Cottonwood Sand Mine Project

Public Review
Draft Environmental Impact Report

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACM	asbestos containing material
ADMRT	Air Dispersion Modeling and Risk Tool
ADT	average daily traffic
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
APN	Assessor's Parcel Number
AQIA	Air Quality Impact Assessment
ATS	advanced treatment systems
BACT	best available control technology
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BFE	Base Flood Elevation
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BMO	Biological Mitigation Ordinance
BMPs	best management practices
BRCA	Biological Resource Core Area
BTR	Biological Technical Report
BTU	British thermal units
C&D	construction and demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
CalARP	California Accidental Release Program
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CCAA	California Clean Air Act of 1988
CCR	California Code of Regulations
CDC	Centers for Disease Control and Prevention
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission

CED	California Energy Demand
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFG Code	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHHSLs	California Human Health Screening Levels
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CLOMR	Conditional Letter of Map Revision
cm	centimeter
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COS	Conservation and Open Space (Element)
County	County of San Diego
CPA	community planning area
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSMP	Construction Site Monitoring Program
CSP	Conservation Subdivision Program
CTMP	Community Trails Master Plan
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yards
dB	decibel(s)
dBA	A-weighted decibel(s)
DEHQ	San Diego County Department of Environmental Health and Quality
DM	Design Manual
DOC	California Department of Conservation
DPM	diesel particulate matter
DRI	Desert Research Institute
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	executive order

EPIC	Energy Policy Initiative Center
ERA	exceedance response action
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FPP	Fire Protection Plan
General Plan	San Diego County General Plan
Geocon	Geocon, Inc.
GHG	greenhouse gas
GPA	General Plan Amendment
gpm	gallons per minute
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan
GWh	gigawatt hours
GWP	global warming potential
H&SC	Health and Safety Code
H_2S	hydrogen sulfide
HA	hydrologic area
HARP	Hotspots Analysis and Reporting Program
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
HFCs	hydrofluorocarbons
HMBEP	Hazardous Materials Business Emergency Plan
HMBP	Hazardous Materials Business Plan
HMD	Hazardous Materials Division
HMMP	Hydromodification Management Plan
HMTA	Hazardous Materials Transportation Act
HR	House of Representatives Bill
HRA	Health Risk Assessment
HRS	USEPA Hazard Ranking System
HU	Hydrologic Unit
IFC	International Fire Code
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IVMP	Integrated Vector Management Program
KCRC	Kumeyaay Cultural Repatriation Committee
KV	key view

kWh	kilowatt hours
LCFS	Low Carbon Fuel Standard
LED	light-emitting diode
L_{EQ}	equivalent sound level
LID	Low Impact Development
LLG	Linscott, Law and Greenspan, Engineers
LMA	Local Mobility Analysis
LOMR	Letter of Map Revision
LOS	level of service
LPC	Light Pollution Code
LTPP	Long Term Procurement Plan
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MEIR	maximum exposed individual resident
mg/m^3	milligrams per cubic meter
MLD	Most Likely Descendant
MMT	million metric tons
MMTh	million therms
Montreal Protocol	Montreal Protocol on Substances that Deplete the Ozone Layer
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer systems
MSCP	Multiple Species Conservation Program
MSHA	Mine Safety and Health Administration
MUP	Major Use Permit
MW	megawatt(s)
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	numeric action level
NASA	National Aeronautics and Space Administration
NCCP	Natural Communities Conservation Planning
NEL	numeric effluent limitation
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System

NPL	National Priority List
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NSLU(s)	noise-sensitive land use(s)
NSR	New Source Review
O_3	ozone
ODC	ozone-depleting substance
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OPR	California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PALs	plantwide applicability limitations
PAMA	Pre-approved Mitigation Area
PanGIS	PanGIS, Inc.
PCBs	polychlorinated biphenyls
PCC	Portland cement concrete
PCE	passenger car equivalent
PFCs	perfluorocarbons
PM	particulate matter
PM_{10}	particulate matter smaller than 10 microns in diameter
$PM_{2.5}$	particulate matter smaller than 2.5 microns in diameter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
Project/Proposed Project	Cottonwood Sand Mine Project
PSD	Prevention of Significant Deterioration
QISP	Qualified Industrial Storm Water Practitioner
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
REAP	Rain Event Action Plan
RES	Regional Energy Strategy
RMP	Resource Management Plan/Risk Management Plan
ROGs	reactive organic gases
RP	Reclamation Plan
RPO	Resource Protection Ordinance
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAFE Vehicles Rule	Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks
SANDAG	San Diego Association of Governments

SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas and Electric
SDNWR	San Diego National Wildlife Refuge
SDREO	San Diego Regional Energy Office
SF	square feet, foot
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SMCFPD	San Miguel Consolidated Fire Protection District
SO_2	sulfur dioxide
SO_X	oxides of sulfur
Specific Plan	Rancho San Diego Specific Plan
SR	State Route
SRA	State Responsibility Area
SSC	Species of Special Concern
SSM	Stormwater Standards Manual
STLC	soluble threshold limit concentration
SWITRS	Statewide Integrated Traffic Records System
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
T-BACT	Toxics Best Available Control Technology
TCLP	Toxic Characteristic Leaching Procedure
TDU	traffic demand units
TIA	Traffic Impact Analysis
TIF	Transportation Impact Fee
TTLC	total threshold limit concentration
U.S.	United States
UBC	Uniform Building Code
UDC	Unified Disaster Council
UFC	Uniform Fire Code
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

USACE	U.S. Army Corps of Engineers
USD	University of San Diego
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USOSHA	U.S. Occupational Safety and Health Administration
UST	underground storage tank
VCP	Vector Control Program
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WL	Watch List
WPO	Watershed Protection Ordinance
WRCC	Western Regional Climate Center
WRI	World Resource Institute
WUS	Waters of the U.S.
ZEV	zero emissions vehicle

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SUMMARY

S.1 Project Synopsis

S.1.1 Location

The Cottonwood Sand Mine Project (hereafter referred to as "Proposed Project" or "Project") is located in the unincorporated portion of the County, in the Valle De Oro Community Planning Area. The Project site is located on the south side of Willow Glen Drive at 3121 Willow Glen Drive, El Cajon, California. Steele Canyon Road bisects the Project site. The western edge of the Project area is approximately 600 feet east of the intersection of Willow Glen Drive and State Route (SR) 54/Jamacha Road, with the site extending approximately 1.7 miles to the east of that intersection. SR 94/Campo Road is located approximately 0.7 mile southwest of the site. The site is situated within the Sweetwater River watershed and in the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the site.

The commercial village area of the Rancho San Diego community is located to the west of the Project site. An approximately 32-acre portion of the Project site is located within the Rancho San Diego Specific Plan area. The Cottonwood and Jamacha communities are located to the north and east of the Project site, respectively.

S.1.2 Description

The Project proposes sand mining activities on 251 acres of an approximately 280-acre site. The Project includes the following discretionary actions:

- A Major Use Permit (MUP) PDS2018-MUP-18-023 to allow mining activities on 251.1 acres of the 279.8-acre property; and

- A Reclamation Plan (RP) PDS2018-RP-18-001 to specify the standards to which the site must be reclaimed upon completion of mining activities in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA).

The Project proposes to convert the two golf courses within the Cottonwood Golf Club to a sand mining operation that would be conducted in three phases over 10 years. Approximately 214.4 acres of the approximately 280-acre site are proposed for extractive use. Areas included within the MUP boundary that are not disturbed by mining would be subject to habitat improvement through removal of invasive species in the river channel on the southwest portion of the site or be left in their current condition. The existing Sweetwater River channel and the majority of native habitat that currently exists on the site would be retained.

The Project consists of four phases; the extraction process would occur in three phases, each with subphases of less than 30 acres. Cleanup, equipment removal, and final reclamation would occur in the fourth phase. Extraction activities are proposed to begin on the Lakes Course west of the Steele Canyon Road bridge. All mining is expected to be completed after an approximately 10-year period, with reclamation anticipated to last two additional years.

The Project's mining operations would extract, process, and transport aggregate using conventional earth moving and processing equipment. Aggregate material extracted from the site would consist primarily of washed sand suitable for Portland cement concrete, but may also include fill sand, gravel, and rock. Approximately 4.3 million cubic yards (cy) (6.40 million tons) of material are proposed to be extracted, with approximately 3.8 million cy (5.7 million tons) produced for market use. Extraction operations would be limited to a maximum production of 380,000 cy (570,000 tons) of construction grade aggregate per calendar year. Material extracted and processed at the site would be suitable for construction uses and would be available to customers in San Diego County.

Sand excavation and processing would occur Monday through Friday, between the hours of 7:00 a.m. and 5:00 p.m. Trucking operations for material sales would occur from 9:00 a.m. to 3:30 p.m. Monday through Friday to avoid peak traffic periods. There would be no processing of materials or trucking from the site on Saturdays, Sundays, and major holidays.

Reclamation of the site would include: (1) removal of all manmade structures; (2) grading to achieve final landforms; and (3) incorporation of accumulated wash fines and salvaged topsoil (as applicable); and (4) revegetation and monitoring. Final grading would begin after mining and backfilling has completed within a given area, and as extractive operations proceed to the east. Reclamation would be an ongoing process starting in the second year as mining proceeds to the east and would continue in each 20- to 30-acre subphase over an approximately 10-year period, concluding two years after the completion of mining. The final landform is proposed to be a relatively flat plain that gently slopes downward from east to west, with a widened river channel bisecting the length of the site. The reclaimed river channel is expected to average approximately 250 to 300 feet in width and would be slightly higher in elevation than the existing low-flow channel. This low-flow channel would accommodate annual water transfers from Loveland Reservoir to Sweetwater Reservoir. Reclaimed and revegetated areas would be restored to an end use of undeveloped lands, multi-use trails, and land suitable for uses allowed by existing General Plan and zoning classifications. Revegetation monitoring would continue for a minimum of five years until revegetation standards are met after this final phase.

The Project proposes improvements to Willow Glen Drive, including restriping between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway and construction of a dedicated right-turn lane at the primary access to facilitate trucks and vehicles entering the Project site. A new secondary access point to the property from Willow Glen Drive west of the Steele Canyon Road would also be constructed at Muirfield Drive prior to the start of Phase 1 mining activities to accommodate large trucks used by service vendors. Other access points, such as an existing driveway at the northwestern corner of the property and an existing access point off Ivanhoe Ranch Road to the south of the project that is currently used for golf course maintenance would be used as needed, primarily for equipment delivery and/or reclamation maintenance and monitoring. A pedestrian pathway would be provided along the northern Project frontage/Willow Glen Drive east of Steele Canyon Road to provide pedestrian access within the Project vicinity where there are no existing sidewalks.

In addition to the MUP and RP, the Project will need subsequent approval of a landscape plan, public improvement plan, and right-of-way permits from the County. Additional discretionary approvals and permits anticipated for the Proposed Project and analyzed in this EIR include the

following: Section 401 Water Quality Certification Waste Discharge Order from the San Diego Regional Water Quality Control Board (RWQCB)/State Water Resources Control Board (SWRCB); Section 404 Permit – Dredge and Fill from the U.S. Army Corps of Engineers (USACE); Section 1602 Streambed Alteration Agreement (SAA) from the California Department of Fish and Wildlife (CDFW); National Pollutant Discharge Elimination System (NPDES), Industrial General Stormwater, and Waste Discharge Requirement permits from the Regional Water Quality Control Board (RWQCB); Authority to Construct and Permit to Operate from the San Diego Air Pollution Control District (SDAPCD); Fire District Approval from the San Miguel Consolidated Fire Protection District; and Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency (FEMA).

S.1.3 Setting

S.1.3.1 Project Site

The Project site property is currently occupied by the Cottonwood Golf Club, which was permitted in 1962. The club consists of two 18-hole golf courses referred to as the Lakes Course and the Ivanhoe Course. Golf play on the Lakes Course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe Course. In addition to the golf courses, facilities include an 11,590-square foot clubhouse with a bar and grill, an open 13,000-square foot golf cart storage yard, an approximately 2.2-acre equipment maintenance and repair facility, and a 2.4-acre parking area for approximately 320 automobiles.

The Project site was previously used for commercial ranching and agriculture prior to the 1940s. Mining for construction aggregates occurred in the 1950s to the south of the Sweetwater River west of Steele Canyon Road, and adjacent to Willow Glen Drive at the western end of the site. Mineral extraction activities expanded to the east side of Steele Canyon Road in the 1960s and continued into the 1970s as both golf courses were developed. Construction of the golf course began in 1962 and was completed in 1964. Sand extraction activities have continued within the site throughout the years, allowing for the creation of water hazards and expanded fairways associated with golf course improvements. The most recent mining activities occurred in the western and southwestern portions of the site between 2007 and 2009, and in the extreme eastern portion of the site in 2016. Work that was completed between 2007 and 2016 (under Grading Plan Permit L14806), included the excavation of water storage ponds within the fairways and development of unirrigated waste bunkers (i.e., unmaintained areas within the course design), which also served as hazards for golf play. Several fairways were regraded and realigned on the southwestern end of the Project site within the now closed Lakes Course. Although not a mining project, materials were removed from the site.

The site gently slopes from the east to the west, with elevations ranging from approximately 380 feet above mean sea level (amsl) in the northeastern portion of the site to 320 feet amsl in the southwestern portion of the site. The Sweetwater River runs through the length of the site from northeast to southwest, and continues southwest towards Sweetwater Reservoir.

Vegetation within the Project site reflects the site's disturbed and developed nature; 14 vegetation communities/land use types occur on the Project site. The portion west of Steele Canyon Road, which consists of the closed portion of the golf course, is characterized by ruderal vegetation,

disturbed habitat, and a mixture of native and non-native planted trees. The eastern portion of the site, which represents the active golf course, is characterized by landscaped turf grass, native and non-native planted trees, cart paths, parking lot, clubhouse, and other maintenance facilities. Vegetation along the Sweetwater River channel has been heavily modified as part of golf course development and past disturbances associated with previous mining activities.

The Project site is located on unincorporated lands within both the South County Segment and the Metro-Lakeside-Jamul Segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The southwestern portion of the site along the Sweetwater River is within a Minor Amendment Area (37.8 acres) of the South County Segment.

S.1.3.2 Surrounding Areas

As stated above, the Proposed Project is located within the County's Valle de Oro Community Planning area, with the Rancho San Diego community to the west, the Cottonwood community to the north, and the Jamacha community to the south of the Project site. The area is characterized by the Valle de Oro Community Plan as a balance of urban, semi-rural agricultural, and open space land uses, with the Rancho San Diego area developed with large-scale, well-planned residential and commercial developments interspersed with large areas of green-belt and biological open space for wildlife preservation.

Land uses in the surrounding area include residences, parks, and commercial uses of the Rancho San Diego community to the north and west; rural residential development, undeveloped land and extractive operations to the northeast; rural residential development, a residential treatment facility, and the Steele Canyon Golf Club (including a 27-hole golf course and associated residential uses) to the south and southeast; and the San Diego National Wildlife Refuge (SDNWR) to the southwest along the Sweetwater River. Jamacha Elementary School is located approximately one-quarter mile to the south, Steele Canyon High School is approximately one-half mile to the south, Valhalla High School approximately three-quarters of a mile to the northwest, Hillsdale Middle School approximately one-half mile to the west, and Cuyamaca College approximately two-thirds of a mile to the west.

Land use in the vicinity is limited by physical constraints with the presence of the Sweetwater River channel and by steep terrain north and south of the river. The Sweetwater River extends from its headwaters in the Cuyamaca Mountains (east of the site) to the San Diego Bay, approximately 15 miles southwest of the site. Important biological resources in the vicinity generally include core blocks of coastal sage scrub and chaparral, open space conserved within the SDNWR and on Dictionary Hill, and perennial waters and riparian habitat associated with Sweetwater River corridor.

S.2 Summary of Significant Effects and Mitigation Measures that Reduce or Avoid the Significant Effects

Table S-1, *Summary of Significant Effects*, summarizes the results of the environmental analysis completed for the Project. Table S-1 also includes mitigation measures proposed to reduce or avoid the environmental effects, with a conclusion as to whether the impact has been mitigated to below a level of significance. Detailed analyses of significant environmental effects are discussed in

Chapter 2.0, and effects found not to be significant during preparation of the Environmental Impact Report (EIR) or the Initial Study process are found in Chapter 3.0.

Environmental design considerations that have been incorporated into the Project include measures to reduce environmental impacts. These environmental design measures are outlined in Section 1.2.2, *Technical, Economic, and Environmental Characteristics*, of this EIR.

S.3 Areas of Controversy

A Notice of Preparation (NOP) was distributed on October 24, 2019, for a 30-day public review and comment period (refer to Appendix A for the NOP). Public comments were received and reflect concern or controversy on a number of environmental issues. In addition, a public scoping meeting was held on November 4, 2019, at Hillsdale Elementary School, 1301 Brabham Street, El Cajon, CA 92019.

A total of 295 (plus six late) communications were received on the NOP from agencies, groups and organizations, tribes, and individuals. Agencies include the California Department of Conservation (CDC), CDFW, Department of Toxic Substances Control (DTSC), Native American Heritage Commission (NAHC), and Sweetwater Authority. Groups and organizations include the Endangered Habitats League, San Diego County Archaeological Society, Sierra Club, Stop Cottonwood Sand Mine, Org., and Valle De Oro Community Planning Group. The Sycuan Band of the Kumeyaay Nation was the only tribal entity to submit comments.

Issues raised in the NOP comment letters include concerns regarding the following issue areas:

- Visual impacts
- Community character
- Air quality
- Biological resources
- Archaeological and tribal cultural resources
- Paleontological resources
- Greenhouse gases
- Hazardous materials and emissions
- Hydrology and water quality
- Groundwater contamination
- Land use consistency
- Noise generation
- Recreational opportunities
- Roadway capacity and safety
- Public utilities
- Evacuation during a wildfire
- Traffic generation
- School safety and student health
- Valley Fever

Issues raised within these letters are evaluated in this EIR in Chapters 2.0 through 3.2.

S.4 Issues to be Resolved by the Decision-Making Body

An EIR is an informational document intended to inform the public agency decision makers and the public of the significant effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the Proposed Project. The lead agency (in this case the County) must respond to each significant effect identified in this EIR by making "Findings" for each significant effect. The issues to be resolved by the decision-makers include whether or how to mitigate the significant effects of the project, and whether the project is consistent with County ordinances and General Plan goals and whether to implement a project alternative instead.

S.5 Project Alternatives

CEQA requires an EIR to consider a reasonable range of potentially feasible alternatives that would lessen significant impacts identified with the Proposed Project and to foster informed decision making. A summary of project alternatives is presented in Chapter 4.0 of this EIR. Based on initial review and consideration by the Applicant and County, it was determined that some of the preliminary alternatives did not accomplish most of the Project objectives or would result in greater impacts than the Proposed Project, including the Visual Screening Alternative, Reduced Footprint/Deeper Excavation Alterative, and Reduced Annual Mining Production/Increased Mining Duration Alternative discussed further in Section 4.1.1 of this EIR. Thus, these alternatives were considered but rejected and are described further in Chapter 4.0 of this EIR.

Two alternatives would meet the Project objectives, are potentially feasible, and would avoid or lessen impacts as compared to the Proposed Project. These include the Biological Resources Avoidance Alternative and the Noise Receptor Setback Alternative. Additionally, a No Project Alternative is required to be included in the range of alternatives to provide a comparison of the environmental impacts that would result if the Proposed Project were not approved. These alternatives are summarized below:

S.5.1 Alternative 1: No Project/No Development Alternative

The No Project Alternative assumes the Proposed Project would not occur. Under the No Project Alternative, a MUP would not be issued, mining activities would not occur at the site, and a Reclamation Plan would not be implemented. The site would not be restored to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications, including residential, essential services, fire protection services, or agriculture. The property would continue to be occupied by the Cottonwood Golf Club, with the Ivanhoe Course remaining as an operational golf course and the Lakes Course remaining as a decommissioned golf course.

The No Project Alternative would avoid all the significant and less than significant impacts associated with implementation of the Proposed Project. However, under the No Project Alternative, 570,000 tons of sand per year would not be produced at the Project site and this amount of sand would continue to be imported from sources north and south of the County, and these vehicle miles traveled (VMT) reductions would not be achieved. Although the No Project Alternative would not increase VMT or greenhouse gas (GHG) emissions from current conditions, it would not achieve the reductions the Proposed Project may achieve. Under existing conditions with a total County sand demand of 2.5 million tons per year, the total daily VMT associated with transporting 570,000 tons of sand (the anticipated annual Project sand production) into and within San Diego County without the Proposed Project is 13,499 miles. This is based on an estimate that 60 percent of the sand used in San Diego is imported from sources north of the county, 35 percent is imported from Mexico, and 5 percent is transported from the East County Sand Mine in the unincorporated community of Lakeside, California. The daily truck VMT associated with obtaining 570,000 tons of sand from the Project site rather than being imported from the north and south sources would be 2,806 miles, which is a reduction of 10,693 miles, or approximately 79.2 percent, from the No Project alternative.

GHG emissions are directly related to VMT; more than 95 percent of mobile GHG emissions for the Project would be from aggregate delivery trucks transporting material to concrete batch plants where it would be used. The EIR includes a conservative analysis wherein all Project GHG emissions are included in the Project GHG inventory; however, when factoring in the regional VMT reductions mentioned above, the Project would result in an overall net reduction in mobile source GHG emissions. However, as stated above, the No Project Alternative does not increase GHG emissions or VMT above existing conditions.

S.5.2 Alternative 2: Biological Resources Avoidance Alternative

Under Alternative 2, or the Biological Resources Avoidance Alternative, the proposed mining footprint would be set back 50 feet from the Sweetwater River channel and 500 feet from the riparian habitat to the south and west of the Project site. The total area mined under this alternative would be 117.6 acres and the total extraction volume would be approximately 2.9 million cy, an approximately 33-percent reduction compared to the Proposed Project. This alternative would involve the same overall annual extraction and marketable product of 380,000 cy (570,000 tons) as the Proposed Project but mining activities would occur over a period of approximately six years rather than 10 years. As with the Proposed Project, Alternative 2 would involve the reclamation of the site to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications following mining activities.

Alternative 2 would meet all Project Objectives and would lessen impacts to several resource areas. With the proposed mining set back of 50 feet from the Sweetwater River channel and 500 feet from the riparian habitat to the south and west of the Project site, this alternative would avoid direct impacts to the southern cottonwood-willow riparian forest, southern willow scrub, and Diegan coastal sage scrub sensitive vegetation communities, as well as direct impacts to jurisdictional wetlands and riparian habitats identified for the Proposed Project. Further, through avoiding impacts to southern cottonwood-willow riparian forest, this alternative would avoid direct impacts to potentially occupied least Bell's vireo habitat. While Alternative 2 would avoid some of the potentially significant impacts to biological resources; mitigation would still be required for some potentially significant biological resource impacts, including indirect noise impacts to coastal California gnatcatcher and potentially significant direct and indirect impacts to potential breeding, wintering, and foraging habitat for nesting Cooper's hawk, loggerhead shrike, peregrine falcon, red-shouldered hawk, sharp-shinned hawk, turkey vulture, vermilion flycatcher, white-tailed kite, yellow-breasted chat, yellow warbler, and/or nesting raptors may. With a reduced footprint, Alternative 2 would reduce the potential for impacts to cultural resources, paleontological resources, and tribal cultural resources but the potential for significant impacts would still exist and mitigation would still be required. Potential noise impacts to certain noise sensitive land uses would also be reduced with Alternative 2 but noise mitigation measures would still be required, and overall impacts would remain significant but mitigated. Similarly, aesthetics-related impacts would be reduced under Alternative 2 but would remain significant and unmitigable.

S.5.3 Alternative 3: Noise Receptor Setback Alternative

Under Alternative 3, or the Noise Receptor Setback Alternative, the proposed mining footprint would be set back 400 feet from residential properties surrounding the Project site, as well as from

the Adeona Healthcare facility located east of Steele Canyon Road south of the Project site. The total area mined under this alternative would be 119.1 acres (approximately 95 acres less than the Proposed Project) and the total overall extraction volume would be approximately 3.5 million cy, an approximately 26-percent reduction compared to the Proposed Project. This alternative would involve the same overall annual extraction of 380,000 cy (570,000 tons) of marketable product as the Proposed Project, but mining activities would occur over a period of approximately seven years rather than 10. As with the Proposed Project, Alternative 3 would involve the reclamation of the site to an end use of open space, including the Sweetwater River and its floodplain, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications following mining activities.

Alternative 3 would avoid the potentially significant impact associated with noise from mining activities. With mining activities occurring at least 400 feet from noise-sensitive land uses, noise levels from the Project would be below the applicable noise level limit at these properties, and impacts would be less than significant. Similar to Alternative 2, Alternative 3 would reduce the potential for impacts to cultural resources, paleontological resources, and tribal cultural resources based on the reduced footprint, but the potential for significant impacts would still exist and mitigation would still be required. Similarly, aesthetics-related impacts would be reduced under Alternative 3 but would remain significant and unmitigable.

Table S-1
SUMMARY OF SIGNIFICANT EFFECTS

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
SIGNIFICANT AND UNMITIGABLE IMPACTS			
Project-Level Impacts			
	Subchapter 2.1 Aesthetics		
AES-1	Implementation of the proposed mining and reclamation activities would detract from the visual quality of views from public viewpoints, resulting in a potentially significant impact related to scenic vistas.	No mitigation available beyond Project design considerations.	Significant and unmitigable
AES-2	Implementation of the proposed mining and reclamation activities would result in removal or substantial adverse change of features (i.e., golf course and visually notable trees) that contribute to the visual character of the area, resulting in a potentially significant impact related to scenic resources.	No mitigation available beyond Project design considerations.	Significant and unmitigable
AES-3a	Implementation of the proposed mining and reclamation activities would affect views across the Project site from Willow Glen Drive, resulting in a potentially significant impact related to obstruction, interruption, or detraction from a valued vista from a public road.	No mitigation available beyond Project design considerations.	Significant and unmitigable

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
AES-3b	Implementation of the proposed mining and reclamation activities would affect views across the Project site from elevated portions of the Wildlife Refuge Loop Trail, resulting in a potentially significant impact related to obstruction, interruption, or detraction from a valued vista from a trail within an adopted County and State trail system.	No mitigation available beyond Project design considerations.	Significant and unmitigable
AES-3c	Implementation of the proposed mining and reclamation activities would affect views across the Project site from the Sweetwater Regional Trail, resulting in a significant impact related to scenic resources related to obstruction, interruption, or detraction from a valued vista from a trail within an adopted County and State trail system.	No mitigation available beyond Project design considerations.	Significant and unmitigable
AES-4	Implementation of the proposed mining and reclamation activities would not conform to certain applicable goals and policies related to visual resources during mining activities, resulting in a significant impact.	No mitigation available beyond Project design considerations.	Significant and unmitigable
AES-5	Implementation of the proposed mining and reclamation activities would result in a considerable contribution to a potential cumulative impact associated with the combined visual contrast in the landscape.	No mitigation available beyond Project design considerations.	Significant and unmitigable

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
SIGNIFICANT IMPACTS		**MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT**	
		Project-Level Impacts	
	Subchapter 2.2 Biological Resources		
BIO-1a	Direct impacts to potential foraging habitat for coastal California gnatcatcher would be potentially significant.	**M-BIO-1** Mitigation for impacts to 0.8 acre of potential foraging habitat for coastal California gnatcatcher, comprised solely of Diegan coastal sage scrub, shall occur at a 1.5:1 ratio for a total mitigation requirement of 1.2 acres. Mitigation shall occur though on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Diegan coastal sage scrub to be preserved within the biological open space easement.	Less than Significant
BIO-1b	If mining and reclamation activities take place within 500 feet of suitable gnatcatcher habitat during the gnatcatcher breeding season (March 1 to August 15), indirect impacts related to noise to nesting gnatcatchers would be potentially significant.	**M-BIO-2** Grading or clearing of vegetation within 500 feet of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (March 1 to August 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur within 500 feet of suitable gnatcatcher habitat during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether gnatcatchers occur within 500 feet of the proposed impact area(s). If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 500 feet of any location at which gnatcatchers have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after August 15.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		M-BIO-5 If operation of construction or excavation equipment is initiated within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within three days (72 hours) of the proposed start of construction, mining, or reclamation activities. If it is determined at the completion of pre-construction survey(s) that active nests belonging to these sensitive species are absent from the potential impact area, activities shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then activities shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the impact footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater. The type(s) and location(s) of noise barrier(s) shall be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output would be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that noise levels remain below 60 dBA at occupied areas.	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-1c	Direct impacts to potentially occupied vireo habitat would be potentially significant.	**M-BIO-3** Mitigation for impacts to 0.32 acre of potential nesting and foraging habitat for least Bell's vireo (southern cottonwood-willow riparian forest) shall occur at a minimum 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.	Less than Significant
BIO-1d	If mining and reclamation activities take place within 500 feet of suitable vireo habitat during the vireo breeding season (March 15 to September 15), indirect noise impacts to nesting vireos would be potentially significant	**M-BIO-4** Grading or clearing of riparian habitat during the breeding season of the least Bell's vireo (March 15 through September 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur within 500 feet of suitable vireo habitat during the least Bell's vireo breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether vireos occur within 500 feet of proposed impact area(s). Impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any vireos are observed nesting or displaying breeding/ nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 500 feet of any location at which vireos have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after September 15. Mitigate through pre-construction survey mitigation measure **M-BIO-5** provided above.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-2a	Direct impacts to potential breeding, wintering, and foraging habitat to the following County Group 1 animal species and/or state Species of Special Concern during mining and reclamation activities would be potentially significant: coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, loggerhead shrike, peregrine falcon, red-shouldered hawk, sharp-shinned hawk, turkey vulture, vermilion flycatcher, white-tailed kite, yellow-breasted chat, yellow warbler, two-striped garter snake, and western spadefoot.	**M-BIO-7** Upon completion of all extraction activities, reclamation, and final grading to establish the final landform shall occur in accordance with the approved Reclamation Plan. Revegetation with native species will occur within the expanded Sweetwater River floodplain and constructed bordering slopes according to a revegetation plan to be approved by the County. **M-BIO-8** Mitigation for impacts to 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of Arundo-dominated riparian, and 0.50 acre of disturbed wetland shall occur at a 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement. **M-BIO-9** Mitigation for 0.8 acre of impacts to Diegan coastal sage scrub shall occur at a 1.5:1 ratio through the on-site preservation of 1.2 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Tier II Diegan coastal sage scrub to be preserved within the biological open space easement.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-2b	Direct impacts to nesting Cooper's hawk, red-shouldered hawk, white-tailed kite, and other raptors, and/or indirect noise impacts to nesting raptors within 300 feet of construction, mining, or reclamation areas would be potentially significant.	Mitigate through pre-construction survey mitigation measure **M-BIO-5** provided above, as well as mitigation measure **M-BIO-6** listed below. **M-BIO-6** Grubbing or clearing of vegetation during the general avian breeding season (February 15 through August 31) or raptor breeding season (January 15 through July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the general avian breeding season within 300 feet of general bird nesting habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until a qualified biologist has determined that nesting behavior has ceased, nests have failed, or young have fledged.	Less than Significant
BIO-2c	Direct impacts to nesting coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, loggerhead shrike, red-shouldered hawk, vermilion flycatcher, white-tailed kite, yellow-breasted chat, and yellow warbler individuals would be considered potentially significant.	Mitigate through pre-construction survey and breeding season avoidance mitigation measures **M-BIO-2, M-BIO-4, M-BIO-5,** and **M-BIO-6** provided above.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-3a	Direct impacts to four County List D San Diego County viguiera shrubs would be considered potentially significant.	Mitigate through habitat-based mitigation measure **M-BIO-9** provided above.	Less than Significant
BIO-3b	Direct impacts to potential breeding, wintering, or foraging habitat to the following County Group 2 animal species during mining and reclamation activities would be considered potentially significant: barn owl, California horned lark, Canada goose, great blue heron, green heron, merlin, western bluebird, yellow warbler, Belding's orange-throated whiptail, monarch butterfly, and western spadefoot.	Mitigate through Reclamation Plan and habitat-based mitigation measures **M-BIO-7**, **M-BIO-8**, and **M-BIO-9** provided above.	Less than Significant
BIO-3c	Direct impacts to nesting barn owl, California horned lark, Canada goose, great blue heron, green heron, western bluebird, and yellow warbler individuals would be considered potentially significant.	Mitigate through pre-construction survey and breeding season avoidance mitigation measures **M-BIO-5** and **M-BIO-6** provided above.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-4	Direct impacts to sensitive habitats located in lands designated as a biological core resource area during mining and reclamation activities would be considered potentially significant.	Mitigate through Reclamation Plan and habitat-based mitigation measures **M-BIO-7**, **M-BIO-8**, and **M-BIO-9** provided above, as well as mitigation measures **M-BIO-10**, and **M-BIO-11** listed below. **M-BIO-10** The applicant shall dedicate 142.8 acres of biological open space to be managed by a long-term manager approved by the County in accordance with a Resource Management Plan. The biological open space easement shall include native habitat revegetation areas located within the expanded Sweetwater River floodplain and bordering constructed slopes. Permanent open space fencing and signage shall be installed around the perimeter of the biological open space as detailed in the final Resource Management Plan. **M-BIO-11** The Project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP would provide direction for the permanent preservation and management of the on-site open space in accordance with County regulations.	Less than Significant
BIO-5	If construction or mining activities would be initiated within 500 feet of suitable habitat during the breeding seasons for California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), indirect noise effects would be potentially significant.	Mitigate through pre-construction survey mitigation measure **M-BIO-5** provided above.	Less than Significant

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BIO-6	If protective measures are not implemented to control human access into open space areas, direct and indirect impacts to sensitive habitat and species located in the biological open space be potentially significant.	Mitigate through biological open space dedication mitigation measure **M-BIO-10** and Resource Management Plan mitigation measure **M-BIO-11** provided above.	Less than Significant
BIO-7	Implementation of the Proposed Project would result in direct impacts to approximately 1.63 acres of sensitive vegetation communities made up of 0.50 acre of disturbed wetland (Tier I), 0.32 acre of southern cottonwood-willow riparian forest (Tier I), 0.01 acre of Arundo-dominated riparian (Tier I), and 0.8 acre of Diegan coastal sage scrub (Tier II). Impacts to sensitive natural communities would be considered potentially significant.	Mitigate through Reclamation Plan mitigation measure **M-BIO-7,** habitat-based mitigation measures **M-BIO-8** and **M-BIO-9**, biological open space dedication mitigation measure **M-BIO-10**, and Resource Management Plan mitigation measure **M-BIO-11** provided above, as well as mitigation measures **M-BIO-12** and **M-BIO-13** listed below**.** **M-BIO-12** To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, temporary environmental fencing (including silt fencing where determined necessary by the SWPPP), would be installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction. **M-BIO-13** A qualified biologist shall monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space. The biologist also would conduct a pre-construction environmental training session for construction personnel prior to all phases of construction to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with Project approvals. The biologist shall monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist shall periodically monitor the limits of construction and	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		mining operations to ensure that mining and avoidance areas are delineated with temporary fencing and that fencing remains intact.	
BIO-8	Inadvertent intrusion into riparian habitat or other sensitive habitats located adjacent to work areas by construction vehicles, equipment, and personnel during mining and reclamation activities would be considered potentially significant.	Mitigate through environmental fencing installation mitigation measure **M-BIO-12** and environmental fencing installation monitoring and pre-construction environmental training mitigation measure **M-BIO-13** provided above.	Less than Significant
BIO-9	The Project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, CDFW, and/or County. Impacts to jurisdictional waters and wetlands include 0.62 acre of wetland and 0.37 acre of non-wetland waters of the U.S. and 17.89 acres of CDFW jurisdictional areas (including 0.83 acres of vegetated habitat and 17.06 acres of streambed. Impacts to jurisdictional waters and wetlands would be considered potentially significant.	Mitigate through environmental fencing installation mitigation measure **M-BIO-12** and environmental fencing installation monitoring and pre-construction environmental training mitigation measure **M-BIO-13** provided above, as well as mitigation measures **M-BIO-14**, **M-BIO-15**, and **M-BIO-16** listed below. **M-BIO-14** Impacts to 0.62 acre of U.S. Army Corps of Engineers (USACE) wetland waters of the U.S. shall be mitigated a minimum 3:1 ratio and 0.37 acre of USACE non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 2.23 acres waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts. **M-BIO-15** Impacts to 0.83 acre of California Department of Fish and Wildlife (CDFW) jurisdictional riparian habitat (0.32 acre of	Less than Significant

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		southern cottonwood-willow riparian forest, 0.01 acre of Arundo-dominated riparian, and 0.50 acre of disturbed wetland) shall be mitigated at a 3:1 ratio, totaling 2.49 acres of riparian habitat mitigation. Impacts to 17.06 acres of CDFW streambed shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 17.06 acres of riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 19.55 acres. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Code Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts. **M-BIO-16.** The Project requires preparation of a wetland mitigation plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts only) and U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) (impacts to waters of the U.S. and State, and CDFW riparian habitat and streambed), as applicable. Approval of the plan and/or acceptance of mitigation bank credits by the USACE, CDFW, and RWQCB shall be a condition of the associated wetland permits for the Project.	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
BIO-10	Inadvertent intrusion into jurisdictional waters and wetlands located adjacent to work areas by construction vehicles, equipment, and personnel during mining and reclamation activities would be considered potentially significant.	Mitigate through environmental fencing installation mitigation measure **M-BIO-12** and environmental fencing installation monitoring and pre-construction environmental training mitigation measure **M-BIO-13** provided above.	Less than Significant
BIO-11	Implementation of the Proposed Project would result in potentially significant impacts to MSCP narrow endemic species during mining and reclamation activities.	Mitigate through breeding season avoidance mitigation measures **M-BIO-4** and **M-BIO-6** provided above.	Less than Significant
BIO-12	Implementation of the Proposed Project would result in potentially significant impacts to listed species during mining and reclamation activities.	Mitigate through on-site habitat preservation mitigation measure **M-BIO-1**, breeding season avoidance mitigation measure **M-BIO-2**, habitat mitigation measure **M-BIO-3**, breeding season avoidance mitigation measure **M-BIO-4**, pre-construction survey mitigation measure **M-BIO-5,** and Reclamation Plan mitigation measure **M-BIO-7** provided above.	Less than Significant
BIO-13	Direct impacts to nesting birds protected under the Migratory Bird Treaty Act would be considered potentially significant.	Mitigate through breeding season avoidance mitigation measure **M-BIO-6** provided above.	Less than Significant
	Subchapter 2.3 Cultural Resources		
CR-1	There is potential for significant direct impacts related to undiscovered buried archaeological resources on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.	**M-CR-1 Cultural Resources Treatment Agreement and Preservation Plan.** A single Cultural Resources Treatment Agreement and Preservation Plan shall be developed between the applicant or their representative and the culturally-affiliated Kumeyaay Native American tribe(s) prior to the commencement of sand extraction operations, including the removal of any trees or vegetation. The Cultural Resources Treatment Agreement and Preservation Plan shall be reviewed and agreed to by the County prior to final signature and authorization. The Cultural Resources Treatment Agreement and Preservation Plan shall include but is not limited to the following:	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		• Parties entering into the agreement and contact information. • Responsibilities of the Property Owner or their representative, Principal Investigator, archaeological monitors, Kumeyaay Native American monitors, and consulting tribes. • Requirements of the Pre-Grade Survey and Data Recovery Program and Archaeological Monitoring Program including unanticipated discoveries. • Requirements of tree removal monitoring. • Identification of areas for archaeological and Native American monitoring during earth-disturbing activities related to sand extraction operations. • Treatment of identified Native American cultural materials. • Treatment of Native American human remains and associated grave goods. • Confidentiality of cultural information including location and data. • Negotiation of disagreements should they arise during the implementation of the Agreement and Preservation Plan. • Regulations that apply to cultural resources that have been identified or may be identified during construction. **M-CR-2 Pre-Grade Survey and Data Recovery Program.** Prior to sand extraction operations, a Pre-Grade Survey and Data Recovery Program shall be implemented, consistent with the Cultural Resources Treatment Agreement and Preservation Plan and criteria outlined below.	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		• **Pre-Construction** A pre-grade survey shall be implemented due to the sensitivity of the area. The pre-grade and data recovery program shall include the following: o **Tree Removal:** Removal of trees shall be monitored by an Archaeological Monitor and Kumeyaay Native American Monitor for the presence of cultural resources. o **Pre-Grade:** Upon completion of grubbing and vegetation removal, and prior to sand extraction activities, a pre-grade survey shall be conducted in all areas identified for development. Development shall be defined as construction, extraction, or any other grading activity. The pre-grade survey shall include both an Archaeological Monitor and Kumeyaay Native American Monitor. o **Identified Resources.** In the event that cultural resources are identified: ▪ Both the Project Archaeologist and Kumeyaay Native American monitor(s) have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. ▪ The Project Archaeologist shall contact the County Archaeologist. ▪ The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American monitor(s) shall determine the significance of discovered resources.	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		▪ Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor(s) may collect the cultural material for transfer to a Tribal curation facility or repatriation program. ▪ If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor(s) and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources or Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance). o **Human Remains** ▪ The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist. ▪ Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. Should the human remains need to be taken offsite for evaluation, they shall be accompanied by a Kumeyaay Native American monitor.	

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		▪ If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner or their representative in order to determine proper treatment and disposition of the remains. ▪ The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted. ▪ Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered. o **Vegetation Removal Completion** ▪ Upon completion of grubbing and vegetation removal for each phase, a monitoring report shall be prepared identifying whether resources were encountered during the removal of trees or Pre-Grade Survey. A copy of the monitoring report shall be provided to any culturally-affiliated tribe who requests a copy. If resources were encountered, the analysis shall be included in the final archaeological monitoring report and shall comply with all requirements of that condition. **M-CR-3 Archeological Monitoring Program** • **Pre-Construction** o Contract with a County approved archaeologist to perform archaeological monitoring and a potential data recovery program during earth-disturbing activities in	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		areas identified in the Treatment and Preservation Agreement described in M-CR-1. The Project Archaeologist shall perform the monitoring duties before, during and after construction. o Pre-construction meeting to be attended by the Project Archaeologist and Kumeyaay Native American monitor to explain the monitoring requirements. • **Construction** o **Monitoring**: Both the Project Archaeologist and Kumeyaay Native American monitor are to be onsite during earth disturbing activities. The frequency and location of monitoring of native soils will be determined by the Project Archaeologist in consultation with the Kumeyaay Native American monitor. o **Identified Resources.** In the event that cultural resources are identified: ▪ Both the Project Archaeologist and Kumeyaay Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery. ▪ The Project Archaeologist shall contact the County Archaeologist at the time of discovery. ▪ The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American shall determine the significance of discovered resources. ▪ Construction activities will be allowed to resume after the County Archaeologist has concurred with the significance evaluation. ▪ Isolates and non-significant deposits shall be minimally documented in the field. Should the	

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		isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program. ▪ If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources of Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance). o **Human Remains** ▪ The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist. ▪ Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. If the human remains are to be taken offsite for evaluation, they shall be accompanied by the Kumeyaay Native American monitor. ▪ If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner	

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		or their representative in order to determine proper treatment and disposition of the remains. ▪ The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted. ▪ Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered. o **Rough Grading** ▪ Monitoring Report: Upon completion of Rough Grading, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy. o **Final Grading** ▪ Final Report: A final monitoring report shall be prepared substantiating that earth-disturbing activities are completed and whether cultural resources were encountered. A copy of the final report shall be submitted to the South Coastal Information Center, and any culturally-affiliated tribe who requests a copy.	

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		○ **Cultural Material Conveyance** ▪ The final report shall include evidence that all prehistoric materials have been curated at a San Diego curation facility or Tribal curation facility that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79, or alternatively have been repatriated to a culturally affiliated tribe. ▪ The final report shall include evidence that all historic materials have been curated at a San Diego curation facility that meets federal standards per 36 CFR Part 79.	
CR-2	There is potential for significant direct impacts related to discovery of unknown human remains on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.	Mitigate through Archaeological Monitoring Program mitigation measure **M-CR-3**, above.	Less than Significant
	Subchapter 2.4 Noise		
N-1	Noise levels could exceed the 60 dB CNEL maximum allowable noise level for 11 NSLUs surrounding the Project site: the Adeona Healthcare facility, Isolated Residence 2, Isolated Residence 3, and residential groups 1 through 5, 8, 10, and 11.	**M-NOI-1 Below-Grade Excavation and Noise Barriers:** Raw material extraction equipment operating within 400 feet of off-site noise-sensitive land uses (NSLU) useable space areas shall be located at the lowest feasible elevation within the Project's excavation areas such that the topography shall provide noise attenuation to off-site properties. To achieve the lowest feasible elevation, initial at-grade excavation activities shall be performed at least 400 feet from off-site NSLU usable space areas, as indicated in Figures 2.4-3a-c, *Noise Barriers*. Following this initial excavation to the lowest feasible elevation, excavation can extend outward and toward the NSLUs while maintaining the lowest feasible elevation at the active working face where extraction equipment is operating.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		For NSLUs located at residential groups 5 and 8 (as shown on Figure 2.4-2, *Receivers and Residential Groups)*, as well as Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility, an 8-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c, and break the line of sight between the excavation activities and receivers. For the barriers adjacent to residential groups 5 and 8, the required barrier height (8 feet) shall be measured relative to the adjacent Project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent property line, the total barrier height would be greater than the required barrier height in order to provide adequate noise attenuation (e.g., if the barrier with a required height of 8 feet is to be located at a surface elevation 5 feet below the adjacent Project site property line elevation, the total barrier height would be 13 feet). For NSLUs located at residential groups 1, 2, 3, 4, 10, and 11 (as shown on Figure 2.4-2), a 12-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c, and break the line of sight between the excavation activities and receivers. For the barriers adjacent to residential groups 1, 2, 3, and 4, the required barrier height (12 feet) shall be measured relative to	

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		the adjacent Project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent property line, the total barrier height would be greater than the required barrier height in order to provide adequate noise attenuation (e.g., if the barrier with a required height of 12 feet is to be located at a surface elevation 5 feet below the adjacent project site property line elevation, the total barrier height would be 17 feet). The noise barriers must be solid. They can be constructed of soil (in the form of a berm), masonry, wood, plastic, fiberglass, steel, or a combination of those materials, as long as there are no cracks or gaps, through or below the walls. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least one-inch total thickness or have a density of at least 3.5 pounds per square foot. Sheet metal of 18-gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of wood with a thickness of at least one-inch, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with pre-fabricated doorjambs. Stockpiles must be continuous and maintain the required height along their entire length.	
N-2	Project operations could cause an increase of 3 dB CNEL compared to existing conditions at three NSLUs where noise levels exceed 60 CNEL; these NSLUs are residential groups 1, 2, and 5.	Mitigate through Below-Grade Excavation and Noise Barriers mitigation measure **M-N-1** provided above.	Less than Significant

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
N-3	Project operations combined with cumulative traffic noise could cause an increase of 3 dB CNEL compared to existing conditions at four NSLUs where noise levels would exceed 60 dB CNEL; these NSLUs are residential groups 1, 2, 3, and 5. Additionally, the Project could result in more than a 1 dBA increase over existing plus cumulative conditions at these locations, thus resulting in a cumulatively considerable impact.	Mitigate through Below-Grade Excavation and Noise Barriers mitigation measure **M-N-1** provided above.	Less than Significant
	Subchapter 2.5 Paleontology		
PAL-1	The Proposed Project could result in significant impacts to paleontological resources from the excavation of previously undisturbed deposits exhibiting low resource potential (i.e., Quaternary alluvial deposits).	**M-PAL-1.** The Project site has marginal levels of sensitive paleontological resources. All excavation activities are subject to the *County of San Diego Grading Ordinance Section 87.430*, if any significant resources (fossils) are encountered during excavation activities. a. The grading contractor is responsible to monitor for paleontological resources during all grading activities. If any fossils are found greater than 12 inches in any dimension, stop all grading activities and contact PDS before continuing grading operations. b. If any paleontological resources are discovered and salvaged, the monitoring, recovery, and subsequent work determined necessary shall be completed by or under the supervision of a Qualified Paleontologist pursuant to the *San Diego County Guidelines for Determining Significance for Paleontological Resources*.	**Less than Significant**

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
		M-PAL-2. One of the following letters shall be prepared upon completion of the excavation/mining activities that require monitoring: a. If no paleontological resources were discovered, submit a "No Fossils Found" letter from the grading contractor to PDS stating that the monitoring has been completed and that no fossils were discovered, and including the names and signatures from the fossil monitors. The letter shall be in the format of Attachment E of the *San Diego County Guidelines for Determining Significance for Paleontological Resources*. b. If paleontological resources were encountered during grading, a letter shall be prepared stating that the field grading monitoring activities have been completed, and that resources have been encountered. The letter shall detail the anticipated time schedule for completion of the curation phase of the monitoring.	
	Subchapter 2.6 Tribal Cultural Resources		
TCR-1	There is potential for significant direct impacts related to undiscovered buried TCRs on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.	Mitigate through Cultural Resources Treatment Agreement and Preservation Plan mitigation measure **M-CR-1**, Pre-Grade Survey and Data Recovery Program mitigation measure **M-CR-2**, and Archaeological Monitoring Program mitigation measure M-**CR-3**, above.	Less than Significant

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CHAPTER 1.0 – PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING

1.1 Project Objectives

The purpose of the Cottonwood Sand Mine Project (hereafter referred to as "Proposed Project" or "Project") is to extract construction aggregate resources and reclaim the site to a usable condition for beneficial end uses consistent with those allowed under the current General Plan and zoning designations for the site. The objectives of the Project are as follows:

1. Recover and process construction aggregates in a financially sound and efficient manner while meeting all local, state, and federal safety requirements.

