent with the Santa Ana River Basin Plan and the West San Jacinto GMP. As such, impacts due to a conflict with a water quality control plan or sustainable

groundwater management plan would be less than significant under both the Project and RMA, and the level of impact would be the same.

I. Noise

The EDA is not located within two miles of a public airport or within an airport land use plan. Thus, the Project and RMA would not expose people residing or working in the area to excessive noise levels associated with public or private airports. Impacts would be less than significant, and the level of impact would be similar.

Under the RMA, the increase operational activities would be approximately half of what would occur under the proposed Project. As such, the amount of traffic generated under the RMA would be approximately half of what would be generated by the Project. However, the RMA would result in the expansion of mining limits in the same manner as proposed for the Project, which would bring mining areas closer to nearby sensitive receptors. Based on the analysis prepared for the Project, neither the Project nor the RMA would result in significant noise impacts affecting nearby sensitive receptors due to a substantial temporary or permanent increase in ambient noise levels in the Project vicinity. However, due to the reduced intensity of site operations associated with the RMA, impacts to nearby sensitive receptors would be decreased in comparison to the Project.

According to the FTA Transit Noise Impact and Vibration Assessment, trucks rarely create vibration that exceeds 70 VdB or 0.003 in/sec RMS unless there are bumps due to frequent potholes in the road. As such, there would be less-than-significant impacts under the proposed Project and RMA regarding generation of excessive ground-borne vibration or ground-borne noise levels. However, because the RMA would result in approximately half of the increase in traffic that would be associated with the Project, impacts would be slightly reduced under the RMA as compared to the proposed Project.

J. Paleontological Resources

Areas planned for mining and disturbance would be identical under the Project and RMA. As with the proposed Project, implementation of the RMA has the potential to result in significant impacts to previously undiscovered paleontological resources that may exist beneath the site's surface. Both the Project and the RMA would be subject to Mitigation Measures MM 4.10-1 through MM 4.10-4, which would reduce impacts to paleontological resources to less-than-significant levels. Impacts to paleontological resources under the Project and RMA would be the same.

K. Transportation and Traffic

Under the RMA, the amount of increased traffic would be approximately half of what would be produced under the proposed Project. As such, the RMA would result in reduced impacts to study area transportation facilities as compared to the proposed Project. Notwithstanding, the RMA would contribute traffic to study area facilities that are projected to operate at a deficient LOS. As with the Project, mitigation in the form of fair share contributions and payment of DIF and TUMF fees would be required; however, it cannot be assured that the required improvements would be in place by the time expanded mining activities within the EDA commence. As such, both the Project and the RMA would result in cumulatively-considerable and unavoidable

impacts to study area facilities, although the level of impact under the RMA would be reduced as compared to the proposed Project.

Neither the Project nor the RMA would conflict with the Riverside County Congestion Management Program, and impacts would be less than significant and similar.

No roadway improvements would occur under the Project or the RMA. As such, neither the Project nor the RMA has the potential to substantially increase hazards due to a design feature. Additionally, Mine-related traffic would not be incompatible with traffic from surrounding land uses. Impacts would be less than significant, but would be slightly reduced under the RMA due to the reduction in traffic associated with the RMA as compared to the proposed Project.

The RMA would result in approximately half of the traffic increase as compared to the proposed Project. Both the Project and the RMA would result in the need for increased roadway maintenance by Riverside County, although the RMA would result in less need for such maintenance. Although impacts due to roadway maintenance would be less than significant under the Project, impacts would be reduced under the RMA as compared to the Project due to the reduction in traffic.

Neither the RMA nor the Project would have a construction phase, and no traffic impacts would occur related to construction activities under either alternative.

Neither the Project nor the RMA would result in inadequate emergency access. Impacts would be less than significant and similar under the Project and RMA.

Neither the Project nor the RMA would involve construction or expansion of a bike system or bike lanes, and no impact would occur.

L. Tribal Cultural Resources

Based on the AB 52 consultation process conducted between Riverside County staff and local tribes, no tribal cultural resources were identified within the proposed EDA. As such, neither the Project nor the RMA would result in impacts to tribal cultural resources, and the level of impact would be the same because areas proposed for physical impact are the same between both alternatives.

M. Utilities and Service Systems

Under both the Project and the RMA, overall water demand for dust control would be reduced by approximately 16.1% as compared to existing conditions, and there would only be a nominal increase in generation of wastewater. As such, the Project and RMA would not require or result in the relocation or construction of new or expanded water or wastewater treatment, whereby the construction or relocation would cause significant environmental effects. Additionally, there would be sufficient water supplies available to serve the Project and RMA in addition to reasonably foreseeable future development. Impacts associated with proposed drainage facilities would be the same, and would be less than significant based on the analysis of

impacts as presented throughout this EIR. Impacts would be less than significant, and the level of impact would be similar.

Both the Project and RMA would be served by portable toilets, and thus would have no potential to require or result in the construction or expansion of new wastewater treatment facilities, including septic systems, the construction of which could cause significant environmental effects. Additionally, wastewater generated on-site would be collected by a wastewater disposal company, and would be conveyed to a wastewater treatment facility with adequate capacity. Although impacts would be less than significant under the Project and RMA, impacts would be slightly reduced under the RMA as compared to the Project because the RMA would produce a smaller increase in the number of Mine employees as compared to the proposed Project.