2. Provide an open space resource within the County, that ultimately protects and enhances the Sweetwater River channel.

3. Provide reliable, high-quality, aggregate product in the amount of 570,000 tons per year (approximately one-quarter of San Diego County's annual sand demand).

4. Maintain the existing low-flow channel of the Sweetwater River to accommodate water transfers from Loveland Reservoir to Sweetwater Reservoir.

5. Widen the existing flood channel of the Sweetwater River to more closely mimic conditions prior to golf course construction.

6. Reclaim areas of extraction to uses consistent with the County General Plan and Zoning Ordinance.

1.2 Project Description

1.2.1 Project's Component Parts

The Project proposes sand mining activities on 251 acres of an approximately 280-acre site in the unincorporated community of Rancho San Diego in eastern San Diego County, north of State Route (SR) 94 and east of SR 54 (see Figure 1-1, *Regional Location*; Figure 1-2*, Project Vicinity [USGS Topography]*; and Figure 1-3, *Project Vicinity [Aerial Photograph]*). The Project includes the following discretionary actions:

- A Major Use Permit (MUP) PDS2018-MUP-18-023 to allow mining activities on 251.1 acres of the 279.8-acre property; and

- A Reclamation Plan (RP) PDS2018-RP-18-001 to specify the standards to which the site must be reclaimed upon completion of mining activities in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA).

The Project site is currently zoned as Open Space (S80, with 8-acre minimum lot sizes), Specific Planning Area (S88), and Holding Area (S90). The S80 designation is used to provide appropriate controls for areas considered generally unsuitable for intensive development, including hazard or

resource areas, public lands, recreation sites, or lands subject to open space easement or similar restrictions. The S90 zone is intended to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Extractive use is allowed within the S80 and S90 classifications with the issuance of a MUP. The S88 zoning classification restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. The parcels zoned as S88 are located in the southwestern corner of the Reclamation Plan boundary, within the Rancho San Diego Specific Plan area.

The Project proposes to convert the two golf courses within the Cottonwood Golf Club to a sand mining operation that would be conducted in three phases over 10 years. Approximately 214.4 acres of the approximately 280-acre site are proposed for extractive use (Figure 1-4, *Site Plan and Mine Phasing*). Surface areas included within the MUP boundary that are not disturbed by mining (i.e., that are outside of the mining phase boundaries shown on Figure 1-4) would be subject to removal of invasive species, as proposed within the river channel in the southwest portion of the site (refer to the discussion under "Revegetation and Erosion Control" in Section 1.2.1.2, *Reclamation Component*, below), or be left in their current condition. Specifically, the existing Sweetwater River channel and the majority of native habitat that currently exists on the site would be retained. As described in Section 1.2.2, setbacks would be established from the property boundary at a minimum of 100 feet from residential properties and 50 feet from other uses and would be provided for safety and protection of existing public and private property in proximity to the Project. This distance was determined to be adequate in conjunction with proposed noise reduction barriers, as evaluated in Subchapter 2.4, *Noise*, of this EIR relative to the distance of proposed activities from nearby sensitive receptors, as well as existing site topography. Setbacks are shown on the project plot plan (Figures 1-5a and 1-5b, *Plot Plan*).

The extraction process would occur in three phases, with three to four subphases of less than 30 acres each in each phase, and a fourth phase for cleanup, equipment removal, and final reclamation. Extraction activities are proposed to begin on the Lakes Course west of the Steele Canyon Road bridge. The total duration of mining operations that would be authorized by the MUP would be 10 years, with reclamation anticipated to last two additional years.

Reclamation of the site would include: (1) removal of all manmade structures; (2) grading to achieve final landforms; (3) incorporation of accumulated wash fines and salvaged topsoil (as applicable); and (4) revegetation and monitoring (Figures 1-6a and 1-6b, *Reclamation Plan*). Final grading would begin after mining and backfilling have been completed within a given area, and as extractive operations proceed to the east. Reclamation would be an ongoing process starting in the second year as mining proceeds to the east and would continue in each 20- to 30-acre subphase over an approximately 10-year period, concluding two years after the completion of mining. The final landform is proposed to be a relatively flat plain that gently slopes downward from east to west, with a widened river channel bisecting the length of the site. The reclaimed river channel is expected to average approximately 250 to 300 feet in width and would be slightly higher in elevation than the existing low-flow channel. This low-flow channel would accommodate annual water transfers from Loveland Reservoir to Sweetwater Reservoir. Areas of extraction would be reclaimed to end uses consistent with the General Plan and zoning classifications, in accordance with the Project objectives. Revegetation monitoring would continue for a minimum of five years or until revegetation standards are met after this final phase. Each Project component is described in further detail below.

1.2.1.1 *Sand Mining and Processing Component*

The Project's mining operations would extract, process, and transport aggregate using conventional earth moving and processing equipment. Aggregate material extracted from the site would consist primarily of washed sand suitable for Portland cement concrete (PCC), but may also include fill sand, gravel, and rock. Approximately 4.3 million cubic yards (cy) (6.40 million tons) of material are proposed to be extracted. Mining and extraction activities are expected to produce approximately 3.8 million cy (5.7 million tons) of sand and gravel for market use, with a 10 percent waste factor from the total amount extracted that includes wash fines and materials undesirable for processing. Extraction operations would be limited to a maximum production of 380,000 cy (570,000 tons) of construction grade aggregate per calendar year. Material extracted and processed at the site would be suitable for construction uses and would be available to customers in San Diego County.

The Project would be developed in three continuous phases with 20- to 30-acre subphases in each major phase. Prior to the initiation of Phase 1, pre-mining activities such as the restriping of Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway, improvements to the access point from Willow Glen Drive to the Phase 1 excavation area, and installation of screening landscaping would be implemented. Phase 1 would begin with the placement of the processing plant and the conveyor line from the plant to the western portion of the property where excavation would begin. Processing facilities would be located near the center of the Project area, adjacent to Willow Glen Drive and west of the existing golf course parking lot. The plant site would consist of aggregate processing and washing facilities, three settling ponds, loadout area, and support structures and buildings (e.g., scale, office kiosk, and office trailer).

A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas where it would be washed. The conveyor line would be mobile to provide access within each phase and would be relocated as mining activity is concluded in each phase. The mobile conveyor is proposed to minimize the use of on-site roads to transport excavated material between the plant and excavation areas. The conveyor line would cross the channel on one of the existing golf course bridges during all operations south of the channel. Portions of the conveyor system located within the 100-year floodplain would either be anchored to prevent displacement by flowing water or removed at least 24 hours prior to forecast of significant rain (i.e., 0.5 inch or greater). The conveyors would also be anchored, as needed, during scheduled water transfers.

Existing vegetation and infrastructure within the golf courses would be removed as mining operations proceed, with approximately 20 to 25 acres subject to mining at any one time. Approximately six inches of topsoil would be stripped from the surface and placed in stockpiles along the upper edges of extraction areas. The stockpiles may be utilized in the construction of temporary noise barriers—which can be constructed of soil, masonry, wood, plastic, fiberglass, steel, or a combination of those materials–until needed for reclamation activities. When feasible, topsoil would be stripped from the surface and directly re-applied to areas that have reached final grade to avoid storing soil. Topsoil stockpiles would be clearly identified with signage. They would not be disturbed until used for revegetation, if feasible, and would be covered or seeded with a recommended seed mix if not to be used within six months.

Excavation would average approximately 20 feet in depth below the existing ground surface (bgs) across the site; some areas would be excavated to a maximum depth of 40 feet bgs (Figures 1-5a and 1-5b). Excavation would not occur within the bottom of the existing low-flow channel in order to retain existing hydrologic characteristics. Slopes in working cuts may be temporarily steeper that 3:1 ratio (horizontal:vertical) during operations. If these steeper slopes are to be inactive for a period of three or more weeks, they would be graded to a slope ratio of 3:1 or shallower.

Wheeled, front-end-loaders and an excavator would mine the materials to approximately one foot above the existing water table and load directly into a conveyor hopper (fitted with parallel bars to screen out large cobbles and rock). Groundwater will likely be encountered and the excavation pit would be limited to five acres in size. This would be accomplished by backfilling mined out areas of the pit with wash fines and overburden prior to expanding the pit size. Mined-out pit areas would be backfilled to an elevation above groundwater level as the mining phases advance. In areas where excavation extends below the water table, an excavator would be utilized for pit excavation; dewatering would not be required. The excavator would stack excavated material nearby and a loader would deliver and offload the material into the hopper.

An access point is proposed to be constructed directly across from Muirfield Drive consisting of a concrete apron that would convert to gravel surface for a short distance on the property for use during Phase 1. This access point and the existing access point on the northwest corner of the property would be used for mobilization/demobilization of heavy equipment for Phase 1. Equipment proposed to be used on site would include the front-end loaders and excavator noted above, as well as a water truck for dust suppression; dozer for rough grading, leveling, and ripping; motor grader for finish grading and maintenance; skid steer loader for a variety of cleanup activities; and a pickup for transportation for site supervisors (Table 1-1, *Project Mobile Equipment*). All equipment would be properly permitted in accordance with San Diego County Air Pollution Control District (SDAPCD) requirements. Heavy equipment would be delivered to the subphase 1A and 1A-1 areas south of the Sweetwater River Channel by crossing the existing channel during the dry season (generally July through September) within a 16-foot-wide temporary crossing area shown on Figure 1-5a. Once excavation activities within these subphase areas have been completed, the heavy equipment would be mobilized to the subphase 1B area using the same crossing. Once extraction activities have been completed within subphase 1C, heavy equipment would be mobilized for use within the Phase 2 and 3 areas south of the Sweetwater River channel from the Muirfield Drive access point, utilizing Willow Glen Drive, Steele Canyon Road, Jamul Drive, and Ivanhoe Ranch Road for one-time equipment delivery. Heavy equipment would be delivered through the existing golf course maintenance gate located off Ivanhoe Ranch Road at the subphase 2B area and then taken to subphase 2A, as shown on Figure 1-5b. When equipment needs to be mobilized to subphase areas north of the channel, a 16-foot-wide temporary crossing would be utilized in the subphase 2C area, as conceptually shown on Figure 1-5b. For equipment mobilization/demobilization, channel crossings would only be used when there is no water flow in the channel. Excavation and reclamation activities within each subphase area would be scheduled to avoid the need to cross the channel when water may be flowing. An operating procedure would be established to maintain communication with Sweetwater Authority prior to, and during, water transfers to ensure channel crossings during water flows are avoided.

Washed fines and materials undesirable for processing would be transported to backfill areas in one of three ways: (1) low-profile haul truck/tractor-trailer, (2) conveyor and haul truck, and

(3) haul truck. For backfill areas north of the channel in Phase 1, the fill materials would be loaded onto a low-profile haul truck or tractor-trailer by an excavator at the processing plant and hauled along the conveyor access road (conceptual alignment shown on Figure 1-5a) to the backfill areas. Clearance under the Steele Canyon Road bridge is approximately 11 feet in height, which would allow the low-profile haul truck (approximately 9 feet in height with a capacity of 20 cy) or tractor-trailer (approximately 8 feet in height with a capacity of 16 cy) to pass beneath without requiring removal of soil material beneath the bridge. For the subphase 1A and 1A-1 and Phase 2 and 3 backfill areas south of the channel, fill material would be delivered from the processing plant area utilizing a conveyor line across existing golf course bridges. Only one conveyor line would be installed across each bridge at a time. A separate conveyor would be used to transport excavated material to the processing plant; transport of fill material to backfill areas would not interfere with transport of excavated material from active mining areas. The conveyor would transport backfill material from the processing area to Phase 2 or 3 where it would be offloaded for distribution to backfill areas with a haul truck. In order to allow for clearance below the Steele Canyon Road bridge, a tractor-trailer would be used to transport backfill material offloaded from a conveyor positioned within the Phase 2 area south of the channel, under the Steele Canyon Road bridge to the subphase 1A and 1A-1 backfill areas. For Phase 2 and 3 areas north of the channel (subphases 2A and 3D), fill material would be transported from the processing plant via haul truck. Off-road hauling of wash fines is expected to require approximately four to six round trips per day for all modes of transport to backfill areas.

Mine Phases

The Project would be developed in three main mining phases, with subphases of less than 30 acres per phase and a fourth phase for cleanup, equipment removal, and final reclamation. Mineral extraction would generally proceed in a southwest-to-northeast direction. Mine phase locations are illustrated on Figure 1-4, with acreages and the estimated duration and timing of each phase and subphase summarized in Table 1-2*, Mining Phases*. Table 1-3, *Existing and Proposed Facilities and Structures*, summarizes the improvements associated with the existing golf club and proposed mining operations, and when they are scheduled for removal.

Each phase would include three to four subphases. Site preparation activities would be conducted prior to initiation of extraction within a given subphase excavation area, including vegetation clearing, topsoil removal, and stockpile creation, as discussed above. Noise barriers would be constructed to the specifications identified in Subchapter 2.4, mitigation measure M-N-1, prior to initiation of extraction activities within 400 feet of noise sensitive land uses (NSLUs), as shown in Figures 2.4-3a through 2.4-3c. Excavation in each subphase would be completed before moving the conveyor and excavation equipment to the next subphase and reclamation would begin in the completed subphase. During each of the phases, it may be necessary to re-locate existing power distribution poles that cross the golf course. Relocation or removal of power poles would be completed in accordance with San Diego Gas & Electric (SDG&E) requirements.

Phase 1

Phase 1 would include site development for construction of the internal access road and processing plant pad, as well as installation of screening vegetation, the conveyor line, and the processing plant. A loading area, truck scale, office/scale house, two storage containers, and three connected

settling ponds would be installed in the processing area. An unused residential structure located adjacent to Willow Glen Drive west of the Steele Canyon Road would be demolished and all demolition waste removed from the property. Following initial site development activities, extractive operations would commence in the approximately 94-acre area west of Steele Canyon Road. Extractive operations would involve removal of materials from the surface to approximately 15 to 40 feet bgs, utilizing front end loaders and an excavator. Approximately 79 acres are proposed to be included in Phase 1, including approximately 10 acres located in the southwestern portion of the Project site within the Sweetwater River channel that are proposed for habitat improvement (refer to Section 1.2.2.2, *Reclamation Component*, below). The remaining approximately 15 acres of the Phase 1 area, which includes the Sweetwater River channel, sensitive habitat areas, and setback areas, would not be disturbed.

Excavation would begin following site preparation activities (i.e., vegetation clearing, topsoil removal, stockpile creation) in the subphase 1A-1 area south of the river channel. As noted above, materials and heavy equipment utilized during extraction activities for subphases 1A-1 and 1A would be transported across the low-flow channel during the dry season (generally July through September) when water is not present; a conceptual crossing location is identified on Figure 1-5a. Mining equipment would remain in the subphase area for the duration of mining activities within each subphase. Noise barriers would be required to be installed when extraction activities would occur within 400 feet of NSLUs, as shown in Figures 2.4-3a and 2.4-3c for subphases 1A and 1C. Mineral excavation would then proceed to remove materials from the surface, generally in a southwest to northeast direction within each subphase. Excavation would extend approximately 20 to 25 feet bgs using an excavator and wheeled front-end loaders. During excavation of subphase 1-B and 1-C areas outside the existing channel, excavation may extend into the water table. Front-end loaders would transport the mined material to the loading bin connected to the conveyor line. Mined material would then be moved by conveyor to the processing plant where it would be washed, screened, stockpiled, and loaded for delivery. As described above, material extracted from the site that is not designated as saleable product would be utilized as backfill to construct the final landform. For Phase 1, wash fines would be returned to backfill areas by a tractor-trailer using the on-site conveyor line roads and/or over the existing golf course bridges by conveyor to areas south of the channel.

Reclamation and revegetation within each subphase area would be performed following mining, while mining would move to the next subphase area. The subphase 1A-1 areas would be reclaimed and revegetated first to support visual screening. Once excavation is complete in subphase 1A, the conveyor line and excavating equipment would move to the subphase 1B area on the western edge of the Project site. Reclamation in the subphase 1A area would then begin with final grading/establishment of final slopes and incorporation of wash fines and topsoil, installation of irrigation equipment, and revegetation. This process is proposed to continue in subphases 1B and 1C, with excavation occurring at depths up to 40 feet bgs in both of these subphases (refer to Figure 1-5a). These areas have been identified for mining up to 40 feet bgs. Subphase 1C is the largest of the subphases at approximately 30 acres. Excavation in each subphase is expected to take approximately one year. Upon completion of mining activities in Phase 1, materials and equipment would be moved from the Phase 1 area via the access point at Muirfield Drive, trucked to the access point at Ivanhoe Ranch Road (existing maintenance entrance for golf course), and mobilized to the Phase 2 area. A permanent erosion control riprap structure would be installed on

the west side of the Steele Canyon Road bridge following completion of excavation in Phase 1, in order to protect areas near the bridge from downstream erosion (see Figure 1-5a).

Phase 2

Prior to the initiation of extraction activities within the Phase 2 area, site preparation activities would be conducted, including vegetation clearing, topsoil removal, stockpile creation, and noise barrier construction (where extraction activities would occur within 400 feet of NSLUs, as shown in Figures 2.4-3b and 2.4-3c for Phase 2). Extraction would occur in a west-to-east direction from subphase 2A to 2C within an approximately 48.2-acre area east of the Steele Canyon Road bridge. Mined material would be moved by conveyor to the processing plant where it would be washed, screened, stockpiled, and loaded for delivery. In order to excavate within the northern portion of subphase 2A, equipment may be mobilized across the channel (during the dry season) or from the processing plant area. Both the conveyor crossing areas and conceptual 16-foot-wide temporary crossing for Phase 2 are shown on Figure 1-5b. The maximum depth of the excavation is expected to be 40 feet bgs, outside the low-flow channel in subphases 2B and 2C (refer to Figure 1-5b). The equipment would remain on site until excavation is completed for each subphase. Excavation in each subphase is expected to be completed in approximately one year; overall, Phase 2 is anticipated to last approximately three years. Upon conclusion of Phase 2, the conveyor line would be relocated to run from the processing plant to the eastern end of the Project site in preparation for Phase 3.

Reclamation of the Phase 2 subphases would begin as the final landforms are established in each subphase. As described above, material extracted from the site that is not designated as saleable product would be utilized as backfill to construct the final landform. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil, and revegetation. Three existing transmission towers owned by SDG&E would be avoided during Phase 2 excavation, leaving an “island” for the towers. An access ramp would be constructed on the western side of the island to connect to a 28-foot-wide access road within the existing SDG&E right-of-way easement that runs from the towers to the southern Project boundary. The ramp and slopes surrounding the towers would be lined, as needed, for access and to prevent erosion. Maintenance of this access road/ramp would ensure that SDG&E maintenance crews are able to access the towers during Project operations.

Phase 3

Excavation would continue for Phase 3 on approximately 78 acres east of the Phase 2 area. Phase 3 is anticipated to last approximately four years and would include four subphases. The same excavation and transportation procedures would be used as the two previous phases. Subphase 3A would be located at the northeast edge of the property. Excavation of each subphase would proceed westward. The maximum depth of excavation would be approximately 40 feet bgs in the eastern portion of subphase 3A (Figure 1-5b).

Reclamation in each of the Phase 3 subphases would begin as the final landforms are established. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil, and revegetation.

Phase 4

Phase 4 would consist of removal of the processing plant, grading to final contours, final reclamation and revegetation efforts, cleanup, and equipment removal. This phase is expected to last approximately 8 to 10 months after the end of extraction activities in Phase 3. Revegetation monitoring would continue after this final phase for five years or until revegetation standards are met after this final phase.

Aggregate Processing

The Project would include a processing plant to wash and stockpile finished products. This would be located near the center of the Project area, adjacent to Willow Glen Drive and west of the existing golf course parking lot. The plant site would consist of aggregate processing and washing facilities, three settling ponds, and a loadout area, as well as support facilities (Figure 1-7a, *Processing Area Layout*). As described in Section 1.2.1.4, vegetative screening/landscaping would reduce visual exposure (Figure 1-7b, *Processing Area Landscape Screening*). Where existing or proposed fencing is not screened by existing or proposed vegetation, green screening mesh would be installed on perimeter fencing along Willow Glen Drive to screen Project operations from public view. Refer to Sections 1.2.1.4, *Landscaping*, and 1.2.1.5, *Fences*, for additional details.

The plant would screen and wash raw material into marketable PCC-grade construction aggregate material, including washed concrete sand, asphalt sand, pipe bedding, and some gravel. No crushing would be necessary to process the materials extracted from the site. The plant and conveyor equipment are summarized in Table 1-4, *Plant and Conveyor Equipment*.

From the conveyor belt, material would be transferred to a blade mill, where material would be mixed with water to start the process of separating it into different sizes. Processing would occur through use of a screen deck plant capable of processing 400 tons per hour of raw material. The screen deck is a mechanical screening device that is used to separate granulated ore material into multiple grades by particle size. A screening machine consists of a drive that induces vibration, a screen media that causes particle separation, and a deck that holds the screen media and the drive (Figure 1-8, *Conditioner and Wet Screen – Profile*). This drive is used to cause the vibration that moves material down the screen media. As material becomes too fine to separate by a screen, the material is moved to a fine material screw, or sand screw, for washing. These fine material washers utilize a water bath and inclined augers to separate the fines (clay and silt) from the fine and very fine sands that are used in mortar and plaster. Fine materials are then piped to the first in a series of three settling ponds where fines settle. Clean water would be recycled through the process, with additional water provided by on-site groundwater wells as needed.

Once the processed aggregates are separated into different sizes, radial stacker conveyors would be used to stockpile the materials, and wash fines would be transferred to the settling ponds. Stockpiles would be up to 25 feet in height and located near the plant. The two primary stockpiles would consist of washed concrete sand and gravel. Other smaller stockpiles may be located within the loadout area, depending on the material being processed at the time; these stockpiles are not expected to exceed 15 feet in height. Customer trucks would be loaded with finished products from stockpiles by a front-end-loader and transported off-site. The weight capacity of a standard heavy vehicle for outgoing loads is approximately 25 tons of material transported per truck. With a

maximum annual rate of production of 380,000 cy (570,000 tons), approximately 1,462 cy (2,192 tons) of materials would leave the site each day. A maximum day would include 88 one-way heavy vehicles accessing the Project site. As many as 15 over-the-highway trucks may be parked on site each day near the processing area and entrance to the site. Sand extraction operations would be conducted approximately 260 days per year, on weekdays, between the hours of 7:00 a.m. to 5:00 p.m. Trucking would occur from 9:00 am to 3:30 p.m. during the week. No activities would occur on weekends or major holidays.

Wash fines produced from the processing plant would be gathered in three settling ponds located near the plant that are 300 feet long, 50 feet wide, and 10 feet deep. The first pond, referred to as the "muck" pond, is where most of the sediment from the wash slurry settles and would be cleaned more frequently than the other ponds. These ponds would be used to protect surface water quality and to recycle the process water through the settling of silts and clays (wash fines). The ponds also would be used to collect local runoff that may be transporting earthen solids. These ponds would be cleaned occasionally by removing the sediment collected. Sediment would be stockpiled parallel to the prevailing wind direction for dewatering. When ponds are cleaned, the wash fines (silt, clay, and organic material) would be sold as a soil amendment or returned to excavation areas that have been completed to be used as backfill or incorporated into the surface of excavated areas as rough backfilling. Selling wash fines would be driven by market demand and would depend on orders for specific uses such as improving the texture of a planting mix, improving water retention, or for recreational uses. These orders are expected to be generally small in number and volume of material (estimated at approximately one haul truck load per month) and would be sold and transported directly from the processing area between the hours of 9:00 a.m. and 3:30 p.m. The quantity of backfill materials would depend on the quality and composition of the excavated material; a 10 percent "waste factor" is typically estimated in aggregate mining for wash fines and materials undesirable for processing (e.g., low in sand). Materials not selected for processing would be utilized as backfill. Wash fines would be returned to backfill areas north of the channel by an off-road haul truck or tractor-trailer using the on-site conveyor line roads. Off-road hauling is expected to require approximately four to six round trips per day. South of the channel washed fines would be transported over the existing golf course bridges by conveyor, then transported by haul truck or tractor-trailer to backfill areas. A tractor-trailer would access Phase 1 by going underneath the Steele Canyon Road bridge; no equipment would cross the channel for backfilling.

Support Facilities

Additional support facilities adjacent to the processing plant would include a modular office trailer/scale house, one 70-foot truck scale, two storage containers for tools, and a portable restroom.

On-site Personnel

A total of 9 employees and up to 4 vendor vehicles are expected to access the Project site on a typical day. The employees would be responsible for tasks associated with mining and processing activities, environmental compliance, safety, management, and administrative tasks. The vendors would conduct sales or provide supplies, fuel, and maintenance to the heavy equipment and facilities utilized during mining.

Storm Water and Erosion Control

A Storm Water Pollution Prevention Plan (SWPPP) would be prepared and submitted to the State Water Resources Control Board (SWRCB) prior to construction in accordance with the Industrial General Permit Order 2014-0057-DWQ, effective July 1, 2015. The SWPPP and erosion control plan would define best management practices (BMPs) to prevent erosion and the discharge of sediment to surface waters. If needed during mining, small desiltation basins may be temporarily constructed to capture runoff from existing culverts underneath Willow Glen Drive and to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Runoff would be directed from the disturbed mining and reclamation areas towards the basins, as necessary, to allow for desiltation and infiltration. Typical soil stabilization BMPs include mulch, hydroseeding, soil binders, geotextiles, lining of drainage ditches, and/or velocity control structures. At a minimum, erosion and sedimentation control measures would be designed for the 20-year, 1-hour storm event in accordance with SMARA guidelines. Silt fences would be installed five feet from the outer edge of each side of the existing Sweetwater River channel and may be installed in other areas. Other erosion control measures would include monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, compacting soils with equipment, and re-grading as necessary. Vehicle track out and dust-related BMPs may include paved or stabilized roadway surfaces, tire washes, use of grates at vehicle entrances or exits, soil stabilizers, and water spray. Temporary erosion control measures would be retained until vegetation becomes sufficiently established to serve as an effective erosion control measure. Recommended erosion and sedimentation control measures would be described in detail in the Project SWPPP.

Water quality and hydromodification for permanent construction (e.g., Willow Glen Drive improvements) and impervious areas would be addressed with a Green Streets Priority Development Project (PDP)-exempt Storm Water Quality Management Plan (SWQMP) and permanent post-construction BMPs. PDP-exempt projects include development of new sidewalks, bike lanes, and/or trails; or improvements to existing roads, sidewalks, bike lanes, and/or trails as described in Section 1.4.3 of the County BMP Design Manual. As noted in the SWQMP, stormwater runoff from the Willow Glen Drive improvements would be directed along the southerly curb of Willow Glen Drive. A proposed spillway would be installed along the westerly end of the roadway improvements to convey the runoff into tree wells just south of the street (see Figures 1-5a and 1-5b). Two tree wells with a 25-foot mature tree canopy diameter would be installed to satisfy the required treatment volume.

Equipment Maintenance

Mobile equipment utilized for project operations would be maintained by private vendors. Maintenance and repairs on the site's mobile mining equipment would be completed on a level area near the active excavation and away from drainage features. Ground protection and spill containment, which would include plastic sheeting to line a bermed sump and absorbent pads, would be placed in the work area prior to work being conducted on the equipment to contain leaks and prevent accidental spills from reaching the ground. Available clean up materials would include absorbent pads, pillows, dry absorbent, flat nosed shovel, a broom, and a waste container for any clean up materials used. All materials used to clean up a spill would be transported from the site and disposed of at a licensed facility in accordance with state and federal requirements.

Vector Control

The mining operator would control mosquito breeding using BMPs in accordance with requirements of the San Diego County Department of Environmental Health and Quality (DEHQ) and the Project-specific Vector Management Plan (refer to Section 3.1.4, *Hazards and Hazardous Materials*, of this EIR). An active management plan would be implemented to ensure that water collected in the mining areas, process settling ponds, and Sweetwater River does not propagate the breeding of vectors. Vector management would be implemented through monitoring and, where necessary, corrective measures. As wash water is pumped to the process settling ponds for use in material processing and dust control, excess water would be collected and allowed to infiltrate or return to process cycle after a short retention period. Two submersible pumps enclosed in a waterproof casing would feed and circulate the wash water. Water used in the washing operation would be continuously reused and recycled. During the wet season (generally October through March), the mining areas, process settling ponds, and the streambed would be visually inspected monthly by the operations staff for the presence of vectors. The mining areas, process settling ponds, and the streambed would be visually inspected monthly during the wet season and weekly during the dry season (generally July through September) by the operations staff for the presence of vectors. If necessary, corrective measures would be initiated.

Emergent vegetation would be removed when recommended by the County DEHQ Vector Control Program, or when emergent vegetation (e.g., cattails, sedges, etc.) is in excess of 50 percent of the surface area. Emergent vegetation would be controlled by hand labor, mechanical means, or by frequent clear cutting. Herbicides may be used as needed to control re-growth. Removal of vegetation by hand would be the preferred method in order to lessen the re-growth frequency and density. Floating vegetation conducive to mosquito production (i.e., water hyacinth [*Eichhornia* spp.], duckweed [*Lemna* and *Spirodela* spp.], and filamentous algal mats) would be removed. Foot pathways would be maintained for surveillance and abatement methods. Sizing of pathways would be a minimum of five feet wide to allow access to any ponded area.

Additionally, good housekeeping BMPs would be implemented to avoid attracting rodents to the buildings and structures at the Project site, including placement of all trash and debris in sealed bins, timely removal of refuse by a licensed disposal company, use of traps to control rodents if observed, and proper training of all on-site staff.

1.2.1.2 *Reclamation Component*

In association with the MUP, a Reclamation Plan for mining activities would be required in compliance with SMARA and the County Grading Ordinance. Reclamation plans are developed to identify reclamation measures and establish performance standards for reclamation adequacy of mined lands. These measures include protection of wildlife habitat; revegetation; recontouring and erosion control; elimination or reduction of residual public health and safety hazards; and minimization of environmental impacts. A reclamation plan also addresses subsequent uses of the property and identifies schedules for reclamation activities.

Areas disturbed by resource extraction would be progressively reclaimed in an ongoing process that commences when mining operations have ceased within a given area and continues until all mining-related disturbance is reclaimed and all equipment involved in these operations has been

removed. Reclaimed areas would be restored to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. Specifically, nearly 52 percent of the project site (142.8 acres) would be preserved in a biological open space easement to be held by the County. The reclamation plan for the riparian corridor is intended to stabilize the post-extraction landform and establish a productive native vegetative cover. For the areas outside the riparian corridor, the revegetation plan is intended to stabilize the surface and control erosion.

Reclamation of each area would begin as the final landforms are established. Reclamation would include establishment of all final slopes, incorporation of accumulated wash fines and topsoil (as applicable), revegetation of the channel using appropriate native species common to riparian habitat, establishment of upland vegetation on the upper slopes, weed control, and monitoring, as further detailed below.

All material extracted from the site, not designated as saleable product, would be utilized as backfill to construct the final landform. No tailings or waste piles would remain following conclusion of extractive operations.

Landform

The final landform of the site would be a relatively flat plain that gently slopes downward from east to west (Figures 1-6a and 1-6b). Following extraction in areas where over-excavation deeper than the adjacent channel occurs, backfill would be placed to achieve the desired final elevation. Backfill is expected to be a combination of overburden and wash fines produced at the wash plant. Fill material in the backfill areas would be spread in near-horizontal layers, approximately eight inches thick. Thicker lifts may be approved by the geotechnical engineer if testing indicates that the grading procedures are adequate to achieve the required compaction. Each lift would be spread evenly, thoroughly mixed during spreading to attain uniformity of the material and moisture in each layer, brought to near optimum moisture content and compacted to a minimum relative compaction of 85 percent in the floodway area and up to 90 percent in upland areas. In areas below the water table, the material would be placed at the edge of the pit and deposited to allow it to settle naturally. Once there is a working surface, compaction would occur. If necessary, over-compaction of the surface soil would be relieved by ripper, disc, and/or scarified to improve seed bed conditions for plant growth. Wash fines would be used as backfill and blended with topsoil and used as a top dressing.

A widened river channel, more similar to pre-disturbance conditions, would bisect the length of the site. Banks of the river channel would slope up to the plain surface at a 3:1 ratio (horizontal:vertical) or shallower. The elevation difference between the bottom of the river channel and the top of the slope may be up to 25 feet (Figure 1-9, *Typical Slope Grading Detail*). The reclaimed river channel would average approximately 250 to 300 feet in width. In some areas, benches may be constructed on the face of the riverbanks to accommodate varying vegetation types and/or multi-use trails. The riparian corridor would be re-established with native habitat and natural landforms consistent with the surrounding area. Reclaimed upland areas would be similar in elevation to Willow Glen Drive.

Portions of the Sweetwater River channel located along the southwest edge of the Lakes Course are heavily vegetated with a mixture of native and non-native plant species. This part of the channel is currently a choke point for water as it exits the Project site. These areas would be incorporated into the reclamation plan by modifying the topography, removing invasive species, and replacing with native vegetation. Removal of invasive plants would occur manually and/or through herbicide use. Those treated with herbicide would either be manually removed after herbicide treatment or left to decompose. Herbicide use within the Project site would be conducted in accordance with all label instructions and local, state, and federal regulations, including application rates and methods, storage, transportation, mixing, and container disposal. In addition, only herbicides approved for aquatic use would be applied in areas within or adjacent to Sweetwater River and other waters, or areas with potential to drain into these areas. Invasive plant material would be removed from the site and disposed of off-site at a licensed landfill. To improve the channel and expand the riparian vegetation in this area, approximately 70,000 cy of material would be removed. Widening the floodplain at this location and revegetating the area would improve drainage and replace existing vegetation that is dominated by invasive plant species with more desired species. Work in this area, including planting native species, would be completed in the first phase of the Project.

Revegetation and Erosion Control

Plant species used in the revegetation effort would be capable of self-regeneration without continued dependence on irrigation, soil amendments, or fertilizer, and would include species representative of natural habitat. This would include riparian habitat within the river channel, coastal sage scrub on the channel slopes and upland areas with an end use of open space, and an erosion control seed mix for other areas outside the riparian corridor (Figure 1-10, *Conceptual Reclamation Revegetation and Compensatory Mitigation Areas*). Sample revegetation plant palettes are presented in Table 1-5, *Riparian Scrub/Forest Rehabilitation Plant Palette*; Table 1-6, *Riparian Forest Plant Palette*, Table 1-7, *Riparian Scrub Plant Palette*, Table 1-8, *Streambed (Emergent Wetland) Seed Mixture*, Table 1-9, *Diegan Coastal Sage Scrub Plant Palette.* The proposed erosion control seed mix is included in Table 1-10, *Erosion Control Seed Mix.*

Revegetation would occur through a combination of planting and hydroseeding. Hydroseeding is the hydraulic application of a homogeneous slurry mixture consisting of water, seed mix, cellulose fiber, and a binding agent such as “M” Binder. Fertilizer can be added if the soil analysis shows the need for addition of amendments; however, this is not anticipated. The hydroseed mixture would consist of the following materials:

- 2,000 pounds per acre cellulose fiber
- 140 pounds per acre “M” Binder (gluing agent)
- 200 pounds per acre Milogranite (fertilizer if required)
- Seed mix as listed

Seeding and planting would occur at times when winds are relatively calm, between November and February to take advantage of the natural precipitation season for Southern California. This planting period may be extended due to the use of irrigation.

Where final landforms have been established, but are not yet available for final reclamation, erosion control would be provided through revegetation with the general erosion control seed mix. The application of the seed mix would be completed on an as-needed basis to control erosion and weed propagation.

Irrigation

As final landform areas are prepared for planting and seeding, temporary above-ground irrigation would be installed. An irrigation plan would be developed in accordance with the recommendations of the Project Landscape Architect and submitted to the County for approval prior to implementation. Supplemental irrigation of reclaimed lands may be used during the first two years after planting to augment natural precipitation and assist with the propagation of reclaimed vegetation. Watering would only occur to assist in initial establishment and/or in long periods of extended dryness. Irrigation would not be used continuously after seeding. Irrigation would be accomplished using sprinklers and would adhere to the Water Conservation in Landscaping Ordinance. Irrigation water would be provided by existing wells on site.

Monitoring

Vegetation monitoring would continue for five years or until the County and the State Division of Mine Reclamation acknowledge that performance standards have been met. Prior to release of the financial assurance, all revegetated areas must meet performance standards. Proposed performance standards, which are subject to minor adjustments, are summarized in Table 1-11, *Performance Standards.* A minimum of two revegetation test plots would be established in the Phase 1 area by the project biologist as reclamation commences to help ensure successful implementation of the revegetation plan. The first should be located at a lower elevation in an area of riparian plantings and second at a higher elevation that encompasses coastal sage scrub/upland plantings. The project biologist also would develop an evaluation plan that would be implemented after the test plots are planted. Success of these test plots would be judged based upon the effectiveness of the vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species richness of the reclaimed mined lands to the surrounding area. Comparisons would be made by a qualified individual until performance standards have been met.

Since revegetation would occur concurrently with extractive operations, revegetation practices would be continually evaluated as revegetation is completed throughout the site. Records would be kept of soil preparation, including the addition of amendments as determined to be necessary, seeding techniques, and erosion control measures. Annual monitoring reports would be submitted to the County until the approved success criteria have been met and approved by the County. When the County agrees that revegetated areas meet success criteria for two consecutive years, no further monitoring would be required, and the operator may apply for release of financial assurances and SMARA closure.

Weed Control and Maintenance

Weed control is necessary to reduce or eliminate the occurrence of undesirable non-native species of plants that may invade the site where mining activities have removed the plant cover and where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete

with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site after the completion of mining. Therefore, weed control and maintenance on the site would occur continuously during Project operation and the reclamation process, with a focus on control of invasive plant species such as those species listed in Table 1-12, *Weed Species of Concern*.

The occurrence of weeds on the site would be monitored by quarterly visual inspection during active mining operations. The goal is to prevent weeds from becoming established and depositing seeds in areas to be revegetated in the future. If inspections reveal that weeds have become, or are becoming, established on the site then removal would be initiated. Weed removal would be accomplished through manual, mechanical, and/or chemical methods depending on the specific circumstances. Smaller plants (brome grasses, pepper weed) that cover more area may be sprayed, scraped with a tractor, or chopped by hand, depending upon the size of the area of infestation and the number of desired native plants in proximity to or mixed with the weeds. As discussed above, chemical (i.e., herbicide) use within the Project site would be conducted in accordance with all label instructions and local, state, and federal regulations, including application rates and methods, storage, transportation, mixing, and container disposal. In addition, only herbicides approved for aquatic use would be applied in areas within or adjacent to Sweetwater River and other waters, or areas with potential to drain into these areas.

Maintenance of the revegetation areas would consist of replanting and/or reseeding unsuccessful revegetation efforts. If revegetation efforts are not successful within four years following the initial seeding, seeded areas would be reevaluated to determine the measures necessary to improve revegetation success. If necessary, these areas would be reseeded with methods modified as needed. Prior to reseeding, the revegetation specialist would evaluate previous revegetation practices and test plot results to identify cultural methods to benefit the overall revegetation effort.

1.2.1.3 *Access, Circulation, and Parking*

The Project proposes to restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway per the County Roadway Standards as part of the pre-mining improvements (refer to Figure 1-5b). To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane would also be constructed, which would serve as the primary access for mining operations, material sales, employees, and vendors. A new egress point would be established in the approximate center of the existing parking lot (refer to Figure 1-5b). The Project also proposes to construct a two-way left-turn lane between the ingress and egress driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver. Willow Glen Drive between Steele Canyon Road and Hillsdale Road is classified in the County General Plan Mobility Element as a 4.1B: Major Road with Intermittent Turn lanes. The Project frontage along this stretch of roadway extends between Steele Canyon Road to approximately 1000 feet west of Hillsdale Road. In addition to the above improvements, the project proposes to provide an Irrevocable Offer of Dedication along the Project frontage as needed to accommodate the ultimate roadway classification of Willow Glen Drive.

A new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) would be necessary as the clearance height of the bridge that crosses the Sweetwater

River on Steele Canyon Road would not allow most large trucks used by service vendors (e.g., to provide fuel and maintenance to the heavy equipment utilized during mining) to pass beneath the bridge. Current access from Willow Glen Drive to the western portion of the property is provided by a small driveway at the northwestern corner of the property. During the initial stages of the Project, this access point may be used briefly for equipment delivery. However, a more substantial access point for this area of the Project would be constructed at the intersection of Willow Glen Drive and Muirfield Drive as part of the pre-mining improvements, prior to initiation of Phase 1 activities (refer to Figure 1-5a). The access driveway would consist of a two-lane concrete apron that would transition to a gravel surface segment of road within the Project site and would be used primarily for mobilization/demobilization, servicing of heavy equipment, and reclamation for the Phase 1 area west of Steele Canyon Road. Both the Muirfield Drive access and existing driveways with gates would remain in place for the property owner after mining activities have been completed. This access point would not be used for transport of backfill materials to the Phase 1 area.

An access point to the property that is used by the golf course for maintenance exists from Ivanhoe Ranch Road, south of the river. This access point may be used for heavy equipment delivery and removal within Phase 2 and 3 areas south of the Sweetwater River channel but would not otherwise be used for mining purposes. The existing maintenance gate may also be used for reclamation maintenance and monitoring after mining in Phases 2 and 3 has ended.

Trucking operations for material sales would operate from 9:00 a.m. to 3:30 p.m. Monday through Friday to avoid peak traffic periods. There would be no trucking from the site or processing of materials on Saturdays, Sundays, and major holidays (as listed in Section 36.408 of the San Diego County Code of Regulatory Ordinances). As many as 15 over-the-highway trucks may be parked each day near the processing area and entrance to the site west of the existing golf course parking lot. A parking lot would be provided near the processing area that would accommodate the 9 employee and 14 vendor vehicles.

Trails and Pathways

A pedestrian pathway would be provided along the northern Project frontage/Willow Glen Drive east of Steele Canyon Road to provide pedestrian access within the Project vicinity where there are no existing sidewalks. The public pathway has been designed to avoid removal of existing mature screening vegetation (refer to Figures 1-11a through 1-11e, *Conceptual Landscape Screening and Entrances Plan*). The pathway would range in width from eight feet wide just east of Steele Canyon Road, to five feet wide in the eastern portion of the Project site where the potential pathway alignment is constrained by existing topography and the Sweetwater River channel.

A publicly accessible community trail is also proposed to be constructed within the Project site, as shown in Figure 1-12, *Trail Plan*. The multi-use trail would connect to the pathway described above. The trail would be constructed by the Project applicant in conjunction with final site reclamation activities. Specifically, trail construction would be completed in segments and would begin in a phase area when mining activities have been completed in the phase area and reclamation has begun in the final subphase of that area. For example, in Phase 1, construction of the trails in that segment of the Project area would begin during reclamation of subphase 1C, when

no mining activities are occurring in Phase 1. This would then continue during Phases 2, 3, and 4. The County has identified a number of existing and proposed community pathway and trails located along public rights-of-way, over private property, and through County-owned land in the vicinity of the Project in the Valle De Oro Community Trails and Pathways Plan, which is a component of the County Trails Program Community Trails Master Plan (CTMP; 2005, as amended). The location and design of on-site trails would be coordinated with the County.

1.2.1.4 *Landscaping*

Existing landscape vegetation along Willow Glen Drive, which primarily consists of trees and shrubs such as acacia, Peruvian pepper trees, and oleander, would be maintained to the extent feasible during Project operation to provide a visual screen between Project activities and the public. A tree survey conducted along the northern Project boundary identified a total of 477 trees that currently provide landscape screening. Approximately 67 (14 percent) of the existing trees would be required to be removed to construct the Project entrance and Willow Glen Drive improvements, including eucalyptus (*Eucalyptus* spp.), palm (*Washingtonia robusta*), California pepper tree (*Schinus mole*), European olive (*Olea europaea*), and *Myoporum laetum* (no common name) species. Tree removal would be concentrated east of Steele Canyon Road and west of the existing golf course parking lot where the improvements to Willow Glen Drive and Project ingress driveway are proposed. The full extent of tree removal would be confirmed once improvement plans are prepared as a condition of the Project MUP. Replacement trees would be planted prior to initiation of Phase 1 to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site. The landscaping would be installed along Willow Glen Drive, adjacent to the Project entrances, and to provide additional screening of the plant area and parking lot (Figures 1-11a through 1-11e). Mature 36-inch box Mexican elderberry trees are proposed to be installed along the western and southern boundary of the processing plant footprint prior to the initiation of Phase 1 (Figure 1-7b). These trees would be installed in ground and would be maintained throughout the duration of mining operations on the Project site. Although it may be possible to salvage some existing vegetation within areas proposed for extraction, the existing native tree species are reaching the end of their life span and may not survive relocation. Due to the relative lack of native vegetation on the property, on-site seed collection would be minimal.

Trees planted for landscaping and screening would include coast live oak (*Quercus agrifolia*), Fremont cottonwood (*Populus fremontii*), and Western redbud (*Cercis occidentalis*). Additional plants to be employed include shrubs (California lilac [*Ceanothus* x 'Ray Hartman'], toyon [*Heteromeles arbutifolia*], lemonade berry [*Rhus integrifolia*]), groundcover (dwarf coyote bush [*Baccharis pilularis*]), and a coastal sage scrub seed mix. Trees would be spaced approximately 20 to 25 feet on center. Where feasible, trees would be grouped such that some trees would be located diagonally behind others.

1.2.1.5 *Fences*

During the Project's operational lifetime, public access would be controlled by fencing on the perimeter of the property and gates on the access roads within the Project boundaries. Lodge pole fencing would be installed on the south side of the proposed pathway along the northern Project frontage/Willow Glen Drive east of Steel Canyon Road. In addition, appropriate signage would be posted around the perimeter of the excavation area and Project boundary at 150-foot intervals;

wayfinding/directional signage would be provided for the pathway. The majority of the site is already surrounded by chain link fencing, with fencing to be replaced/repaired where missing or damaged. Fencing along the San Diego National Wildlife Refuge (SDNWR) to the southwest of the Project site would consist of four-foot-high, four-strand barbed wire; along all other public areas a six-foot-high chain link fence would be installed where not currently present. Where the fencing is not screened by existing or proposed vegetation, green screening mesh would be installed to screen Project operations from public view. The gates would be locked during non-operating hours. Security fencing would be removed after reclamation is complete, at the owner's request.

1.2.1.6 *Lighting*

Shielded night lighting would be installed around the processing plant for safety and security purposes. Lighting would be designed to minimize glare and reflection onto neighboring areas and is anticipated to include mounted sodium, metal halide, fluorescent, or light-emitting diode (LED) lighting. Lights would be directed downward and would have cut-offs installed to minimize spillover onto adjacent properties. Each light would provide the lowest light level necessary and would be limited to less than 4,050 lumens output, maintaining compliance with State and local regulations. Additional detail regarding lighting is discussed in Section 3.1.1, *Aesthetics*.

1.2.1.7 *Utilities and Services*

Electricity

Electrical power would be provided by SDG&E through an overhead distribution line that enters the site from the northwest. The Project would utilize temporary power poles for the plant location and conveyor system. Existing transmission lines across the site would be retained in their current locations and the area immediately surrounding the existing transmission towers would not be subject to excavation. SDG&E easements would remain in place after the Project is completed.

Water

Eight groundwater wells on the property currently provide irrigation water for the golf courses, and would be used for dust control, processing, and irrigation during Project operation. Wells not proposed to be used by the property owner or for groundwater monitoring after mining and reclamation have been completed would be properly abandoned. Sweetwater Authority has requested that two wells, Lakes #11 and Ivanhoe #11, remain in place after cessation of mining and reclamation activities so groundwater monitoring can be continued in this area of the river. It is the intent of the Project not to remove these two wells unless it is required.

Bottled drinking water for the mine staff would be provided by a private vendor. The estimated existing annual groundwater usage from well pump data provided by the course superintendent is 840 acre-feet. The annual water usage, including evaporation from course ponds, was estimated as 804 acre-feet using the evapotranspiration method described in the Groundwater Sustainability Plan for Borrego Valley (Borrego Valley Groundwater Sustainability Agency, 2019), as referenced in the project reclamation plan. Water use by the Project for all purposes has been calculated at 139.9 acre-feet per year, or a reduction of approximately 664.1 acre-feet or 82 percent per year relative to existing conditions.

Sand mines use water to wash the material for use off site and water roads and stockpiles for dust suppression. The total amount of water used in the mining and processing is "handled water;" water that is lost from the site during the mining and processing is "consumed water." A water truck would be used for dust suppression on all operating areas. This would include material stockpiles and unpaved areas within the mining area, the processing plant, and access road. Outgoing loads also would be surface-watered for dust suppression purposes. Dust suppression is estimated to require 20.3 acre-feet of water per year. Water usage for processing would depend on production volume. The Project's estimated water usage assumes the maximum annual production of 570,000 tons. Of the 203 gallons per minute (gpm) of water used in the washing operation, 87 percent would be continuously reused and recycled. Approximately 38 gpm of continuous water input on workdays would be required to make up for approximately 13 percent that is estimated to be lost through evaporation and retention on material. Water consumed for processing is estimated at 64 acre-feet annually based on the maximum annual production rate. This includes the 20.3 acre-feet per year noted above for dust control, 20.3 acre-feet per year attributed to evaporation from stockpiles, and 23.4 acre-feet per year of water retained on aggregate product that is taken off site within exported mining materials. An additional 20.3 acre-feet per year would be consumed in association with evaporation from mining pit areas where groundwater may be encountered. Irrigation of landscaping near the entrance and as supplemental water on revegetated areas is estimated to utilize approximately 55.6 acre-feet per year. Total water consumption for the Project is estimated at 139.9 acre-feet per year.

Wells not to be used by the property owner or for groundwater monitoring after mining and reclamation are complete would be properly abandoned. Wells in the mining footprint, or not to be used in the future, would be abandoned as each mining phase is completed in accordance with County requirements and standards. As noted above, Sweetwater Authority has requested that two wells, Lakes #11 and Ivanhoe #11, remain in place after cessation of mining and reclamation activities so that they can continue groundwater monitoring in this area of the river.

Additional discussion regarding proposed water use is provided in Section 3.1.6, *Hydrology and Water Quality*, and 3.2.7, *Utilities and Service Systems.*

Sewer

The Project would utilize portable restroom(s); no sewer connections are proposed. One portable restroom would be placed in the plant area and the second would be placed near the active excavation area and moved as needed. They would be serviced at appropriate intervals by contract vendors.

Solid Waste Disposal

Domestic refuse would be collected in trash bins and removed by a licensed, refuse disposal company. Equipment would be maintained on site and all used oils, fuels, and solvents would be collected in accordance with the Department of Toxic Substances Control (DTSC) regulations and removed from the site by an approved hauler for materials recycling.

1.2.2 Technical, Economic, and Environmental Characteristics

In accordance with the Project objectives, the Project has been designed to allow for the recovery and processing of construction aggregates in a financially sound and efficient manner, while considering environmental considerations. The complete suite of environmental characteristics, including comments that were received during the Notice of Preparation (NOP) public review period (Appendix A), was considered during the planning and design of Project facilities.

A California Geological Survey (CGS) special report classified the Cottonwood Golf Course to Mineral Resource Zone (MRZ-) 2, which is defined as an area where "adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists." The material specifications for PCC-grade aggregate are more restrictive than those for other grades of aggregate, which makes these deposits the scarcest of aggregate resources (CGS 2017). The Project would involve the extraction of aggregate sand, which is a known mineral resource that is of value to the region and the residents of the state.

The Project would extract these resources for local uses. The CGS report estimates that an average of 2.02 million tons per year of aggregate (primarily sand) were imported into western San Diego County between 1995 and 2014 (CGS 2017). Providing an additional local supply of aggregate material would reduce the need to import material from more distant mines. This issue is highlighted in the California Geological Survey (CGS) Special Report 240, *Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Western San Diego County Production-Consumption Region* (2017, pp. viii-x):

> "Since the mid-1990s, local aggregate production has not been sufficient to meet local demand in the P-C Region [Western San Diego County Production-Consumption Region]. This shortfall has been met by importing construction aggregate, **predominately sand** [emphasis added], from neighboring aggregate producing regions. At various times, construction aggregate has been imported into the P-C Region from mines in Los Angeles, San Bernardino, Riverside, and Imperial counties, and Baja California, Mexico.…When compared to local production, importing aggregate is often more expensive and results in higher emissions of greenhouse gases, air pollution, traffic congestion, and road wear and maintenance because of increased truck traffic. These impacts occur both within the importing region and in the neighboring regions that supply the material and through which the material is transported."

Proposed mining depths were determined based on existing surface elevations, production goals, and proposed reclaimed surface elevations. These depths would allow flexibility to meet those goals in the event more material considered unsuitable for processing is encountered than anticipated. The stability of slopes created during mining operations would be governed by the Mine Safety and Health Administration (MSHA) to ensure worker safety. The proposed permanent slopes would be a maximum grade of 3:1 (horizontal to vertical) to provide an appropriate factor of safety.

Proposed mining setbacks in areas adjacent to residential properties were increased from 50 feet (derived from Section 87.412 of the County of San Diego Grading Ordinance) to 100 feet, or areas

were excluded from excavation, to assist in reducing noise and visual impacts to those residents, specifically those along Willow Glen Drive to the north of the Project site and those along the southern boundary of the central portion of the Project site. The increase in setback distance was determined based on being able to provide reduction in noise and visual impacts while maintaining sufficient mining area to be able to meet the Project objective of providing 570,000 tons per year of aggregate product. In addition, certain areas of the property were excluded from excavation to avoid disturbing identified habitat and other sensitive resources.

In particular, the Sweetwater River channel and associated floodplain represent a key environmental characteristic of the site, related to biological resources, hydrology, water quality, groundwater, and water supply. Under existing conditions, on-site water flows in a naturally lined trapezoidal channel constructed within the golf course. The channel transitions to a broader riparian channel near the downstream portion of the Project site. The bottom of the trapezoidal channel would be undisturbed, with the exception of temporary 16-foot-wide channel crossings that would only be used during the dry season, to minimize impacts to jurisdictional waters and wetlands and allow the Sweetwater Authority water transfers to continue within the existing low-flow channel. Silt fences would be installed five feet from the outer edge of each side of the channel to minimize potential siltation. To minimize effects related to erosion, the Project may utilize small, temporary desiltation basins that to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Mining and reclamation grading would direct runoff from the disturbed areas towards the basins. Permanent erosion control structures would include a drop structure at the eastern end of the site where the Sweetwater River enters the property, a riprap structure on the west side of the Steele Canyon Road bridge, and appropriate slopes, terraces, ditches, and down drains where needed. The riprap structure on the west side of the Steele Canyon Road bridge would be constructed after excavation has been completed in Phase 1, and the drop structure would be constructed after excavation has been completed in Phase 3. The drop structure would prevent head cutting of the channel during infrequent, high flow events. It would be the width of the modified river channel (610 feet) on the slope face, extend approximately 20 feet below the slope face, and be constructed of grouted riprap. It would be constructed using heavy equipment per standard techniques when mining activities commence downstream. The riprap structure on the west side of the Steele Canyon Road bridge, which would also be constructed of grouted riprap and after excavation has been completed in Phase 1, would protect the bridge from erosion after the downstream area (Phase 1) has been mined.

The Project has been designed to avoid capture of transferred water within extraction areas. To ensure that excavation activities would not substantially affect Sweetwater Authority water transfers between the Loveland and Sweetwater reservoirs, mining activities proposed during the rainy season (generally November through March) would be located away from the river channel, to the extent feasible. If mining would occur within 10 feet of the low-flow channel, berms approximately five feet in height would be constructed to separate the operations areas from the channel, as needed. The berm locations can be adjusted as mining progresses and would be set back from mining activities. Berms may also be incorporated upon final reclamation, where needed, to reduce potential loss of water during scheduled transfers. The Project design and berming are intended to preserve the Sweetwater Authority's ability to transfer water from Loveland Reservoir to Sweetwater Reservoir.

Potential impacts to groundwater also are of potential concern. Three excavation pit areas where groundwater may be encountered are planned (refer to Figures 1-5a and 1-5b). The first pit would be excavated during Phase 1 on the northern side of the river channel and south of Willow Glen Drive (subphase 1C area on Figure 1-4). The second pit would start to be excavated in the eastern half of the Phase 2 area (subphase 2C area on Figure 1-4) and would continue in a northeasterly direction toward the Phase 3 area (subphase 3C area on Figure 1-4). This pit would be located south of the existing channel and east of Steele Canyon Road. The pit would not connect with the channel. The third pit would be completed in the northeastern corner of the Project site during Phase 3 (subphase 3A area on Figure 1-4). These pits would be progressively backfilled as the excavation continues. Exposure of groundwater as a free water surface at any given time in each of the three pits would be limited to approximately five acres in size. This would minimize the associated potential for evaporative losses. Dewatering of these pits is not necessary and would not occur.

Mining activities would be limited to approximately 20 to 30 acres at any given time, with reclamation and revegetation occurring sequentially. This would limit the potential for erosion and sedimentation and temporal loss of biological resources, as well as both the magnitude of the visual impact and the duration to which views from a particular location would be affected.

A new access point to the property from Willow Glen Drive west of the Steele Canyon Road (Phase 1 area) would be necessary for the initial phase of mining activities as the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road would not allow most large trucks used by service vendors to pass beneath the bridge. This new access point would be constructed as part of the initial pre-mining improvements. To reduce potential conflict points, the driveway would be restricted to right-in/right-out movements, with left-turn outbound movements prohibited (see Figure 1-5a). The southbound left-turn movements from Muirfield Drive would still be allowed.

In selecting the site for the processing plant, a location near a roadway was desirable to minimize the distance that trucks need to travel to access the plant, as well as avoid the need to construct additional roadways across the site. Although several options were considered, Willow Glen Drive was selected because it was the primary road utilized by golf course patrons and has capacity for the traffic generated by the Project. By placing the plant in the proposed location, Willow Glen Drive would be easily accessible and the plant would be distanced from housing tracts in the area, reducing the potential for noise impacts. This location is also at the approximate center of the Project site and would not have to be moved until the final stage of the Project. A portable conveyor line would be installed to transport excavated materials to the processing plant from the excavation areas, thus minimizing the amount of truck traffic (with associated noise and dust) that is necessary on the site.

A new access off Willow Glen Drive to the west of the existing driveways to the Cottonwood Golf Club parking lot would be constructed as part of the initial pre-mining improvements to provide access for mining operations, material sales, employees, and vendors (see Figure 1-5b). To improve Willow Glen Drive consistent with its Mobility Element classification (4.1B: Major Road with Intermittent Turn Lanes), the Project would widen the roadway between Steele Canyon Road and the Project egress driveway to four lanes with intermittent travel lanes as part of the initial pre-mining improvements, as described in Section 1.2.1.3 (see Figure 1-5b). A two-way left-turn lane

would be constructed between the existing driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver as they are exiting the site. As described in Section 1.2.1.4, removal of approximately 67 trees would be necessary to construct the Project entrance and Willow Glen Drive improvements; the extent of removal would be confirmed once improvement plans are prepared as a condition of the Project MUP. As noted in Section 1.2.1.4, replacement trees would be planted prior to initiation of Phase 1 to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site.

To minimize the visual effects of the Project, existing landscape vegetation along Willow Glen Drive would be maintained to the extent feasible during Project operations to provide a visual screen between Project activities and the public. Although approximately 67 (14 percent) of the existing trees are proposed to be removed to construct the Project entrance and Willow Glen Drive improvements, replacement trees and additional screening of the plant area are proposed to provide visual screening of mining activities from Willow Glen Drive and viewers to the north of the Project site (refer to Section 1.2.1.4, above, and Figures 1-11a through 1-11e). Additional landscaping would be installed to provide additional screening of the plant area and parking lot (refer to Section 1.2.1.4 and Figures 1-11a through 1-11e). In limited locations where vegetative screening is not feasible due to limited width between the public right-of-way and the existing Sweetwater River channel, or prior to establishment of adequate vegetative screening, green screening mesh would be installed on Project fencing along Willow Glen Drive and on the Steele Canyon Road bridge to screen Project operations from public view.

1.3 Project Location

The Project site is located in the unincorporated portion of the County, in the Valle de Oro Community Planning Area (CPA) (see Figures 1-1 through 1-3). The Valle de Oro CPA encompasses approximately 19 square miles of the unincorporated portion of the County located south of the city of El Cajon and east of the city of La Mesa. The Project is located within the Rancho San Diego community, which generally consists of the southeastern reaches of the CPA. More specifically, the Project site is located on the south side of Willow Glen Drive at 3121 Willow Glen Drive, El Cajon, California. Steele Canyon Road bisects the Project site. The western edge of the Project area is approximately 600 feet east of the intersection of Willow Glen Drive and SR 54/Jamacha Road, with the site extending approximately 1.7 miles to the east of that intersection. SR 94/Campo Road is located approximately 0.7 mile southwest of the site. The site is situated within the Sweetwater River watershed and in the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the site.

The commercial village area of the Rancho San Diego community is located to the west of the Project site. An approximately 32-acre portion of the Project site is located within the Rancho San Diego Specific Plan area. The Cottonwood and Jamacha communities are located to the north and east of the Project site, respectively.

1.4 Project Background

The Project site is currently occupied by the Cottonwood Golf Club and contains 22 Assessor's Parcel Numbers (APNs; Table 1-13, *Assessor's Parcels*).

Site History

Prior to the 1940s, the Project site and surrounding lands of the Jamacha Valley were predominately used for commercial ranching and agriculture, most of which had ended by the 1950s. A 1953 aerial photograph of the Project site (Figure 1-13, *1953 Aerial Photograph*) indicates that the floodplain of the Sweetwater River was primarily undeveloped with the presence of a small, wooden house/structure adjacent to Willow Glen Drive to the west of Steele Canyon Road. A portion of the site was also being mined for construction aggregates on the south side of the river and west of Steele Canyon Road. Mineral extraction uses in this area had expanded to the east side of Steele Canyon Road by the early 1960s. Other disturbed areas observed on the 1953 aerial photograph suggest surface mining may have been occurring adjacent to Willow Glen Drive on the western end of the property. It also appears that a dirt aviation landing strip may also have been present.

Mining activities along Steele Canyon Road continued into the 1970s as both golf courses were developed. Construction of the golf courses began in approximately 1962 with the Lakes Course (formerly the Monte Vista Course) on the western side of the property and the Ivanhoe Course on the eastern side of the property. The golf course confined the Sweetwater River to a narrower channel and replaced native riparian vegetation with turf grass.

Since 1963, the property has been used as two public golf courses. Facilities at the golf club consist of a large parking lot, a clubhouse, practice facilities and two, 18-hole championship length golf courses. Sand extraction continued at the site through the years, which allowed the golf course to be modified with water hazards and expanded fairways. A small wooden house also exists next to the 4th tee box of the Lakes Course. Golf play on the Lakes Course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe Course. The Lakes Course area is periodically maintained to control weeds and remove trash.

Existing Land Entitlements

Golf Course

The existing golf course site is generally aligned along both sides of the Sweetwater River and extends for approximately two miles along Willow Glen Drive. The golf course is approved (Special Use Permit/Major Use Permit [MUP] No. 61-090 W2M1) to occupy lowlands within the Sweetwater River floodplain.

The original permit (approved January 16, 1962) described real property for a Commercial Sport and Recreational Enterprise, consisting of and including a golf course, driving range, restaurant, bar, putting green, pro shop, swimming pool, and other ancillary facilities. Grading plans have been approved over the years associated with golf course improvement. The most recent grading plan amendment was approved June 6, 2016.

Several minor deviations were made to the original Special Use Permit between 1972 and 1989. Two modifications followed in 1992 and 1994. The first modification was approved on October 8, 1992 (P61-090W) with a certified Negative Declaration (Log No. 88-14-9), which revised the permit to include approximately 15 acres of additional area for the relocation of holes 12 and 13 of the western 18 holes at the Monte Vista Course (currently the closed Lakes Course) and to add

and delete other property as reflected on the approved plot plan; a two-story, 30,000-square foot (SF) clubhouse consisting of a public lobby, pro shop, administrative offices, classrooms, restaurant dining, bar and grill, kitchen, locker rooms, and support areas; a practice range and practice greens; below-ground golf cart storage area; and a 336-space parking lot and demolition of existing clubhouse.

A second modification (P60-090W) was approved on January 19, 1994 with a certified Negative Declaration (Log No. 88-14-9). The modification proposed the addition of 8.2 acres on the north side of Willow Glen Drive to use an existing residential facility as the San Diego Golf Academy; the 8.2 acres are no longer owned by the golf course. The second modification also included three major sections of modifications as follows:

- Section I - Golf holes 12 and 13 were modified from the initial location and constructed as part of the western 18 holes of the Monte Vista Course (currently the closed Lakes Course). (MUP Modification P61-090W, Section I)

- Section II - Clubhouse with Related Facilities and Uses and Parking was not constructed; that portion of the permit expired. (MUP Modification P61-090W, Section II; expired on October 8, 1995)

- Section III - Instructional Facility located north of Willow Glen Drive was never constructed; that portion of the permit expired. An open space easement was dedicated on parcel 518-021-0800. (MUP Modification P61-090W, Section III; expired on January 19, 1997)

As noted above, the only work completed under these modifications included the relocation of golf holes 12 and 13 on the Lakes Course and the dedication of an open space easement on parcel 518-021-08-00 north of Willow Glen Drive. The new clubhouse and the instructional facility were never built. The 8.2-acre parcel north of Willow Glen Drive is now owned by a separate entity from the golf course ownership and the parcel is not within the boundary of the Proposed Project.

A separate MUP (P83-55) for a Mining and Processing/Reclamation Plan, pursuant to Sections 2805 and 2905 of the County Zoning Ordinance and Section 87.701 of the County Code was approved on May 30, 1984 to allow the periodic removal of sand, temporary stockpiling, preliminary screening of foreign matter, and transport of sand deposits from the Sweetwater River on the property as necessary to properly maintain free-flowing conditions. This permit was approved for a 15-year period. Based on discussions with the former operator, sand removal occurred approximately every five years with the last sand extraction in approximately 1995.

Rancho San Diego Specific Plan

The Rancho San Diego Specific Plan (Specific Plan) was originally adopted on January 16, 1980 and has been amended several times, primarily for development purposes. The most recent amendment was approved on December 4, 2013. There are two parcels in the southwestern corner of the Reclamation Plan boundary that are included in the Specific Plan. These parcels are 506-021-19-00 (8.2 acres) and 519-011-03-00 (23.8 acres) and have a zoning designation of S88, Specific Planning Area. Pursuant to Section 2885.b. of the County Zoning Ordinance, extractive

uses on these parcels are restricted to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. Currently, all of parcel 506-021-19-00 and approximately 13.3 acres of the 23.8-acre parcel 519-011-03-00 are used by the golf course as fairways. The primary reason for including the two parcels in the Project boundary is to improve the Sweetwater River channel and increase the area of native riparian vegetation. The end use for both parcels would be floodway; no mining activities are proposed within these parcels. The proposed channel enhancement would be compatible with the Specific Plan.

1.5 Environmental Setting

1.5.1 Project Vicinity

The Proposed Project is located within the County's Valle de Oro Community Planning area. Rancho San Diego is located to the west of the Project site. An approximately 32-acre portion of the Project site is located within the Rancho San Diego Specific Plan area, as discussed in the preceding section. The Cottonwood and Jamacha communities are located to the north and south of the Project site, respectively. The area is characterized by the Valle de Oro Community Plan as a balance of urban, semi-rural agricultural, and open space land uses, with the Rancho San Diego area developed with large-scale, well-planned residential and commercial developments interspersed with large areas of green-belt and biological open space for wildlife preservation.

Land uses in the surrounding area include residences, parks, and commercial uses of the Rancho San Diego community to the north and west; rural residential development, undeveloped land and extractive operations to the northeast; rural residential development, a residential treatment facility, and the Steele Canyon Golf Club (including a 27-hole golf course and associated residential uses) to the south and southeast; and the SDNWR to the southwest, along the Sweetwater River. Residential uses occur immediately to the southeast of the site, within approximately 120 feet to the north, and within approximately 100 feet to the northeast. Jamacha Elementary School is located approximately one-quarter mile to the south, Steele Canyon High School is approximately one-half mile to the south, Valhalla High School approximately three-quarters of a mile to the northwest, Hillsdale Middle School approximately one-half mile to the west, and Cuyamaca College approximately two-thirds of a mile to the west.

Land use in the vicinity is limited by physical constraints including the Sweetwater River channel and steep terrain to the north and south of the river. The Sweetwater River extends from its headwaters in the Cuyamaca Mountains (east of the site) to San Diego Bay, approximately 15 miles southwest of the site. River flows in the vicinity of the Project are controlled by the Loveland Reservoir dam, approximately 4.8 miles upstream. Runoff from the upper Sweetwater River watershed is captured at Loveland Reservoir, primarily during winter and spring months. Surface water is only present during or shortly following precipitation, or during water releases from the Loveland Reservoir by the Sweetwater Authority. Sweetwater Reservoir is a terminal drinking water reservoir located less than 3 miles downstream of the Project site.

Important biological resources in the vicinity generally include core blocks of coastal sage scrub and chaparral, open space conserved within the SDNWR and on Dictionary Hill, and perennial waters and riparian habitat associated with Sweetwater River corridor.

In the Project vicinity, the Sweetwater River channel slopes gently to the southwest from approximately 400 feet above mean sea level (amsl) to 300 feet amsl. Land to the north and east of the river channel rises steeply to over 700 feet amsl. The area to the south consists of rugged terrain rising quickly to elevations over 800 feet amsl, and continuing to rise to San Miguel Mountain, at over 2,500 feet amsl, approximately three miles to the south.

Areas upstream and downstream along the Sweetwater River are characterized by riparian forest and riparian scrub vegetation. Undeveloped lands to the north, east, and south are primarily vegetated with coastal sage scrub, with smaller areas of grassland.

1.5.2 Project Site

The property is currently occupied by the Cottonwood Golf Club, which was permitted in 1962. The club consists of two 18-hole golf courses referred to as the Lakes Course and the Ivanhoe Course. Golf play on the Lakes Course was suspended indefinitely in 2017 to focus all operational efforts on the Ivanhoe Course. Figure 1-14, *Lakes Course Layout*, presents the layout for the Lakes Course and Figure 1-15, *Ivanhoe Course Layout*, shows the layout for the Ivanhoe Course.

In addition to the golf courses, facilities include an 11,590-SF clubhouse with a bar and grill, an open 13,000-SF golf cart storage yard, an approximately 2.2-acre equipment maintenance and repair facility, and a 2.4-acre parking area for approximately 320 automobiles (Table 1-3). These facilities would be removed during Phase 2. On-course restrooms are located near the tee box on Lakes Hole 7 and on the Ivanhoe Course at the tee box for Hole 14, and would be removed during Phases 1 and 3, respectively. These on-course restroom facilities are connected to septic systems. A small, wooden house owned by the golf course owner is located next to the 4th tee box of the Lakes Course, immediately adjacent to Willow Glen Drive and 0.3 mile west of Steele Canyon Road. This house was not used for golf course operations. The building is not occupied and is boarded up and would be removed during Phase 1.

Hours of operation for golfing activities at the Ivanhoe Course are from dawn to dusk. Course maintenance occurs from 5:00 a.m. until 1:00 p.m. The bar and grill are open from 10:00 a.m. until 4:00 p.m., seven days per week. There are presently 23 golf course employees for administration, maintenance, and dining.

The equipment maintenance facility is located on the Ivanhoe Course between Holes 7 and 8. Equipment maintained in this location includes all the tractors, mowers, and other landscaping equipment necessary to maintain the Ivanhoe Course in a playable condition. The facility includes two above-ground fuel storage tanks, storage for all landscaping supplies, two garage repair structures (3,440 and 3,880 SF), and 375-SF office, and covered parking bays for equipment. Maintenance staff park their personal vehicles at this location. All components of this facility would be removed at the end of Phase 2.

Public parking is currently located in two connected parking lots on the north side of the clubhouse and adjacent to Willow Glen Drive. The upper lot is the largest (1.6 acres) with designated parking spaces for approximately 200 vehicles, while the lower lot has space for approximately 120 vehicles (0.75 acre). Public use of the parking area would end after approval of the new MUP.

The site was previously used for commercial ranching and agriculture prior to the 1940s. Mining for construction aggregates occurred in the 1950s to the south of the Sweetwater River west of Steele Canyon Road, and adjacent to Willow Glen Drive at the western end of the site. Mineral extraction activities expanded to the east side of Steele Canyon Road in the 1960s and continued into the 1970s as both golf courses were developed. Construction of the golf course began in 1962 and was completed in 1964. Sand extraction activities have continued within the site throughout the years, allowing for the creation of water hazards and expanded fairways associated with golf course improvements. The most recent mining activities occurred in the western and southwestern portions of the site between 2007 and 2009, and in the extreme eastern portion of the site in 2016. Work that was completed between 2007 and 2016 was under Grading Plan Permit L14806, Cottonwood Golf Course Fairways Regrading, Waste Bunkers and Water Storage Lakes. Work included the excavation of water storage ponds on various fairways and development of unirrigated waste bunkers (i.e., unmaintained areas) within the course design, which also served as hazards for golf play. Several fairways were regraded and realigned on the southwestern end of the Project site within the now closed Lakes Course. Although not a mining project, materials were removed from the site.

The site gently slopes from the east to the west, with elevations ranging from approximately 380 feet amsl in the northeastern portion of the site to 320 feet amsl in the southwestern portion of the site. The Sweetwater River runs through the length of the site entering at the northeastern Project boundary and continuing to the southwestern boundary, where it exits the site and continues southwest towards Sweetwater Reservoir. The approximate groundwater elevation is 310 feet amsl at the western end of the site and 354 feet amsl at the eastern end of the site, typically between 5 and 18 feet bgs (Geocon 2019).

Vegetation within the Project site reflects the site's disturbed and developed nature; 14 vegetation communities/land use types occur on the Project site. The portion west of Steele Canyon Road, which consists of the closed portion of the golf course, is characterized by ruderal vegetation, disturbed habitat, and a mixture of native and non-native planted trees. The eastern portion of the site, which represents the active golf course, is characterized by landscaped turf grass, native and non-native planted trees, cart paths, parking lot, clubhouse, and other maintenance facilities.

Vegetation along the Sweetwater River channel has been heavily modified as part of golf course development and past disturbances associated with previous mining activities. It is currently dominated by Bermuda grass (*Cynodon dactylon*) or bare ground. Vegetation within portions of the channel is irrigated and regularly mowed as part of golf course maintenance activities. A small section, approximately 2,360 feet in length (0.45 mile) and 130 to 250 feet in width, of riparian vegetation is located along the southwestern Project boundary. This section is dominated by willows (*Salix* ssp.) intermixed with non-natives such as giant reed (*Arundo donax*) and tamarisk (*Tamarix* sp.).

Small patches of Diegan coastal sage scrub habitat occur at the southeastern and southwestern Project boundaries. These patches are connected to larger swaths of coastal sage scrub that occur off-site within preserved lands and open space. Dominant species include California sage brush (*Artemisia californica*), California buckwheat (*Eriogonum fasiculatum*), singlewhorl burrobrush (*Ambrosia monogyra*), and broom baccharis (*Baccharis sarothroides*). Disturbed coastal sage scrub on site occurs as narrow bands of habitat to the south of Willow Glen Drive at the

northeastern boundary, and to the west of Steele Canyon Road along the southern boundary. These areas consist of scattered shrubs of California sagebrush and California buckwheat growing among planted non-native trees and woody debris deposited on the slopes. Scattered stands of eucalyptus woodland occur throughout the Project site, mostly at the northeastern, southeastern, and southern boundaries. Scattered eucalyptus trees also occur throughout the golf course among the trees lining the fairways. Peruvian pepper trees and oleander (*Nerium oleander*) line Willow Glen Drive along the site's northern boundary.

Man-made ponds on site consist of open water habitat excavated in uplands. A total of six constructed ponds are present on site, which serve as water hazards and aesthetic features for the golf course. Four ponds, totaling 3.5 acres, are present in the eastern portion of the site and two occur to the west of Steele Canyon Road. The water level in these constructed ponds is maintained artificially by pumping water into them.

The Project site is located on unincorporated lands within both the South County Segment and the Metro-Lakeside-Jamul Segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The southwestern portion of the site along the Sweetwater River is within a Minor Amendment Area (37.8 acres) of the South County Segment. Per the MSCP, Minor Amendment Areas "contain habitat that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's MSCP Subarea Plan." Minor Amendment Areas must meet the criteria and achieve the goals of linkages and corridors described in the County MSCP Subarea Plan and provide mitigation consistent with the County's Biological Mitigation Ordinance (BMO). Development within Minor Amendment Areas requires concurrence from the U.S. Fish and Wildlife Service (USFWS) Field Office Supervisor and California Department of Fish and Wildlife (CDFW) Natural Communities Conservation Planning (NCCP) Program Manager. Within the Metro-Lakeside-Jamul Segment, small portions of the site along the northeastern, southern, and southeastern boundaries east of Steele Canyon Road are within areas identified as Pre-approved Mitigation Area (PAMA; 16.4 acres). Portions of the site are shown as Very High or High on the County's Habitat Evaluation Map from the BMO.

1.6 Intended Uses of the EIR

This project-level Environmental Impact Report (EIR) is prepared in compliance with the California Environmental Quality Act (CEQA), and ensures that information required by the public, as well as County decision-makers, is both adequate and available. This EIR is an informational document to inform public agency decision-makers, as well as the public generally, of the significant environmental effects of the Project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the Project.

The County is the lead agency for the Project under CEQA (i.e., the agency responsible for conducting environmental review); and is responsible for coordinating with the Applicant, public, and resource or service agencies during the CEQA process; and for final approval or denial of the Project. The purpose of this EIR is to identify the potential occurrence of impacts, and the anticipated significance of those impacts, that could occur if the Proposed Project is implemented.

For each significant impact identified in the EIR, the lead agency must make findings, and if appropriate, prepare a Statement of Overriding Considerations if mitigation presented does not

reduce impacts to below a level of significance. Responsible agencies, identified below, will use this EIR in their discretionary approval processes.

1.6.1 Matrix of Project Approvals/Permits

This environmental analysis has been prepared to support the discretionary actions and approvals necessary for implementation of the Project. Potential required approvals and permits are listed in the following matrix.

Discretionary Approval/Permit	Approving Agency
Major Use Permit Reclamation Plan Landscape Plans Public Improvement Plan Right-of-Way Permits Construction Permit Excavation Permit Encroachment Permit	County of San Diego
Section 401 Water Quality Certification Waste Discharge Order	San Diego Regional Water Quality Control Board/State Water Resources Control Board (RWQCB/SWRCB)
Section 404 Permit – Dredge and Fill	U.S. Army Corps of Engineers (USACE)
Section 1602 Streambed Alteration Agreement (SAA)	California Department of Fish and Wildlife (CDFW)
NPDES Permit	RWQCB
Industrial General Stormwater Permit	RWQCB
Waste Discharge Requirements Permit	RWQCB
Authority to Construct and Permit to Operate	San Diego Air Pollution Control District (SDAPCD)
Fire District Approval	San Miguel Consolidated Fire Protection District
Conditional Letter of Map Revision (CLOMR)	Federal Emergency Management Agency (FEMA)

1.6.2 Related Environmental Review and Consultation Requirements

Consultation would be required with the wildlife agencies (USFWS and CDFW) with regard to sensitive species and associated habitats, and with the permitting/certification agencies (USACE, CDFW, and RWQCB) with regard to jurisdictional waters.

Pursuant to California Government Code 65352.3, Native American consultation was initiated in 2019. On January 8, 2019, the County initiated AB 52 consultation with seven tribes (Barona, Campo Kumeyaay Nation [Campo], Jamul Indian Village [Jamul], Kwaaymii, Iipay Nation of Santa Ysabel [Santa Ysabel], Sycuan Band of the Kumeyaay Nation [Sycuan], and Viejas). Barona, Campo, Jamul, Santa Ysabel, Sycuan, and Viejas requested AB 52 consultation. Tribal consultation under AB 52 has been ongoing and has occurred since January 2019 with all the tribes

that have requested consultation. The reader is referred to Subchapter 2.4, *Cultural Resources and Tribal Cultural Resources*, for details of the Native American consultation.

In addition to the focused outreach efforts noted above, CEQA provides opportunity for public input at three distinct points during environmental evaluation: during scoping of an EIR, during public review of the completed EIR, and during hearings held on the Project by decision-making bodies (such as the County Planning Commission and/or Board of Supervisors). As part of the preparation of the Draft EIR, the first of these outreach efforts was undertaken and completed.

Pursuant to CEQA Guidelines Section 15082 regarding the NOP and determination of EIR scope, and Section 15083 regarding early public consultation, the County issued a NOP stating that an EIR would be prepared for the Proposed Project on October 24, 2019. The NOP included an Initial Study checklist identifying anticipated areas of technical review and anticipated levels of significance, and requested public and agency input on the scope of the EIR. Comments were received in response to the NOP through November 22, 2019. A meeting to discuss the scope of the environmental analysis also was held on November 4, 2019 at Hillsdale Middle School, 1301 Brabham St, El Cajon, CA 92019. In response to the NOP, a total of 301 comment letters were received, including six letters that were submitted after the close of the comment period. These letters are all included in Appendix A to this EIR. All of the comments received were considered and the topics are addressed as appropriate where required by CEQA in Chapters 2.0 through 4.0 of this EIR.

1.7 Project Inconsistencies with Applicable Regional and General Plans

A number of plans, regulations, and ordinances apply to this Project and were considered during the Project Applicant's preparation of the Plot Plan and Reclamation Plan. In particular, the County General Plan and the Valle de Oro Community Plan were reviewed for applicable designations, goals, policies, and conditions. Other plans and regulations also were reviewed, including the County Zoning Ordinance, County Grading Ordinance, RWQCB's San Diego Basin Plan, federal Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES), San Diego Municipal Storm Water Permit, Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP), NCCP, County MSCP Subarea Plan, and County Light Pollution Code (LPC). The Project's compliance with these plans and ordinances is evaluated throughout the EIR, with discussion in Chapters 2.0 and 3.0. A Planning Analysis, which details how the Project would be consistent with all applicable planning documents, is presented in Appendix B to this EIR.

1.8 List of Past, Present, and Reasonably Anticipated Future Projects in the Project Area

The State CEQA Guidelines (Section 15355) state that a cumulative impact 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." Sections 15065 and 15130 of the State CEQA Guidelines require that an EIR address cumulative impacts of a project when the project's incremental effects would be cumulatively considerable; i.e., the incremental effects of the project would be "considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects." Table 1-14, *Cumulative Projects in the Vicinity of the Proposed Project*, provides a list of

cumulative projects within 5 miles of the Project site. Figure 1-16, *Cumulative Projects*, shows the general location of the projects listed in Table 1-14.

Twelve projects in the vicinity of the Proposed Project, as well as the Proposed Project, were considered for the analysis of cumulative impacts. The list consists of projects that are pending or recently approved within the County and other adjacent jurisdictions (Grossmont-Cuyamaca Community College District; 2019).

Each individual technical subject area within Chapters 2.0 and 3.0 analyzes cumulative impacts of the Project in relation to those projects that could potentially combine with the Project to result in cumulatively considerable impacts. A description of the cumulative projects study area relevant to each specific resource topic is identified within each subchapter.

1.9 Growth-inducing Impacts

As stated in State CEQA Guidelines Section 15126.2(d), whether or not a project may be growth inducing must be discussed in an EIR. The question for discussion is whether or not a "project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Included are projects that would remove obstacles to population growth. Examples of these types of actions are cited including: (1) a "major expansion of a wastewater treatment plant," that would thereby allow for more construction in service areas covered by the plant; and (2) actions that could encourage and facilitate "other activities" that could significantly affect the environment. Typically, the latter issue involves the potential for a project to induce further growth by the expansion or extension of existing services, utilities, or infrastructure. The CEQA Guidelines further state that "[i]t must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Section 15126.2[d]).

The Project does not propose residential use and thus would not cause a direct increase in population.

Local mining of sand would accommodate the needs of ongoing construction in the County, rather than inducing additional growth. By providing a local source of aggregate material, the Project would reduce the need to import materials from more distant sources but would not remove an existing obstacle to population growth.

Approximately nine people are anticipated to be employed during mining activities at the site. This work would not require importation of a specialized work force, and the labor pool within the vicinity is adequate. Therefore, the Project would not result in population growth due to the provision of jobs.

Upon completion of mining activities, the Project site would be available for uses allowed by the existing land use designation and zoning classifications. Specifically, the General Plan land use designation for the site is Open Space-Recreation (OS-R), which applies to large, existing recreational areas and allows for active and passive recreational uses. The Project site includes three zoning designations: S80 (Open Space); S90 (Holding Area); and S88 (Specific Planning Area). Uses allowed within the S80 and S90 zones include family residential (with a minimum lot size of 8 acres), essential services, fire protection services, and agriculture (including horticulture,

tree crops, row and field crops, and limited packing and processing). Within the S80 zone, all uses require a Site Plan Review. The Rancho San Diego Specific Plan designates the areas zoned S88 for golf course use. The entire site also is subject to Special Area Designator F (Flood Plain), which prohibits placement of permanent structures for human habitation in a floodway.

Future development of the site is not included in the Proposed Project, with planned uses as part of the Project limited to recreational trails and open space. The proposed trails would only be available for day use and are anticipated to be used primarily by residents of the immediate area. While some visitors may use trails, the Proposed Project would not include recreational components such as a hotel, resort, or campground involving overnight use that would enable visitors to stay in the area for extended periods of time. Therefore, the Project would not result in an increase in population.

Removal of the golf course could ultimately lead to the construction of housing, essential services, fire protection services, or agriculture on portions of the site outside of the floodway, although this is not proposed as part of the Project. Further, the Project involves frontage improvements to a portion of Willow Glen Drive, namely restriping between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bicycle lanes on both sides of the roadway as well as construction of a dedicated right-turn lane into the primary Project ingress, which can be considered an expansion of infrastructure that could accommodate such future development; however, based on the current zoning and site characteristics, the potential for future development is limited, and the widening of Willow Glen Drive would not result in indirect growth. The Project would result in modifications to the existing floodway and floodplain, which in most cases would result in the floodway (where development is prohibited) extending across a slightly larger portion of the site than under current conditions. Considering the zoning allows for a maximum of one home per 8 acres, along with floodplain, setback, and access constraints, only four residences (with the entire lot of the floodplain) could be constructed at the site. The Project would not include a rezone or change to the General Plan land use designation and would not result in an increase in potential future development relative to what would currently be allowed on the site. In addition, imported water line infrastructure already exists within Willow Glen Drive; the Project does not include improvements to water infrastructure that could accommodate additional growth.

Based on the above considerations, the Project would not promote the construction of housing; provide substantial employment opportunities; remove an obstacle to growth through provision of local aggregate materials; extend roads, public services, or utilities in a manner that would result in future development beyond the current potential for development; or include recreational opportunities that would increase population. No significant growth-inducing impacts are expected as a result of the Project.

Table 1-1
PROJECT MOBILE EQUIPMENT

Onsite Mobile Equipment – Extraction and Reclamation				
Quantity	**Make**	**Type/Model**	**Purpose**	**Usage**
2	Cat	Loader – 988K	Mineral Excavation above water table	100%
1	Cat	Loader – 988K	Highway truck loading	80%
1	Cat	Loader – 966M-BR	Highway truck loading - backup	20%
1	Freightliner	Water Truck M2106	General dust suppression	75%
1	Cat	Excavator –349F	Mineral extraction - pond cleanout	80%
1	Cat	Dozer – D8T	Rough grading, leveling, ripping	80%
1	Cat	Haul Truck 740EJ/Tractor Trailer	On-site transportation of material	40%
1	Cat	Motor Grader 140K	Finish grading, maintenance	30%
1	Cat	Skid Steer Loader-246D	Variety cleanup - reclamation	50%
1	Ford	Pick Up	Transportation for site supervisors, quality control personnel	20 miles/ day

Table 1-2
MINING PHASES

Mining Phase	Acres	Subphase Area (acres)	Mining Duration (years)	Mining Initiation Date (est.)	Mining Completion Date (est.)	Reclamation Completion Date (est.)
Phase 1	**78.98**		**3**	**2022**	**2025**	**2027**
Subphase 1A	-	22.10	1	-	-	-
Subphase 1B	-	26.46	1	-	-	-
Subphase 1C	-	30.42	1	-	-	-
Phase 2	**48.18**		**3**	**2025**	**2028**	**2030**
Subphase 2A	-	15.26	1	-	-	-
Subphase 2B	-	19.08	1	-	-	-
Subphase 2C	-	13.74	1	-	-	-
Phase 3	**78.57**		**4**	**2028**	**2032**	**2034**
Subphase 3A	-	29.42	1	-	-	-
Subphase 3B	-	16.15	1	-	-	-
Subphase 3C	-	14.13	1	-	-	-
Subphase 3D	-	18.87	1	-	-	-
Phase 4	**8.65**	**-**	**1**	**2032**	**2032**	**2034**
Total	**214.4**	**-**	**10***	**-**	**-**	**-**

* Reclamation activities would occur concurrently with mining operations.

Table 1-3
EXISTING AND PROPOSED FACILITIES AND STRUCTURES

Use	Area	Number of Structures	Removal Phase
Golf Club Uses			
Clubhouse	11,590 square feet (sq. ft.)	1	Phase 3
Parking	2.4 acres	0	Phase 4
Maintenance	2.2 acres	3	Phase 3
Garages	3,440 sq. ft, 3,880 sq. ft.	2	Phase 3
Cart Storage	0.3 acre (13,068 sq. ft.)	1	Phase 3
Driving Range	Old fairway	8 tees	Phase 2
Lakes Course Restroom	190 sq. ft.	1	Phase 1
Ivanhoe Course Restroom	190 sq. ft.	1	Phase 3
Lakes - Cart Bridges	Varies	3	Phase 1
Ivanhoe - Cart Bridges	Varies	4	Phase 2 & 3[1]
Other Uses			
Wood House	400 sq. ft.	1	Phase 1
Proposed Mining Uses			
Processing Plant Area (includes plant, conveyor lines, and storage containers	8.3 acres with ponds, loading and parking	1	Phase 4
Loadout Area (includes scales, scale house, office kiosk)	1.9 of 8 acres	1	Phase 4
Mine Parking	0.15 of 8 acres	15 spaces	End of Project

[1] One bridge would be removed during Phase 2. The other three existing bridges within the Ivanhoe Course would be removed during Phase 3.

Table 1-4
PLANT AND CONVEYOR EQUIPMENT

Quantity	Type	Attachments	Size/Length	Horsepower (hp)
1	Feed Hopper - Skid Mounted	42” X 25' Belt Feeder	9' X 14'	25
5	Groundline Conveyor	NA	36" X 825'	50
1	Groundline Conveyor	NA	36" X 375'	30
1	Groundline Conveyor	NA	36" X 200'	25
1	Truss Frame Conveyor	Pit Portable Conveyor, Power Travel, Hopper, Discharge Hopper, Walkway	36" X 130'	40
1	Triple Deck Screen w Blade Mill Support	Urethane Media, Spray Manifold, Dual Motor Drive, Discharge Chutes, Rolling Box, Under Hopper, Walkway on Four Sides, Stairway	8' X 20'	50
1	Blade Mill	NA	44" x 20”	100
2	Fine Material Washer	NA	44" X 32'	50
1	Radial Stacker	Power Travel, Power Raise, Pivot, Hopper	36" X 80'	25
1	Radial Stacker	Power Travel, Manual Raise, Hopper	36" X 100'	30
1	Operations Control Room	Motor Control Center, Push Button Console, Motor Starters, In Plant Cable/Wiring, Air Conditioned	NA	NA

Table 1-5
RIPARIAN SCRUB/FOREST REHABILITATION PLANT PALETTE

Scientific Name	Common Name	Spacing on Center (ft.)	Grouping Size	Number Per Acre
Container Stock[1]				
Baccharis salicifolia	mule fat	6	10	230
Distichlis spicata	saltgrass	10	3	50
Platanus racemosa	western sycamore	15	2	25
Populus fremonti ssp. *fremonti*	western cottonwood	15	2	25
Salix exigua	sand bar willow	8	4	90
Salix gooddingii	black willow	12	5	120
Salix laevigata	red willow	12	5	120
Salix lasiolepis	arroyo willow	12	5	120
Sambucus nigra	blue elderberry	10	3	85
			Total	**865**

Scientific Name	Common Name	%Purity/ Germination	Pounds per Acre
Seed Mixture[1]			
Ambrosia psilostachya	western ragweed	45/45	4
Anemopsis californica	yerba mansa	55/80	1
Artemisia douglasiana	Douglas' sagewort	15/40	3
Artemisia palmeri	Palmer's sagebrush	20/50	2
Baccharis salicifolia	mule fat	10/20	3
Bolboschoenus maritimus	bulrush	90/60	1
Cyperus eragrostis	tall flatsedge	80/75	1
Distichlis spicata	saltgrass	90/75	1
Eleocharis macrostachya	pale spike-rush	95/60	1
Isocoma menziesii	goldenbush	18/40	1
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	95/80	0.5
Juncus effusus var. *pacificus*	Pacific rush	95/60	0.5
Oenothera elata ssp. *hookeri*	evening primrose	98/84	0.5
Pluchea odorata	salt marsh fleabane	30/40	2
		Total	**22.5***

[1] The quantity of seed ordered for each phase/subphase will be determined based on the exact size of the area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.
[2] San Diego ambrosia (*Ambrosia pumila*) will only be installed within the 1.00 acre of wetland re-establishment area based on availability.
* No less than 20 lbs. per acre of seed shall be installed.

Table 1-6
RIPARIAN FOREST PLANT PALETTE

Species	Common Name	Spacing on Center (feet)	Grouping Size	Number Per Acre
Container Plantings[1]				
Artemisia dracunculus	tarragon	5	5	100
Baccharis salicifolia	mule fat	6	10	230
Distichlis spicata	saltgrass	10	3	150
Iva hayesiana	San Diego marsh elder	5	5	120
Platanus racemosa	western sycamore	15	3	50
Populus fremonti ssp. *fremonti*	western cottonwood	15	5	50
Salix exigua	sand bar willow	8	3	120
Salix gooddingii	black willow	12	5	150
Salix laevigata	red willow	12	5	200
Salix lasiolepis	arroyo willow	12	5	200
Sambucus nigra	blue elderberry	10	3	50
			Total	**1,420**

Scientific Name	Common Name	% Purity/ Germination	Pounds Per Acre
Seed Mixture[1]			
Ambrosia psilostachya	western ragweed	45/45	4
Ambrosia pumila	San Diego ambrosia	-	0.5[2]
Anemopsis californica	yerba mansa	55/80	1
Artemisia douglasiana	Douglas mugwort	15/40	3
Artemisia palmeri	Palmer's sagebrush	20/50	2
Baccharis salicifolia	mule fat	10/20	3
Baccharis sarothroides	broom baccharis	7/42	1
Bolboschoenus maritimus	alkali bulrush	90/60	1
Croton californicus	California croton	90/40	1
Eleocharis macrostachys	pale spike-rush	95/60	1
Isocoma menziesii	goldenbush	18/40	1
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	95/80	0.5
Juncus effusus var. *pacificus*	Pacific rush	95/60	0.5
Oenothera elata ssp. *hookeri*	evening primrose	98/84	0.5
Pluchea odorata	salt marsh fleabane	30/40	2
		Total	**22.5***

[1] The quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

[2] San Diego ambrosia (*Ambrosia pumila*) would only be installed within the 1.00 acre of wetland re-establishment area based on availability.