Neither the Project nor the RMA would generate solid waste in excess of State or Local standards, or otherwise impair the attainment of solid waste reduction goals, and impacts would be less than significant. Impacts would be slightly reduced under the RMA due to reduction in the number of employees as compared to the Project.

The Project and the RMA would be required to comply with County waste reduction programs pursuant to the State's Integrated Waste Management Act and Riverside County Ordinance No. 745. Solid waste would be conveyed to one of several landfills operated or managed by the RCDWR. These existing landfills are required to comply with federal, State, and local statutes and regulations related to solid waste. The Project and RMA also would be required to comply with federal, State, and local statutes that would reduce the amount of solid waste generated by the proposed Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. The Project and the RMA would comply with all applicable solid waste statutes and regulations; as such, impacts would be less than significant. However, impacts would be slightly reduced under the RMA due to the reduction in the number of new employees as compared to the proposed Project.

Neither the Project nor the RMA would result in or require the construction or expansion of electrical, natural gas, or telecommunication facilities, and do not propose or require the installation of new street lighting. The Project and the RMA would not affect other government facilities. However, the Project would result in increased need for roadway maintenance as compared to the RMA due to the increase in traffic. Additionally, the Project would result in an increase in demand for electricity by approximately 55.98% as compared to baseline conditions, while the RMA would result in an increase of approximately 27.99% in demand for electricity. Impacts under the RMA and Project would be less than significant, but would be slightly reduced under the RMA due to the reduction in traffic and energy demand.

N. Conclusion

As compared to the proposed Project, the RMA would result in reduced impacts to air quality, energy, greenhouse gas emissions, noise, transportation/traffic, and utilities/service systems. The RMA would result in increased impacts to aesthetics due to the extended period of mining that would occur under the RMA as compared to the Project. The Project and the RMA would result in the same or similar impacts to biological resources, geology/soils, historic/archaeological resources, hydrology/water quality, paleontological resources, and tribal cultural resources. Notably, the RMA would avoid the Project's significant and

unavoidable impacts to air quality and due to greenhouse gas emissions, although cumulatively-considerable impacts to transportation/traffic would remain significant and unavoidable under the RMA.

The RMA generally would meet the Project's objectives, but less effectively than the proposed Project due to the reduction in annual (and daily) tonnage limits. The RMA would meet the objective to increase the availability of high-quality aggregate reserves within the local area, however, less aggregate material would be produced on an annual basis. The RMA would meet the Project's objective to facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary. The RMA would not meet the objective to establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity, as annual tonnage limits would be restricted under the RMA as compared to the proposed Project. The RMA would meet the Project's objective to reclaim the 204.9 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County. The RMA would meet the Project's objective to assist Riverside County in achieving the conservation objectives of the Western Riverside County MSHCP. However, the RMA would less effective in meeting the Project's objective to provide flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands, as the annual tonnage limit would restrict the Mine operator's ability to meet market demands in the local area.

Table 6-3 Alternatives to the Proposed Project – Comparison of Environmental Impacts

Environmental Topic/Objective	Proposed Project Significance of Impacts After Mitigation	Level of Impact Compared to the Proposed Project/Degree to Which Alternative Meets Project Objectives		
		No Project Alternative (NPA)	Historical Baseline Alternative (HBA)	Reduced Mining Alternative (RMA)
Aesthetics	Less than Significant	Reduced	Increased	Increased
Air Quality	Significant and Unavoidable Direct and Cumulatively-Considerable Impacts	Reduced to Less-Than-Significant Levels	Reduced to Less-Than-Significant Levels	Reduced to Less-Than-Significant Levels
Biological Resources	Less than Significant	Reduced	Similar	Similar
Energy	Less than Significant	Reduced	Reduced	Reduced
Geology and Soils	Less than Significant	Similar	Similar	Similar
Greenhouse Gas Emissions	Significant and Unavoidable Direct and Cumulatively-Considerable Impacts	Reduced to Less-Than-Significant Levels	Reduced to Less-Than-Significant Levels	Reduced to Less-Than-Significant Levels
Historic and Archaeological Resources	Less than Significant	Reduced	Similar	Similar
Hydrology and Water Quality	Less than Significant	Most Issues: Reduced Water Supplies: Increased	Similar	Similar
Noise	Less than Significant	Reduced	Reduced	Reduced
Paleontological Resources	Less than Significant	Reduced	Similar	Similar
Transportation and Traffic	Significant and Unavoidable Cumulatively-Considerable Impacts	Reduced to Less-Than-Significant Levels	Reduced to Less-Than-Significant Levels	Reduced, but not to Less-Than-Significant Levels
Tribal Cultural Resources	Less than Significant	Reduced	Similar	Similar
Utilities and Service Systems	Less than Significant	Most Issues: Similar Water Supply: Increased	Reduced	Reduced
Objective A: To increase the availability of high-quality aggregate reserves within the local area in order to help meet the regional demand for aggregate material and make the best use of the Mine's aggregate resources by revising approved SMP 159R1 to accommodate an expansion of the approved limits of aggregate mining activities.		No	Yes, but to a lesser extent	Yes, but to a lesser extent
Objective B: To facilitate more efficient export processing of aggregate materials from the Mine site by altering the days and hours of operation within 300 feet of the Mine site's boundary.		No	Yes	Yes
Objective C: To establish an annual tonnage limit on import and export of materials to and from the Mine site that is reflective of the Mine site's mining capacity.		No	No	No
Objective D: To reclaim the 204.8 acres subject to mining activities to a suitable condition by revising SMP 159 to identify ultimate site elevations in conformance with SMARA and the regulations and requirements of Riverside County.		Yes	Yes	Yes