* No less than 20 lbs. per acre of seed shall be installed.

Table 1-7
RIPARIAN SCRUB PLANT PALETTE

Scientific Name	Common Name	Spacing on Center (ft.)	Grouping Size	Number Per Acre
Container Stock[2]				
Artemisia dracunculus	tarragon	5	5	200
Baccharis salicifolia	mule fat	6	10	250
Croton californicus	California croton	5	5	200
Distichlis spicata	saltgrass	10	3	200
Iva hayesiana	San Diego marsh elder	5	5	200
Platanus racemosa	western sycamore	15	3	30
Populus fremonti ssp. *fremonti*	western cottonwood	15	3	30
Salix exigua	sand bar willow	8	5	200
Salix gooddingii	black willow	12	5	100
Salix laevigata	red willow	12	5	30
Salix lasiolepis	arroyo willow	12	5	30
Sambucus nigra	blue elderberry	10	3	100
			Total	**1,570**

Scientific Name	Common Name	%Purity/ Germination	Pounds per Acre
Seed Mixture[2]			
Ambrosia psilostachya	western ragweed	45/45	4
Artemisia douglasiana	Douglas' sagewort	15/40	3
Artemisia palmeri	Palmer's sagebrush	20/50	2
Baccharis salicifolia	mule fat	10/20	3
Baccharis sarothroides	broom baccharis	7/42	1
Bolboschoenus maritimus	alkali bulrush	90/60	1
Croton californicus	California croton	90/40	1
Eleocharis macrostachys	pale spike-rush	95/60	1
Isocoma menziesii	goldenbush	18/40	1
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	95/80	1
Juncus effusus var. *pacificus*	Pacific rush	95/60	0.5
Oenothera elata ssp. *hookeri*	evening primrose	98/84	0.5
Pluchea odorata	salt marsh fleabane	30/40	2
		Total	**21.0***

[1] The quantity of seed ordered for each phase/subphase will be determined based on the exact size of the area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

***** No less than 20 lbs. per acre of seed shall be installed.

Table 1-8
STREAMBED (EMERGENT WETLAND) SEED MIXTURE

Scientific Name	Common Name	%Purity/ Germination	Pounds per Acre
Seed Mixture[1]			
Anemopsis californica	yerba mansa	55/80	1
Artemisia douglasiana	Douglas' sagewort	15/40	3
Bolboschoenus maritimus	alkali bulrush	90/60	1
Cyperus eragrostis	tall flatsedge	80/75	1
Eleocharis macrostachys	pale spike-rush	95/60	1
Euthamia occidentalis	western goldenrod	24/45	1
Juncus effusus var. *pacificus*	Pacific rush	95/60	0.5
Pluchea odorata	salt marsh fleabane	30/40	2
		Total	**10.5***

[1] The quantity of seed ordered for each phase/subphase will be determined based on the exact size of the area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.
***** No less than 10 lbs. per acre of seed shall be installed.

Table 1-9
DIEGAN COASTAL SAGE SCRUB PLANT PALETTE

Species	Common Name	Spacing on Center (feet)	Grouping Size	Number Per Acre
Container Plantings[1]				
Artemisia californica	California sagebrush	5	25	250
Bebia juncea	rough sweetbush	10	3	50
Encelia californica	coast sunflower	5	20	100
Eriogonum fasciculatum	flat top buckwheat	5	25	250
Hazardia squarrosa	saw-toothed goldenbush	5	10	100
Hesperoyucca whipplei	chaparral yucca	3	3	50
Heteromeles arbutfolia	toyon	10	3	150
Mimulus aurantiacus	bush monkey flower	5	10	100
Rhus integrifolia	lemonadeberry	10	5	50
Salvia apiana	white sage	5	10	250
			Total	**350**

Scientific Name	Common Name	% Purity/ Germination	Pounds Per Acre
Seed Mixture[1]			
Acmispon glaber	deerweed	95/80	0.5
Amsinkia intermedia	common fiddleneck	45/65	1
Artemisia californica	California sagebrush	30/60	4
Deinandra fasciculata	fascicled tarplant	25/65	3
Encelia californica	coast sunflower	30/45	3
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	N/A	2
Eriogonum fasciculatum	flat top buckwheat	50/20	5
Eriophyllum confertiflorum	golden-yarrow	N/A	2
Eschscholzia californica	California poppy	98/80	2
Lupinus bicolor	miniature lupine	98/85	1
Phacelia parryi	Parry's phacelia	95/80	1
Salvia apiana	white sage	88/30	3

Scientific Name	Common Name	% Purity/ Germination	Pounds Per Acre
Stipa lepida, deawned	foothill needlegrass	90/71	3
Stipa pulchra, deawned	purple needlegrass	90/75	3
		Total	**34.5***

[1] The quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 30 lbs. per acre of seed shall be installed.

Table 1-10
EROSION CONTROL SEED MIX

Species	Common Name	Percent Purity/ Germination	Pounds Per Acre[1]
Ambrosia psilostachya	western ragweed	45/45	6
Bromus carinatus	California bromegrass	95/90	8
Vulpia microstachys	small fescue	98/75	20
Plantago insularis	plantain	90/80	20
		Total	**54***

[1] The final quantities and amount of container stock and seed to be order would be determined following reclamation of each phase/subphase based on the exact of area disturbed as part of mining activities. Substitutions require approval of the Restoration Specialist.

* No less than 50 lbs. per acre of seed shall be installed.

Table 1-11
PERFORMANCE STANDARDS*

Vegetative Cover (m: meters)	Species Composition / Species Richness	Percent Cover	Density
Seed Mix	Target Goal: 100% of the most prevalent species shall be native species 12 randomly placed 50-meter by 1-meter transects	Target Goal: 50% cover (all native species combined) 12 randomly placed 50-meter by 1-meter transects	N/A
Container Stock	Target Goal: 5 tree species 12 randomly placed 50-meter by 1-meter transects	N/A	Target Goal: 30 total trees per acre (80% survival) 12 randomly placed 50-meter by 1-meter transects

* Performance Standards may be modified based on mitigation requirements.

Table 1-12
WEED SPECIES OF CONCERN

Common Name	Scientific Name
Giant Reed, Arundo	*Arundo donax*
Mustard	*Brassica sp.*
Ripgut Brome	*Bromus diandrus*
Foxtail brome	*Bromus madritensis*
Pampas Grass	*Cortaderia spp.*
Eucalyptus	*Eucalyptus spp.*
Pepperweed	*Lepidium latifolium*
Tree Tobacco	*Nicotiana glauca*
Castor Bean	*Ricinus communis*
Russian Thistle, Tumbleweed	*Salsola tragus*
Tamarisk, Salt Cedar	*Tamarix spp.*

Table 1-13
ASSESSOR'S PARCELS

Assessor's Parcel Number	Total Acres (approx.)	Owner	Zoning[1]	Land Use Designation[2]
506-021-19-00	8.20	Cottonwood Cajon ES, LLC	S88	OS-R
506-020-52-00	4.01	Cottonwood Cajon ES, LLC	S80	OS-R
518-012-13-00	2.97	Cottonwood Cajon ES, LLC	S90	OS-R
518-012-14-00	46.61	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-05-00	2.30	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-06-00	5.58	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-07-00	2.59	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-08-00	0.69	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-10-00	7.16	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-12-00	6.88	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-13-00	10.20	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-15-00	4.04	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-21-00	56.71	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-22-00	19.43	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-15-00	33.72	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-17-00	14.59	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-20-00	19.22	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-21-00	1.10	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-33-00	1.76	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-34-00	7.17	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-37-00	1.06	Cottonwood Cajon ES, LLC	S90	OS-R
519-011-03-00	23.80	Cottonwood Cajon ES, LLC	S88	OS-R
Totals:	**279.79**			

[1] S90 - Holding Area; S88 - Specific Planning Area; S80 - Open Space.
[2] General Plan Land Use Designation is OS-R - Open Space – Recreation.

Table 1-14
CUMULATIVE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT

Map Key No.	Project Name	County Reference Number	Project Location	Size (acres)	Project Type; Description	CEQA Document (Environmental Issues)	Notes
A	Jamul Highlands Subdivision	TM 5289	South of the Valley Road/Jamul Highlands Road intersection	59.18	Residential; 25 lots	MSCP compatibility and traffic (288 ADT estimated)	Originally submitted in 1990; out to applicant, no work since 2006
B	Yacoo Minor Subdivision	TPM 20628	Schlee Canyon Road north of Proctor Valley Road (APN: 596-070-79-00)	6.85	Residential; 4 lots and one remainder	MND (Wetland/Riparian; Water Quality; Vegetation)	Approved February 11, 2003; lots not developed
C	Steinbarth Minor Subdivision	TPM 20868	14236 Hillside Drive	5.29	Residential; 2 lots, 1 lot developed	ND (None)	ND filed in 1992, Addendum completed 2006; approved November 24, 2006; no additional development has occurred
D	Pioneer Minor Subdivision	TPM 20594	2825 Pioneer Way (APN: 597-221-19)	3.90	Residential; 3 lots, 2 lots developed	MND (Wetland/Riparian; Vegetation)	Approved December 12, 2001; third lot has not yet been developed

Map Key No.	Project Name	County Reference Number	Project Location	Size (acres)	Project Type; Description	CEQA Document (Environmental Issues)	Notes
E	St. Gregory of Nyssa Greek Orthodox Church	PDS2005-3300-05-010	1454 Jamacha Road (APN: 498-320-56-00)	1.73	Church; proposes sanctuary and multi-purpose room totaling about 10,220 SF	MND (Cumulative Effects; Land Use; Growth Inducing; Wildlife; Wetland/Riparian; Water Supply; Water Quality; Vegetation; Traffic/Circulation; Toxic/Hazardous; Solid Waste Soil Erosion/Compaction/ Grading; Recreation/Parks; Public Services; Population/ Housing; Noise; Minerals; Geologic/Seismic; Forest Land/Fire Hazard; Flood Plain/Flooding; Drainage/ Absorption; Biological Resources; Archaeologic-Historic; Air Quality; Agricultural Land; Aesthetic/Visual)	Draft MND circulated from December 26, 2018 to January 24, 2019
F	Simpson Farms Major Subdivision	TM 5460 TM-5460TE	Adjacent to SR-94/ Campo Road along the southwestern property boundary, Jefferson Road on the west, Olive Vista Drive on the north (APNs: 596-180-01, -02)	157.7	Residential; 95 lots Commercial; 1 lot open space: 2 lots, seven roads (7 lots) Drainage basin: 1 lot; 106 lots total	Exempt per CEQA Section 15183	TM 5460 approved December 9, 2016; TM-5460TE filed November 21, 2019

Map Key No.	Project Name	County Reference Number	Project Location	Size (acres)	Project Type; Description	CEQA Document (Environmental Issues)	Notes
G	Ivanhoe Ranch	PDS2018-TM 5629; PDS2018-GPA-18-005; PDS2018-REZ-18-004; PDS2018-STP-18-016	5261 Ivanhoe Ranch Road, between Cottonwood Golf Course and Steele Canyon Golf Course (APNs: 518-030-34, 518-030-37)	121.9	Residential; 120 lots	The Notice of Preparation (NOP) of a Draft EIR was out for public review from April 15 to May 17, 2021	Evaluation of potential impacts to all resource areas is currently being conducted.
H	Cuyamaca College Master Plan Revisions	N/A	Bounded by Fury Lane to the east and Jamacha Road (SR 54) to the south, located within the Community of Valle De Oro	165	School; 1,500 students	Addendum No 1. to 2003 FEIR (SCH 2003051013; Grossmont-Cuyamaca Community College District 2019)	Identifies facilities need to accommodate an 8,000 student increase in student enrollment to 15,000 students at existing community college. Proposed facilities include new building construction and renovation/remodel of existing buildings to provide expanded academic and administrative buildings, parking lots and physical education facilities.
I	Sweetwater Place	TM 5588	657 Sweetwater Springs Boulevard, Spring Valley, CA 91977 (APN: 505-231-36)	20.0	Residential; 122 detached units	Air Quality, Biological Resources, Cultural Resources, Hazards, Noise, and Traffic	MND issued September 2015; approved December 6, 2017
J	College Preparatory Middle School	PDS2015-MUP-15-006; PDS 2015-ER-15-19-002	Madrid Way and Agua Dulce Boulevard (APN: 501-321-07)	2.50	New school, 500 students		Open

Map Key No.	Project Name	County Reference Number	Project Location	Size (acres)	Project Type; Description	CEQA Document (Environmental Issues)	Notes
K	Skyline Retirement Center	GPA-16-005 REZ-16-003 MUP-16-003 ER-16-19-001	Campo Road/SR-94, east of Via Mercado (APNs: 506-140-06; -07)	8.90	Residential; 232 senior living units, offices, clinic services, etc.	MND (Agriculture, Biological Resources, Cultural Resources, Noise, Traffic/Circulation, and Wildfire)	MND public review ended September 24, 2018; approved March 11, 2020 Located 1.75 miles west of Project in Rancho San Diego.
L	Jamul Commercial	TPM 21262 MUP-18-008	3018 Jefferson Road (APN: 596-071-60-00)	0.90	Commercial; retail/self-storage	Exempt per CEQA Section 15183	Approved May 10, 2019. Located 3 miles southeast of Project in Jamul; not developed/
M	Sweetwater Vistas	SPA-15-002 GPA-15-006 REZ-15-008 TM-5608 MUP-89-015W4 STP-15-016 ER-89-019-015I	Jamacha Boulevard, between Pointe Parkway and Sweetwater Springs Boulevard (APNs: 505-672-03, -07, -09, -10, -23, and -37)	52	Residential; 218 units and conservation of 27.9 acres of biological open space	Addendum to the Final EIR for The Pointe San Diego Specific Plan certified August 1, 1990 (SCH No. 88030915) (Aesthetics, Air Quality, Biological Resources, Geologic Resources, and Land Use)	Located 2.5 miles southwest of Project in Spring Valley; approved December 6, 2017; development pending
N	Aventine at Sweetwater Springs	SPA-18-002 GPA-18-004 REZ-18-002 TM-5627 STP-18-013 MUP-70-299W1M32 ER-18-19-003	2770-2792 Sweetwater Springs Boulevard (APNs: 505-580-07, -08, -09, -10)	10.57	Residential; 92 detached condominium units	MND (Noise, Hazards/ Hazardous Materials, Transportation/Traffic)	Located 2.5 miles southwest of Project in Spring Valley; approved January 29, 2020

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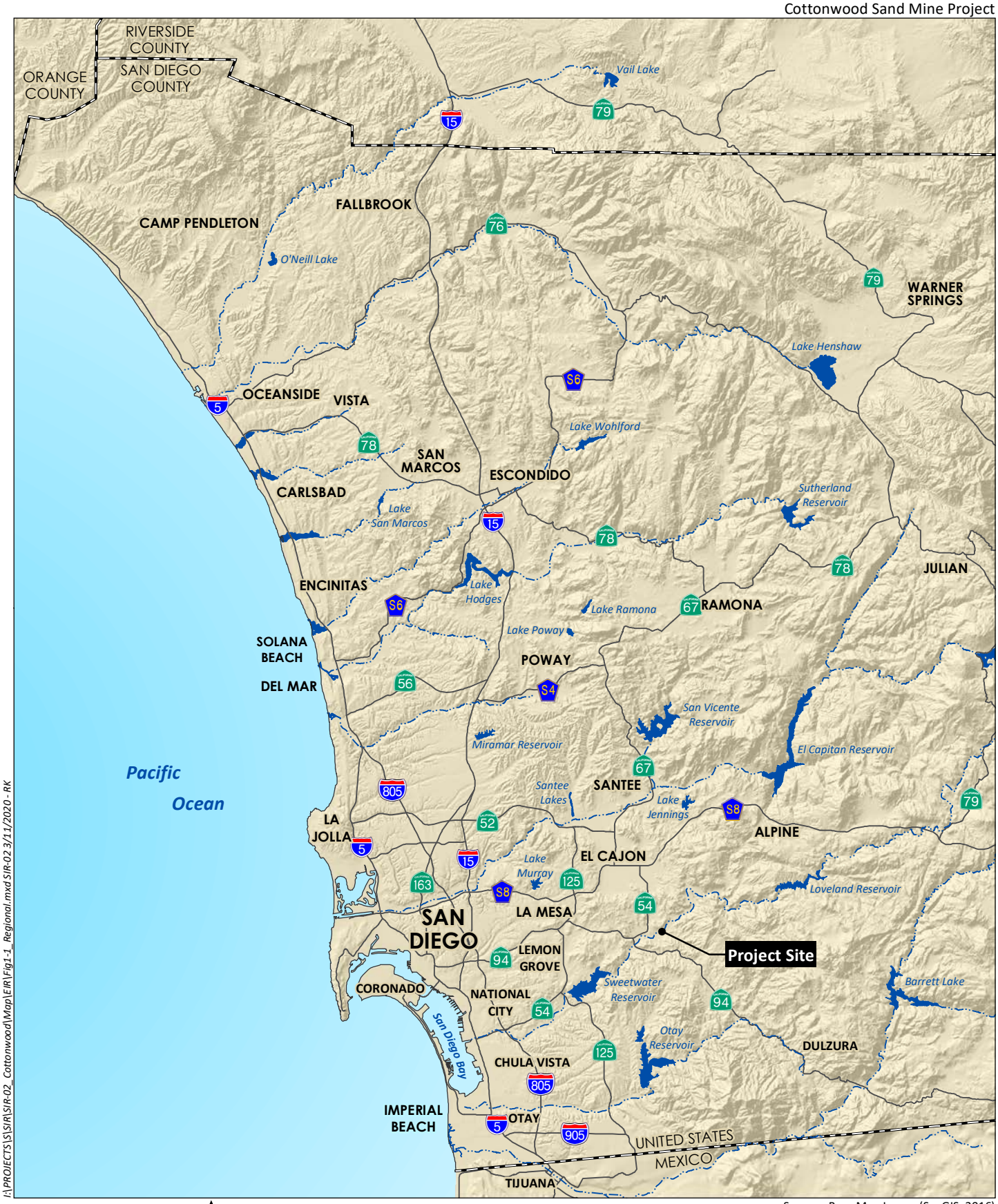

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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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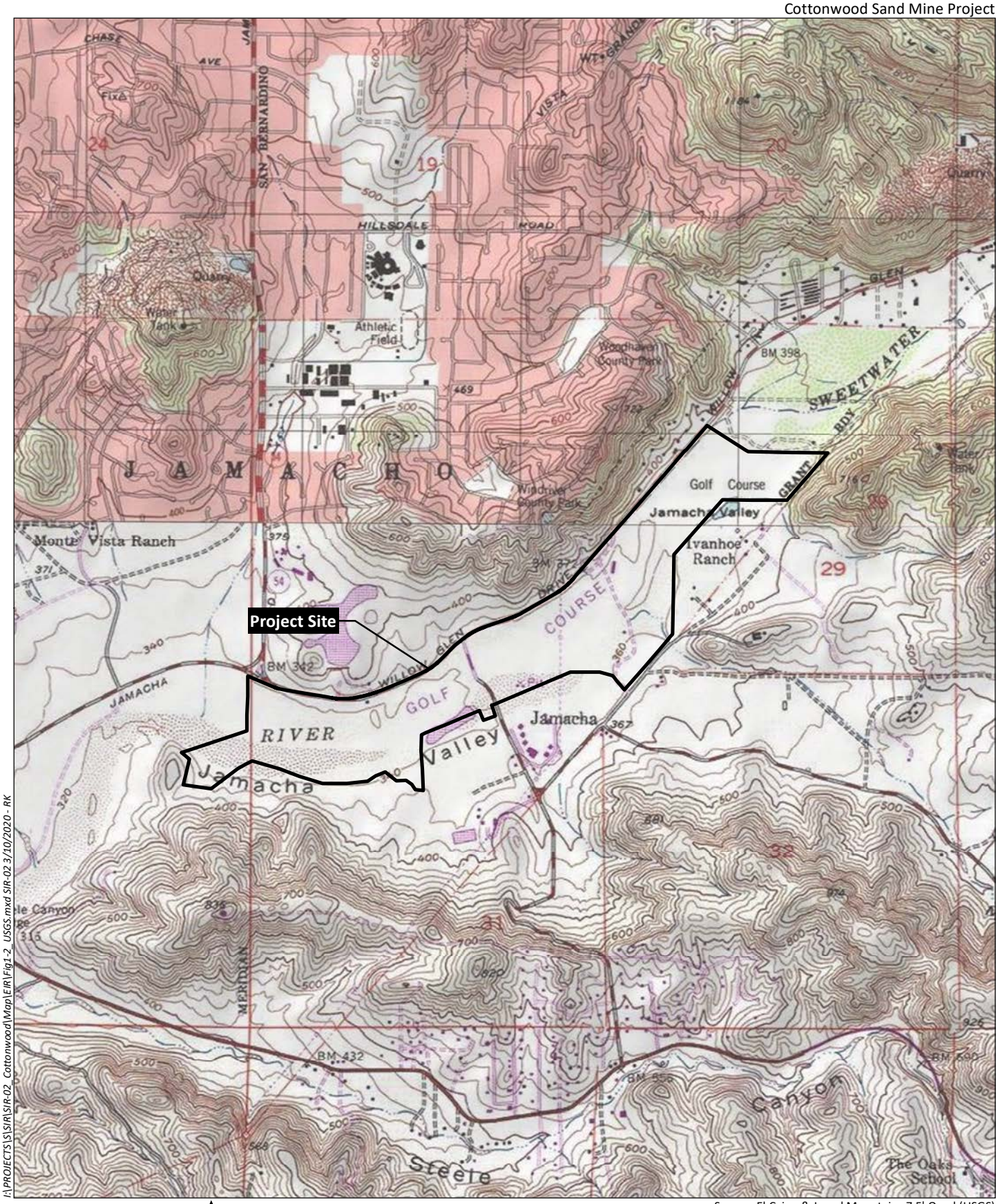
Regional Location

Figure 1-1



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Source: El Cajon & Jamul Mountains 7.5' Quad (USGS)

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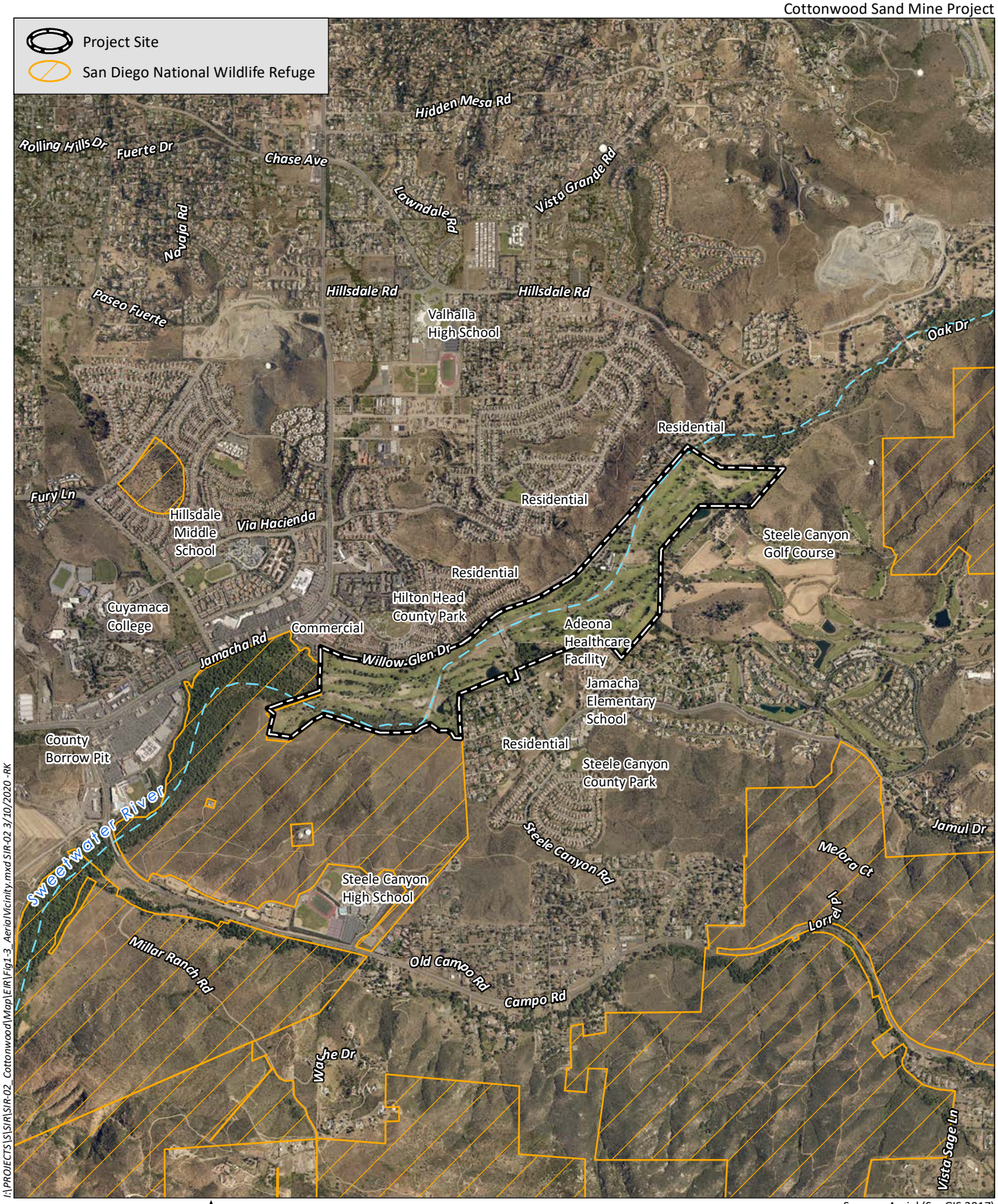
Project Vicinity (USGS Topography)

Figure 1-2



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0 2,500 Feet

Source: Aerial (SanGIS 2017)

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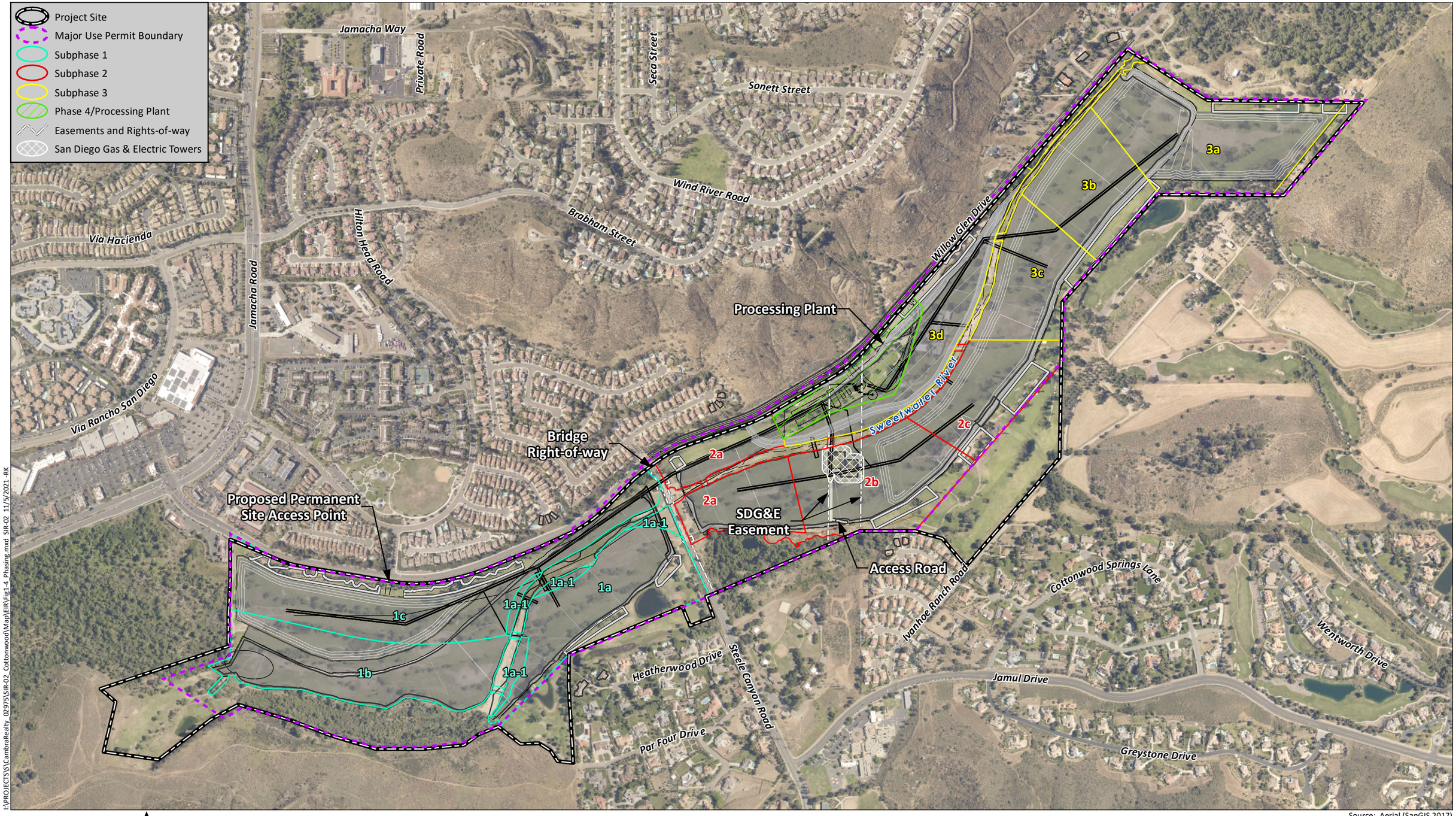
Project Vicinity (Aerial Photograph)

Figure 1-3



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Source: Aerial (SanGIS 2017)

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Site Plan and Mine Phasing

Figure 1-4

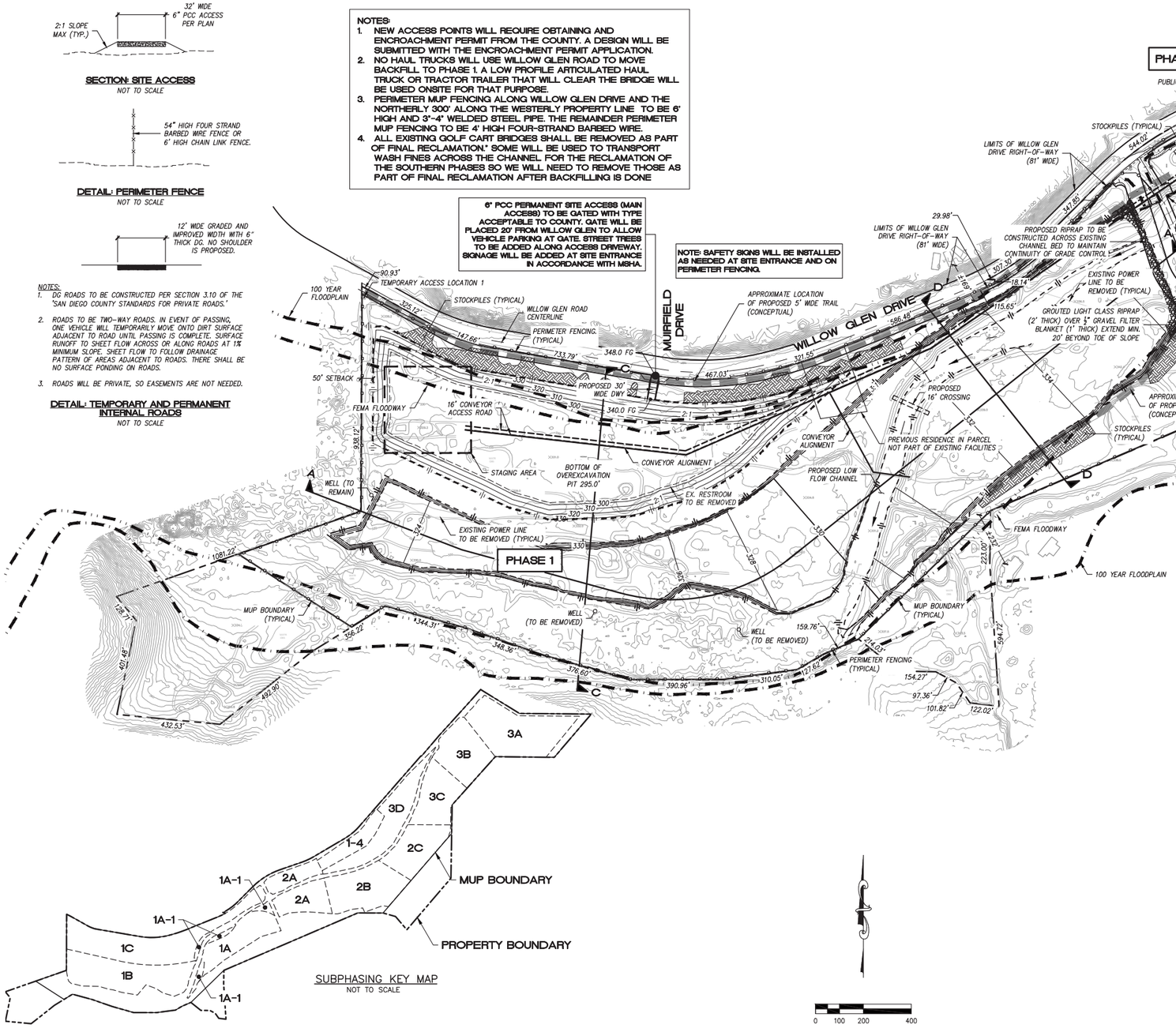


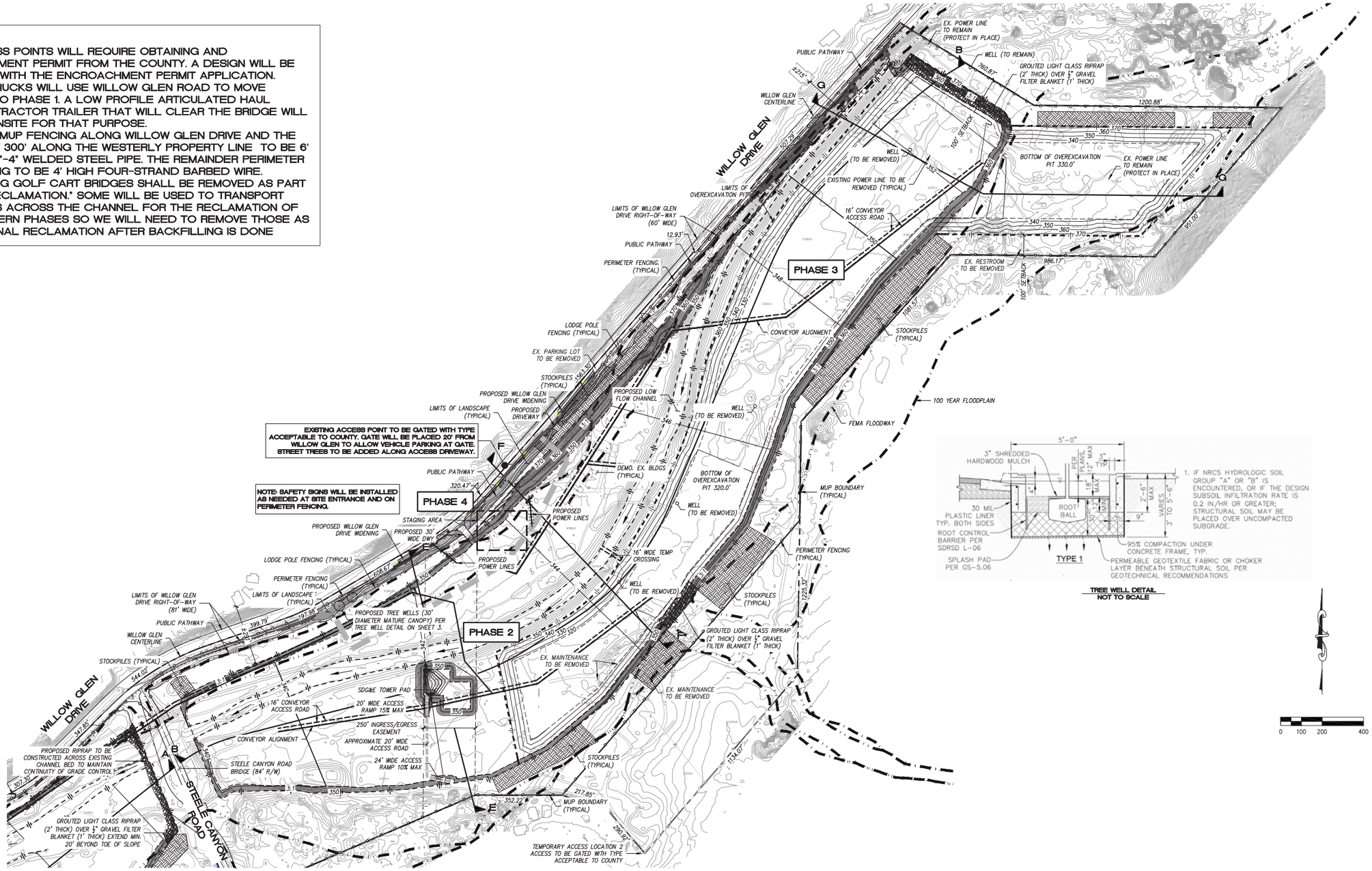
TABLE 8. GOLF COURSE AND MINE FACILITIES

GOLF COURSE AND MINE FACILITIES			
USE	AREA	NUMBER OF STRUCTURES	REMOVAL PHASE
GOLF FACILITIES			
CLUBHOUSE	11,590 SQ. FT.	1	PHASE 3
MAINTENANCE	2.2 ACRES	3	PHASE 3
GARAGES	3,440 SQ. FT 3,880 SQ.FT.	2	PHASE 3
CART STORAGE	0.3 ACRES (13,068 SQ.FT.)	1	PHASE 3
DRIVING RANGE	OLD FAIRWAY	8 TEES	PHASE 2
LAKES COURSE RESTROOM	190 SQ. FT.	1	PHASE 1
IVANHOE COURSE RESTROOM	190 SQ. FT.	1	PHASE 3
LAKES - CART BRIDGES	VARIES	3	PHASE 1
IVANHOE - CART BRIDGES	VARIES	4	PHASE 2 & 3[1]
NON-GOLF FACILITIES			
WOOD HOUSE	400 SQ.FT.	1	PHASE 1
MINE FACILITIES			
PROCESSING PLANT AREA (INCLUDES PLANT, CONVEYOR LINES, AND STORAGE CONTAINERS	8.3 ACRES W PONDS, LOADING AND PARKING	1	PHASE 4
LOADOUT AREA (INCLUDES SCALES, SCALE HOUSE, OFFICE KIOSK)	1.9 OF 8 ACRES	1	PHASE 4
MINE PARKING	0.15 OF 8 ACRES	15 SPACES	END OF PROJECT
FENCING, GATES AND SIGNS	NA		WILL REMAIN ON PROPERTY

[1] ONE CART BRIDGE WOULD BE REMOVED DURING PHASE 2. THE OTHER 3 BRIDGES ON IVANHOE WILL BE REMOVED AS THEY ARE NO LONGER NEEDED.

Source: Chang Consultants (2021)

NOTES:
1. NEW ACCESS POINTS WILL REQUIRE OBTAINING AND ENCROACHMENT PERMIT FROM THE COUNTY. A DESIGN WILL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION.
2. NO HAUL TRUCKS WILL USE WILLOW GLEN ROAD TO MOVE BACKFILL TO PHASE 1. A LOW PROFILE ARTICULATED HAUL TRUCK OR TRACTOR TRAILER THAT WILL CLEAR THE BRIDGE WILL BE USED ONSITE FOR THAT PURPOSE.
3. PERIMETER MUP FENCING ALONG WILLOW GLEN DRIVE AND THE NORTHERLY 300' ALONG THE WESTERLY PROPERTY LINE TO BE 6' HIGH AND 3"-4" WELDED STEEL PIPE. THE REMAINDER PERIMETER MUP FENCING TO BE 4' HIGH FOUR-STRAND BARBED WIRE.
4. ALL EXISTING GOLF CART BRIDGES SHALL BE REMOVED AS PART OF FINAL RECLAMATION." SOME WILL BE USED TO TRANSPORT WASH FINES ACROSS THE CHANNEL FOR THE RECLAMATION OF THE SOUTHERN PHASES SO WE WILL NEED TO REMOVE THOSE AS PART OF FINAL RECLAMATION AFTER BACKFILLING IS DONE



Source: Chang Consultants (2021)

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Plot Plan

Figure 1-5b

NOTES:

1. NEW ACCESS POINTS WILL REQUIRE OBTAINING AND ENCROACHMENT PERMIT FROM THE COUNTY. A DESIGN WILL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION.
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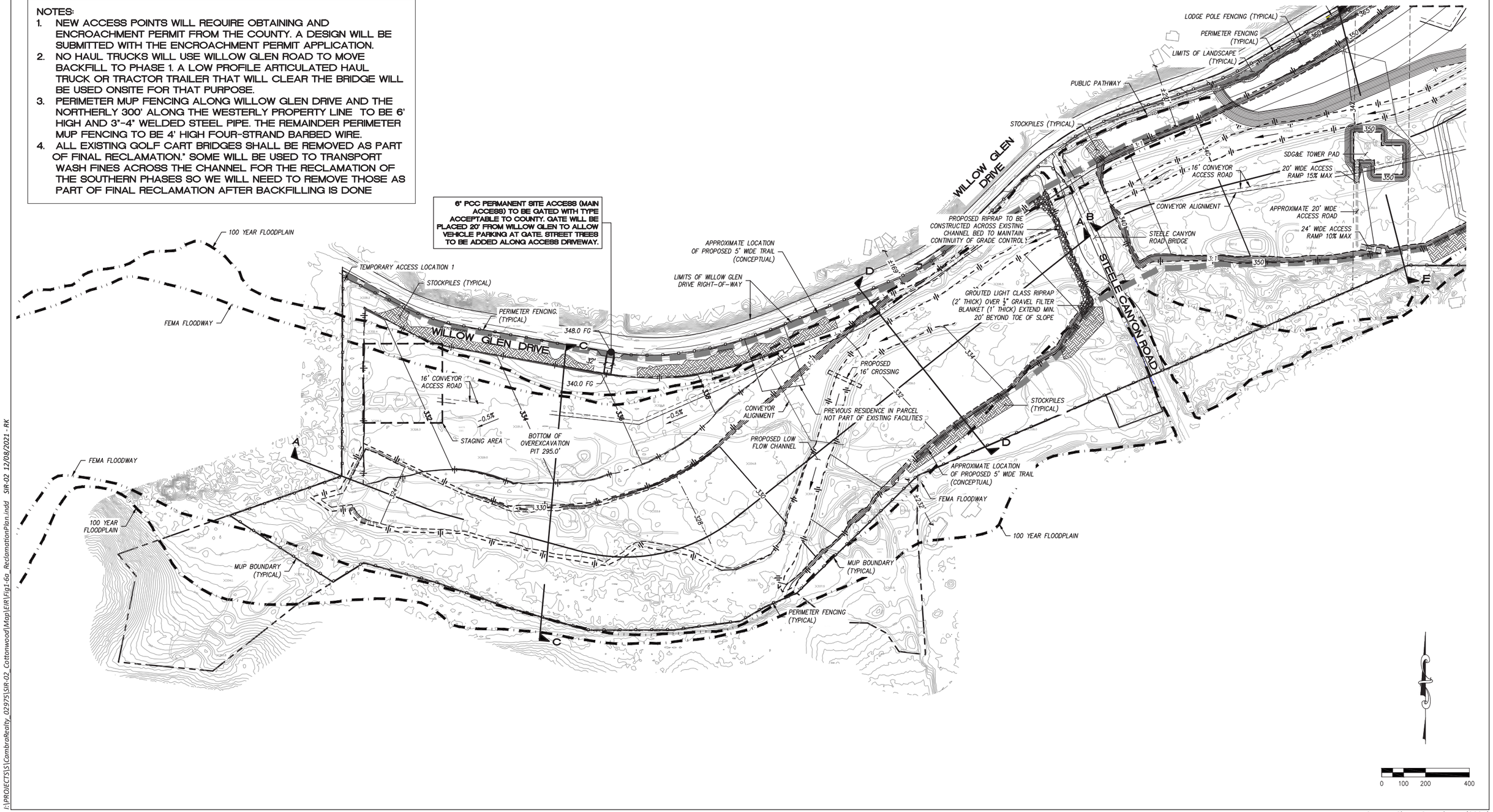

Source: Chang Consultants (2021)

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HELIX Environmental Planning

Reclamation Plan

Figure 1-6a

NOTES:

1. NEW ACCESS POINTS WILL REQUIRE OBTAINING AND ENCROACHMENT PERMIT FROM THE COUNTY. A DESIGN WILL BE SUBMITTED WITH THE ENCROACHMENT PERMIT APPLICATION.
2. NO HAUL TRUCKS WILL USE WILLOW GLEN ROAD TO MOVE BACKFILL TO PHASE 1. A LOW PROFILE ARTICULATED HAUL TRUCK OR TRACTOR TRAILER THAT WILL CLEAR THE BRIDGE WILL BE USED ONSITE FOR THAT PURPOSE.
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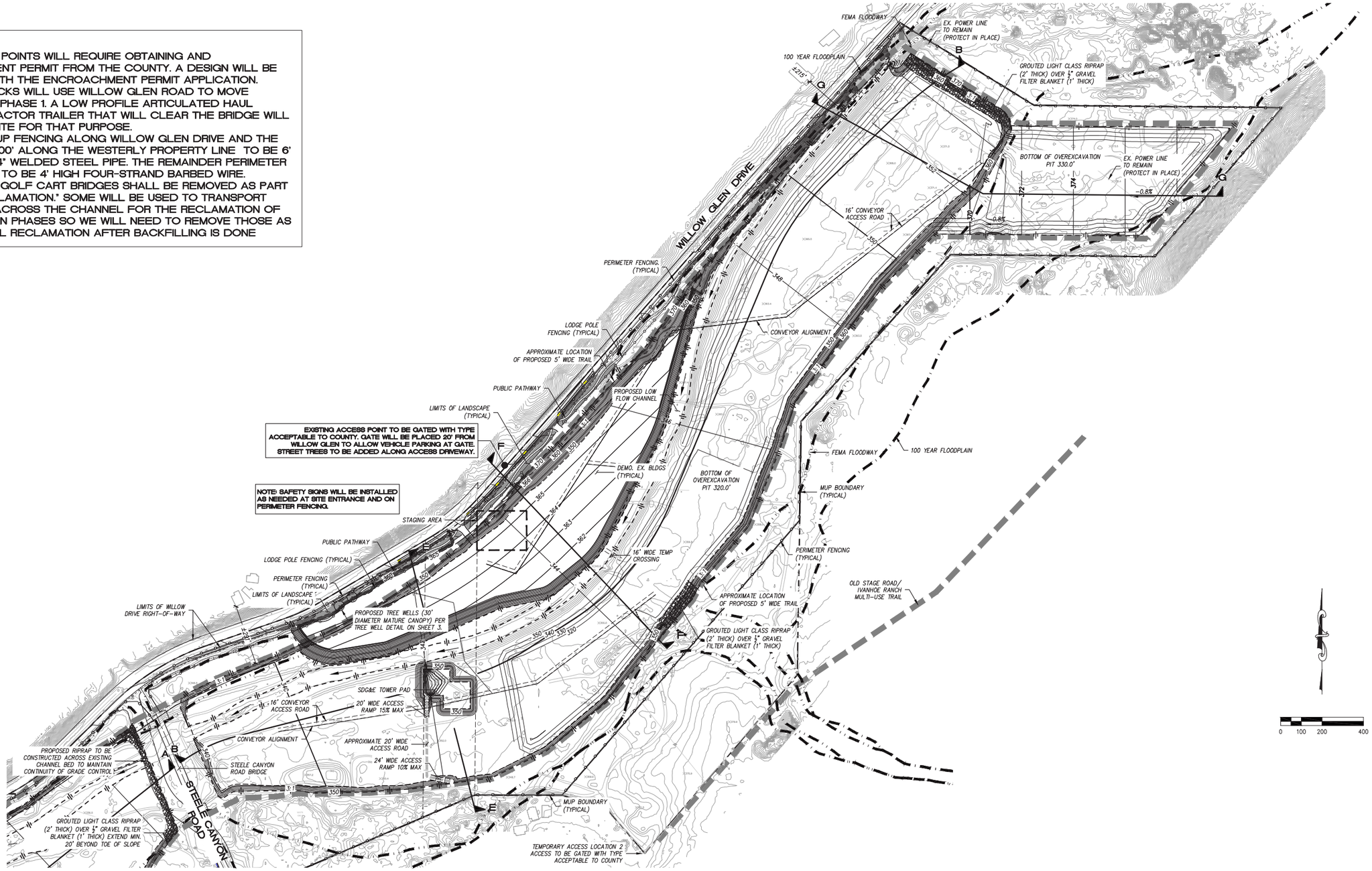
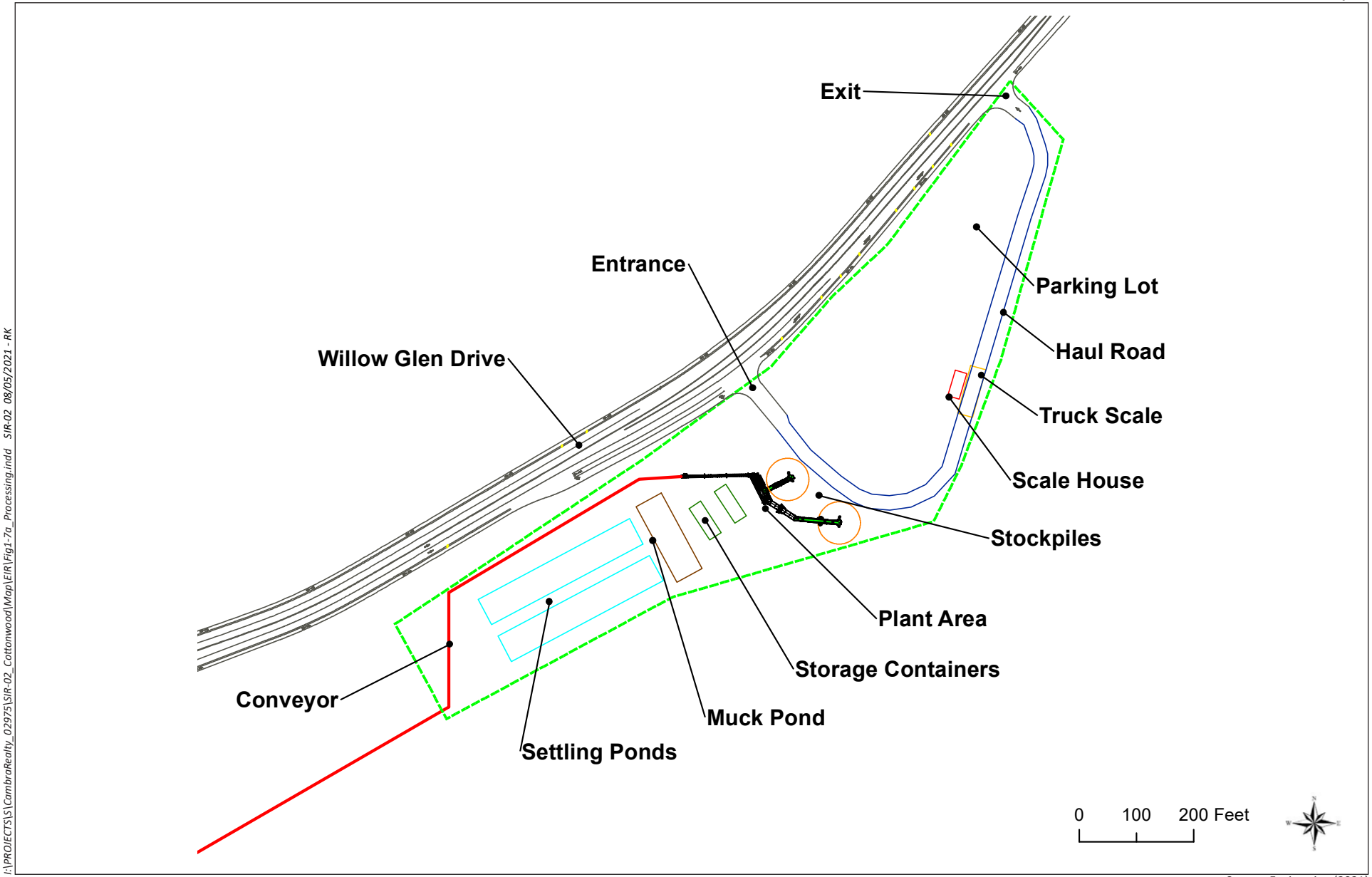


Source: Chang Consultants (2021)

HELIX Environmental Planning

Reclamation Plan

Figure 1-6b



Source: Enviromine (2021)

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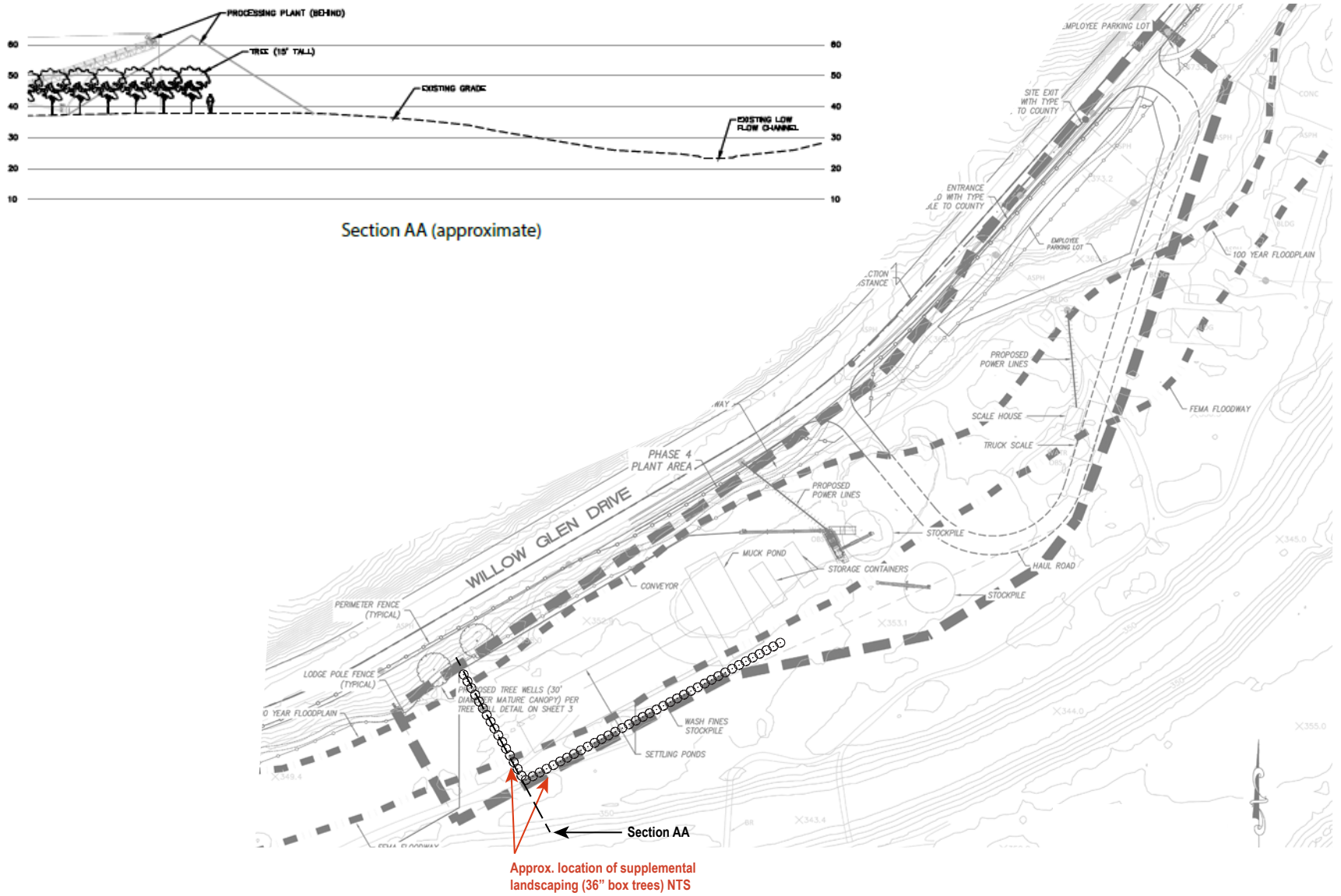
Processing Area Layout

Figure 1-7a

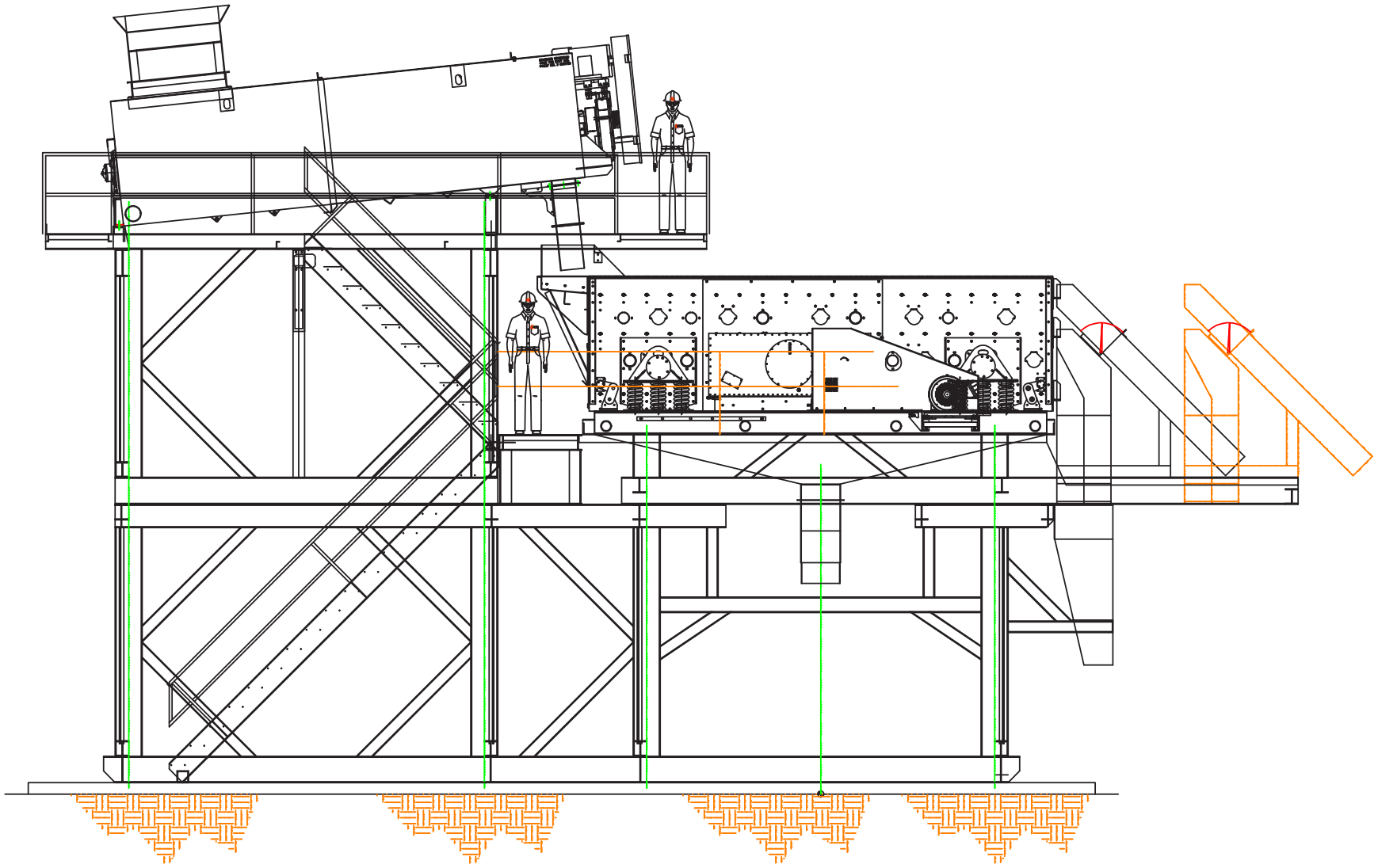


Source: Chang Consultants (2021)

HELIX Environmental Planning

Processing Area Landscape Screening

Figure 1-7b



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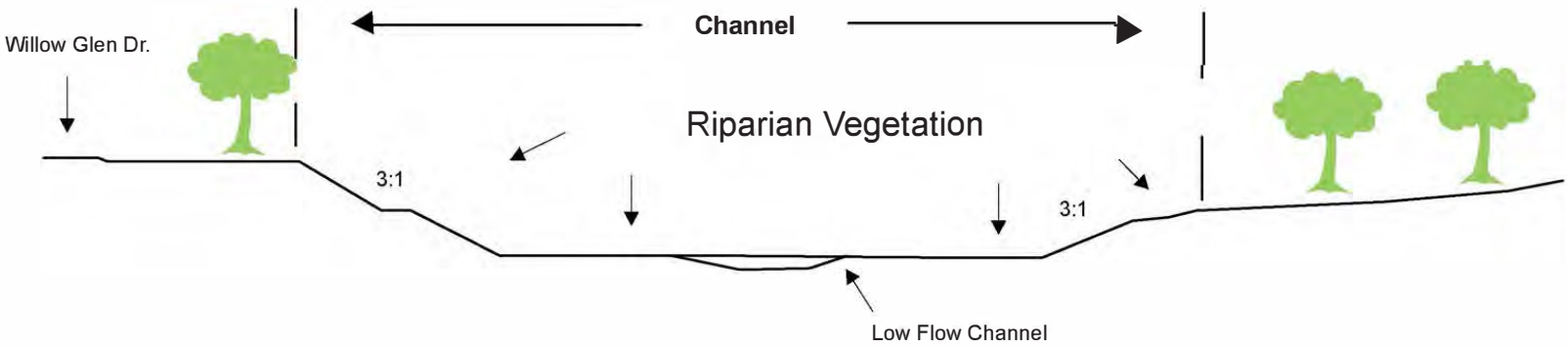
Environmental Planning

Conditioner and Wet Screen - Profile

Figure 1-8



Source: Enviromine (2019)

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Typical Slope Grading Detail

Figure 1-9

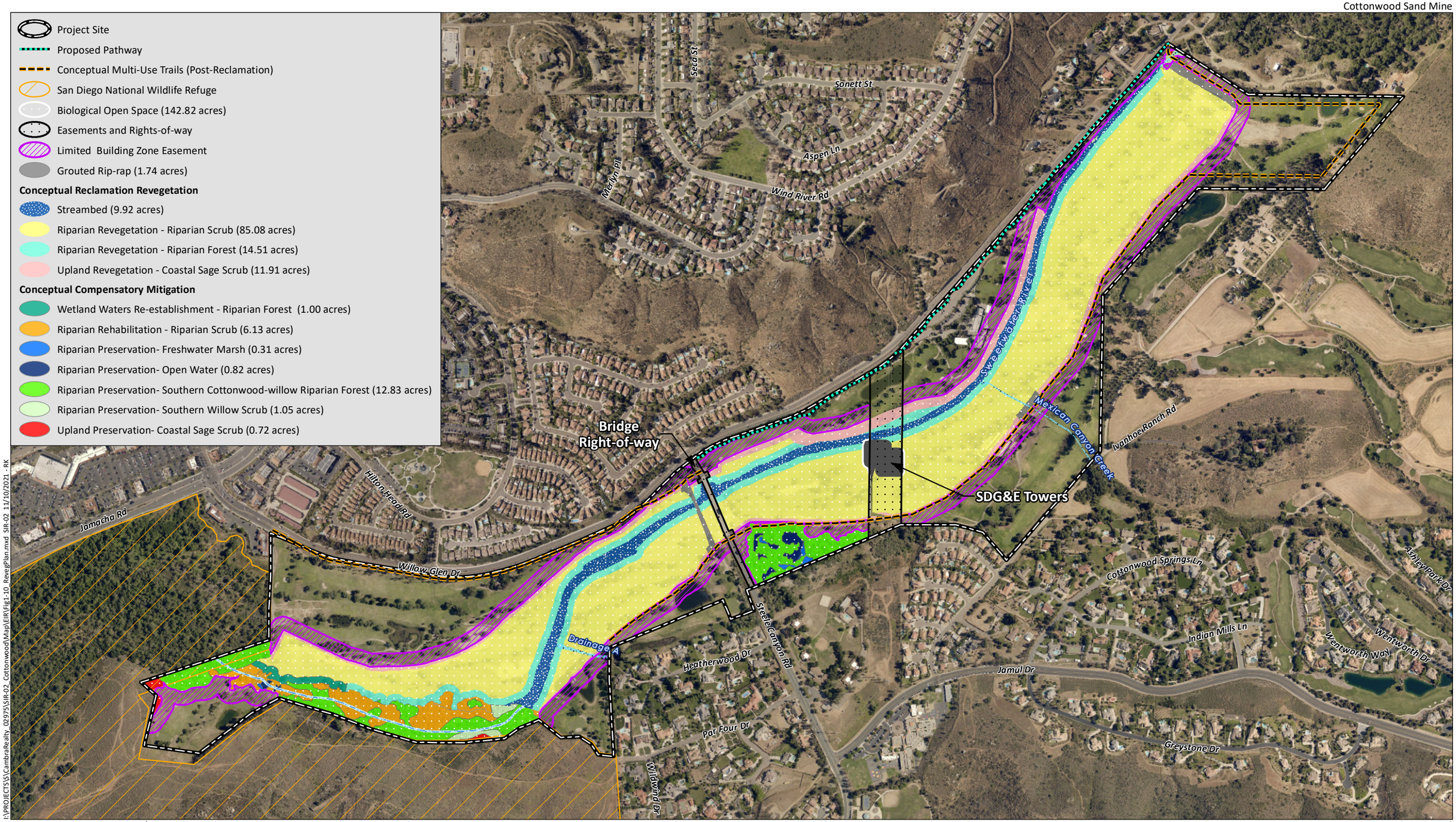
- Project Site
- Proposed Pathway
- Conceptual Multi-Use Trails (Post-Reclamation)
- San Diego National Wildlife Refuge
- Biological Open Space (142.82 acres)
- Easements and Rights-of-way
- Limited Building Zone Easement
- Grouted Rip-rap (1.74 acres)

Conceptual Reclamation Revegetation

- Streambed (9.92 acres)
- Riparian Revegetation - Riparian Scrub (85.08 acres)
- Riparian Revegetation - Riparian Forest (14.51 acres)
- Upland Revegetation - Coastal Sage Scrub (11.91 acres)

Conceptual Compensatory Mitigation

- Wetland Waters Re-establishment - Riparian Forest (1.00 acres)
- Riparian Rehabilitation - Riparian Scrub (6.13 acres)
- Riparian Preservation- Freshwater Marsh (0.31 acres)
- Riparian Preservation- Open Water (0.82 acres)
- Riparian Preservation- Southern Cottonwood-willow Riparian Forest (12.83 acres)
- Riparian Preservation- Southern Willow Scrub (1.05 acres)
- Upland Preservation- Coastal Sage Scrub (0.72 acres)



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0 700 Feet

Source: Aerial (SanGIS, 2017)

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Conceptual Reclamation Revegetation and Compensatory Mitigation Areas

Figure 1-10

LANDSCAPE NOTES

1. OWNER SHALL MAINTAIN ALL LANDSCAPE, TRAILS AND FENCING INCLUDING IN THE RIGHT OF WAY. OWNER SHALL MAINTAIN VEGETATION IN A HEALTHY DISEASED FREE CONDITION.
2. ROOT BARRIERS SHALL BE PROVIDED FOR ALL TREES WITHIN 5' OF HARDSCAPE.
3. A 3" MINIMUM THICK LAYER OF SHREDDED WOOD MULCH SHALL BE PROVIDED IN ALL AREAS OF BARE SOIL, 3:1 SLOPE OR LESS, EXCEPT WHERE MULCH IS CONTRAINDICATED.
4. TREES AND SHRUBS SHALL BE PLACED A MINIMUM OF 5' AWAY FROM WATER METER, OR SEWER LATERALS; A MINIMUM OF 10' AWAY FROM POWER POLES; A MINIMUM OF 8' AWAY FROM FIRE HYDRANTS AND FIRE DEPARTMENT SPRINKLER AND STANDPIPE LOCATIONS.
5. ALL LANDSCAPE AREAS SHALL BE FINISH GRADED TO REMOVE ROCKS AND ENSURE SURFACE DRAINAGE AWAY FROM BUILDINGS.
6. ALL REQUIRED STREET TREES SHALL BE PLANTED OUTSIDE THE PUBLIC RIGHT-OF-WAY ON PRIVATE PROPERTY.
7. LANDSCAPE IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, PLANTS, BERMS, WALLS (DECORATIVE OR RETAINING), SIGNS, AND STRUCTURES HAVE BEEN SELECTED AND POSITIONED SO AS TO AVOID OBSTRUCTING VIEWS OF MOTORISTS NEAR INTERSECTIONS OR AISLES, DRIVES, AND PEDESTRIAN WALKWAYS. TREES HAVE BEEN SELECTED (AND SHALL BE MAINTAINED) SUCH THAT, AT MATURE SIZE, SCAFFOLD BRANCHES WILL BE A MINIMUM OF 60 INCHES ABOVE FINISH GRADE.
8. PLANTINGS ADJACENT TO OPEN SPACE LOTS DO NOT CONTAIN ANY NON-NATIVE, INVASIVE, OR FIRE PRONE PLANTS.
9. EROSION CONTROL PLANTING IS PROVIDED FOR ALL SLOPES OVER 3 FEET IN VERTICAL HEIGHT AND ADDITIONAL PLANTING (AS PER SECTION 87.417 OF THE GRADING ORDINANCE) IS PROVIDED FOR SLOPES OVER 15 FEET IN VERTICAL HEIGHT.
10. AN AUTOMATIC CONTROLLER SHALL BE WEATHER BASED (OR HAVE A MOISTURE SENSOR) AND UTILIZE A RAIN SENSOR EITHER INTEGRAL OR AUXILIARY, CAPABLE OF SHUTTING OFF THE UNIT.
11. AVOID SPRINKLER RISERS IN CORNER, ALONG WALLS AND PARKING AREAS. NO OVERHEAD IRRIGATION WITHIN 24" OF AN IMPERMEABLE SURFACE OR IN AREAS LESS THAN 10' WIDE IN ANY DIRECTION
12. EXISTING ON-SITE WELL WATER SHALL BE UTILIZED FOR IRRIGATION INCLUDING DURING CONSTRUCTION.
13. SOLAR POWERED AND / OR BATTERY OPERATED IRRIGATION CONTROLLERS AND VALVES SHALL BE USED.
14. PROTECT EXISTING TREES TO REMAIN FROM SOIL COMPACTION TO ROOT ZONES BY INSTALLING ORANGE CONSTRUCTION FENCING A 25' MINIMUM DISTANCE BETWEEN TREE TRUNKS AND STOCKPILE AREAS AND SAND MINING ACTIVITIES DURING EACH PHASE OF WORK.
15. FUTURE ROAD WIDENING WILL CAUSE SOME EXISTING SCREENING TREES TO BE REMOVED. SEE SHEETS 6 AND 7. NEW SCREENING TREES AND SHRUBS (SEE SHEETS 2-5) ARE PROPOSED TO BE PLANTED WHERE ADJACENT TO THE PROPOSED PLANT, EXIT AND ENTRANCES PRIOR TO THE ROAD WIDENING, PROVIDING A HEAD START TO SCREENING.

PLAN NOTES

KEY (XX) → DESCRIPTION

1. PLANT SITE MAIN ENTRANCE.
2. PLANT SITE EXIT.
3. RIGHT-OF-WAY LINE.
4. ORIGINAL CENTER LINE.
5. FEMA 100 YEAR FLOODZONE.
6. FEMA FLOODWAY.
7. SDG&E EASEMENT.
8. PROPOSED EDGE OF PAVING
9. EXISTING POWER POLE.
10. EMPLOYEE PARKING.
11. 6' HIGH CHAIN LINK FENCING WITH GREEN MESH SCREENING. SEE DETAIL D / SHEET 14.
12. SCALE HOUSE.
13. TRUCK SCALE.
14. GOLF COURSE.
15. HAUL ROAD.
16. STOCKPILE.
17. STORAGE CONTAINERS.
18. CONVEYOR.
19. EXISTING SCREENING TREES: SEE SHEETS 6, 7 AND 8. (TYPICAL).
20. SETTLING POND.
21. VEHICLE SIGHT DISTANCE TRIANGLE AT DRIVEWAY. MAINTAIN SHRUBS 36" MAXIMUM HEIGHT, TREE LIMBS TO CLEAR 60" ABOVE FINISH GRADE.
22. 495' INTERSECTION SIGHT DISTANCE.
23. 3" MIN. SHREDDED WOOD MULCH AT CONTAINER PLANTED GROUND COVER (TYPICAL).
24. MUCK POND.
25. GATE, 4' HIGH WITH 3"-4" WELDED STEEL PIPE.
26. WEST PLANT SITE ENTRANCE.
27. LIMIT OF LANDSCAPE SCREENING WORK.
28. PATHWAY / MULTI-USE TRAIL. SEE DET. A / SHT. 14.
29. LODGE POLE FENCE. SEE DET. B / SHT. 14.
30. WAYFINDING SIGN / TRAIL MARKER. SEE DET. C / SHT. 14
31. PROPOSED RIGHT-OF-WAY.
32. DAYLIGHT LINE.
33. PLANT AREA.
34. EXISTING EDGE OF PAVING.

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	CONT	QTY
	Cercis occidentalis / Western Redbud H 10'-18', W 10'-18', NATIVE, WUCOLS LOW	36"box	4
EUC POL	Eucalyptus polyanthemos / Silver Dollar Gum	Existing	31
MYO LAE	Myoporum laetum / No Common Name	Existing	5
PLA RAC	Platanus racemosa / California Sycamore	Existing	2
	Populus fremontii / Fremont Cottonwood H 40'-60', W 30', NATIVE, WUCOLS MOD	15 gal	24
	Populus fremontii / Fremont Cottonwood H 40'-60', W 30', NATIVE, WUCOLS MOD	24"box	9
	Quercus agrifolia / Coast Live Oak H 20'-70', W 20'-70', NATIVE, WUCOLS LOW	15 gal	37
	Quercus agrifolia / Coast Live Oak H 20'-70', W 20'-70', NATIVE, WUCOLS LOW	24"box	12
SCH MOL	Schinus molle / California Pepper	Existing	36
SCH TER	Schinus terebinthifolius / Brazilian Pepper	Existing	1
UNK SP	Unknown Species / Unknown Species	Existing	1

SHRUBS	BOTANICAL / COMMON NAME	SIZE	QTY
	Ceanothus x 'Ray Hartman' / California Lilac H 8'-15', W 8'-15', NATIVE, WUCOLS LOW	5 gal	217
	Heteromeles arbutifolia / Toyon H 15'-25', W 15'-25', NATIVE, WUCOLS VERY LOW, SINGLE TRUNK / STANDARD.	5 gal	59
	Rhus integrifolia / Lemonade Berry H 10', W 10', NATIVE, WUCOLS VERY LOW	5 gal	162

GROUND COVERS	BOTANICAL / COMMON NAME	CONT	SPACING
	COASTAL SAGE SCRUB SEED MIX		
	Baccharis pilularis / Dwarf Coyote Brush 2 lbs./acre, Purity 90 / Germination 80	seed	
	Bromus carinatus / California Brome-Grass 20 lbs./acre, Purity 95 / Germination 80	seed	
	Encelia californica / California Encelia 1 lb./acre, Purity 40 / Germination 60	seed	
	Lotus scoparius / California Deer Weed 3 lbs./acre, Purity 90 / Germination 60	seed	
	Salvia apiana / White Sage 2 lbs./acre, Purity 70 / Germination 50	seed	
	Trifolium tridentatum / Tomcat Clover 8 lbs./acre, Purity 90 / Germination 80	seed	
	Vulpia microstachys / Small Fescue 8 lbs./acre, Purity 90 / Germination 80	seed	
	Baccharis pilularis / Dwarf Coyote Brush H 8"-24", W 6'+, NATIVE, WUCOLS LOW	1 gal	36" o.c.

PLANT SCHEDULE NOTES

1. QUANTITY (QTY) FOR EXISTING TREES IS FOR TREES TO REMAIN AS SHOWN WITHIN 20' SCALE ENLARGED PLANS, SHEETS 2-5 ONLY.
2. SEE SHEETS 6 AND 7 FOR EXISTING TREES SURVEY PLAN ALONG WILLOW GLEN DRIVE. SEE SHEET 8 FOR TOTAL EXISTING TREE AMOUNTS.

Source: HELIX 2021

MUIRFIELD DRIVE

WILLOW GLEN DRIVE

ASPH

10' TYP

25' TYP

10' TYP

EUC POL

SCH MOL

LINK SP

SCH TER

X341.0

350

340

340

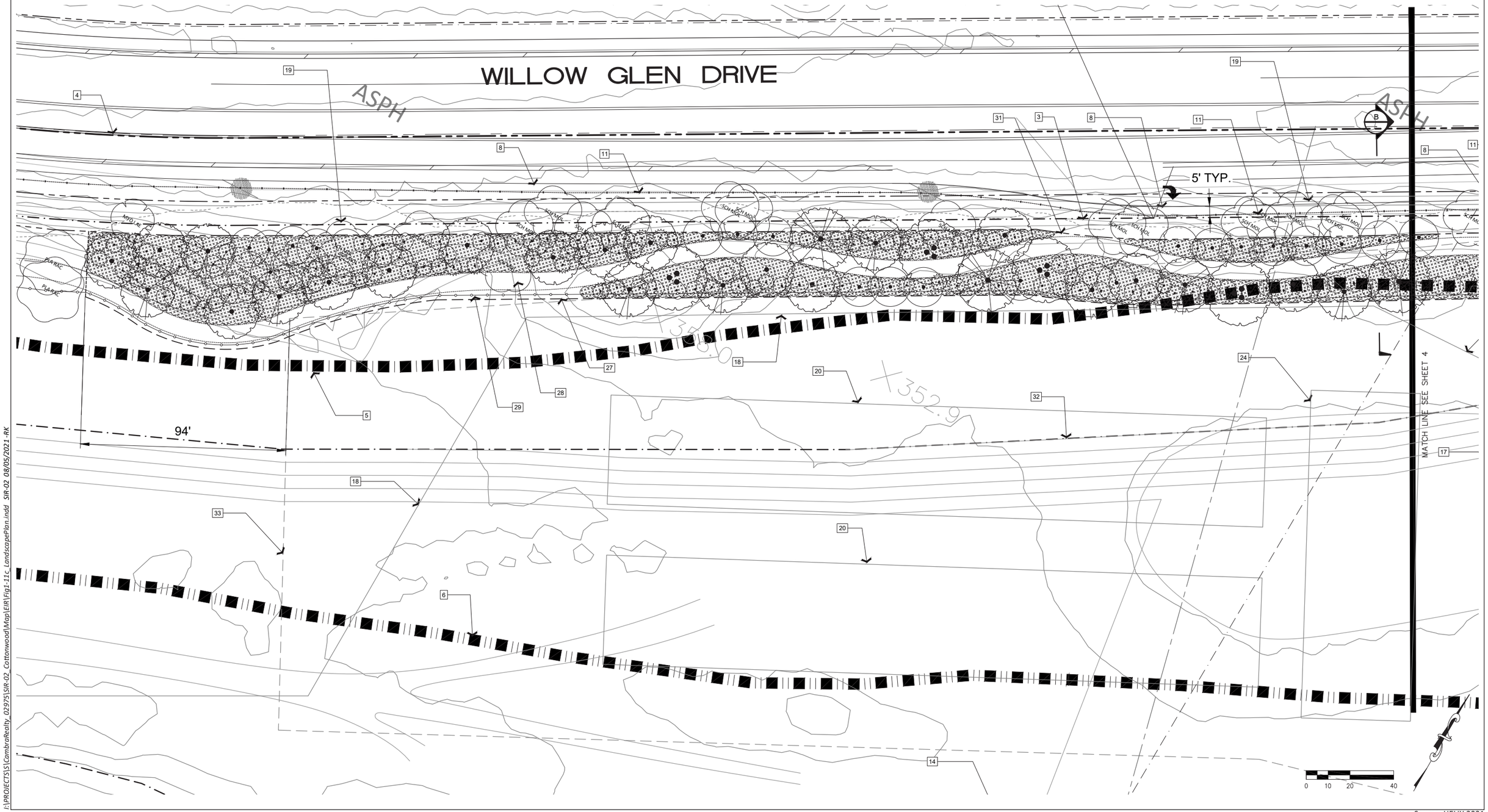
0 10 20 40

Source: HELIX 2021

HELIX Environmental Planning

Conceptual Landscape Screening and Entrances Plan

Figure 1-11b

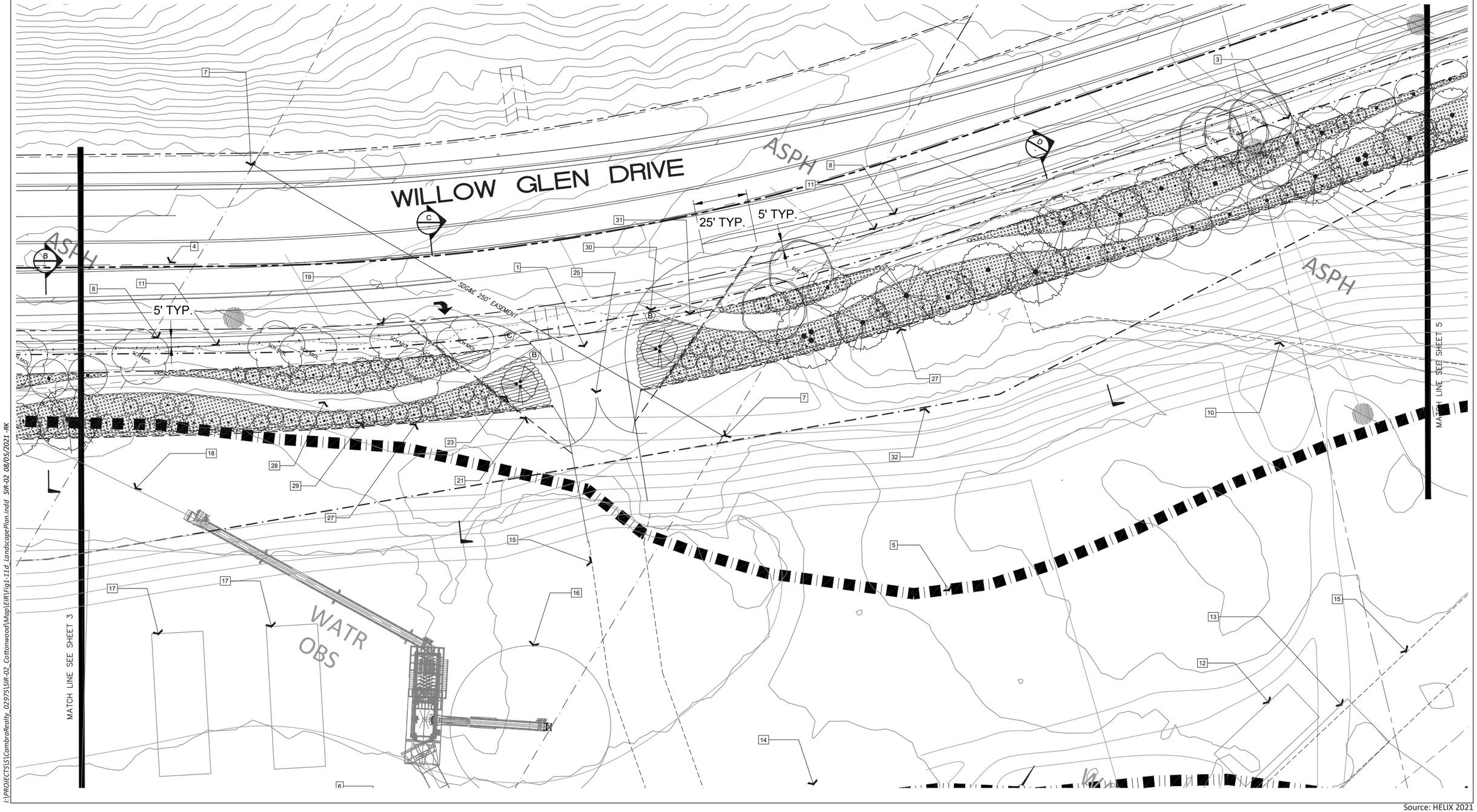


Source: HELIX 2021

HELIX Environmental Planning

Conceptual Landscape Screening and Entrances Plan

Figure 1-11c

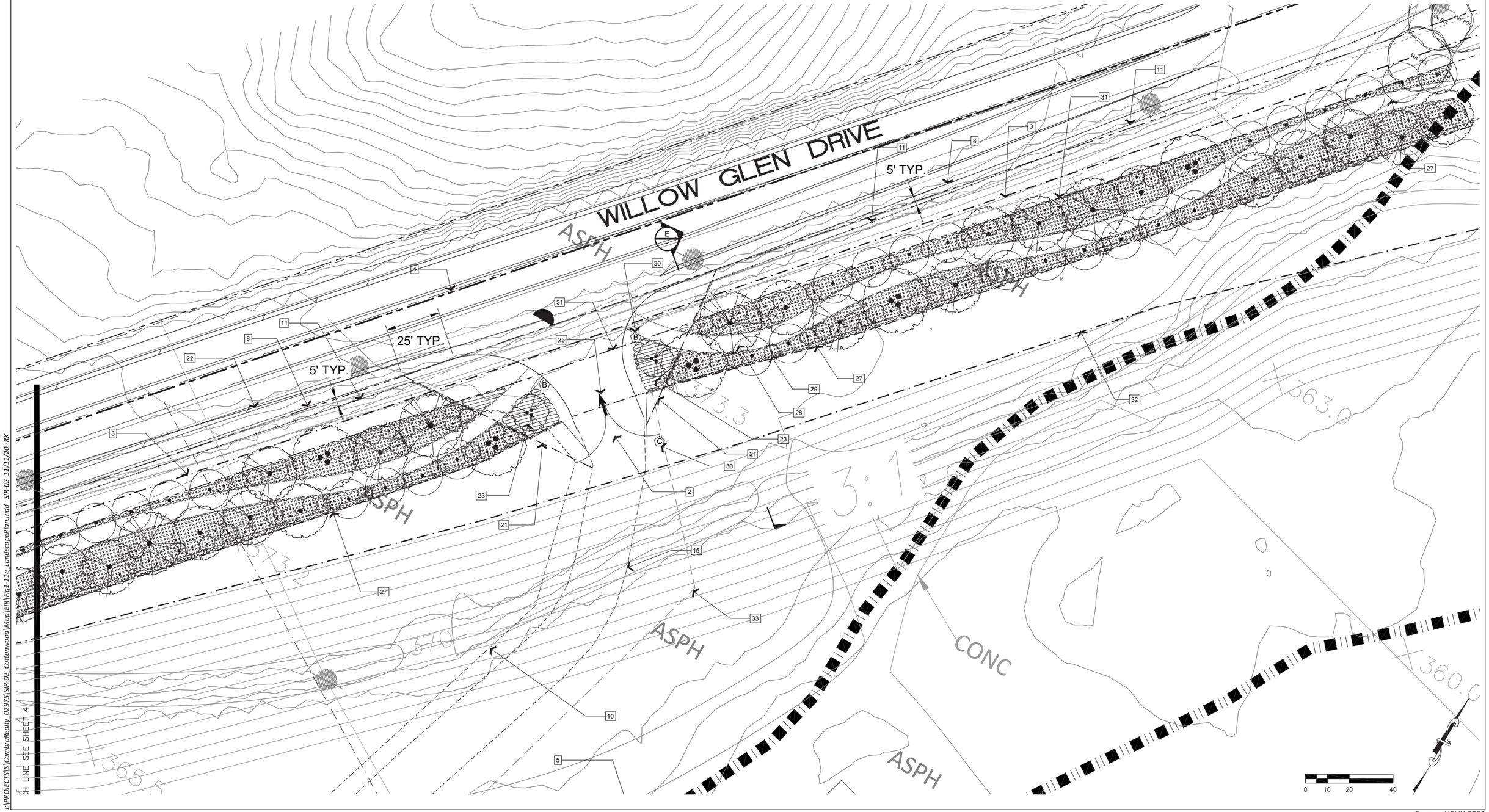


Source: HELIX 2021

HELIX Environmental Planning

Conceptual Landscape Screening and Entrances Plan

Figure 1-11d



Source: HELIX 2021

HELIX Environmental Planning

Conceptual Landscape Screening and Entrances Plan

Figure 1-11e

Cottonwood Sand Mine

- Project Site
- Major Use Permit Boundary
- Parks
- San Diego National Wildlife Refuge
- Proposed Pathway
- Conceptual Multi-Use Trails (Post Reclamation)

Community Trails/Pathways

- Existing Trail
- Proposed Trail
- Proposed Pathway
- Existing Trail (SDNWR)

Hillsdale Road
Jamacha
Woodhaven County Park
Cottonwood County Park
San Diego National Wildlife Refuge
Willow Glen Drive
Cottonwood 2 County Open Space
Hilton Head County Park
Sweetwater River
Steele Canyon Road
Jamul Drive
Steele Canyon County Park
Jamacha Road
WEISHORST LOOP TRAIL
WEISHORST LOOP/FURY LANE
WEISHORST LOOP/JAMACHA ROAD
HILLSDALE/VISTA GRADE EXTENSION
SWEETWATER REGIONAL TRAIL
OLD STAGE ROAD TRAIL
IVANHOE TRAIL
IVANHOE LOOP TRAIL
OLD STAGE ROAD/IVANHOE RANCH
MARTIN RANCH TRAIL
MCGRINTY LOOP CONNECTOR TRAIL
STEELE CANYON TRAIL
TRINA'S WAY TRAIL
OLD STAGE ROAD/JAMUL DRIVE
PAR 4 TRAIL
WILDLIFE REFUGE LOOP TRAIL
EQUESTRIAN CENTER TRAIL
STEELE CANYON/VISTA CIELO TRAIL
LOS MONTANAS NORTH LOOP

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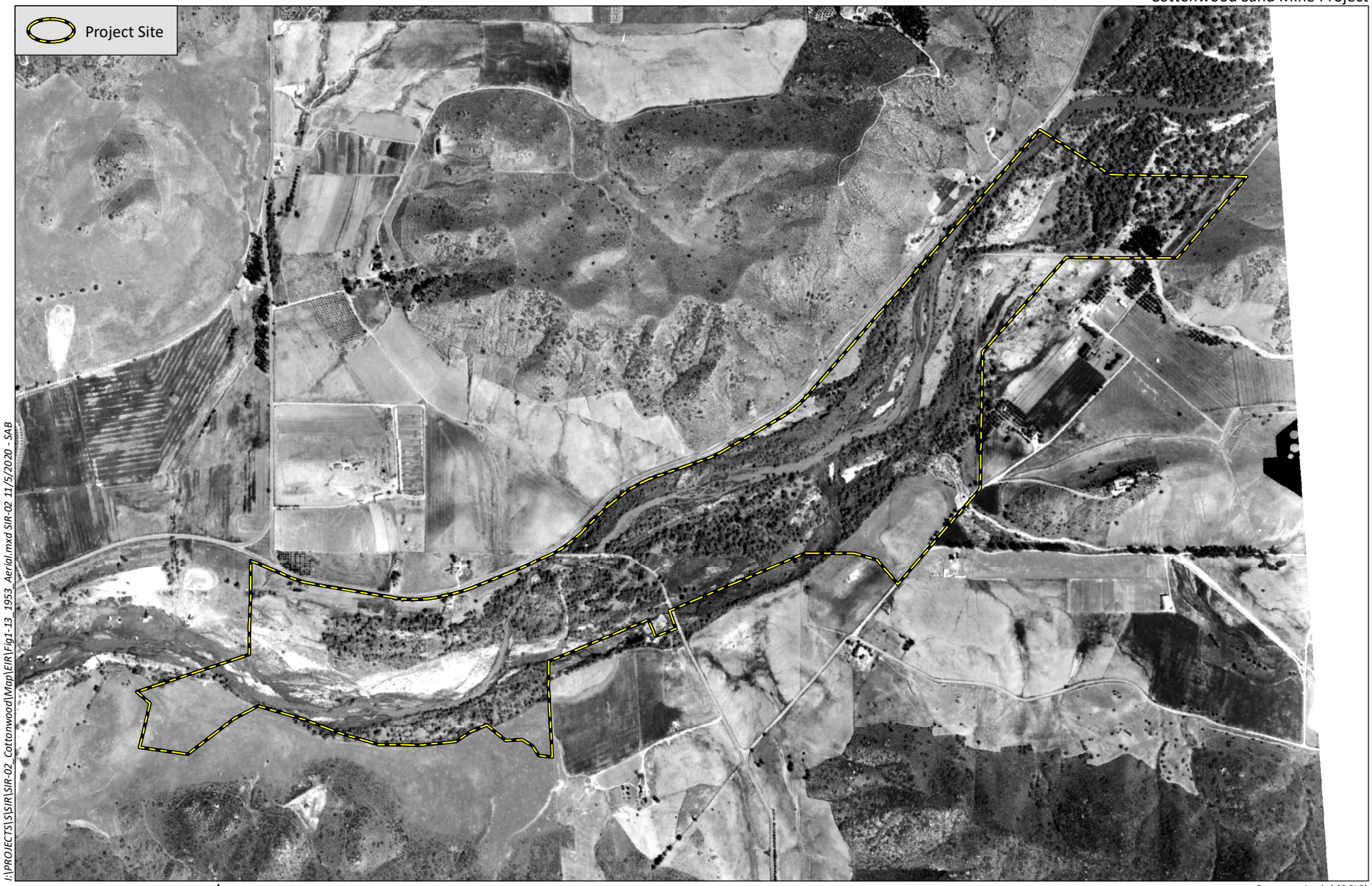
0 1,300 Feet

Source: Aerial (SanGIS 2017); Trails (SanGIS 2019)

HELIX Environmental Planning

Trail Plan

Figure 1-12



Source: Aerial (SCIC)

HELIX Environmental Planning

1953 Aerial Photograph

Figure 1-13

I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\EIR\Fig1-14_Lakes.indd SIR-02 2/10/2020 - SAB

Source: Enviromine (2019)

HELIX Environmental Planning

Lakes Course Layout

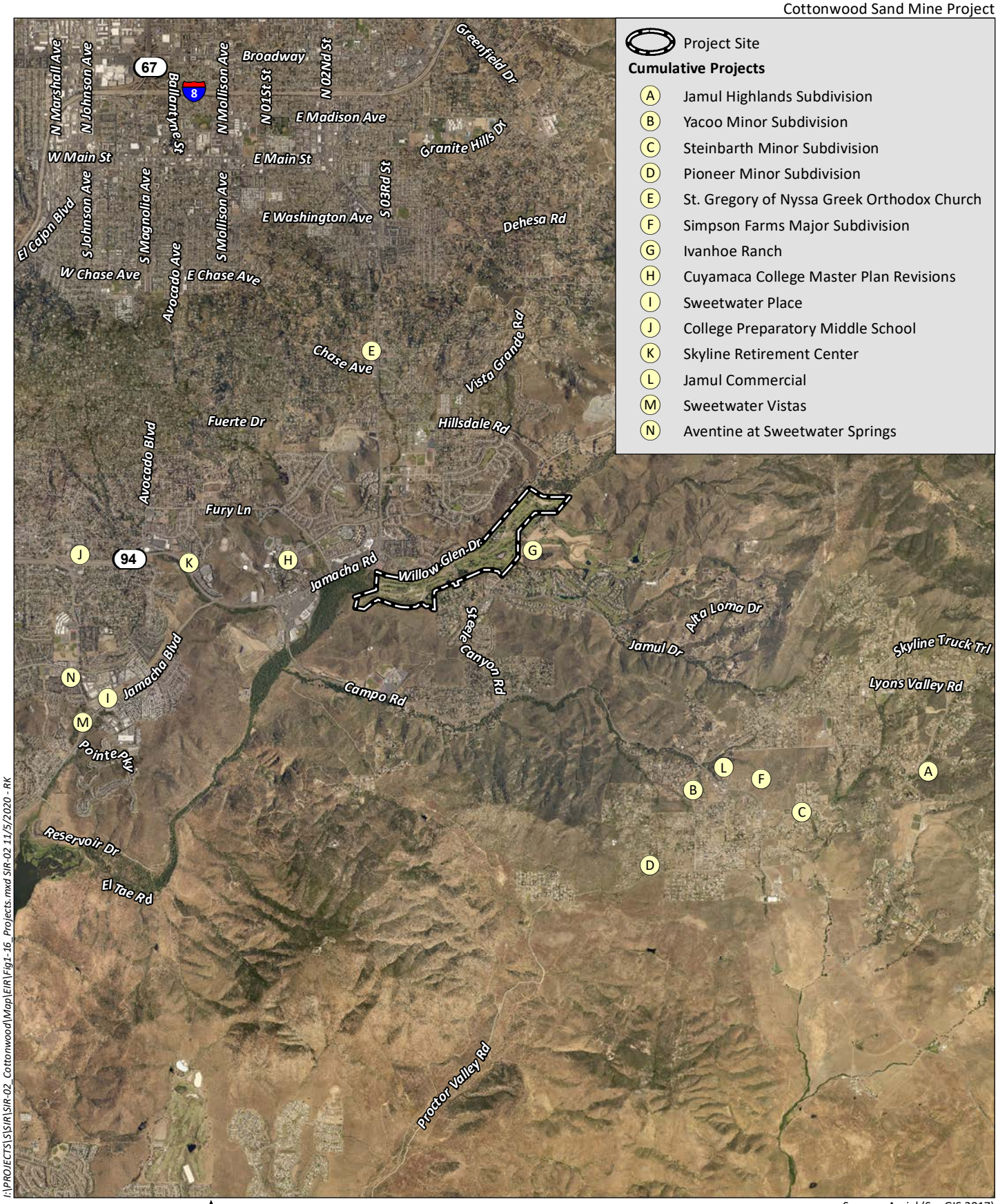
Figure 1-14

Source: Enviromine (2019)

HELIX Environmental Planning

Ivanhoe Course Layout

Figure 1-15



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0 6,000 Feet

Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Cumulative Projects

Figure 1-16

CHAPTER 2.0 – SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

This chapter of the EIR provides a detailed discussion of those subject areas for which Project implementation would result in either: (1) significant impacts that cannot be avoided and/or (2) significant impacts that can be avoided, reduced, or minimized through mitigation measures required to be implemented as part of the Proposed Project.