Environmental Topic/Objective	Proposed Project Significance of Impacts After Mitigation	Level of Impact Compared to the Proposed Project/Degree to Which Alternative Meets Project Objectives		
		No Project Alternative (NPA)	Historical Baseline Alternative (HBA)	Reduced Mining Alternative (RMA)
Objective E: To assist Riverside County in achieving the conservation objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).		No	Yes	Yes
Objective F: To establish updated standards for operational mining activities at the Gilman Springs Mine site that provide flexibility in mining operations in order to facilitate the efficient production of aggregate material that would help meet local market demands.		No	Yes, but to a lesser extent	Yes, but to a lesser extent

7.0 REFERENCES

7.1 PERSONS CONTRIBUTING TO EIR PREPARATION

7.1.1 COUNTY OF RIVERSIDE PLANNING DIVISION

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7.2 DOCUMENTS APPENDED TO THIS EIR

The following reports, studies, and supporting documentation were used in preparing this EIR and are bound separately as Technical Appendices. A copy of the Technical Appendices is available for review at the County of Riverside Planning Department, located at 4080 Lemon Street, Riverside, California 92502-1629.

Appendix A: Initial Study for Gilman Springs Mine Expansion EIR, Notice of Preparation (NOP), and Written Comments on the NOP.

Appendix B1: Urban Crossroads, 2020. *Gilman Springs Mine Air Quality Impact Analysis*. January 7, 2020.

Appendix B2: Urban Crossroads, 2019. *Gilman Springs Mine Supplemental Air Quality and Green House Gas Assessment.* April 22, 2019

Appendix C1: Alden Environmental, Inc. 2019. *General Biological Resources Assessment Gilman Springs Mine.* April 5, 2019

Appendix C2: Alden Environmental, Inc. 2019. *Jurisdictional Delineation Report for the Gilman Springs Mine* April 5,2019.

Appendix C3: Alden Environmental, Inc 2019. *Determination of Biologically Superior or Equivalent Preservation Gilman Springs Mine.* April 5, 2019.

Appendix D: Terracon Consultants, Inc. 2019. *Revised Slope Stability Investigation, Chandler Gilman Springs Pit- Proposed Expansion Area.* April 19,2019

Appendix E: Urban Crossroad, Inc. 2020. *Gilman Springs Mine Greenhouse Gas Analysis.* January 7, 2020.

Appendix F: Brian F. Smith and Associates, Inc. 2019. *A Phase I Cultural Resources Assessment for The Surface Mining Permit No. 159, Amendment No. 2. Project, SMP00159R2, Riverside County, California.* April 23, 2019.

Appendix G1: Joseph E. Bonadiman & Associates, Inc. 2019. *Preliminary Hydrology &Hydraulics Report.* August 2019.

Appendix G2: Chandler Aggregates Gilman Springs, Inc. 2019. *Storm Water Pollution Prevention Plan (SWPPP).* January 31, 2018.

Appendix H1: Urban Crossroads. 2019. *Gilman Springs Mine Noise Impact Analysis.* September 24, 2019.

Appendix H2: Urban Crossroads. 2020. *Gilman Springs Supplemental Noise Assessment.* January 9, 2020.

Appendix I: Brian F. Smith and Associates, Inc. 2019 *Revised Paleontological Resource Impact Mitigation Program (PRIMP), Surface Mining Permit No. 159, Amendment No. 2, San Timoteo Badlands, unincorporated Riverside County, California (Case No. SMP00159R2).* April 30, 2019.

Appendix J1: Urban Crossroads. 2018. *Gilman Springs Mine Traffic Impact Analysis.* April 5, 2018.

Appendix J2: Urban Crossroads. 2019. *Gilman Springs Mine Supplemental Traffic Assessment.* March 29, 2019.

Appendix J3: Urban Crossroads, Inc. 2019. *Gilman Springs Mine Queuing Assessment*. August 27, 2019.

Appendix K: Urban Crossroads. 2019. *Gilman Springs Mine Energy Analysis.* May 15, 2019.

7.3 DOCUMENTS INCORPORATED BY REFERENCE

The following reports, studies, and supporting documentation were used in the preparation of this EIR and are incorporated by reference within this EIR. A copy of the following reports, studies, and supporting documentation is a matter of public record and is generally available to the public at the location listed.

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