In order to assist the reader in tracking between impacts and related mitigation measures, individual impacts and the associated mitigation measures have been given correlating numbers and letters. For example, for the issue of biological resources, the first significant impact is identified in text in the analysis portion of the discussion as BIO-1, representing biological resources impact number 1. The measure designed to attenuate that impact is identified as M-BIO-1 (i.e., mitigation for biological resources impact number 1). Biological resources, cultural and tribal cultural resources, noise, and paleontological resources include mitigation which would reduce Project impacts to less than significant.

Each environmental issue area describes the following topics:

- Existing conditions
- Regulatory framework
- Analysis of project effects and determination as to significance
- Cumulative impacts
- Significance of impacts prior to mitigation
- Mitigation
- Conclusion

2.1 Aesthetics

A Visual Resources Report was prepared for the Proposed Project to determine the potential for significant impacts to aesthetics and community character as a result of Project development. The Visual Resources Report (DUDEK 2021) was prepared in conformance with the County Guidelines for Determining Significance and Report Format and Content Requirements, Visual Resources (2007b). The results of the analysis are presented below and included as Appendix H to this EIR.

2.1.1 Existing Conditions

2.1.1.1 *Project Site*

As discussed in Chapter 1.0, the Project site is in the unincorporated community of Rancho San Diego in San Diego County. The site is located within the Jamacha Valley. Willow Glen Drive forms the northern boundary of the Project site, which is bisected by the Steele Canyon Road bridge over the Sweetwater River (refer to Figure 1-3, *Project Vicinity [Aerial Photograph]*). The

Project site gently slopes down from east to west, with elevations ranging from approximately 380 feet amsl in the northeastern portion of the site to 320 feet amsl in the southwestern portion of the site.

The site is currently occupied by the Cottonwood Golf Club, which consists of two 18-hole courses. While the (eastern) Ivanhoe Course is active and open to the public, the (western) Lakes Course has been closed since 2017 and is no longer being maintained as an active course (refer to Figures 1-14, *Lakes Course Layout*, and 1-15, *Ivanhoe Course Layout*). The Ivanhoe Course has relatively linear fairways that include bunkers and water hazards, some of which were created during previous sand extraction activities and are lined with mature native and non-native trees (e.g., eucalyptus, Fremont/western cottonwood, and willows) to separate fields of play (see Photo A, Figure 2.1-1a, *On-site Existing Conditions*). West of Steele Canyon Road, weedy shrubs and grasses are interspersed with pockets of exposed soils throughout the closed Lakes Course, which is only subject to periodic mowing (see Photo B, Figure 2.1-1a). Clusters of trees, two ponds/water hazards, and several dry depressions that previously supported golf course water hazards occur within the western portion of the Project site, along with several sandy paths that traverse the unmaintained area.

On the Ivanhoe Course, on-site facilities include a clubhouse, equipment maintenance and storage area, and an on-course restroom. The approximately 11,500 SF, single-story and rectangular clubhouse is centrally located within the eastern Ivanhoe Course and occupies approximately 0.75 acre (see Photo C, Figure 2.1-1a). The clubhouse was constructed in the 1960s when the golf courses were developed and is situated near a fenced driving range that extends east of the Sweetwater River. The building has a white brick and wood-siding façade with decorative stone elements and a low-pitched roof with wooden lattice screening lining the edges of the roof to screen mechanical equipment. An open, 13,000-SF storage yard is located south of the clubhouse and is enclosed and separated from the clubhouse and golf course by fencing and hedges. Course parking occurs in two connected asphalt-paved parking lots located north of the clubhouse and adjacent to Willow Glen Drive (see Photo D, Figure 2.1-1a). The upper lot, located adjacent to Willow Glen Drive, is larger (1.6 acres) with designated spaces for approximately 200 vehicles. There are two ingress/egress locations to/from the parking lot, which is located slightly downslope from Willow Glen Drive (approximately 10 feet) (see Photo D, Figure 2.1-1a). The lower lot (approximately 0.75 acre) is adjacent to the clubhouse and has space for approximately 120 vehicles. The lower lot is accessed by two one-way ingress/egress ramps from the upper lot and sits approximately 8 feet lower in elevation than the upper lot. A small, landscaped slope separates the parking lots; mature trees line the southern edge of the lower lot and separate the parking areas from the clubhouse and adjacent storage yard.

An approximately 2.2-acre equipment maintenance and repair facility is located within the Ivanhoe Course, southwest of the clubhouse. This facility provides a maintenance and storage area for the tractors, mowers, and other landscaping equipment used for course maintenance. The maintenance area includes two aboveground fuel storage tanks, two garage repair structures (3,440 SF and 3,800 SF), and an approximately 375-SF office building. Covered parking bays are provided on the north and southwest perimeter of the yard for equipment. The facility is surrounded by mature trees and landscaping, which provide some visual shielding from the clubhouse, golf house, and off-site vantage points. One vacant one-story residential building is located on an approximately 1.1-acre parcel immediately adjacent to Willow Glen Drive within the western Lakes Course. The

structure is California ranch in style and is surrounded by a chain-link fence with green mesh, mature trees, and dense landscaping which largely shields it from passing viewers on Willow Glen Drive.

The Sweetwater River channel extends through the length of the site, entering at the northeastern Project boundary and continuing in a mostly northeast to southwest direction to the southwestern boundary, where it exits the site and continues southwest toward the Sweetwater Reservoir. The river is channelized with a natural bottom and is relatively narrow (approximately 13 feet wide) where it enters the Project site, but gradually expands to a width of approximately 119 feet in width below the Steele Canyon Road bridge. West of the bridge, the river channel narrows to widths ranging from approximately 54 to 110 feet as it meanders through the closed Lakes Course in a northeast-southwest direction toward the southwestern property boundary. Four cart bridges spanning the river to allow access to fairways and facilities on either side of the river channel (refer to Photo E on Figure 2.1-1b, *On-site Existing Conditions*).

As shown on Figure 2.2-3, *Vegetation and Sensitive Resources*, and described in further detail in Subchapter 2.2, *Biological Resources*, the Project site supports approximately 20 vegetation communities/land use types, including some native vegetation communities. The Lakes Course portion of the Project site west of Steele Canyon Road is primarily characterized by disturbed ruderal vegetation, several man-made ponds, non-native vegetation along Willow Glen Drive, and a mixture of native and non-native vegetation along the southern boundary. The eastern portion of the site (the active Ivanhoe golf course) is characterized by landscaped turf grass, native and non-native planted trees, cart paths, parking lots, clubhouse, and other maintenance facilities. In addition, the Ivanhoe course is traversed by an electrical transmission corridor that supports three transmission lines (see Photos F and H, Figure 2.1-1b). Two large and geometric steel lattice towers and a single tall tubular steel pole are installed approximately 700 feet to the west of the equipment maintenance and repair facility.

Vegetation along the Sweetwater River channel has been heavily modified by past and current uses and is currently dominated by low, maintained and irrigated grass or bare ground. During most of the year, the channelized riverbed appears dry and barren compared to the verdant, irrigated fairways of the eastern Ivanhoe Course (see Photo G, Figure 2.1-1b). A comparable color contrast does not occur on the idle western Lakes Course due to the dominance of low and brown/olive ruderal shrubs and grasses and lack of irrigation. Occasionally, water released from the upstream Loveland Reservoir flows within the Sweetwater Riverbed following heavy rain events when transfers to the Sweetwater Reservoir are conducted (see Photo H, Figure 2.1-1b). A section of the river along the southwestern Project boundary (approximately 2,360 feet in length and 130 to 250 feet in width) is densely vegetated with riparian vegetation dominated by willows intermixed with non-natives such as giant reed and tamarisk. This section of the river is located outside the boundary of mining subphases.

Small patches of Diegan coastal sage scrub habitat at the southeastern and southwestern Project boundaries connect to larger swaths of coastal sage scrub within nearby preserved lands and open space. Dominant species include California sage brush, California buckwheat, single whorl burrobrush, and broom baccharis. Disturbed coastal sage scrub on site occurs as narrow bands of habitat to the south of Willow Glen Drive at the northeastern boundary, and to the west of Steele Canyon Road along the southern boundary. These areas consist of scattered shrubs of California

sagebrush and California buckwheat growing among planted non-native trees and woody debris deposited on the slopes. Scattered stands of eucalyptus woodland occur throughout the site, mostly at the northeastern, southeastern, and southern boundaries. Scattered eucalyptus trees also occur throughout the golf course among the trees lining the fairways. Peruvian pepper trees, eucalyptus, and oleander line Willow Glen Drive along the site's northern boundary.

Man-made ponds on site consist of open water habitat excavated in upland areas, which serve as water hazards and aesthetic features for the golf courses. Four ponds are present in the eastern portion of the site and six occur to the west of Steele Canyon Road. The water level in these constructed ponds is maintained artificially by pumping water into them. Several dry depressions that previously supported water hazards are present on the western Lakes Course.

2.1.1.2 *Surrounding Area*

Additional portions of the Jamacha valley and surrounding mesas and mountainous topography characterize the physical setting of the areas surrounding the Project site. Land use in the vicinity is limited by physical constraints associated with the presence of the Sweetwater River channel, which passes through the area in a northeast-to-southwest direction, and by the afore-mentioned steep terrain on the north and south. The Sweetwater River has several artificial impoundments upstream of the Project site, including Loveland Reservoir, which is subject to water transfers and controlled releases by the Sweetwater Authority. In the Project vicinity, the Sweetwater River channel slopes gently from approximately 400 feet amsl to 300 feet amsl. Land to the north and east slopes steeply to over 700 feet amsl. The area to the south consists of rugged terrain rising quickly to elevations over 800 feet amsl, and continuing to rise to San Miguel Mountain, at over 2,500 feet amsl, approximately 3 miles to the south.

Biological resources that contribute to the visual context in the region generally include core blocks of coastal sage scrub and chaparral, open space conserved within the SDNWR, and perennial waters and riparian habitat associated with Sweetwater River. In some areas both upstream and downstream of the Project site, the Sweetwater River is scantly vegetated and open, similar to its on-site appearance. In other areas, the river corridor is heavily vegetated with riparian vegetation, including dense stands of trees such as cottonwoods, willows, and western sycamores (intermixed with non-natives such as giant reed, tamarisk, eucalyptus, peppertree, and Mexican fan palm). Undeveloped lands to the north, east, and south of the site are primarily comprised of coastal sage scrub and chaparral habitat, with smaller areas of grassland also present. A mesa rising to the north of the Project site creates a notable visual "wall" that, along with area mountains and hillsides, comprise primary elements of the Project viewshed. Residences line the mesa edge north of the site. South of the Project site, hillsides and mountains line the river valley.

The existing visual character and quality of the surrounding area is characterized in the Valle de Oro Community Plan as a balance of urban, semi-rural agricultural, and open space land uses, with the Rancho San Diego area developed with large-scale, master-planned residential and commercial developments interspersed with large areas of green-belt and biological open space for wildlife preservation. Land uses in the surrounding area include residences, parks, and commercial uses of the Rancho San Diego community to the north and west, and undeveloped land and extractive operations to the northeast. Rural residential development, small-scale agricultural uses, and the Steele Canyon Golf Club (including a 27-hole golf course and estate-style residential uses) are

located to the south and southeast and the SDNWR is located to the to the southwest. Existing land uses and facilities in the surrounding area are illustrated in Figure 1-3.

Willow Glen Drive generally parallels the alignment of the Sweetwater River, and provides access to rural and tract-style residential neighborhoods, recreational facilities including golf course and extractive operations. The roadway consists of four-lanes west of Steele Canyon Road and two lanes east of the golf course. The Project site is crossed by Steele Canyon Road via a bridge that spans the Sweetwater River. An existing view from the northbound lane of Steele Canyon Road as it spans the river is shown on Figure 2.1-2a, *Off-site Existing Conditions* (see Photo I). Residential development in the area includes several subdivisions of tile-roofed, single-family homes generally larger than 1,500 SF on landscaped, fenced yards. These include Emerald Point and Corte Madera, adjacent subdivisions located north of the site with access off Willow Glen Drive at Muirfield Drive and Medina Drive, respectively; the gated Monarch Ridge development located northeast of the site off Hillsdale Road and Vista Grande Road; the Cottonwood community located north of the site off Hillsdale Road and Wind River Road; and the La Tierra development located south of the Project off Ivanhoe Ranch Road. Larger estate-style single-family residences on large lots are located south of the Project site, including those immediately adjacent to the Project site located on Heatherwood Drive, Wildwind Drive, and Cottonwood Springs Lane, as well as the gated Steele Canyon Estates and golf club located to the southeast. The proximity of residential lands uses to the Project site is shown on Figure 1-3.

The visual environment to the south and southwest of the Project site is shown in the foreground of Photo J (taken from the SDNWR Wildlife Refuge Loop trail) and in the background of Photo K (taken from the mesa north of the Project site), Figure 2.1-2a. One isolated single-family residence is located north of the Project site, just east of the clubhouse and parking lot with access from Willow Glen Drive. Two additional homes and a small-scale agricultural operation are located off Ivanhoe Ranch Road along the southern property boundary between the Project site and the Steele Canyon Golf Course. Schools in the area include Jamacha Elementary School located approximately 0.25 mile to the south, Steele Canyon High School located approximately 0.5 mile to the south, Valhalla High School located approximately 0.75 mile to the northwest, Hillsdale Middle School located approximately 0.5 mile to the west, and Cuyamaca College located approximately 0.66 mile to the west (refer to Figure 1-3).

Several parks are located within the residential developments near the Project site, including Cottonwood, Damon Lane, Hillsdale, Hilton Head, Steele Canyon, and Woodhaven County parks. These parks range from large grassy areas featuring mature shade trees, benches, and paths/paved walkways (e.g., Cottonwood, Damon Lane, Woodhaven) to facilities offering playgrounds, playing fields, and picnic areas (Hillsdale, Hilton Head, Steele Canyon). The closest park is Hilton Head County Park, located at 1605 Hilton Head Road, which features a children's playground, splash pad, multi-use sports field, basketball court, exercise stations, shaded picnic and barbecue areas, and a concrete walking path. County parks and existing trails in the Project vicinity are shown on Figure 2.1-3, *Viewshed Analysis*, as additionally described below. Of the parks listed above, views to the Project site and more specifically, a small portion of the Phase 1 area, are only available at Hilton Head County Park.

Located southwest and east of the Project site, the SDNWR has an existing trail system that includes two trails in the vicinity with potential views of the Project: Wildlife Refuge Loop Trail

and McGinty Mountain Trail (Hiking San Diego County 2016, 2015). The trails are currently open to hiking, biking, and horseback riding. Located south of the Project site at the dead end of Par Four Drive, the Wildlife Refuge Loop trailhead provides access to an approximately 3.3-mile loop trail through the eastern portion of the SDNWR. The loop trail includes a "lower" and "upper" segment and the upper segment provides elevated vantage points to the Lakes Course and western portions of the Ivanhoe Course. The McGinty Mountain trailhead is located on Jamul Drive, approximately 2.3 miles southeast of the Project site. This trail reaches the McGinty Mountain Peak at approximately 2,183 feet amsl and is 5 miles total out and back. While distant and present within an expansive viewshed, the Project site is faintly detectable (primarily, the bright greens of the irrigated Ivanhoe golf course) from the switchbacks and ridgeline segments of the trail.

The County has identified a number of existing and proposed community pathway and trails located along public rights-of-way, over private property, and through County-owned land in the vicinity of the Project in the Valle De Oro Community Trails and Pathways Plan, which is a component of the County Trails Program Community Trails Master Plan (CTMP; County 2005, as amended). Two existing trails described in the Valle De Oro Community Trails and Pathways Plan are located within the Project viewshed.

Sweetwater Regional Trail (Trail E) is an existing and proposed regional trail totaling approximately 7.6 miles in length in the Valle de Oro CPA that would extend into the Crest/ Dehesa, Spring Valley, and Sweetwater CPAs along the Sweetwater River. As shown in Figure 2.1-3 (identified as Sweetwater River Trail), a portion of this trail west of the Project site (and north and west of the Sweetwater River) has been completed. Views to the Project site from the completed trail segment, however, are restricted due to intervening vegetation and development. The proposed segment of the trail parallels Willow Glen Drive and the entire length of the northern boundary of the Project site for approximately 1.7 miles. The Wildlife Refuge Loop Trail (Trail 5), also referred to as the Par 4 trail by the USFWS, is an existing trail totaling approximately 6.0 miles within the SDNWR, south and southwest of the Project site. This trail follows the Par 4 trail identified by the SDNWR and extends to the south. Since the Wildlife Refuge Loop Trail overlies and extends beyond the Par 4 Trail, "Wildlife Refuge Loop Trail" is used throughout this EIR in place of the Par 4 Trail.

Lastly, existing mining operations and storage yards in the vicinity of the Project include the approximately 94-acre, privately owned Hester's Granite Pit operated by Robertson's Ready Mix and located approximately 0.7 mile northeast of the Project site, and the County Department of Public Works Roads Division 1 Headquarters (includes gravel, rock, miscellaneous equipment and materials storage), located approximately 0.7 mile southwest of the Project site. Hester's Granite Pit is generally located outside of the Project viewshed due to intervening terrain and the 60-acre borrow pit (located off SR 94 and Singer Lane) is obscured from public view due to vegetation and development near SR 94.

2.1.1.3 *Project Site Visibility/Viewshed and Landscape Unit*

Project Viewshed

A "viewshed" is an analytical tool to aid in identification of views that may be affected by a potential project. The viewshed is defined as the surrounding geographic area from which the

on-site elements of the Project are likely to be seen. The viewshed boundary represents the geographic limits for this visual assessment.

Figure 2.1-3 illustrates the Project viewshed on an aerial photographic base within a 3.0-mile radius. Views within this radius are considered close enough to allow viewers to perceive Project elements such as landform modification, vegetation removal, and (potentially) the spatial mass and form of temporary structures and processing equipment. Note that although built versus natural elements are distinguishable from further distances, topographic modifications and structures beyond approximately 1.0 mile tend to begin to become visually muted and distinguishable only as facets of the larger regional landscape.

The percentage of visibility is a conservative number, since visual screening by intervening structures or landscaping is not considered by the model. Because of intervening development, vegetation and landscaping, the entire Project site and multiple subphase areas would not be visible from all of the identified locations within the viewshed area. Even under conditions in which topography or other intervening elements do not obstruct views, views to any given point within a viewshed may not be clear due to levels of humidity or haze. Atmospheric conditions such as fog, mist, haze, and/or smog can decrease visibility and cause features to lose sharpness at approximately 0.5 mile.

The Project site is located in an area of varied topography which is constrained by and somewhat limits the number of surrounding public vantage points. As shown in Figure 2.1-3, based on topography alone, the viewshed indicates that the Project site is potentially visible mostly from nearby areas within the Jamacha valley and adjacent hillsides/ridgelines that face the Project site, as well as segments of SR 54/Jamacha Road, SR 94/Campo Road, and other more distant roadways. The undeveloped hillsides and mountainous areas to the south and east of the Project site generally delineate the southern and eastern extent of the viewshed boundary. The hillsides and mountains that are shown to have visibility can easily be seen from the Project site because of the scale of and silhouettes displayed by these features; however, since the Project site is confined within the context of the valley, it may not be as visually distinct in views to the site from these distant locations. The northern and western viewshed boundary is defined by the varied topography within developed areas of Rancho San Diego and El Cajon. These areas primarily support residential and commercial uses, with parks and educational facilities as well as open space areas interspersed throughout.

The computer-generated viewshed was field checked by Project analysts and specific sensitive locations (segments of SR 54 and SR 94, existing trails, and areas of the adjacent Rancho San Diego community) were visited to confirm or eliminate visibility. Particularly along roadways and trails that abut structures and landscaping associated with the surrounding development, views are generally obscured due to these intervening features as described in the general Project Setting discussion.

Landscape Unit

A landscape unit is a portion of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. A landscape unit will often correspond to a place or district

that is commonly known among local viewers. Specifics related to visibility and intervening uses are provided as relevant within analyses below.

The overall "outdoor room" within which the Project is located consists of a single landscape unit, characterized by the Jamacha valley landscape. The landscape unit is defined by a mix of recreational/golf course uses, agriculture, residential, and undeveloped areas within and adjacent to the river corridor. The Sweetwater River is generally contained by the surrounding mountains and hillsides that enclose the Project viewshed. This unit is defined for the Project by the topography (e.g., hills, mesas and ridgelines) that confine views to the valley and by more distant mountainous slopes.

Visual Character

The visual character of the Project area encompasses visually diverse forms, including the uniformly landscaped golf course areas within the Project site, geometric and rectilinear structures in the residential areas, and more natural, complex vegetation in the riparian and mountainous areas. The hillsides rise from the valley floor, creating a visual contrast with the flatter land areas of the valley and a visually diverse pattern of elements within the landscape. The result is a mix of the natural and built environment with an emphasis on mature vegetation (both planted and native).

The Project site is relatively flat, with the Sweetwater River channel comprising a consistent linear element as it curves through the site. In the eastern Ivanhoe Course, the river channel sits at a lower elevation than the golf course areas that comprise most of the site. Low-growing, maintained grasses appear relatively smooth and regular, but are punctuated by mature trees and other contrasting features including sand traps, constructed ponds, cart bridges, and pathways. Tall and greyish steel lattice towers and a single tubular steel pole on the Project site also punctuate the low grasses. Mature trees are generally of a standard shape and height throughout the site, and blend with the naturally vegetated river channel in the southwestern portion of the site, as well as with off-site areas. On-site structures are generally screened by mature trees and shrubs and do not appear to be dominant or out-of-scale features within the visual environment. The western portion of the site features some of the same pattern elements, but textures are noticeably less smooth due to the unmanicured, disturbed nature of the existing vegetation.

The visually dominant colors in the viewshed generally are the green and brown tones displayed by vegetation. Shades of green are brighter in irrigated areas and these colors fade into ashy and brown shades within unmanicured and scrub habitat areas. The dense riparian vegetation of the Sweetwater River creates a notable swath of dark green along the southwestern Project boundary and southwest of the site. The structures in the surrounding area are white or light-colored geometric and rectilinear elements, and frequently have red tiled roofs. Residential subdivisions to the north of the Project site are massed in groupings large enough to be visually dominant within the landscape unit, and those on the developed mesa are skylined as viewed from the south, particularly at lower elevations such as along Willow Glen Drive and Steele Canyon Road.

Overall, the visual character of the landscape unit is suburban in nature due to the integration of the built environment primarily comprised of suburban residential neighborhoods and the golf course with natural features of the river corridor and surrounding hillsides and mountainous landforms.

2.1.1.4 *Visual Quality*

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the viewshed. This approach to evaluating visual quality can help identify specific methods for mitigating specific adverse impacts that may occur because of a project. The three criteria for evaluating visual quality are as follows:

- Unity is the visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual components in the landscape.

- Intactness is the visual integrity of the natural and built landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as in natural settings.

- Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns.

The visual unity of the valley within which the Project site is located is considered moderately high. The area generally displays compositional harmony; however, disparate features (i.e., undeveloped open space areas, recreational uses such as the Cottonwood and Steele Canyon golf courses, and residential development) are present and visible. Similar vegetative elements such as mature trees tend to unify the different land uses. McGinty Mountain, the San Miguel Mountains, and the hillsides north of the Project site are visually dominant features that highlight the topographic diversity within the viewshed. These topographic features tend to emphasize the overall coherence of the visual environment. The Project site has moderately high visual unity, due mostly to its low diversity and visual organization of repeating aesthetic features (flat areas covered with low-growing vegetation interspersed with uniformly planted mature trees and built elements of the golf course such as buildings, pathways, water features, and sand traps). Mature trees located throughout the site and along the perimeter tend to emphasize the general consistency of the on-site vegetative elements and visually connect the site to surrounding areas and the Sweetwater River channel.

The intactness of the area is moderate. While the diverse elements within the area do not detract from the visual coherence of the environment as a whole, when viewed more closely, the developed areas and structures encroach somewhat into the natural areas of the valley, reducing the intactness. Most of the structures and more dense residential development are located along the hillsides north of the valley and south of the Project on the valley floor and adjacent hillsides. The intactness of the Project site also is moderate, degraded by the disturbed nature of the western Lakes Course, which is unmaintained, unirrigated, and displays a much less manicured appearance relative to the Ivanhoe Course. The western and eastern portions of the Project site, divided by the Steele Canyon Road bridge, visually contrast from one another and also are somewhat dissimilar to the surrounding areas, some of which are either more densely developed (e.g., residential areas) or more naturally vegetated (e.g., off-site portions of the Sweetwater River and mountainous areas).

The vividness of the Project Area is moderately high. The view of the valley edged by the surrounding ridgelines and natural segments of the Sweetwater River are memorable. However,

the noticeable contrast between the adjacent Lakes and Ivanhoe Course, unmaintained golf course signage and chain-link fencing, and multiple transmission lines and support structures, notably detracts from the overall memorability of the area. The Project site itself is moderately vivid within the larger valley landscape, although the vividness and visual cohesiveness of the golf course scenery is reduced due by the appearance of the unmaintained, unirrigated western Lakes Course.

2.1.1.5 *Viewer Response*

Viewer response, or awareness, is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a project's implementation.

Viewer sensitivity is defined as both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis.

Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of the view (including the speed at which the viewer moves), and position of the viewer. A viewer's response is also affected by the degree to which they are receptive to the visual details, character, and quality of the surrounding landscape. A viewer's ability to perceive the landscape is affected by their activity. For example, a viewer on vacation in San Diego County would probably take pleasure in looking at the landscape, and an individual may be strongly attached to the view from his home. A local County resident commuting to work, however, may not "register" those same visual resources on a daily basis.

Viewer Groups and Sensitivity, Exposure and Awareness

Motorists

Sensitivity. Motorists traveling along Willow Glen Drive have views onto the Project site that vary from screened to somewhat open. Roadway improvements and tree removal would, however, be unscreened and located in the foreground distance zone of motorists. A relatively open view towards the northeastern corner of the Project site and more distant mountains from the westbound lane of Willow Glen Drive is shown on Photo L, Figure 2.1-2b. An existing photo towards the Project site where dense landscaping is installed along Willow Glen Drive is shown on Photo M of Figure 2.1-2b. Views to mining phase areas would be experienced over a relatively short duration given the travel speeds along Willow Glen Drive. At the intersection with Steele Canyon Road, longer view durations or "static" views may be experienced due to the traffic signal, as motorists may slow down approaching a red light or stop during the red phase. While some vegetative screening along the property boundary adjacent to the roadway results from existing shrubs and mature trees, partial to open views onto the site can be experienced along the entire length of the Project. Roadway improvements and tree removal would, however, be unscreened and located in the foreground distance zone of motorists. Motorists along this roadway are assessed as having a high sensitivity to change, given the high percentage of anticipated area residents among users of this local road, and the identification of this road as a scenic highway corridor in the Valle de Oro Community Plan.

Along the bridge span over Sweetwater River, motorists on Steele Canyon Road are provided brief views onto the Project site. On the approach to and over the bridge, views are available to the idle Lakes Course and currently operating Ivanhoe Course. The roadway provides access to several residential neighborhoods, which constitute the principal land use along the roadway. Existing mature vegetation and development adjacent to the roadway south of the Project site restrict views such that views are only available where the roadway crosses the Project site and river. Sensitivity is assessed as moderately high because most motorists are anticipated to be residents from local neighborhoods.

Other roadways in the Project area, such as Muirfield Drive (perpendicular to Willow Glen Drive), are further removed from the site, carry less traffic, are not identified as scenic corridors, and would have limited views of the site due to intervening vegetation and development. Overall, however, Muirfield Drive is expected to carry almost wholly residents of the area, who are generally expected to be highly sensitive to change. Portions of the site would be visible for less than approximately five seconds for motorists traveling south on Muirfield Drive between Hilton Head road and Willow Glen Drive. At the intersection with Willow Glen Drive, views of slightly longer duration may be experienced by motorists due to the stop sign. Based on these considerations, motorists on Muirfield Drive are presumed to have moderate sensitivity.

Exposure. Motorists on Willow Glen Drive comprise the highest volume of potential viewers to the site. Average daily traffic (ADT) rates obtained during recent traffic counts ranged from 13,900 ADT along the segment from Hillsdale Road east of the Project site to Steele Canyon Road to 18,300 ADT along the segment between Steele Canyon Road and Jamacha Road/SR 54, respectively (Linscott, Law and Greenspan, Engineers [LLG] 2021b). These viewers would also have the longest duration of potential views of the Project from a roadway within the viewshed. Travel time along the length of the Project is estimated at 2.5 minutes for drivers traveling at the posted speed limit of 45 mph. However, due to the presence of mature trees and shrubs that tend to line the Project boundary from Muirfield Drive to the cluster of homes located near the northeast corner of the site, available views to the golf course are partially or entirely shielded. There are areas where breaks in road-adjacent vegetation allow for open, but discontinuous views, to select subphase areas. Photos L and M depict the range in quality of existing views toward the site from Willow Glen Drive.

Motorists on Steele Canyon Road comprise the second highest volume of potential viewers to the site, with ADT noted as 14,500 for the segment from Willow Glen Drive to Jamul Road (San Diego Association of Governments [SANDAG] 2015). The site would be visible for less than approximately 30 seconds for motorists traveling south and north. On Steele Canyon Drive, concrete k-rail barriers and metal railing partially block lower elevation features on the Project site in the foreground from view. Given the variables described above, motorists experience a moderate level of exposure to views onto the Project site.

For other roadways in the Project vicinity from which the Project may be viewed, although there are brief sections of roadway from which the Project can be seen; intervening topography, screening vegetation, and/or abutting residences generally obscure views to the Project site, as described throughout this report. Views also become additionally attenuated by distance. The brief duration of views available from moving vehicles and the relatively low number of viewers with

access to these locations indicates that motorists on roads in the residential areas to the north and south of the Project have moderately low to low exposure.

Awareness. Viewer awareness for motorists and vehicle occupants would range from moderately low to high. For example, viewer awareness for Willow Glen Drive motorists travelling adjacent to the proposed Phase 1 area would be moderate. While the presence of intervening mature trees and tall shrubs tend to screen the Project site from view, the removal of vegetation from the golf course and introduction of tan-colored features (e.g., soil stockpile, equipment, and vehicles) would be visible to motorists and their passengers. Diminished views and viewer awareness would be similar where Willow Glen Drive parallels the proposed Phase 2 area and would increase to a moderately high level near proposed Phase 3 from Steele Canyon Road due to reduced landscaping along the road. Furthermore, the effects of roadway improvements would be clearly visible to motorists. On Steele Canyon Road, viewer awareness would be high where the road crosses the Project site and low due to distance and the screening effect of proposed intervening reclamation activities in other areas.

Although motorists on local roads may note Project-related changes, their primary focus generally would be on speed of travel and interaction with other drivers on the road, as well as attention to potential bicycle users. This, combined with both the relatively short duration of exposure time and the number of competing visual elements in the viewshed, is expected to lessen the importance of specific view elements for this group of viewers. Traffic conditions and competing visual elements would comprise an element of distraction from passenger views as well, but it generally would be less than for the driver. In these cases, passengers within the vehicle may be more focused on views of the landscape. Although lessened in level of effect, any distraction at all, when combined with the relatively short duration for visibility, would result in the visual impact of specific view elements being less important for this group of viewers (e.g., less important relative to viewers such as residents, discussed below).

Recreationalists

Sensitivity. Public parks in the Project vicinity with potential views of the Project site include Hilton Head County Park and Steele Canyon County Park. Due to intervening vegetation and structures associated with adjacent development, the Project site is not visible from Steele Canyon Park. Hilton Head County Park is surrounded by residential development, which limits views of the Project site; limited views are available from a small area of park where a narrow view corridor along Muirfield Drive is present and Project site areas are visible between homes adjacent to Muirfield Drive and a landscaped median (see Photo N, Figure 2.1-2b). Sensitivity to change to existing visual conditions from this park is assessed as moderately low, given the limited site visibility and the fact that park users would generally be focused on the features of and activities occurring in the park and not surrounding areas.

The County trails map shows that designated community trails and pathways are existing or planned within the SDNWR southwest of the Project site, and along other roadways with views to the Project site, including Willow Glen Drive, Hillsdale Road, and Ivanhoe Ranch Road. Existing County-designated trails with visibility of the Project site, the Sweetwater Regional Trail and Wildlife Refuge Loop Trail, are located west/southwest of the Project. For the Sweetwater Regional Trail, views of the Project are limited to the eastern portion of the trail where it terminates

near the western Project boundary due to the presence of intervening vegetation and topography between the trail and the Project site along segments of the trail located further west and south. The Wildlife Refuge Loop Trail offers limited clear views into the Project site, For example, the loop trail includes a relatively short, elevated segment that, due to a narrow path, rocky characteristics, and less direct route from trailheads, is assumed to receive markedly less use than the more accessible "lower" segment of the trail situated closer to the Sweetwater River, and no use from equestrians. Despite the proximity and visibility of the Project site from the upper trail, views are experienced within a broad visual environment and comprise an overall small portion of the seen landscape. Regardless, recreationalists walking the trail that are already familiar with the area would be sensitive to Project-related changes. Sensitivity of recreationalists using the upper trail would be moderately high, due to the proximity of the Project site from the trail, the expansiveness of views, and the view duration.

From the lower trail, views are primarily focused on the mature riparian vegetation associated with the Sweetwater River and the hillside to the south. With the exception of lower trail segments to the east and west of the upper trail, the Project site is routinely screened from view by intervening elements (i.e., riparian vegetation) in the foreground.

From the McGinty Mountain Trail, located over 2.0 miles east of the Project, the Project site occupies a relatively small portion of the visible landscape due to the expansive views offered at higher elevations along the trail. Sensitivity is assessed as moderately low since changes in the visual environment may be detectable for regular trail users—but not overwhelmingly so—due to the distance from the site. Where trails are future actions (e.g., proposed pathways and trails), viewers are not expected to be particularly sensitive to Project changes. Future recreationalists would not be located immediately adjacent to or on the project site until the mining is already occurring or the site has been reclaimed and revegetated, and therefore, would not be comparing the visual experience to an existing condition.

Designated Class II Bike Lanes are located within road right-of-way along Willow Glen Drive, Steele Canyon Road, Jamacha Road, Jamul Drive, and Hillsdale Road. Other local roadways may be utilized as bikeways but are not designated. Riders along these roadways are expected to be recreationalists as opposed to commuters. Sensitivity of bicyclists is expected to be like that of motorists traveling along the same roadways, which is assessed as moderately high depending on the location and distance from the Project site. Since bicyclists travel at slower speeds than motorists do, their sensitivity may be higher than that of motorists.

Exposure. As described under "Surrounding Area," the only park with direct views of the Project site is Hilton Head County Park. Also as noted, surrounding homes and landscaping limit views of the Project site from most of the park such that only narrow views along Muirfield Drive to the northwestern perimeter of the Project site are available. Park users with potential views to the site (primarily from the multi-use sports field or briefly from the perimeter path), are expected to be focused on recreational activities occurring within the park. Therefore, the exposure associated with park users is assessed as low.

As noted above, several existing and proposed community trails and pathways are in the Project vicinity. Views from Wildlife Refuge Loop and McGinty Mountain trails can be expansive, especially at higher elevations (refer to Photo J, Figure 2.1-2a, for a representative view from an

elevated segment of the Wildlife Refuge Loop Trail), especially at higher elevations. Mature vegetation obscures views along lengths of the trails (particularly, lower elevation segments of the Wildlife Refuge Loop Trail), but views are generally open. Exposure is increased on the higher portions of the Wildlife Refuge Loop Trail since it is closer to the Project site and (relative to the McGinty Mountain Trail), comprises a large portion of the available view. As viewers move west from the Wildlife Refuge Loop Trail trailhead, pockets of dense coastal sage scrub vegetation obscures views of the Project site. As experienced from the more distant McGinty Mountain trail, the Project site comprises a small portion of the extremely expansive views available to trail users. Views to the westernmost portion the Project site from an approximate 415-foot-long segment of the Sweetwater River Trail are available. Despite the opportunity for expansive views of the Project site and surrounding area, recreationalists hiking on nearby trails overall have moderately low exposure, mainly due to the low number of users. Per the SDNWR, estimated users of the reserve lands within the trails near the Project site average approximately 2,300 individuals per year for the Wildlife Refuge Loop trail and 4,300 individuals per year for the McGinty Mountain trail (USFWS 2019). Where planned trails and pathways do not yet exist, viewers are not expected to be particularly sensitive to Project changes. These future recreationalists would not have access to proposed on-site trails until post reclamation, nor would they be walking immediately adjacent to the Project site until the mining is already occurring or the site has been reclaimed; therefore, they would not be comparing site conditions to an existing pre-project condition.

As noted above, recreational cyclists can be present on designated Class II Bike Lanes on Willow Glen and Steele Canyon Road, as well as other non-designated roadways. These viewers would be moving at cycling rates of travel and travelling within the narrow road corridors with motorized vehicles. While cyclists could have slightly more sustained views to visible portions of the Project site compared to motorists, the frequent lack of a designated bike lane and travel with motorized vehicles suggests that cyclists may be equally focused on roadway conditions as motorists.

Awareness. For park users within the Hilton Head County Park, awareness of changes associated with the Proposed Project would be low, since views are limited, and park users are assumed to be focused on park activities and features. Hikers and equestrians in the nearby SDNWR and along existing County trails are assumed to have a high awareness of the surrounding area and the available views, including those that encompass the Project site. While some regular trail users may wish to retain the existing character of the Project site, others may prefer a more natural character consistent with adjacent segments of the unaltered river corridor. Occasional or first-time visitors may not have expectations regarding potential views; however, introduction of the visually contrasting elements/change/and or movement on site could be notable and would increase Project awareness. This could be high for users of the Wildlife Refuge Loop Trail due to the proximity of the trail to the Project site and the focus of trail users on the views and scenery. Along the McGinty Mountain Trail, as well as the County-designated Sweetwater Regional Trail, views toward the Project site are not sustained for long durations, as the trail alignments have winding sections (or switchbacks) that alter the line of sight for hikers and other trail users. In addition, views onto the Project site from the majority of the Sweetwater Regional Trail are entirely blocked by intervening vegetation. The changing focus of the recreationalists on the McGinty Mountain Trail and Sweetwater Regional Trail, combined with intervening uses/vegetation, would be expected to reduce viewer awareness of activity on the Proposed Project to moderate levels.

Compared to motorists, cyclists on Willow Glen Drive and Steele Canyon Road would have similar expectations but greater awareness due to a slower travel speed.

Residents

Sensitivity. Several homes are located within the Project viewshed, including large, estate-style single-family residences and smaller, denser residential subdivisions. For these viewers, although views are private and most are restricted due to intervening topography, structures, or vegetation, the Project parcels contribute to an often-seen and intimately known view. Although home orientation or screening vegetation would obstruct many views, residential viewers are expected to be highly sensitive to changes in the immediate visual environment.

Exposure. The number of homes where residents may experience views of the Project site from their property is conservatively estimated for each view location below; it should be noted that actual views are expected to be reduced given the presence of landscaping and fencing associated with these properties, as well as the fact that the viewshed modeling does not consider intervening structures in determining the extent of views.

Residential development located just north of Willow Glen Drive with potential views of the Project site include an isolated residence located northeast of the clubhouse; a row of homes off Royal Saint James Drive (20 homes); homes within the Emerald Point development located off Emerald Point Court (17 homes); and homes within the Corte Madera development located off Wingfoot Place, Augusta Court, and Sawgrass Street (36 homes). For the homes immediately adjacent to Willow Glen Drive, the presence of mature trees located between the roadway and the residences obscure views toward the Project site. Further east and at higher elevations above the valley, the larger Cottonwood residential development would have the most homes (95) with potential views of the Project site. Generally, portions of the Project site would only be visible to the residences on the southern edge of the mesa with views looking south. Cottonwood development homes with potential views to portions of the Project site are located off roads including Wind River Road, Lime Rock Court, Ricard Court, and Runabout Place. Located east of Hillsdale Road and off Monarch Ridge Lane, the gated Monarch Ridge community would have fewer residences (13 homes) with potential views of the Project site due to the layout of the development, varied topography of the area and intervening elements between non-ridgeline homes and the Project site. South of the Project site, adjacent development with potential views of the Project site include approximately 16 homes located off Heatherwood and Wildwind Drive; 17 homes located in the La Tierra development off Cottonwood View Drive, Palm Vista Court, and Lasyen Court; and potentially, several homes located off Cottonwood Springs Lane. Potential views from the Steele Canyon Estates development appear to be obscured due to intervening topography, landscaping/vegetation, and/or structures; however, there may be up to approximately 10 homes located at the northern end of the development with potential views. For all of the residences that have been identified with potential views of the Project site, views would be private and from the backyard of the residential properties or upper floor of homes.

Where residents in the viewshed have long-term, stationary views, they are rated as experiencing moderate to moderately high exposure.

Awareness. Although views from many homes may be substantially obscured or absent based on intervening structures or vegetation, viewer awareness for residents with views of the Project site would typically be high, especially those with foreground views and for Wind River Road residences located along the ridge of the mesa to the north of the Project site. Residential viewers with long-term exposure to the site would be accustomed to the current visual environment and character of the Project site. Nearby residents are expected to be highly aware of changes associated with Project implementation.

2.1.1.6 *Key Views – Orientation and Existing Visual Character and Quality*

Analyzing all views from which a proposed project would be seen is not feasible, and some potential views to the Proposed Project, such as those from private residences or property, are not accessible to the public. The selected key views consist of photographs taken from public viewpoints and were identified based on the number and frequency of views, scenic status, the potential sensitivity of viewers, depth and breadth of view, and the types of Project-related features that would be visible. In addition, consistent with County guidelines concerning the selection of key views, the selected viewpoint would clearly display the visual effects of the Project and represent the primary viewer groups potentially affected by the Project. Based on these considerations, four key views have been selected, with their locations illustrated on Figure 2.1-4, *Key Views*.

Key View 1

Orientation. Key View (KV) 1 is located on the "upper" Wildlife Refuge Loop loop trail (identified by the County as the Wildlife Refuge Loop Trail) within the SDNWR located south and southwest of the Project site. The trailhead begins at the western end of Par Four Drive near the Project property boundary where it forks in two directions: one trail borders the southern edge of the Project site adjacent to the Sweetwater River channel at elevations ranging from 340 to 380 feet amsl and one trail extends upward following the curve of the hillside at elevations ranging from 370 to 470 feet amsl. Located approximately 0.10-mile south of the Project site and at an elevation of 445 feet amsl, KV 1 is orientated to the northeast (refer to Figure 2.1-5a, *Key View 1 – Wildlife Refuge Loop Trail [SDNWR] – Existing Conditions*).

From the elevated vantage point of KV 1, viewers (recreationalists-hikers) are provided views to the entirety of the Phase 1 area. At KV 1, Phase 2, 3, and the processing plant future locations would be reduced in scale due to distance; however, the site visibility experienced by viewers at KV 1 is notably greater than at other public vantage points that offer clear views to the Project, including KVs 2, 3, and 4. The upper trail appears to be used only by hikers. Mountain bikers, equestrians, and casual walkers with or without dogs appear to utilize the lower trail because the lower trail is a level and wide dirt trail.

From the lower trail, views are primarily focused on the mature riparian vegetation associated with the Sweetwater River and the hillside to the south. As depicted in Figure 2.1-5a, from the upper trail larger expanses of the Project site and in particular, the unmanicured Lakes Course, is visible.

Existing Visual Character and Quality. Existing views from KV 1 encompass the river valley and hillsides to the north, with distant views to the hills and mountain areas of Dehesa Mountain and

Mount Sycuan to the northeast. As experienced from KV 1, the river valley consists of flat areas covered with low-growing vegetation cut through by a swath of dense riparian vegetation associated with the Sweetwater River. The view is characterized by natural, undulating lines associated with the river channel, exposed soils, grasses, low shrubs, scattered trees, and unnatural lines of cart paths in the unmanicured Lakes Course. Two cart path bridges are prominent built features in the middleground view. Hillside areas to the north of the Project site are punctuated with rows of homes within residential developments immediately adjacent to Willow Glen Drive and the ridgeline homes on the hills to the north. Green and brown vegetation dominates the view, with the drab-toned coastal sage scrub in the foreground and on the hillsides to the north; dense riparian vegetation of varying shades of green in the middle ground; and brown, unmanicured grassy areas of the former Lakes Course with clumps of green from the mature trees scattered throughout the course. The varying land uses appear to be in scale with one another, providing moderately high visual continuity.

The visual quality of the view is moderately high but visibly reduced by the disturbed nature of the former Lakes Course that tends to contrast with surrounding natural and more orderly developed areas. The riparian vegetation and adjacent coastal sage scrub habitat that dominate the foreground and middleground hillsides exhibit a high degree of unity and intactness and are moderately vivid elements. The surrounding mountain ranges and prominent peaks juxtaposed against the valley floor provide highly memorable visual elements that increase the overall vividness of the view. The uniformity of the red-roofed residences bordering the northern property boundary contribute to the sense of unity, with cohesive landscaping and mature trees visible throughout.

The primary viewer groups from this key view—the limited number of hikers using the upper Wildlife Refuge Loop Trail—would be sensitive to and highly aware of changes within the Project site due to the proximity of the Project site from the trail, the expansiveness of views, and the view duration. Approximately 2,300 recreationalists per year (or approximately 45 users per week) use the Wildlife Refuge Loop Trail, most likely on the lower trail segment. From the lower and more consistently trafficked segment of the trail, views toward the Project are fully to partially screened by mature vegetation in the river corridor. Overall, the moderately low overall exposure (i.e., low annual number of trail users), limited number of users of the upper trail, and relatively short view durations would result in moderate viewer response.

Key View 2

Orientation. KV 2 looks east from the northbound travel lane of Steele Canyon Road, on the bridge spanning the Sweetwater River. KV 2 depicts the clearest view of Phase 2 and the proposed processing plant from a public viewpoint. As shown in Figure 2.1-6a, *Key View 2 – Steele Canyon Road Bridge – Existing Conditions*, the Sweetwater River channel and Ivanhoe golf course areas are visible from this roadway. The unmanicured Lakes Course is also visible from the road to the west, but the view is oriented to the east and the Ivanhoe Course. Steele Canyon Road is primarily used by motorists but also receives limited use by pedestrians (a sidewalk is present along the northbound lane) and cyclists. Limited use by pedestrians and cyclists is assumed because no sidewalks are provided along Steele Canyon Road south of the bridge and bike lanes are not striped on the road. KV 2 depicts the clearest public view of the area east of Steele Canyon Road bridge, which would include the processing plant location, as well as Phase 2.

Existing Visual Character and Quality. Views from KV 2 and the Steele Canyon Road bridge encompass the disturbed river valley, surrounding hillsides and distant mountains that enclose the Project viewshed (see Figure 2.1-6a). In the foreground, the narrow and sparsely vegetated river channel creates a visible line in the landscape. Adjacent exposed soils covered slopes in the foreground appear disturbed compared to the maintained golf course areas to the south. This KV is also characterized by built elements including a dirt road used for golf course maintenance access and multiple power lines. The grey, arching line of a metal golf cart spanning the river channel is approximately 0.25 mile away and is off-center in the view. Tall lattice steel transmission poles are constructed on the naturally vegetated hillside to the north. Like KV 1, green and brown vegetation and tan soils dominate the view at KV 2, with the disturbed vegetation of the river channel contrasting with the light to darker green grass of the maintained Ivanhoe Course. The river channel and adjacent areas are lined by irregular rows of mature trees that display varying shades of green. A dense row of mature dark green trees lines the property boundary along Willow Glen Drive, obscuring views to the scenic highway.

Adjacent hillsides to the north/northeast of the Project site, as well as the densely vegetated and brown/dark green slopes of McGinty Mountain located to the east and southeast are visible in the middleground (the peak of McGinty Mountain is not visible in the KV 2 photograph). The reddish and dark stippled Dehesa Mountain, located approximately 4.5 miles to the northeast, is also visible in the background beyond power transmission lines. Lastly, the broad, mounded peak of Viejas Mountain and the slightly hazy and broad form of Cuyamaca Peak are visible to the east in the background.

Overall, the visual quality of the view is moderate. The sparsely vegetated river channel that dominates the foreground of the view is not particularly vivid or intact due to the juxtaposition of unmaintained, unirrigated areas and maintained golf course fairways. Further, the prominence of the dirt maintenance road and the presence of silhouetted transmission poles reduces vividness and intactness. The combination of constructed and natural elements provides for a moderately low degree of intactness and unity. The skyline created by ridges, mountains, and hillsides in the background as well as the line of mature trees along the northern property boundary provide some degree of unity, but this is reduced by the dark (albeit thin), transmission lines and multiple steel lattice towers and poles. The contrasting appearance of the constructed elements dominating the foreground view further diminish unity. Except for distant mountainous peaks, there are no highly memorable visual elements within this view. Although the riverbed is dry for the majority of the year, during wet winters when water released from the upstream Loveland Reservoir flows on site, a slightly higher degree of vividness would be perceived with the presence of flowing water within the riverbed (refer to Photo H, Figure 2.1-1b, which depicts seasonal water flow in the Sweetwater River).

Viewer exposure would be brief (on the approach to and on the Steele Canyon Road bridge, views to the Ivanhoe golf course are available for approximately 13 seconds assuming a travel speed of 45 mph); however, viewer response to the changes in visual character and quality would be high given the proximity and number of daily viewers (primarily motorists) at KV 2.

Key View 3

Orientation. KV 3 looks southwest from westbound Willow Glen Drive approximately 375 feet west of the driveway to the existing Cottonwood golf course parking lots (see Figure 2.1-7a, *Key View 3 – Willow Glen Drive at Golf Course Clubhouse – Existing Conditions*). The primary viewers at this location are motorists and cyclists. In addition, the nearest sidewalk parallels the eastbound travel lane at this location and as such, pedestrians are considered in the context of visual change experienced at this KV. This KV represents a typical view from the most heavily traveled roadway with available views to the Project site. The KV was also selected because Willow Glen Drive is included in the County Scenic Highway System. While Willow Glen Drive generally follows the alignment of the Sweetwater River, the river is lower in elevation than the road and is not visible at or near this key view. At this location, Willow Glen Drive is approximately 25 feet higher in elevation than the existing grade of the proposed processing plant area. Further, existing mature trees alongside Willow Glen Drive are planted on a gradual slope that falls towards the processing plant area (the southern extent of the planted area is located approximately 5 to 7 feet lower in elevation than the surface of Willow Glen Drive).

Existing Visual Character and Quality. As illustrated, Willow Glen Drive and the existing landscape screen that parallels the road occupy most of the existing view. Except for a visible gap that permits views onto the Project site, at KV 3 the site is currently blocked from view of road users by the landscape screen that is comprised of tall (approximately 20 to 30 feet tall) eucalyptus and pepper trees. The Willow Glen Drive corridor is crossed by an assortment of transmission and communication lines. As viewed from KV 3, multiple lines are visible and span the road (several visible utility poles are installed to the immediate south of the Willow Glen Drive). A dark, rugged ridgeline punctuated by a single knoll supporting a water tank is visible in the middleground beyond Willow Glen Drive.

At KV 3, the presence of a dense screen of mature trees alongside Willow Glen Drive is unique in the area and due to uniform scale and similar color tones, the screen displays heightened unity and intactness. Along with glimpses of mountains and the golf course landscape, the landscape displays appealing and scenic qualities. However, prominent foreground elements (including Steele Canyon Road and transmission infrastructure) reduce view memorability and contribute to overall moderate vividness. While the golf course is a built element, it features naturalized components (primarily trees as experienced from KV 3) that are visually compatible with the middleground and background visual landscape, providing a moderate to moderately high degree of unity and intactness.

Viewer response to changes in visual conditions would be high given the number of viewers along Willow Glen Drive and the scenic designation of the road by the County.

Key View 4

Orientation. KV 4 is from an overlook off Wind River Road in the Cottonwood residential neighborhood located atop an elevated mesa landform to the north of the Project site. The view is located between two private residential lots at the edge of a 25-foot wide, wood-chipped covered strip of undeveloped land and is oriented towards the southeast (see Figure 2.1-8a, *Key View 4 – Wind River Road Lookout – Existing Conditions*). As shown in Figure 2.1-8a, rugged mountains,

the river valley, and flat, seasonally tan-colored undeveloped open areas beyond the Cottonwood Golf course, are dominant features from this vantage point.

The primary viewers from this locale are residents along Wind River Road and nearby neighborhood streets. In 2007, the local homeowners installed two benches and several palm trees and agaves just south of the Wind River Road; however, as observed during fieldwork conducted in August 2019, the seat portions of the benches have been removed, rendering the benches unusable for seating. From Wind River Road and the adjacent sidewalk, views to the Project site are obscured by a slight topographic rise in the immediate foreground. Similarly, views to the Project site from a seated position at the benches (assuming the presence of bench seats) are partially obscured by wood chip-covered terrain in the immediate foreground. While a greater volume of potential receptors occurs on Wind River Road, the adjacent sidewalk, or at the overlook benches, KV 4 was established at the edge of the overlook as this location provides improved visibility to the Project site.

Existing Visual Character and Quality. From this KV, the easternmost portion of the Project site is notably lower in elevation than the overlook (by approximately 350 feet) and appears to extend to the east due to similar forms, lines, and colors displayed by the adjacent Steele Canyon golf course. From KV 4, the verdant grass of the Ivanhoe course is punctuated by pockets and lines of unirrigated, yellow grasses, sandy areas of disturbance, and irregular lines of mature trees. Narrow sand-colored bands created by cart paths traverse the Project site and several ponds break up the continuity of these elements. The dense and darkly colored riparian corridor of Sweetwater River is visible on the left side of KV 4 and on the Project site; the channelized segment of the river is marked by an overall subtle line of clumped mature trees to the immediate south of Willow Glen Drive (the visible two-lane road in the foreground). These elements are visible in the foreground/middleground and while notable, the viewer's focus at KV 4 tends to note the narrow valley marked by relatively flat and seasonally tan/gold strips of land separated by thin bands of upland vegetation, visibly altered hills and eventually, to a broad "V" created by rugged ridgelines to the southeast. Like the Project site, the verdant greens and curvilinear form of Steele Canyon golf course fairways and greens contrast with dark and densely vegetated hills and more distant mountains including prominent (and broad) McGinty Mountain to the east. The pyramidal peak of Jamul Butte and the hazy, mounded form of Lyons Peak are visible. Middleground hills and slopes to the southeast have been visibly altered by residential development and vegetation removal. As a result, patches of tan color soils and straight lines are evident to the southeast (see Figure 2.1-8a).

Overall, the visual quality of the view is moderately high. The available view is broad and includes contrasting golf course elements that are surrounded by unmodified hills and mountainous topography. Due to the rugged composition of visible mountains that form a consistent backdrop to the view, vividness is considered moderately high although reduced by valley components (golf greens and trees) that contrast with more natural topography and vegetation. Intactness and unity are reduced to a moderate level due to the competing colors and lines in the landscape and the notable alterations to hills and slopes to the southeast. Lightly colored patches and stripes in the middleground to background topography interrupt the continuity of dark, dense vegetation and tends to attract attention. The Project site itself displays moderately high intactness and unity however, visible pockets of exposed soils disrupt and reduce the perceived visual quality.

The primary viewer group from this key view (residents in the Wind River Road neighborhood) would be highly sensitive and aware of changes on the Project site due to the proximity of the Project site from the overlook and private residences, the expansiveness of views and prominence of vantage points, and view duration.

2.1.1.7 *Regulatory Setting*

The Proposed Project is subject to several regulations applicable to the protection of visual resources, as well as plans and policies that ensure adequate consideration is given to preserving and/or enhancing the visual qualities of an area. These policies aid in evaluation of the planning agency/community perception of visual qualities within an area, as well as providing guidance as to whether Proposed Project modifications would be visually compatible with County and/or community goals. The Proposed Project is subject to the following guidelines and policies.

Caltrans State Scenic Highway Program

The San Diego region includes several officially designated scenic highways protected by the California Scenic Highway Program, administered by the California Department of Transportation (Caltrans). Designated scenic highways are located in areas of outstanding natural beauty and are provided with special conservation treatment to keep the natural views protected. There are also highways identified by the program as eligible scenic highways, which are considered scenic resources, but the local jurisdiction has not adopted a scenic corridor protection program or applied to Caltrans for official designation. The five highways in the San Diego region that are officially designated by Caltrans as state scenic highways include SR 52 (from Santo Road to Mast Boulevard adjacent to Mission Trails Regional Park), SR 75 (San Diego-Coronado Bay Bridge and Silver Strand), SR 78 (adjacent to Anza Borrego State Park), SR 163 (adjacent to Balboa Park), and SR 125 (from Interstate 8 to SR 94) (Caltrans 2019). None of the officially designated highways is in proximity to the Project site. One eligible scenic highway, SR 94 from Interstate 8 to SR 125, comes within one mile west/south of the Project site.

County of San Diego General Plan

The San Diego County General Plan (General Plan) was adopted in August 2011 and provides a framework for the future growth and development of the unincorporated areas of the County consistent with an established community vision (County 2011b). The General Plan is based on a set of guiding principles designed to protect the County's unique and diverse natural resources and maintain the character of its rural and semi-rural communities.

The Conservation and Open Space (COS) Element of the County General Plan describes the natural resources within the County and goals and policies to preserve them. The COS Element provides direction for future growth and development in the County with respect to the conservation, management, and utilization of natural (biological, water, agricultural, paleontological, mineral, visual [including scenic corridors and dark skies]) and cultural resources; protection and preservation of open space; and provision of park and recreation resources.

Specific elements relative to visual resources are described in Goal COS-11, which addresses preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized and details applicable policies regarding visually

sensitive areas, and preservation of unique or special visual features. The COS Element also specifically addresses scenic corridors and establishes a County Scenic Highway System. The goal of the County Scenic Highway System is to protect and enhance the aesthetic quality of the natural landscape within the viewshed of all scenic highway corridors. Roadways in the vicinity of the Project site that are identified as scenic roadways in the COS Element include SR 94 from SR 125 to Interstate 8 and Willow Glen Drive from Jamacha Road to Dehesa Road, which fronts the northern Project boundary. These roadways are included as part of the County Scenic Highway System. Finally, the maintenance of dark skies in San Diego County is vital to the two observatories, Palomar Observatory and Mount Laguna Observatory, that depend on them for astronomical research. Although both of these sites are distant from the Project site and dark skies policies specific to these facilities are not applicable to the Project, others addressing light and glare in rural communities do apply. Project consistency with relevant goals and policies is evaluated in Appendix B, *Planning Analysis*, and discussed in Section 3.1.6, *Land Use*, of this EIR.

Valle de Oro Community Plan

The Valle de Oro Community Plan (adopted in August 2011) augments the 2011 General Plan and contains goals and policies as well as design guidelines specific to the Valle de Oro CPA (County 2011d). The Project site is located in the eastern portion of the Valle de Oro CPA. Relative to community character, the Community Plan envisions a "unique balance of urban, semi-rural, agricultural, and open space land uses." Specific guidance provided in the Valle de Oro Community Plan is related to community character (including landscape requirements along Mobility Element roads), land use (buffering of residential areas from industrial uses/ rehabilitation), open space, community design, specific plan areas, conservation, and protection of scenic highway corridors. It is also noted that the Valle de Oro Community Plan identifies Willow Glen Drive and Jamacha Road/SR 54 from SR 94 to El Cajon as scenic highway corridors. Although the western end of the Project site is located just 700 feet from SR 54, it is not visible from this roadway due to intervening topography, development and vegetation. The Valle de Oro Community Plan provides general design policies and guidance, including guidelines for development within the Rancho San Diego Specific Plan. Each of the relevant policies is addressed in Appendix B and Section 3.1.6 of this EIR.

Valle de Oro Community Trails and Pathways Plan

The San Diego County Trails Program (adopted in June 2005) Valle de Oro Community Trails and Pathways Plan identifies existing and future trails and pathways within the Valle de Oro community. The recreational trails in the Valle De Oro CPA serve about 42,000 people (County 2005; as of January 1, 2018, SANDAG estimated that the CPA includes a total population of 42,025 persons [SANDAG 2019]). The plan identifies several existing recreational trails and features within the community, including the Sweetwater Regional Trail; SDNWR trails; and other nature walks, jogging loops, and equestrian trails within the Rancho San Diego area.

Rancho San Diego Specific Plan

The Rancho San Diego Specific Plan covers a total of approximately 2,963 acres located generally around the intersection of SR 94/Campo Road and SR 54/Jamacha Road. As noted above, the Specific Plan is based on the Valle de Oro Community Plan, which provides the guidelines for

developing the Specific Plan within the Community Plan text. Approximately 32 acres located in the southwestern portion of the Project site are within the Rancho San Diego Specific Plan area. This area was incorporated into the Specific Plan area as an extension of the Cottonwood Golf Club to replace the fairways affected by the Steele Canyon Road bridge over the Sweetwater River (County 2013).

County of San Diego Zoning Ordinance

A MUP is required for the proposed Mining Operations (Extractive Use). In accordance with Section 7358 of the Zoning Ordinance (County 1978, as amended), before any use permit may be granted or modified, it shall be found that:

a. That the location, size, design, and operating characteristics of the proposed use will be compatible with adjacent uses, residents, buildings, or structures, with consideration given to:

    - Harmony in scale, bulk, coverage and density;
    - The availability of public facilities, services and utilities;
    - The harmful effect, if any, upon desirable neighborhood character;
    - The generation of traffic and the capacity and physical character of surrounding streets;
    - The suitability of the site for the type and intensity of use or development which is proposed;
    - Any other relevant impact of the proposed use; and

b. That the impacts, as described in paragraph "a" of this section, and the location of the proposed use will be consistent with the San Diego County General Plan.

c. That the requirements of the California Environmental Quality Act have been complied with.

County of San Diego Resource Protection Ordinance

The County's RPO provides special regulations applicable to certain types of discretionary applications, including MUPs. The ordinance focuses on the preservation and protection of the County's unique topography, natural beauty, diversity, natural resources, and quality of life. It is intended to protect the integrity of sensitive lands including wetlands, wetland buffers, floodplains/floodways, sensitive habitats, cultural resources, and steep slopes (lands having a natural gradient of 25 percent or greater and a minimum rise of 50 vertical feet, unless said land has been substantially disturbed by previous legal grading), all of which are components of visual quality and community character.

Pursuant to Section 86.605(d) of the County Code of Regulatory Ordinances, sand, gravel or mineral extraction projects (such as the Proposed Project) are exempt from RPO requirements provided that certain mitigation measures are implemented as a condition of the MUP. In addition,

the RPO prohibits impacts to mature riparian forest for mineral extraction. Areas to be mined on the Project site consist of a landscaped golf course and mature riparian forest does not occur within areas that would be mined. Therefore, compliance with the provisions of the County's RPO are not discussed further in this section.

County of San Diego Light Pollution Code

The Light Pollution Code, also known as the Dark Sky Ordinance, was adopted "to minimize light pollution for the enjoyment and use of property and the night environment by the citizens of San Diego County and to protect the Palomar and Mount Laguna observatories from the effects of light pollution that have a detrimental effect on astronomical research by restricting the permitted use of outdoor light fixtures on private property" (Sections 59.101 of the County Code of Regulatory Ordinances). The County designates all areas within a 15-mile radius centered on the Palomar Observatory and within a 15-mile radius centered on the Mount Laguna Observatory as Zone A, with all other areas of the County designated as Zone B. Zone A has specific light emission restrictions that are more stringent than those for Zone B.

The Project site is located over 40 miles from the Palomar observatory and approximately 28 miles from the Mount Laguna Observatory, and is therefore, within the Outdoor Lighting Ordinance Zone B. As such, outdoor lighting, such as security or parking lot lighting, must be less than 4,050 lumens and fully shielded within Zone B and on the Project site.

2.1.2 Analysis of Project Effects and Determination as to Significance

2.1.2.1 *Potential Conflict with Important Visual Elements or Inconsistency with Applicable Design Guidelines*

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if:

1. The Project would introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

Guideline Source

The guidelines for significant visual impacts are from the County Guidelines for Determining Significance for Visual Resources, which provide guidance for evaluating adverse visual effects (County 2007b). Significance Guideline 1 protects the existing visual character and visual quality by not allowing adverse changes or elements with high visual contrast. These aspects of the Project are assessed by analyzing changes that would occur in particular "key" views, and viewers' responses to the changes.

Analysis

This section describes overall changes to visual character and quality of the visual environment due to Project implementation. As described above, visual impacts resulting from changes associated with the Proposed Project are determined by assessing the change in the character and quality of the visual resource and predicting viewer response to that change. The level of visual impact is determined by combining the severity of the resource change with exposure (number of people) and the degree to which people are likely to oppose the change. Specifics are illustrated through discussion and simulations associated with visible changes from key public viewpoints that would most clearly display visual effects of the Project from public vantage points available to identified viewer groups, as described in Section 2.1.1.

Visual simulations were created to illustrate anticipated conditions during mining and reclamation and post-reclamation phases and follow the general summary text immediately below. The simulations provide the public and decision makers with a reasonably accurate projection of future conditions based on Project-related changes to current views and existing visual conditions.

Visual Character and Quality of Project Features During Mining and Reclamation

The visual character and quality of the existing landscape would change substantially during the mining and reclamation phases of the Project. Proposed activities would result in a gradual visual resource transition from a partially open golf course to an active aggregate extraction operation featuring a processing plant, construction vehicles and equipment, stockpiles, and excavated pits. Overall, the existing visual character of the river valley is suburban in nature, with the residential neighborhoods and golf courses integrated into the natural features of the river corridor and surrounding ridgelines and hillsides. The visual quality of the Project site and surrounding area is moderately high and moderate in terms of visual unity and intactness, respectively, and the vividness of the setting is moderately high, due to the scenic and memorable nature of the valley edged by the surrounding ridgelines, as moderated by the noticeable contrast of the two golf courses and the multiple electrical facilities. The majority of the Project site is currently surrounded by approximately 6-foot-high chain link fencing.

Mining operations would strongly contrast with existing conditions and would introduce substantial changes to terrain and vegetation in views at public points in the Project vicinity. For example, existing on-site vegetation and structures associated with the current and former golf courses would be removed, and soil would be excavated outside the river channel in individual subphase areas, including within excavation pits with maximum depths of up to 40 feet bgs. The processing plant area and associated equipment, as well as the overland conveyor and extraction equipment would be visible from public trails, roads, and private residences and would tend to create moderately strong contrast within the existing visual environment. The overland conveyor would extend from the processing plant area to the active mining subphase areas and would be a new linear element extending upwards of 0.5 mile in length across the site. The removal of grasses and trees and exposure of soils, which would be lighter in color than the existing on- and off-site vegetation, and the presence of equipment would be visually codominant due to their high contrast in color, form, and line with the existing visual environment. Where visible stockpiles up to 25 feet tall would appear as conical or mounded features within the processing area and along the edges of subphase areas.

From approximately the west edge of the Project site to Steele Canyon Road, existing landscape vegetation south of Willow Glen Drive and along the Project frontage, which primarily consists of trees and shrubs such as acacia, Peruvian pepper trees, and oleander, would be maintained during mining and reclamation operations to provide a visual screen between Project activities and the public. East of Steele Canyon Road and at Muirfeld Drive, existing vegetation south of Willow Glen Drive would be removed to accommodate a proposed westerly driveway onto the Project site. Also, east of Muirfield Drive and east and west of primary Project ingress and egress, existing trees and shrubs bordering the Project site would be removed to accommodate proposed widening of Willow Glen Drive. The removal of screening trees would allow for open and relatively clear views onto the Project site from Willow Glen Drive. However, following road widening efforts and concurrent with development of the processing plant, the landscape entrances and screening plan would be implemented. Near the processing plant area, container stock trees including 68 coast live oak (*Quercus agrifolia*) (15-gallon container and 24-inch box size), 31 Fremont cottonwood (*Populus fremontii*) (15-gallon container size), and 3 Western redbud (*Cercis occidentalis*) (36-inch box size) would be planted immediately south of Willow Glen Drive. While trees would be spaced approximately 20 to 25 feet on center, at installation coast live oak trees would be approximately 6 to 8 feet tall, Fremont cottonwood trees would be approximately 6 to 8 feet tall, and Western redbud trees would be 8 to 10 feet tall. Tree plantings would be supplemented with 5- and 15-gallon container size shrubs, including California lilac (*Ceanothus* x 'Ray Hartman'; approximately 18 to 24 inches tall at installation), toyon (*Heteromeles arbutifolia*; (approximately 1 to 2 feet tall at installation), and lemonade berry (*Rhus integrifolia*; approximately 1 to 2 feet tall at installation). Due to tree spacing and the 1- to 2-foot height of container shrubs at initial planting, views to the processing plant area and prominent features including stockpiles, wash screens, feed hoppers, storage containers, settling ponds and the bare ground underlying the plant area could be available to Willow Glen Drive users during Phase 1 mining activities. However, as depicted on the landscape screening and entrances plan (refer to Figures 1-11a-e), a six-foot-high chain-link fence with green mesh screening would be installed between new landscape and Willow Glen Drive and would effectively block lower profile elements at the processing plant, and the bare ground surface underlying the plant, from view. The visual experience of the mesh screening would create a monotonous, walled viewing experience for road users and would reduce the visual quality of the Willow Glen Drive landscape.

While most of the Project site is currently surrounded by approximately six-foot-high chain link fencing, mesh screening is not installed. Therefore, views of the Project site are available through the existing fencing and on-site elements (i.e., the river corridor, greens and fairways, and trees) contribute to the existing scenic quality of the Willow Glen Drive Corridor. In addition to mesh screening installed along the Willow Glen Drive frontage near the processing plant, temporary mesh screening is proposed to be installed atop the Steele Canyon Road bridge parapet rail (along the northbound travel lane of the bridge) during mining operations in Phase 1 and 2 to screen views of the processing plant and mining activities from users of Steele Canyon Road. Under existing conditions, views to the east and west from the Steele Canyon Road Bridge are open and extend beyond the Project site to local hills and prominent mountain terrain including San Miguel Mountain (to the west) and McGinty and Dehesa Mountains (to the east). Mesh screening would block elements of the Project from view of road users at select locations including the Steele Canyon Road Bridge and Willow Glen Drive near the processing plant; however, the installation of mesh screen would notably alter existing visual experience of these roads and the quality of existing views. As noted previously, mesh screening would introduce a continuous walled element

to the corridor that would contribute to reduced views and a monotonous visual experience. Mesh screening near the processing plant would be maintained throughout the duration of active mining operations (up to 10 years). The bridge mesh screen would be removed following completion of subphase 2B mining, approximately one year after reclamation plantings in subphase 2A. As such, the bridge mesh screening would be in place for approximately 5 years. Once mining and reclamation activities have been completed and site security is no longer a concern, the temporary fencing along the property boundary would be removed.

Areas disturbed by mining activities would be progressively reclaimed and revegetated as mining proceeds across the Project site. Mining activities are planned to occur in smaller subphase areas to limit disturbance and implement phased reclamation and revegetation. Mining activities in each subphase area would occur over an approximate duration of one year each, so that the entire Project site or phase areas would not be disturbed at one time. Backfilling, reclamation, and revegetation would occur immediately following the completion of mining operations in each subphase area. Generally, reclamation and revegetation of each subphase would occur over a two-year period following the completion of mining. While riparian trees and shrubs would incrementally soften the overall character of the reclaimed area and would gradually mask the appearance of exposed soil, both mining and reclamation activities would produce strong visual contrast that would degrade the existing character of the Project site and result in reduced visual quality through reduced intactness and unity of elements. Compared to the golf course, the active mining operation, backfilled and denuded terrain, and newly planted (and seeded) areas of riparian and upland plant palettes would contrast with the existing character of the site through the removal of notable elements (e.g., golf course greens, fairways, and trees) and land cover and terrain disturbance associated with extraction/mining activities. In addition, the final elevation and vegetation with an erosion control seed mix in the subphase 1C area would create internal site contrasts in form, line, and color with areas of revegetation (refer to Figure 2.1-5c)

Visual Character and Quality of Project Features Post Reclamation

The post-reclamation visual environment would be an extension of existing pattern elements characteristic of the Jamacha valley; however, until revegetation plan vegetation reaches maturity (in approximately 10 to 15 years for each subphase), revegetated areas would display a stippled character that would contrast with adjacent areas of dense vegetation along the Sweetwater River corridor (refer to Figures 2.1-5b and 2.1-8b, referenced below). Differences in vegetative density, size, and coverage would be apparent to viewers at KV 1 and KV 4 and at locations along Willow Glen Drive and Steele Canyon Road. Once vegetation reaches maturity across the Project site (approximately 15 to 20 years from initiation of mining activities), vegetative diversity resulting from Project implementation would be compatible with the existing visual character of the community and would blend with the existing riparian forest and coastal sage scrub habitats within the Project site and surrounding area. At this time, the Project would result in a visual environment with high compositional harmony/unity that appears intact. The overall vividness and memorability of the site would be relatively high (improved over the existing condition of golf course variation) and would enhance the overall visual quality of the Project site and surrounding area, especially from elevated vantage points where broad views are available.

The remaining portion of this discussion illustrates the overview above, detailing specifics associated with Project-related changes as documented through mining and reclamation, and post-reclamation, Project phases from each of the four key views.

Key View 1

As noted in Section 2.1.1, KV 1 is located on upper segment of the Wildlife Refuge Loop Trail within the SDNWR, located south and southwest of the Project site (see Figure 2.1-5a). It is representative of the worst-case scenario in terms of public views and visual effects associated with the Project as recreationalists-hikers would be provided views to the entirety of the Phase 1 area. At KV 1, Phases 2, 3, and the processing plant would be reduced in scale due to distance; however, the site visibility experienced by viewers from KV 1 is notably greater than at other public vantage points that offer clear views to the Project.

As noted above, the upper trail appears to be used only by hikers. Mountain bikers, equestrians, and casual walkers with or without dogs appear to utilize the lower trail because the lower trail is a level and wide dirt trail. From the lower trail, views are primarily focused on the mature riparian vegetation associated with the Sweetwater River and the hillside to the south and to portions of the site that would not be mined. In addition, with the exception of lower trail segments to the east and west of KV 1, Phase 1 areas that would be mined and Phase 2 areas located further to the northeast are not visible from the lower trail due to intervening elements (riparian vegetation) in the foreground.

Mining and Reclamation Proposed Project Features. During subphase 1A, excavation and reclamation activities would comprise the majority of the middleground landscape as viewed from KV 1. The planting of new 15-gallon sized willow and/or cottonwood trees in small pockets adjacent to the Sweetwater River (during subphase 1A-1) would also be evident in views from the upper segment of the Wildlife Refuge Loop Trail. Subphase 1A-1 plantings would be installed prior to and during installation of the processing plant. This analysis assumes that at installation, newly planted willow and/or cottonwood trees in the subphase 1A-1 area would be approximately 4 to 6 feet high. As such, during mining of subphase 1C, these plantings are conservatively assumed to be 7 to 10 feet high. Following installation, subphase 1A-1 plantings along the Sweetwater River would be visible at KV 1 but due to their height at planting/installation, would not block views to the processing plant.

In addition to the existing riparian vegetation and coastal sage scrub habitat in the foreground that would be retained, subphase 1B and 1C areas would maintain their existing visual character during the approximately 12-month duration of Phase 1A mining. Approximately 22.1 acres (i.e., subphase 1A) of the larger approximately 79-acre Phase 1 area would be graded and mined over this timeframe. During these activities, construction vehicles including loaders and the conveyor extending from the processing plant (located east of Steele Canyon Road and near the current Cottonwood Golf Course clubhouse) would introduce new stationary and mobile elements to the view. In addition, exposed tan soils displayed by the actively mined subphase 1A area would also be seen from KV 1. The processing plant, including settling and muck ponds, storage containers, stockpiles, and screening equipment, would be partially obscured from view due to subphase 1A-1 plantings along the Sweetwater River, the installation of mature box trees near the processing plant boundary, and distance (the nearest element of the plant would be located

approximately 0.85 mile distant from KV 1). The irrigated, mature trees proposed to be planted along the western and southern boundary of the processing plant footprint (36-inch box Mexican elderberry trees, approximately 8 to 12 feet high) would be installed in ground and would be maintained throughout the duration of mining operations on the Project site.

After approximately one year and following subphase 1A mining operations, the approximately 22.1-acre area would be filled, brought to finished grade, and planted. Consistent with the conceptual revegetation and plan (see Figure 1-10), the subphase 1A area would be planted with appropriate riparian vegetation to include willow, mule fat, cottonwood, and other trees and shrubs. In addition, initiation of mining operations in the adjacent approximately 26.5-acre subphase 1B area would occur and similar visual features as described above for subphase 1A active mining operations would be visible from KV 1. The subphase 1C area (immediately north of subphase 1B) would retain its existing visual character as mining operations would not occur in this area until the duration of subphase 1B is complete (i.e., approximately one year). Over the 12-month period of mining, Project features proposed in the subphase 1B area would include construction vehicles including loaders and the conveyor extending from the processing plant and through the subphase 1C area (a conveyor corridor would be established adjacent to the Sweetwater River alignment). Subphase 1B activities would add contrasting stationary and mobile elements to the view; receptors at KV 1 would be somewhat familiar with these elements due to their presence during subphase 1A. In addition, during subphase 1B operations, plantings in the subphase 1A-1 area adjacent to the river corridor and larger revegetation efforts associated with subphase 1A would be irrigated and would incrementally improve upon the post-mining view with each successive year of growth. Riparian vegetation such as willows and mule fat planted in these areas would grow relatively quickly with irrigation and would be 5 to 8 feet (willows) and 2 to 3 feet (mule fat) high approximately one year following installation. As such, revegetation would have a moderating effect on visual impacts as mining progresses within any given subphase area. As experienced from KV 1, exposed lightly colored soils displayed by the surface of the actively mined subphase 1B area would be detectable immediately north of the densely vegetated Sweetwater River corridor in the foreground. Lastly, the recently planted subphase 1A area and more specifically, the thin, vertical form of new trees and spreading shrubs intermixed with pockets of exposed tan soils, would be noticeable.

Figure 2.1-5b, *Key View 1 – Wildlife Refuge Loop Trail [SDNWR] – During Mining*, depicts active mining of the subphase 1C area. In addition, subphase 1A and 1B areas are shown at final backfill elevations and depicted as revegetated with approximately two years of growth (subphase 1A) and one year of growth (subphase 1B). For purposes of this analysis, plant materials in the conceptual revegetation plan are assumed to grow at an approximate annual rate of between 12 inches (shrubs) to 36 inches (fast-growing trees (cottonwood, willow) and shrubs (mule fat and Mexican elderberry [*Sambucus mexicana*]) before reaching typical maximum heights. As with other subphases, visible elements in the subphase 1C area would include construction vehicles including loaders and the conveyor extending from the processing plant and through the subphase 1C area. Construction vehicles and the conveyor are depicted in Figure 2.1-5b. Additional Project features depicted include the side slopes of the overexcavation area, the new Project access point off Willow Glen Drive at Muirfeld Drive, and stockpiles located in the northern portion of subphase 1C. A staging area is proposed in the overexcavation area and would not be visible from KV 1. As viewed from KV 1, the flat form and lightly colored soils displayed by the surface of the actively mined and graded areas of subphase 1C would be visible immediately north of the newly planted

subphase 1B area and the Sweetwater River corridor. In addition, over-excavation of the area would occur after initial grading and would result in a visible cut (approximately 30 to 35 feet deep) into the surface of the subphase 1C area. Aggregate extraction in the approximately 30-acre subphase 1C area would occur for approximately 12 months and would be delivered to the processing plant via a conveyor that would appear as a low, dark horizontal line at KV 1.

In addition, the installation of noise barriers along the northern Phase 1 boundary (i.e., parallel to Willow Glen Drive) in accordance with mitigation measure M-N-1 would be partially visible from KV 1 (see Figure 2.1-5b). The noise barriers would be 12 feet high and would be installed around proposed stockpiles that would be located on the Project site and roughly parallel to Willow Glen Drive. Noise barriers would be installed when Phase 1 excavation activities would occur within 400 feet of the nearest residences. Pursuant to the requirements of M-N-1, the noise barrier would be solid and may be constructed of masonry, wood, plastic, fiberglass, and/or steel.

Changes to Visual Character and Quality and Viewer Response. Implementation of the Proposed Project would substantially change the composition of the existing pattern elements and character of the site as viewed from KV 1. Once initiated, active mining operations in subphases 1A, 1B, and 1C areas would remove remaining trees and vegetation within the unmanicured Lakes Course and introduce visually contrasting elements such as excavation equipment and exposed soil excavated to depths of approximately 20 feet bgs. The anticipated visual impacts resulting from vegetation removal and grading/overexcavation would be strong at KV 1. Mining of the individual subphase areas would each occur over approximately one-year periods and during this timeframe, contrasts in form, line, and color would be apparent and attract attention. As depicted in Figure 2-1.5b, visible foreground disturbances would detract from the existing available view. Also, the temporary noise barrier (per mitigation measure M-N-1) would be visible from KV 1 and would create a neutral-colored and relatively low horizontal line that would be partially screened by existing trees and stretch across the northern boundary of the Phase 1 area.

With the removal of existing vegetation in subphase 1A (and later in subphase 1C), the currently obscured Steele Canyon Road bridge and proposed processing plant site located to the east would be revealed in the middleground. Due to distance and competing elements (i.e., subphase 1A mining operations), visible elements of the processing plant would not be visually prominent as experienced from KV 1 (see Figure 2.1-5b). Phase 1 Project elements would be in the foreground and middleground of the KV 1 landscape for approximately 36 months, after which reclamation and revegetation activities would occur for up to an additional 24 months. These activities and specifically the planting of fully irrigated riparian vegetation on previously mined lands, would achieve a visible reduction in contrasts associated with vegetation removal, grading, and excavation within a two-year timeframe. Further, the subphase approach to mining operations would minimize visual change in the larger phase area and visible landscape (to the extent feasible) by avoiding vegetation removal and topographic disturbance until necessary (i.e., until the subphase area becomes active).

When mining operations are occurring in Phase 1 and early in Phase 2 (within the area closest to Steele Canyon Road, which is visible from KV 1, the overall quality of the visual environment would be strikingly reduced. Currently, the unmanicured course exhibits moderately low vividness and intactness, but has a uniformly disturbed/sparsely vegetated appearance across the western portion of the site. With the contrasting elements of the ground clearing, mining

operations/exposed soil, and newly revegetated areas, the vividness, intactness, and unity of the middleground landscape would be noticeably reduced. Lastly, while removal of the golf cart bridge spans would eliminate built features that draw attention to the middleground view, the Project proposes the introduction of construction vehicles and a conveyor, which would be active elements in the landscape.

The primary viewer groups from this key view—hikers using the upper Wildlife Refuge Loop Trail—would be sensitive to changes within the Project site. As noted, approximately 2,300 recreationalists per year (or approximately 45 users per week) use the Wildlife Refuge Loop Trail, most likely on the lower trail segment. From the lower and more consistently trafficked segment of the trail, views to Phase 1 activities would be obscured and partially screened by existing mature vegetation in the river corridor. Overall, the moderately low overall exposure (i.e., KV 1 is representative of a mobile viewpoint) and number of users of the upper trail would result in a moderately high viewer response.

Post-Reclamation Proposed Project Features. Reclamation of completed Phases 1, 2, and 3, and the processing plant area are depicted in Figure 2.1-5c, *Key View 1 – Wildlife Refuge Loop Trail [SDNWR] – Post-Reclamation*. In the visual simulation, the overexcavation area in subphase 1C has been backfilled and reclaimed to final elevation. Figure 2.1-5c depicts the application of an erosion control seed mix and the access road off Willow Glen Drive to the site is also shown. The processing plant area is depicted with an erosion control seed mix. The low flow channel of the Sweetwater River is depicted in Figure 2.1-5c, as is mature vegetation in subphase 1A and 1B areas. As the scenario depicted in Figure 2.1-5c is post-reclamation, trees in subphase 1A-1 are shown with approximately 12 years of growth, vegetation (i.e., trees and shrubs) in subphase 1A is shown with approximately 10 years of growth, and vegetation in subphase 1B is shown with approximately 9 years of growth. From KV 1, vegetation in subphase 1A and 1B would display a similar height and spread.

As viewed from KV 1, areas of the Project site disturbed by extraction operations would be progressively reclaimed as mining of individual subphase areas is completed. The final landform on the Project site would be a relatively flat plain that is backfilled to achieve an elevation similar to adjacent riparian areas; the graded pad area adjacent to Willow Glen Drive would be at a slightly higher elevation than the riparian areas. Backfilled and reclaimed landforms would be revegetated through a combination of container plants and hydroseeding with a diverse native seed mix. Figure 2.1-5c depicts the revegetation completed in Phases 1 and 2 as incrementally maturing over time; weed control and maintenance on the site would occur continuously during Project operation and during the post-reclamation maintenance and monitoring period to reduce the occurrence of undesirable non-native species. The effects of revegetation efforts, including approximately 10 acres of riparian enhancement (e.g., removal of exotic and invasive species, planting of riparian habitat), would be implemented adjacent to the Sweetwater River channel and may be visible from KV 1.

From the elevated vantage point of KV 1, the raised and flat form and tan color of subphase 1C would be result in strong contrast in form and color with adjacent areas of mature vegetation. While contrasts associated with this area would lessen as the erosion control seed mix germinates, and plant species fill in and cover the site, the light tones would stand out against the green tones displayed by existing and newly planted vegetation. A new 4-foot high, steel pipe gate would be

installed on the new access driveway off Willow Glen Drive. Small triangular planting areas would be constructed where the driveway meets Willow Glen Drive and planted with small shrubs intermixed among existing trees.

Changes to Visual Character and Quality and Viewer Response. At maturity (approximately 10 to 15 years post reclamation for each subphase), the visual character of the Project site would be enhanced with native vegetative cover and appropriate landforms for site drainage. As depicted in Figure 2.1-5c, the existing riparian habitat visible in the foreground would extend across the Project site with southern willow scrub and mule fat scrub vegetation planted adjacent to the river channel. In addition, upland areas would be revegetated with coastal sage scrub communities, providing continuity with the adjacent sage scrub habitat of the SDNWR visible in the foreground. Once mature (i.e., in 10 to 15 years following initiation of mining activities), the revegetated areas would improve the visual character of the reclaimed Project site and visually blend the area with nearby vegetation of the river valley.

Reclamation and revegetation would result in a visual environment with enhanced harmony/ unity and intactness. The intactness of the view would be increased with the introduction and maturity of native vegetation within the riparian corridor that would replace seen elements of the existing unmanicured golf course and mining operations. The southern willow scrub, mule fat scrub, and coastal sage scrub plant palettes proposed in this area would provide visual continuity between the reclaimed areas of the Project site and the surrounding area; however, enhanced intactness and continuity would be limited as viewers at KV 1 would experience an abrupt transition between new vegetation along the riparian corridor and the higher elevation area that would be hydroseeded with an erosion control seed mix. As shown in Figure 2.1-5c, both the prominence and horizontal scale of the higher elevation area would attract the attention of viewers and result in heightened awareness. Further, the consistent tan/brown color of this area would contrast with the green tones of riparian vegetation and like visible residential development in the view, this area would negatively affect visual character and quality of the landscape.

Key View 2

KV 2 looks east at the Steele Canyon Road bridge, the Sweetwater River channel and Ivanhoe golf course areas from the northbound travel lane of Steele Canyon Road, on the bridge spanning the Sweetwater River. KV 2 depicts the clearest view of Phase 2 and the proposed processing plant from a public viewpoint. Although the key view is oriented east, the unmanicured Lakes Course is also visible from the road to the west. The existing views are shown in Figure 2.1-6a, and described in Section 2.1.1, above.

Mining and Reclamation Proposed Project Features. Subphase 2A excavation and reclamation activities would comprise most of the eastward view from the Steele Canyon Road bridge. Phase 2 mining operations would be initiated approximately three years after the initiation of Phase 1. At the time of subphase 2A initiation, active mining of Phase 1 would be complete, but subphase 1C would be in the reclamation and revegetation phase west of the bridge. Figure 2.1-6b, *Key View 2 – Steele Canyon Road Bridge – During Mining*, simulates the Phase 2 mining operations that would be visible beyond the existing railing along the Steele Canyon Road Bridge. During subphase 2A, the approximately 15-acre area (located north and south of the river channel) would be cleared and actively mined. All existing vegetation and built features (e.g., a small bridge and

cart paths within these areas) would be removed and exposed soils would display a relatively consistent form and tan color. In addition to vegetation removal, numerous project components would be visible in the eastward view from KV 2 including the mine conveyor and parallel access road (visible along the south side of the river channel), tree removal to accommodate the Willow Glen Drive improvements, new landscaping included in the landscape screening and entrances plan, the processing plant, and box trees to be places along the west and south boundary of the processing plant. In addition, an 8-foot-high noise wall would be installed on-site parallel to Willow Glen during active mining of subphase 2A. During the depicted scenario (i.e., subphase 2A), new landscaping installed along Willow Glen Drive would have experienced approximately four years of growth post-installation and trees would be approximately 15 feet high and shrubs approximately 7 feet high. As viewed from KV 2, the processing plant, including stockpiles, equipment, settling and muck ponds, and trucks, would be minimally screened by mature box trees installed along the west and south plant footprint prior to the initiation of Phase 1. During subphase 2A (i.e., approximately four years post-installation), the trees would be approximately 10 feet high, assuming a conservative growth rate of 1 to 2 feet per year for species such as Mexican elderberry. A portion of the immediate foreground (including the Project site) would be obscured by the low wall and rail present along the Steele Canyon Road bridge.

Existing screening associated with the existing wall (approximately three feet high) would be enhanced through the installation of green screening mesh fencing along the railing. As measured from the top of the concrete wall to the top of the fencing, screening mesh would be 3-feet high. During active mining in Phase 2 (subphases 2A and 2B), the screening mesh would extend the length of the Steele Canyon Road bridge railing on the east side of the road; screening mesh would not be installed to the north or south of the bridge. The excavated subphase 2A areas north and south of the river channel and the slightly elevated processing plant would be screened from view of motorists, but the screening mesh would alter the view compared to existing conditions. Further, the effects of tree removal on the Project site occurring to the east of KV 2 and the creation of stockpiles and presence of processing equipment at the processing plant would be noticeable above the fencing. Figure 2.1-6c, *Key View 2 – Steele Canyon Road Bridge – During Mining*, simulates the proposed screening mesh that would be installed prior to the initiation of Phase 2 mining operations. The fencing would remain in place during the approximately 24-month total duration of proposed mining operations in subphases 2A and 2B. The fencing would largely block views from vehicles, but Project features could potentially still be visible to pedestrians and cyclists who could look over the screening, as depicted in Figure 2.1-6b.

As fencing would not be installed to the north and south of the bridge, views to the processing plant and Phase 2 mining activities would be available to northbound Steele Canyon Road users for approximately 145 feet north of the bridge to Willow Glen Drive and 185 feet south of the bridge to the existing presence of mature vegetation. Both the scale and density of the vegetation block the Project site in east-oriented views from Steele Canyon Road. As viewed from these segments of Steele Canyon Road, similar elements as described above in the unmitigated scenario of views from the Steele Canyon Road bridge would exist. Also, pedestrians occasionally use the sidewalk that parallels the northbound Steele Canyon Road travel lane (a sidewalk is not construct along the southbound lane on the bridge). On the bridge, views to the processing plant and Phase 2 mining activities would be clearly visible to pedestrians. With the installation of screening mesh atop the bridge railing, the views of most pedestrians towards the processing plant would be blocked.

Following the completion of mining operations and reclamation activities in the subphase 2B area, the mesh screen fencing installed on the east side railing of the Steele Canyon Road bridge would be removed. The subphase 2A areas would be reclaimed and replanted with riparian vegetation prior the end of the approximately one-year mining period for subphase 2B. Upon completion of the subphase 2B one-year mining period and removal of the bridge screen, southern willow scrub container plantings and riparian seed applied in subphase 2A would be noticeable and would remain visible. The processing plant (i.e., ponds, stockpiles, conveyors and screens, storage containers) would be minimally screened as container plants and applied seed mixtures installed in subphase 2A and 2B areas would not be of sufficient height to screen the plant. The visible sliver of the subphase 3D area to the south of the processing plant would retain its existing visual character (e.g., trees and low grasses would remain). South of the river, subphase 2C grading and mining operations may be visible beyond the newly planted subphase 2B area, which would still be in the revegetation phase.

Changes to Visual Character and Quality and Viewer Response. At KV 2, the visibility of and proximity to Project effects on existing visual character and quality would be clear and stark. Due to elements displaying high contrast, the unity of the foreground landscape would be greatly reduced. The vividness of focal mountain features in existing views would also be reduced as foreground activities and effects would attract attention. In the mitigated scenario, the installation of linear screening atop the bridge railing would block processing plant equipment and mining activities from view; however, the mesh fence would represent a notable departure from the current view of primarily green fairways and mature trees that characterize the Ivanhoe Course. These elements create interest in the existing view. The mesh screen would contrast with the existing open character of mobile views at KV 2. For example, the straight line and rectangular form of the fence would be apparent to roadway users. While the local hills and mountains surrounding the Project site would remain visible above the fence, the lack of open views across the site would be perceived as a negative effect. Therefore, the unity, intactness, and vividness of the existing view would be reduced during mining and reclamation. The overall visual quality during Project implementation would be low.

From KV 2, viewers would experience "close up" views of the anticipated strong contrast associated with mining and processing activities on the Project site. Once installed, the mesh screen atop the bridge railing would screen on-site visual change associated with an active sand mining operation comprised of exposed soil, processing plant activities, alteration of existing terrain and removal of existing vegetation, vehicles, and equipment. While the neutral mesh screen is anticipated to be perceived more positively than unobstructed views of an active mine and reclamation activities at this location, the viewer response would be adverse. Viewer exposure for off-peak hour motorists and other road users would be brief; occurring on the approach to and on the Steele Canyon Road bridge, views to the Ivanhoe Course are available for approximately 13 seconds assuming a travel speed of 45 mph. However, during peak hour travel times when queues tend to back up onto the bridge and further south, viewing duration would be considerably longer. During either scenario (i.e., peak or off-peak) viewer response to the changes in visual character and quality are expected to be high.

Post-Reclamation Proposed Project Features. Revegetation completed during Phase 2 would be visible in the foreground and middleground of KV 2 (see Figure 2.1-6d, *Key View 2 – Steele Canyon Road Bridge – Post-Reclamation*). As shown, the processing plant would be removed,

final grade would be established, and revegetation plantings in the subphase 2A and 2B areas (including western sycamore, western cottonwood, mule fat willow, Mexican elderberry, and low wetland shrubs, grasses, and sedges) are shown with approximately seven and six years of growth, respectively. Assuming typical growth rates, cottonwood, willow, and other fast-growing trees would have grown to a height of up to 20 feet and shrubs approximately 7 to 8 feet high. Box trees placed around the processing plant area would have been removed/relocated at the end of reclamation and thus, would not be present in the post-reclamation scenario. The area previously occupied by the processing plant would be blocked by mature vegetation in the foreground and middleground. Since southern willow scrub/riparian forest vegetation is proposed in these areas, views would be dominated by progressively maturing vegetation lining the river channel, which would eventually be of a density similar to the existing condition along the southwestern boundary of the Project site. Due to the elevated location of KV 2 on Steele Canyon Road, the hillside to the north of the site, McGinty Mountain, and distant mountains to the east would remain visible above riparian vegetation on the Project site. While obscured by vegetation, the final landforms on the Project site would consist of a relatively flat floodplain that gently slope downward from east to west; banks of the widened river floodplain are proposed to slope up to the adjacent landscape surface at a 3:1 (horizontal: vertical) or less gradient.

Changes to Visual Character and Quality and Viewer Response. The long-term visual environment of the reclaimed areas visible from KV 2 would be characterized as a natural riparian river valley. Where the river channel currently appears sparsely vegetated and somewhat visually contrasting with the existing golf course (Figure 2.1-6a), it would be expanded and appear densely (and more naturally) vegetated with riparian plant species, including a diverse mix of tall trees and shrubs proposed within the riparian plant palette. The natural features of the reclaimed river corridor would introduce a continuity of pattern elements currently absent from the site that would visibly extend the river corridor east to the surrounding hillsides and mountainous landforms that form the larger landscape unit.

Reclamation of the site would improve the overall visual quality of the existing visual environment and would create a vivid and memorable appearance with a high degree of unity and intactness (see Figure 2.1-6d). The Project would introduce native vegetation to the site and visibly extend the riparian river corridor, removing almost all of the competing visual elements (e.g., disturbed areas, sparse river channel, developed golf course landscaping and features) that currently detract from the intactness of the visible landscape. As shown, electrical transmission towers, poles, and overhead lines visible above the trees and along ridgelines would remain as dissonant elements experienced at KV 2. The natural components on the Project site would form a coherent, harmonious visual pattern that would extend to the surrounding hillsides and distant mountains. Like KV 1, from KV 2 the overall visual character and quality of the post-reclamation site would improve, and viewer response would be expected to be high and positive.

Key View 3

KV 3 is from westbound Willow Glen Drive approximately 375 feet west of the driveway to the existing Cottonwood golf course parking lots and is oriented to the southwest (see Figure 2.1-7a). Primary viewers are motorists and cyclists. In addition, the nearest sidewalk parallels the eastbound travel lane at this location and as such, pedestrians are considered in the context of

visual change experienced at this KV. Currently, as shown in Figure 2.1-7a, Willow Glen Drive and the nearby upper golf course parking lot are notable in the existing view.

Mining and Reclamation Proposed Project Features. As shown in the Figure 2.1-7b, *Key View 3 – Willow Glen Drive at Golf Course Clubhouse – During Mining*, the simulation of the Project from KV 3 during proposed extraction activities, the widened extents of Willow Glen Drive, including the dedicated right-turn lane proposed for access into the Project site and new striping associated with the undivided median, travel lanes, and bike lanes on Willow Glen Drive, would be visible in the foreground. The dedicated right-turn lane would provide access to a Project ingress point/driveway that would be used regularly by haul trucks during operations. The removal of existing trees to accommodate roadway improvements and the access driveway would also be notable. Approximately 67 trees currently located within the Project site adjacent to Willow Glen Drive would be removed to accommodate the roadway improvements; removal of these elements would result in reduced visual quality. Within the KV 3 viewshed, the removal of over 20 trees would occur. While distant mountain terrain currently blocked from view by screening trees would be revealed upon tree removal, the existing quality and character of the Willow Glen Drive corridor would be adversely impacted. As viewed from KV 3 and with the exception of the Project ingress alignment that would be cleared to accommodate operational access (the ingress alignment is proposed to the south of KV 3), the installation of the landscape screening and entrances plan in the post-initial planting scenario would result in screening of the Project site from view of road users; however, sediment stockpiles, elevated belt conveyors, and potentially, construction vehicles, would be visible above the perimeter fencing. The elevational difference between Willow Glen Drive and the Project site would also provide for obscured views to the processing plant and activities. At KV 3, the nearest portion of the landscape screening and entrances plan would be populated with 5-gallon shrubs (e.g., California lilac, toyon and lemonade berry) that would be between 12 and 24 inches high at planting. The installation of coast live oak and Fremont cottonwood trees (15-gallon and 24-inch box) and limited western redbud trees (36-inch box) is also proposed. Initial planting of the landscape screening and entrances plan and installation of a six-foot high chain link fence with green screening mesh is depicted in Figure 2.1-7b.

Figure 2.1-7b depicts a worse-case scenario wherein the majority of existing screening trees near KV3 and along the project perimeter in general would be removed to accommodate roadway improvements and the landscape screening and entrances plan. Existing trees, including pepper and eucalyptus species, located closest to KV 3 would be removed. As stated previously and shown in Figure 2.1-7b, perimeter fencing with screening fabric would block lower-scale features within the processing area (e.g., storage containers, muck ponds, settling ponds, etc.) from view of users of Willow Glen Drive at KV 3. While visible in the KV 3 simulation shown in Figure 2.1-7b, construction vehicles are mobile, would move around the site, and would typically be blocked from view by perimeter fencing. Portions of taller processing area components, including aggregate milling equipment, blade mills and screens, elevated conveyor belts, and stockpiles, would remain visible through the proposed ingress driveway and above the perimeter fence. Open and rectangular housing blade mills and screens atop steel scaffolding and diagonal conveyor belts would be the tallest components of the aggregate milling/screening equipment. As depicted in Figure 2.1-7b, stockpiles, which would be up to 25 feet high above ground level, would be partially visible. With the exception of landscaping planted near the access driveway, newly installed landscaping would not be visible as it would be located south of the perimeter fence and blocked

from view by mesh screening fabric. Lastly, removal of vegetation currently supported on the processing plant site including a limited number of ornamental trees would be apparent at KV 3.

Changes to Visual Character and Quality and Viewer Response. As experienced from KV 3, the removal of existing trees along the Willow Glen Drive corridor would be visible and create a noticeable reduction in visual quality. Tree removal, and the installation of new trees, would also contrast with existing visual character as the corridor is partially defined by the presence of mature trees along eastbound travel lanes. Generally, views onto the Project site (with the exception of at the proposed access driveway, which would be near KV 3) would be blocked by the combination of the elevation difference between Willow Glen Drive and the processing plant and perimeter fencing with screening fabric (see Figure 2.1-7b). However, the resulting contrasts associated with tree removal and visibility of sediment stockpiles and taller project components/features would result in overall strong contrasts and response from road users. Road improvements to Willow Glen Drive would be visible; however, new striping for travel and bike lanes and a new dedicated right-turn lane onto the Project site, would not contrast with the existing character of the corridor which currently includes striped lanes and occasional driveways. The visual dominance of foreground vegetation would cease, and while new elements including chain-link fencing with mesh screening would have a moderate effect on existing character and quality, tree removal would have a strong adverse effect on character and quality of the corridor. Screening trees are a defining features of the existing corridor experience and while Figure 2.1-7b represents a worst-case scenario of tree removal, the resulting view at Key View 3 would be notably less memorable and distinct. Furthermore, where visible, the form and line of stockpiles and processing equipment would be apparent in the context of the surrounding landscape but due to partial screening, these elements would create moderately weak contrast at KV 3. Project elements including Willow Glen Drive improvements, the landscape screening and entrances plan, and on-site components, including the processing plant, would not be dominant features in the KV 3 landscape. Lastly, removal of screening trees would result in increased visibility to nearby steel lattice towers, a tubular steel poles, and multiple transmission lines crossing the project site and Willow Glen Drive. Due to proposed tree removal, the installation of screening mesh fencing along the Willow Glen Drive corridor, and enhanced visibility of transmission line infrastructure, the unity, intactness, and vividness of the existing view would be reduced during mining and reclamation. The overall visual quality experienced at KV 3 during active mining of Phase 1A, however, is assessed as low.

Viewer response to the changes in visual conditions is assessed as high/strong given the number of viewers, the scenic designation of the road by the County, and the local familiarity with the Project site. Motorists, cyclists, and pedestrians who currently experience relatively pleasing views of moderate to moderately high visual quality along the County-designated scenic corridor would be presented with a diminished experience at KV 3 during active mining of Phase 2. Visual change within the Project site would be briefly experienced as motorists and other road users pass the new ingress driveway into the Project site (i.e., south of KV 3) and the reduced scale and spread of new landscape trees compared to existing mature trees and as such, effects to existing character and quality are anticipated to be strong. The viewer response is expected to be adverse due to the removal of existing screening trees experienced to the east and west of KV 3, visibility of haul trucks entering and exiting the site, widened extents of Willow Glen Drive, and views (albeit narrow) of effects associated with processing plant operations.

Post-Reclamation Proposed Project Features. Figure 2.1-7c, *Key View 3 – Willow Glen Drive at Golf Course Clubhouse – Post-Reclamation*, depicts a post-reclamation view of the Project site as experienced from Willow Glen Drive. As shown in the figure, screening mesh installed on the six-foot-high chain link fence paralleling Willow Glen Drive would be removed. The scenario depicted in Figure 2.1-7c is approximately 12-year post-installation of the landscape screening and entrances plan and includes revegetation of the subphase 2A area (at 7 years post-install) and subphase 2B area (at 6 years post-install). At this time, both subphase 3D and the processing plant area would be reclaimed and recently seeded with grasses included in the erosion control seed mix. Grasses on the subphase 3D area and the processing plant would not be visible due to regular management (i.e., mowing) and the presence of mature screening trees in the foreground. In the post-reclamation scenario, riparian trees, and shrubs in the subphase 2A and 2B areas would be approximately 12 to 18 feet high (or taller depending on species and container size at install). However, views to revegetated areas on the Project site would be partially blocked by mature shrubs in the foreground associated with the landscape screening and entrances plan. In the post-reclamation scenario (i.e., 12 years post initiation of Phase 1A mining), trees and shrubs closest to KV 3 in the landscape screening and entrances plan would be between 3 feet high (dwarf coyote brush) and 12 feet high (California lilac, toyon, and lemonadeberry) and would be of sufficient height to block most views onto the Project site (gaps in trees would allow for some views beyond the perimeter of the project site). Therefore, the backfilled subphase 3D and processing plant area, and revegetated subareas 2A and 2B, would generally be blocked from view at KV 3.

Changes to Visual Character and Quality and Viewer Response. For viewers along Willow Glen Drive, the post-reclamation visual environment would display a noticeable reduction in visual quality due to tree removal and increased visibility to transmission line infrastructure. The post-reclamation views would include additional hill and mountain terrain (compared to existing conditions); however, the removal of dense screening trees in the KV 3 landscape would result in a less distinct and interesting visual experience. While some existing eucalyptus and pepper trees would remain in place, Figure 2.1-7c depicts a worst-case scenario wherein the majority of existing screening trees visible at KV 3 would be removed. Under this scenario, the loss of tall and mature screening trees would be apparent and new trees would not yet be of sufficient height to replace the scale of screening trees in the existing condition. Further, the density of new plantings would be less than that of existing screening trees and would allow for clear viewing "windows" onto the project site. Immediately after mining activities have ceased, the overall vividness and memorability of the view would be moderate and at KV 3, and Project effects would reduce the overall visual quality of the County-designated scenic corridor compared to existing conditions. Viewer response at KV 3 would be expected to be adverse since the overall visual character and quality of the visible landscape would be reduced when compared to exiting conditions. Over time as vegetation reaches maturity, the overall vividness and memorability of the site would be high and would slightly enhance the overall visual quality of the County-designated scenic corridor compared to existing conditions. Like the other key views, viewer response at Key View 3 would be expected to be positive post reclamation since the overall visual character and quality would improve over exiting conditions.

Key View 4

KV 4 is from an overlook off Wind River Road in the elevated Cottonwood residential neighborhood north of the Project site. The rugged local mountains, the valley to the southeast,

and flat, seasonally tan-colored undeveloped open areas beyond the Cottonwood Golf course are dominant features from this vantage point. Primary viewers are residents along Wind River Road and nearby neighborhood streets. As depicted in Figure 2.1-8a, from KV 4, the verdant grass of the Ivanhoe course is punctuated by non-irrigated grasses, sandy areas of disturbance, and irregular lines of mature trees. Cart paths and several ponds are visible, as is the Sweetwater River corridor.

Mining and Reclamation Proposed Project Features. Figure 2.1-8b, *Key View 4 – Wind River Road Lookout – During Mining*, depicts mining during subphase 3A, including mining of the overexcavation area in the eastern portion of the subphase. This scenario assumes that the overexcavation area active in subphase 3A, shown in the middleground to the left of Figure 2.1-8b, would have been backfilled, brought to finished grade, and seeded with an erosion control mix. The balance of the subphase 3A area (located closest to Willow Glen Drive and KV 4) would be brought to an elevation higher than the backfilled overexcavation area. In accordance with the Project Revegetation Plan, most this area would be planted with the southern willow scrub plant palette (riparian) that would include fast growing trees and shrubs including mule fat, western sycamore, western cottonwood, willow, and Mexican elderberry; a riparian seed mix also would be applied to the area. Smaller linear bands of mule fat scrub and upland coastal sage scrub plantings would border the riparian planted area to the east and south. Figure 2.1-8b depicts new vegetation in a portion of the subphase 3A at initial planting height, as well as the drop structure proposed along the length of the widened river channel (appears as greyish texture on the slope at the eastern end of the overexcavation area). Planting of 15-gallon or larger cottonwood, sycamore, and willow trees are assumed; accordingly, the simulation depicts most of the tree vegetation on subphase 3A at an approximate height of four to six feet.

Excavation/mining operations in the approximately 16.5-acre subphase 3B area would be visible in the foreground/middleground on the Project site from this location. Specifically, mining and the operation of construction equipment and vehicles would be focused in the area paralleling Willow Glen Drive except for the northeast corner of the Project site that comprises subphase 3A, which would be planted with the southern willow scrub plant palette. Existing vegetation would be removed from the area and mining operations would expose underlying soils and display a consistent tan/brown color across the subphase 3A area. In the northeast corner of subphase 3A, a visible rectangular cut in the surface of the site would progressively deepen and become approximately 40 feet lower in elevation than surrounding lands. Aggregate extraction would be focused in this area during the duration of subphase 3A. A conveyor line would be installed and would proceed west of the excavation area. As viewed from KV 4, the over-excavation area would be visually prominent and produce strong contrast with the existing setting.

Proposed removal of existing trees associated with the proposed Willow Glen Drive improvements would be visible at KV 4. While modifications to Willow Glen Road would not be visually prominent, viewers at the KV 4 overlook may elect to access a narrow trail extending south and west from the overlook and providing views that include the Willow Glen Drive Corridor. The narrow trail also provides views to the processing plant area and portions of Phase 2. From trail vantage points, proposed road improvements and related tree removal would be more visible than at the overlook. In addition to road widening and related activities, 8-foot-high noise barriers installed in accordance with mitigation measure M-N-1 (refer to Subchapter 2.4, *Noise*, of this EIR) would be visible from KV 4. Barriers would be installed when mining activities in subphases 3A and 3B are located within 400 feet of the Steele Canyon Golf Course (i.e., along the southern

boundary of subphase 3A) or within 400 feet of residential land uses north of Willow Glen Drive (and downslope of KV 4). During the temporary periods of noise barrier installation, a dark and low continuous line that parallels segments of the Project boundary would be visible from KV 4. In addition, a proposed drop structure at the eastern end of the site where the Sweetwater River enters the property would be visible from the elevated vantage point of Key View 4. The drop structure (which would prevent head cutting of the channel during infrequent, high flow events) would be the width of the modified river channel (610 feet) on the slope face, extend approximately 20 feet below the slope face, and be constructed of grouted riprap (shown as the greyish texture on the slope at the eastern end of the overexcavation area in Figure 2.1-8b). Lastly, stockpiles would be visible along the southern boundary of the subphase 3B area.

Changes to Visual Character and Quality and Viewer Response. Project components visible from KV 4 (e.g., removal of existing vegetation, excavation effects, and related grade-separation within off-site and adjacent Phase 3 areas, exposed soil and aggregate processing activities, presence of processing equipment and trucks, and stockpiling of aggregate materials) would introduce visually contrasting elements that would substantially change the existing condition of the foreground and middleground views. Once initiated, mining of the individual subphase areas visible from KV 4 (i.e., 3A through 3C) would occur over approximately one year each, respectively. Specifically, subphase 3B Project elements would be in the foreground and middleground of the KV 4 landscape for approximately one year. Despite the anticipated changes to the visual character of the existing golf course and duration of mining operations in subphases 3A and 3B (i.e., a total of approximately 24 months), more distant middleground and background elements in the view would be unchanged and would continue to contribute scenic elements to the KV 4 landscape. While some of the subphase 3B area would be screened from view at KV 4 due to foreground topography, more open views to the entirety of subphases 3B, 3C, and 3D are available from the narrow trail that extends south and west from the overlook. Active mining operations for subphases 3A through 3D and resulting strong contrasts/changes to the existing visual character of the Ivanhoe Golf Course would persist for approximately 42 months. Visual change occurring on the site would continue beyond the approximately four-year during mining activities during reclamation, implementation of the revegetation plan, and establishment and maturation of the revegetation plan and plant species

During active mining operations and reclamation activities in subphases 3A and 3B, the quality of views from KV 4 would be noticeably reduced. While existing disturbances and patches of unirrigated areas are visible on the Ivanhoe Course, the Project would sequentially remove the verdant elements of the golf course from east to west. Golf course elements including golf carts would be replaced with dry, tan to brown tones of dying grasses, exposed lightly colored soils results from vegetation removal and grading/extraction activities, and the geometric form of the overexcavation area. Construction equipment and vehicles (including water and aggregate haul trucks), aggregate stockpiles, and a conveyor line and parallel access road would also be visible and contribute to the strong contrast associated with the construction scenario. In addition, the installation of temporary noise barriers would create straight linear elements in the view that would parallel the lines associated with the manufactured slopes resulting from excavation. As a result, the foreground/immediate middleground would display low intactness. Intactness and unity would be reduced and the contrasting and interruptive elements on the Project site in the foreground of the view would persist until the establishment of revegetation.

The primary viewer group from this key view (residents in the Wind River Road neighborhood) would be highly sensitive and aware of Project changes due to the proximity, available duration of views, and familiarity with the Project site. Viewer response would be high and adverse during active mining operations.

Post-Reclamation Proposed Project Features. Reclamation of completed subphases 3A and 3B would be visible in both the foreground and middleground of KV 4 (Figure 2.1-8c, *Key View 4 – Wind River Road Lookout – Post-Reclamation*). While the area of visible disturbance comprises a relatively small portion of the overall view at KV 4, visual effects anticipated to be experience during the establishment of revegetation would be strong and prominent. As proposed, reclamation would occur immediately following completion of mining operations in the subphase 3A and 3B areas. Once finished grades are achieved, subphase areas (except for the southeastern portion of subphase 3A) would generally be revegetated with container stock trees and shrubs and seed mixes in accordance with the Project revegetation plan. The southeastern portion of subphase 3A would be brought to finished grade and seeded with an erosion control seed mix primarily comprised of grasses. As shown in Figure 2.1-8c, areas outside of subphase 3A would be covered with vegetation that would establish and mature over time. As shown, with approximately 8 and 9 years of growth at the end of subphases 3A and 3B, respectively, height and density would incrementally increase over time. Prior to this time frame, vegetative density and height on the Project site would be less prominent and large pockets of exposed soils would be visible between planting groupings. The eastern border of subphase 3A and the southern boundary of subphase 3B would be seeded with an erosion control seed mix and in the post-reclamation scenario, would display the gold hues of low grasses. Visible vegetation within the southern willow scrub area includes fast-growing trees (e.g., willows, sycamores, and cottonwoods) and shrubs (i.e., mule fat and Mexican elderberry) and low grasses and herbaceous and grass-like plants including western ragweed, Douglas mugwort, and Pacific rush. In the post-reclamation scenario, riparian trees are shown at an approximate height of 12 to 18 feet.

Changes to Visual Character and Quality and Viewer Response. Post-reclamation and upon maturity of container stock plantings and seed mixture palettes, the visual character of the Project site would be enhanced with native vegetative cover. Areas revegetated with native plantings would display consistency in density and theme (in particular, the southern willow scrub planting areas). These planting areas would also be visually compatible with natural and mature vegetation located off site and in the Sweetwater River corridor (see Figure 2.1-8c). The finished elevation and revegetation following completion of subphase 3A would be maintained throughout the completion of subphases 3B, 3C, and 3D mining and post-reclamation activities and would create visible form, color, and texture contrasts with adjacent areas of revegetated lands. As depicted in Figure 2.1-8c, subphase 3A would be visible in the foreground and would be notable due to brown tones, smooth texture of soils, and the lack of tall vegetative growth; an erosion control seed mix comprised of grasses would be applied and would be regularly maintained.

At maturity, the areas revegetated with native plant palettes would notably improve the visual character of the reclaimed Project site and visually blend the former golf course area with the densely-vegetated river corridor and nearby hills and mountains that support coastal sage scrub and chaparral vegetation. With maturity of proposed revegetation, intactness and vividness would be substantially improved relative to existing and active mining conditions. Resulting intactness, vividness, and unity would; however, be weakened by the presence of the area of subphase 3A that

would be revegetated only with an erosion control seed mix and would be central to the KV 4 view.

Consistency with Applicable Goals and Policies

Mining and Reclamation. As described in Section 2.1.1, the Project is subject to the goals and policies of the General Plan COS Element, as well as the Valle de Oro Community Plan. For the portion of the Project site that is located within the Rancho San Diego Specific Plan area, applicable conditions of the Specific Plan are included in the goals and policies of the Valle de Oro Community Plan. The reader is referred to the discussion of Significance Guideline 4, below, as well as Appendix B and Subchapter 2.7 of this EIR. Mining and reclamation activities were found to be consistent with the goals and policies of the community plan.

Post Reclamation. The visual changes in the post-reclamation period were also analyzed for consistency with applicable goals and policies. The proposed reclamation would ensure the long-term compatibility of the site with the surrounding environment and the applicable goals and policies, and no inconsistencies or nonconformance issues were identified.

Perceived Contrast/Changes to Visual Character and Visual Quality

Mining and Reclamation. Based on the above analysis, the Project would change the composition of the existing pattern elements and character of the site, and mining operations and reclamation activities would visibly contrast with on-site existing conditions. The proposed mining and reclamation elements would replace existing views of the currently maintained Ivanhoe Course and the unmanicured Lakes Course with exposed soil and aggregate processing activities, processing equipment and trucks, and stockpiles of the proposed mining operations; perimeter fencing and mesh screening; and newly reclaimed, sparsely vegetated areas with temporary irrigation. Further, proposed mining operations would create substantial contrast and reduce the existing visual quality of the site and surrounding area. As described in detail for the key views, and in the assessment of viewer response, Project features during mining and reclamation would be visible from public roads and recreational facilities, as well as private residences within the Project viewshed. Views from land uses in the immediate Project vicinity would change substantially, and individual Project elements and the overall change in the visual environment would be noticeable by all viewer groups (i.e., motorists and other road users, recreationalists, and residents). The largest number of viewers, as well as the viewers having the most direct views onto the Project from public viewpoints, would be those traveling along Willow Glen Drive and Steele Canyon Road and would have open, partially opened to fully screened views onto the Project site. Motorists on Willow Glen Drive (part of the County Scenic Highway System) and Steele Canyon Road are assessed as having high sensitivity and their response to the perceived changes in the visual character/quality of the area would be high and adverse. From other nearby public roadways (e.g., Muirfield Drive located perpendicular to Willow Glen Drive, Ivanhoe Ranch Road located south of the Project site, and Hillsdale Drive located northeast of the Project site), limited views to the Project site are available. Where views are available along these roads, response to perceived changes in the visual character and quality of the site would be high and adverse.

For park users within the Hilton Head County Park, perceived changes to visual character and quality associated with Project effects would be negligible. Limited views to the Project site are

available from the park and while recreating and/or relaxing, park users would be focused on park activities and features. Recreationalists using the nearby SDNWR (in particular, elevated segments of the Wildlife Refuge Loop Trail) and County trails would have a high awareness of the surrounding area and the available views, and visible elements of the Proposed Project during the mining and early reclamation phases would be notable. Responses to the perceived Project changes would vary for each of the three trails with visibility of the Project site. Due to proximity and the lack of intervening screening elements, effects to the existing landscape resulting from mining and reclamation activities would be apparent from the Wildlife Refuge Loop Trail and Sweetwater River Trail. As such, response to perceived changes to the visual character and quality of the site from these trails would be high and adverse. The McGinty Mountain Trail is distant from the Project site and while in the Project views, effects would be muted by distance and diminished by the broad nature of available views. Thus, response to perceived changes to the visual character and quality of the site would be low and not adverse.

Private residential viewers would generally experience views of the same Project features described above for the other groups (e.g., vegetation removal and resulting exposed soil, mining equipment and vehicles, excavation of terrain, processing plant, operations, stockpiles, and truck traffic). For most of the ridgeline homes located north of the Project site, higher elevations offer expansive views of the Jamacha Valley and surrounding mountainous terrain. Due to proximity, the lack of screening elements, and the elevated vantage point allowing overhead views of entire subphase areas, response to perceived Project changes to visual character and quality of the site and surroundings would be high and adverse.

Post Reclamation. The perceived contrast/changes to the visual setting resulting from Proposed Project changes may continue as assessed above for each of the identified viewer groups until the vegetation reaches a level of visual maturity (in approximately 10 to 15 years for each phase). Following the active mining and reclamation phases of the Project, the reclaimed terrain and establishing vegetation would gradually support and facilitate visual continuity between the Project site and the surrounding area. Mature vegetation would soften contrasts between newly planted areas and off-site areas supporting dense riparian vegetation. While response to perceived Project changes to visual character and quality of the site and surroundings would be high and adverse post reclamation and during establishment of vegetation in subphases areas (it could take up to 20 years post mining of subphase 1A for vegetation across the Project site to be considered mature). Ultimately, visual quality of the site would improve over time as vegetation becomes denser and taller and presents a coherent and unified appearance with that of the densely vegetated Sweetwater River corridor.

Summary of Resulting Visual Impacts

Mining and reclamation activities would result in adverse changes to vegetation and terrain that would substantially alter the existing visual character and composition of the visual environment. The unity, intactness, and vividness of the existing visual environment would be strongly reduced during mining and reclamation. The overall visual quality of the site during mining and reclamation would be moderately low due to the introduction of new encroaching elements that would noticeably contrast with the existing composition of the Project site and quality of the visual environment. Visibility of the processing plant and subphase 2A and 2B activities would be reduced by the installation of screening mesh and landscaping along portions of Willow Glen

Drive and Steele Canyon Road and by the installation of 36-inch box Mexican elderberry trees around the western and southern boundary of the processing plant. However, the adverse visual impacts that would occur during mining including the walled effects associated with the installation of mesh screening along segments of Willow Glen Drive and Steele Canyon Road would be experienced over a period of approximately 10 years. While unobstructed views are possible to portions of the Project site from KV 1 and 4, the volume of sensitive receptors is limited to a small portion of the overall population that would encounter the Project. Adverse visual impacts and strong visual contrast would persist beyond the active mining timeframe and would continue during reclamation of subphase areas and the establishment and maturation of revegetated areas. Due to the severity of anticipated visual change (and contrasts in form, line, and texture), the proximity of public vantage points to the Project site, and the 10-year duration of mining activities, **impacts to visual resources would be considered potentially significant (Impact AES-1)**.

2.1.2.2 *Removal or Substantial Adverse Change to Valued Visual Element*

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if:

2. The Project would result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localized area, including but not limited to landmarks (designated), historic resources, trees, and rock outcroppings.

Guideline Source

The guidelines for significant visual impacts are from the County Guidelines for Determining Significance for Visual Resources (County 2007b). Significance Guideline 2 addresses potential substantial damage to particular resources that represent or characterize a community or neighborhood.

Analysis

Whereas the discussion under Significance Guideline 1 addressed overall visual effects related to Project implementation and visual compatibility with the overall community, the Significance Guideline 2 analysis concerns specific on-site elements and whether those elements constitute valued visual elements of the on-site environment. No designated landmarks (i.e., a visual feature or element designated or identified in an adopted land use plan as an important visual or scenic resource) or identified visual resources such as unique topographical features, designated historic resources, or prominent rock outcroppings or ridgelines occur on site. Therefore, these issues are not discussed. The analysis below addresses potentially visually important trees and sensitive vegetation.

The Project site is primarily comprised of a golf course landscaped with low grass and ornamental trees. There are few areas of the site that support notable stands of trees or large areas of sensitive vegetation. No trees within these areas were identified as heritage trees. Occurrences of potentially important trees located on site primarily occur along the southern border of the Project site, east

of Steele Canyon Road at the southeast corner. Most of the mapped southern Cottonwood willow riparian forest and southern willow scrub areas would not be mined. Rather, these areas would be subject to removal of invasive species or left in the current condition. As such, these areas would be retained and would continue to contribute diverse visual elements to landscape views. No trees within these areas were identified heritage trees.

Riparian vegetation communities are valued for both biological value and visual aspects, and most of these resources would be retained during Project implementation. As described in Subchapter 2.2 of this EIR, the Project would result in direct impacts to a total of 1.63 acres of riparian habitat or other sensitive vegetation communities, including 0.5 acres of disturbed wetland, 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of southern willow scrub, and 0.8 acre of Diegan coastal sage scrub (including disturbed) (HELIX 2021a). While impacts to sensitive vegetation communities would be limited, the riparian corridor of the Sweetwater River including the golf course is a major scenic resource of the community and the golf course and mature trees within the corridor would be considered features that contribute to the valued visual character and image of the neighborhood, community. Implementation of the Project would result in the loss of these features during mining which would be considered a **potentially significant impact (Impact AES-2)**.

2.1.2.3 *Substantial Obstruction, Interruption or Detraction from a Valued Vista*

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if:

3. The Project would substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from:

    a. a public road,

    b. a trail within an adopted County or State trail system,

    c. a scenic vista or highway, or

    d. a recreational area.

Guideline Source

The guidelines for significant visual impacts are from the County Guidelines for Determining Significance for Visual Resources (County 2007b). Significance Guideline 3 is directed at potentially substantial adverse effects to scenic vistas and public vantage points available from roads, recreational areas, and trails important to be designated as scenic by the County or State. Changes to the resources that compose the view could be significant, depending on the degree and nature of the change, and whether the view would be obstructed.

Analysis

No designated or mapped scenic vistas, view corridors, or state-designated scenic highways are located near the Project site. Therefore, these issues are not discussed in the analysis below. The

following analysis discusses valued focal or panoramic views from County-designated scenic highways and other public roadways, as well as existing trails and recreation areas in the viewshed. The County includes Willow Glen Drive, SR 54/Jamacha Road and SR 94/Campo Road in the County Scenic Highway System, and these roads are located within the Project viewshed as illustrated in Figure 2.1-4. Although the computer-generated topographic viewshed analysis indicates that views may be available from the latter two roadways (i.e., SR 54/Jamacha Road and SR 94/Campo Road), site visits and field review indicated that no views to the Project site are available from these roadways due to intervening vegetation and development. Therefore, these roadways are not discussed in the analysis below.

County Scenic Highways and Other Public Roads

Willow Glen Drive

The Valle de Oro Community Plan identifies Willow Glen Drive as a scenic highway corridor and the County includes Willow Glen Drive in its Scenic Highway System.

Users of Willow Glen Drive comprise the largest viewer group in the Project area. Motorists and other users of the road comprise the largest number of viewers with direct views onto the Project site from public viewpoints. The visibility of Project features from Willow Glen Drive is discussed throughout this analysis. In addition, KV 3 was established on Willow Glen Drive and visual simulations from the road (see Figures 2.1-7b and 2.1-7c) represent the anticipated visual change that would be experienced by road users during mining/reclamation and post reclamation. Near the processing plant, new landscaping is proposed along the Project site frontage of Willow Glen Drive and would gradually screen the processing plant and mining subphases in the surrounding area from view of road users. In addition, six-foot-high, chain-link fencing with mesh screening would border the new landscaping and would generally limit views onto the Project site from a segment of Willow Glen Drive (taller project components and occasionally, mobile construction vehicles would be visible above perimeter fencing). Despite partially blocked views of Project features and effects, the mesh screening itself is a contrasting feature that limits views and reduces visual quality along the Willow Glen Drive corridor. In addition, where new landscaping and mesh screening on fences is not proposed to be installed, road users would be offered glimpses into the Project site and visual change associated with vegetation removal and mining activities would be apparent.

Views to the verdant fairways and mature trees of the maintained Ivanhoe Course and the jumbled landscape of the closed Lakes Course would be partially screened by new fencing and landscaping to be installed along Willow Glen Drive. However, as mining activities advance from west to east across the site, vegetation on the Ivanhoe Course would be removed and the predominant features of the site would no longer occur. And despite the discordant elements on the Lakes Course compared to the Ivanhoe Course, the removal of vegetation, exposure of soils, excavation of terrain and presence of an active sand extraction operation would further impact landscape intactness and unity. While views to Project elements would be partially screened, narrow views to the Project site (and visible contrasts) would detract from the scenic landscape visible from a designated scenic highway corridor. Further, the presence of mesh screening near the processing plant would interrupt and obstruct views and would create a partially "walled" experience for road users. Views to more distant ridgelines and mountainous terrain would not be obscured by the fence and mesh

screening; however, the inclusion of fast-growing trees and shrubs in the landscape screening and entrances plan (designed to screen Project components from view) would gradually obstruct views to distant mountains visible from the westbound travel lane near the processing plant location. Thus, **impacts to existing views from Willow Glen Drive during mining and reclamation would be potentially significant (Impact AES-3a).**

Post-reclamation, long-term changes within the Project site would contribute positively to the visual experience of Willow Glen Drive motorists. At maturity (approximately 10 to 15 years post reclamation for each subphase), the existing visual character of the Project site would be enhanced with native vegetative cover and appropriate landforms for site drainage. The visual experience along the segment of the roadway bordering the Project site would be an extension of the continuous pattern elements of the surrounding visual environment within the river valley. While views to distant mountain terrain may be (briefly) partially obscured or interrupted by trees and shrubs associated with the landscape screening and entrances plan, the maturation of plant materials would create a unified appearance of vegetation along the Willow Glen Drive corridor that would mimic and build upon existing landscaping. Accordingly, long-term effects to a valued focal or panoramic vista from Willow Glen Drive would be **less than significant**.

Other Public Roadways

As discussed above under Significance Guideline 1, implementation of the Project would alter the existing elements on the Project site visible from adjacent public roadways. Therefore, the Project would alter the existing visual character of these views. However, no designated valued focal or panoramic vistas are located along other roadways near the Project site including Steele Canyon Road. As a result, associated impacts to valued views from other public roadways would be **less than significant**.

Trails

Panoramic views are available from the two SDNWR trails within the Project viewshed (Wildlife Refuge Loop and McGinty Mountain). KV 1 was established from the upper Wildlife Refuge Loop Trail and represents the existing view available from the elevated portion of the trail. Views of Project elements from the more heavily traveled (by equestrians, casual hikers, runners, mountain bikers, and walkers with dogs) lower trail would be screened by existing mature riparian vegetation associated with the Sweetwater River. Simulations from KV 1 are presented in Figures 2.1-5b and 2.1-5c and illustrate anticipated Project changes that would be visible from the upper trail during mining/reclamation and post reclamation, respectively. As illustrated, the exposed soil, excavation equipment/conveyor, and recently reclaimed areas within Phase 1 would be visible in the middleground from this trail and would create strong contrasts in form, line, and color on the Project site. Areas of exposed soils, the overreaction pit, and presence of mining equipment and mobile vehicles would detract from and interrupt the existing view as these components would grab the attention of viewers. Phase 2 mining activities and operations at the processing plant would be visible but distant.

Until revegetation within the reclaimed subphase areas reaches maturity, the visual effects of Phase 1 mining activities would generally persist and be experienced at KV 1. Assuming a 10- to 15-year period for plant communities in the revegetation plan to reach maturity, the Phase 1 area

would visually blend with retained areas of riparian and coastal sage scrub vegetation within approximately 10 years post-initiation of mining activities in subphase 1A. While denser and taller trees and shrubs would gradually improve visual character and the quality of views compared to the active mining and reclamation scenarios, the subphase 1C area revegetated with only an erosion control seed mix may detract from and interrupt the scenic view available at KV 1. Further, the wide swath of grass seeded terrain would draw attention from the river corridor and mountains and reduce landscape intactness, unity, and overall visual quality. While the prominent peaks, ridgelines, and hills in the background of views from this area would not be obstructed, the volume of viewers at KV 1 is assumed to be low, anticipated visual change would be strong and detract from and interrupt the available view. Therefore, **impacts to existing views from elevated portions of the Wildlife Refuge Loop Trail would be considered potentially significant (Impact AES-3b)**.

From higher elevations along the McGinty Mountain trail, located over 2.0 miles east of the site, hikers may be able to distinguish between areas of the Project site being actively mined and off-site vegetation due to variations in color However, the distance between the trail and the Project site would generally obscure prominent form and lines contrasts associated with vegetation removal and mining activities such that the perceived changes would not substantially affect scenic views. Due to the broad, panoramic nature of available views and the wide geographic area visible, color variations on the Project site would occupy a small portion of the seen landscape and would be a minor component. Also, with each year of vegetation growth following installation on the Project site, the distant, minor contrasts on the Project site would be reduced. Based on these considerations, impacts to valued focal and/or panoramic vistas from the McGinty Mountain Trail would be **less than significant**.

In the Project area, the Sweetwater Regional Trail parallels Jamacha Road from approximately Cuyamaca College Drive East to Willow Glen Drive; an approximately 200 foot-long, north-south segment of the trail borders the western boundary of the Project site. Vegetation removal and mining activities in subphases 1B and 1C would be visible from the trail. Existing easterly views from the trail segment are primarily comprised of the unmaintained Lakes Course in the foreground and mountainous terrain in the background. Despite the low visual quality displayed by elements on the Lakes Course, the removal of all vegetation, alteration of terrain, and presence of mining equipment and vehicles would sharply contrast with the existing character of the site. Further, foreground Project elements would be visually prominent during active mining and maturation of vegetation and as a result, would substantially detract from available views to local hills and mountains. **Impacts to views across the Project site from the Sweetwater Regional Trail would be considered potentially significant (Impact AES-3c)**.

Recreational Areas

As described above, Hilton Head County Park is the only park in the Project viewshed with potential views to the Project site. As experienced from the park's perimeter pedestrian path near Muirfield Drive and the southwestern corner of the baseball/soccer field, the visible activities on the Project site, specifically in the subphase 1B and 1C areas, would not substantially detract from existing views. As previously stated, the existing view "down" Muirfeld Drive from the park's perimeter path towards the Project site is narrow. Further, existing landscaping planted along the path occasionally blocks the southerly view. An existing view from the park's path down Muirfeld

Drive is shown on Figure 2.1-2b, Photo N. As shown, a sliver of grass on the unmaintained Lakes Course is visible but mature trees along the Willow Glen Drive corridor (and on the Project site) effectively block elements of the Lakes Course (i.e., surface features) from views. Trees on the course are visible above perimeter screening trees. While the construction of a new driveway onto the Project site, access gate, vegetation removal and mining activities in subphase 1B and 1C areas would be visible, most screening trees would remain in place during Project operations. Thus, views to the Project site would continue to be blocked by existing perimeter trees. Further, mature trees within the Sweetwater River corridor located south of the Project site would not be disturbed and as such, a tree line above the Project site and against the coastal sage scrub covered hill to the south would persist. Therefore, impacts associated with views from Hilton Head County Park would be **less than significant**.

2.1.2.4 *Compliance with Goals, Policies and Requirements*

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if:

2. The Project would not comply with applicable goals, policies or requirements of an applicable County Community Plan, Subregional Plan, or Historic District's Zoning.

Guideline Source

The guidelines for significant visual impacts are from the County Guidelines for Determining Significance for Visual Resources (County 2007b).

Analysis

Applicable land use plans governing visual character and quality include the County General Plan and the Valle De Oro Community Plan, as well as the County LPC, as described in Section 2.1.1. Specific goals and policies have been identified directed at visual quality and community character, and address development within the Rancho San Diego Specific Plan area. A Project consistency evaluation of these applicable goals and policies is provided in Appendix B and Section 3.1.6 of this EIR. In summary, the Project would be inconsistent with several goals and policies related to aesthetics contained within the County General Plan COS Element and Open Space Element, as well as the Valle De Oro Community Plan. During mining and reclamation, Project components and the visual effects of mining and reclamation activities would be visually incompatible with the existing visual setting and natural features of the surrounding area. Proposed activities and effects to landforms and vegetation would contrast with the existing character of the community. Proposed fencing and landscaping would help screen the visual effects of the Project from the largest viewer group in the surrounding area (motorists); however, due to the duration of mining activities (up to 10 years), the visible removal of vegetation from the site, the installation of linear screening mesh that would limit views and reduce visual quality, and resulting contrasts between actively mined (and newly reclaimed and revegetated) lands and the adjacent riparian corridor of the Sweetwater River, impacts would be adverse. While the Project would comply with applicable goals and policies to the extent feasible for an extractive use and would implement a comprehensive reclamation plan to ensure that mined areas are backfilled and revegetated with

appropriate plant communities, **impacts would be considered potentially significant (Impact AES-4)**.

2.1.2.5 *Visual Impacts Related to Lighting and Glare*

Guidelines for the Determination of Significance

The Proposed Project would result in a significant impact if:

1. The Project would install outdoor light fixtures that do not conform to the lamp type and shielding requirements described in Section 59.105 (Requirements for Lamp Source and Shielding) and are not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.

2. The Project would operate Class I or Class III outdoor lighting between 11:00 p.m. and sunrise that is not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.

3. The Project would generate light trespass that exceeds 0.2 foot-candles measured five feet onto the adjacent property.

4. The Project would install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color, that will create daytime glare and be visible from roadways, pedestrian walkways or areas frequently used for outdoor activities on adjacent properties.

5. The Project does not conform to applicable Federal, State or local statute or regulation related to dark skies or glare, including but not limited to the San Diego County Light Pollution Code.

Guideline Source

The guidelines for significant visual impacts are from the County Guidelines for Determining Significance for Visual Resources (County 2007b). The County Guidelines for Determining Significance – Dark Skies and Glare (dated July 30, 2007, as modified on January 15, 2009), provide guidelines for significant impacts associated with lighting and glare (County 2009e).

Analysis

Lighting within the Project site currently consists of safety lighting within the clubhouse and maintenance building areas and the parking lots. The Ivanhoe Course only operates during daylight hours and the Lakes Course is no longer in operation. Roadways within the vicinity of the Project site are lit with streetlights. Visible night lighting in the area is primarily associated with private homes and commercial areas.

The Project would be designed to use the least amount of lighting possible while remaining in compliance with state and local regulations for safety. No highly reflective building materials would be used. Mining operations are only proposed to occur during daylight hours and the only

new source of on-site lighting would be from shielded fixtures that would be installed around the processing plant area for safety and security purposes. Proposed safety lighting would be required to adhere to Division 9 of the County LPC. Lighting would be selectively placed and of the lowest illumination necessary for human safety (i.e., limited to less than 4,050 lumens output, maintaining compliance with state and local regulations, including the County LPC and dark skies policies). Generally, mounted sodium, metal halide, fluorescent, or LED lighting would be employed. Lighting would be directed downward and/or fully shielded and designed to minimize glare and reflection onto neighboring areas with cut-offs; no light would spill beyond the boundary of the Project site. Once the Project site is reclaimed (after a period of approximately 12 years), all safety lighting would be removed from the site.

The Project site is located approximately 40 miles from Palomar Observatory, in Zone B as identified by the LPC (all areas beyond 15 miles). Project lighting would not adversely affect nighttime views or astronomical observations because it would conform to the lamp type and shielding requirements as well as the hours of operation detailed in the LPC. Based on compliance with the County's LPC and Dark Sky Ordinance, visual impacts associated with Project-related lighting and glare would be **less than significant**.

2.1.3 Cumulative Impact Analysis

As stated in CEQA Guidelines Definitions and Section 15130, cumulative impacts are those resulting from proposed project effects combined with those of past, present, or probable future projects producing related or cumulative effects. For visual issues, projects within the Project viewshed (including the Proposed Project) would potentially contribute to regionally cumulative visual effects and are evaluated in this discussion. The viewshed includes areas with views to, or from, any single point on the Project, and therefore includes those projects that may be experienced in concert with the Proposed Project.

Cumulative projects identified in Table 1-14 that are located within the Project viewshed are presented in Table 2.1-1, *Cumulative Projects Within the Viewshed*. The two projects include the Cuyamaca College Facilities Master Plan Update and the proposed Ivanhoe Ranch residential development. These projects are not concentrated in one portion of the viewshed, and local topography, vegetation, intervening structures and land uses often block views between these project locales.

The Cuyamaca College Facilities Master Plan Update encompasses the Cuyamaca College campus, the southeastern corner of which is located approximately 0.3 mile northwest of the Project site. The Master Plan Update is proposed to provide updated long-range guidance for the replacement or modernizations of existing facilities and infrastructure improvements to serve the existing and future campus population; no expansion of classroom capacity is proposed (Grossmont-Cuyamaca Community College District 2019). It also proposes improvements to the existing landscaping, gateway entry at Cuyamaca College Drive West, and open space restoration. The proposed activities would alter the appearance of certain portions of the campus; however, because no new facilities are proposed and the renovations/modernizations would be relatively small in scale, the Master Plan Update would not result in a substantial adverse effect on panoramic scenic vistas or block views of important visual resources. On-campus development would be a continuation of existing community college uses, contiguous with existing campus development,

and perceived as a logical extension of existing facilities. Since the proposed improvements would be consistent with existing campus development and would undergo design review to ensure compatibility, potential changes to visual character and quality would not be notable to off-site viewers. The Cuyamaca College development would not be highly visible in conjunction with the Proposed Project due to distance from the Project site and intervening topography, built uses, and landscaping. While there may be some areas at higher elevations that may have views of the improvements proposed within Cuyamaca College and the Project site (e.g., along trails located within the SDNWR), the combination of visual effects resulting from both projects is anticipated to be negligible, especially given the scale of proposed on-campus improvements. Additionally, the Cuyamaca College campus is buffered from County-designated scenic roadways and other nearby roadways by existing landscaping and commercial and residential development, such that there would be limited, if any, roadways from which views of both Cuyamaca College and the Proposed Project would be available.

The Ivanhoe Ranch project site includes approximately 122 acres immediately southeast of the eastern portion of the Project site, adjacent to the existing Steele Canyon Estates. The project proposes the development of 119 single-family residences and the designation of open space areas. The project is in the early stages of planning and no environmental analysis is currently available. Relative to potential visual impacts, the project would introduce a large number of buildings and suburban elements adjacent to an existing residential development (Steele Canyon Estates) within the open space area between the Project site and the Steele Canyon Golf Course. Visual changes associated with this development are anticipated to be relatively minor as experienced from public viewpoints such as roadways and trails, since the proposed structures would be located on relatively flat terrain that currently displays visual qualities consistent with that of graded pads. In addition, the new structures would be located adjacent to an existing rural residential neighborhood and as such, would visually blend with similar surrounding uses. For private views from nearby residential areas, particularly the Steele Canyon Estates, visual impacts associated with construction of the residential development would not be compounded by the visual impacts associated with implementation of the Proposed Project. Temporarily, there may be some overlaps in timing between the two projects (e.g., site grading for the Ivanhoe Ranch Project could overlap with Phase 3 mining activities and both projects would be visible from the Wind River Road lookout. While the Ivanhoe Ranch Project would result in the construction of new structures and the primary visual effects of the Proposed Project would include vegetation removal, excavation, and equipment operations, the combined visual change associated with the projects would temporarily create strong contrast in the landscape. Given the duration of Project activities and potential overlap with construction of the Ivanhoe Ranch project, a potential cumulative impact would occur and the Project's contribution would be cumulatively considerable.

2.1.4 Significance of Impacts Prior to Mitigation

The following significant impacts related to aesthetics would occur with Project implementation:

Impact AES-1 Implementation of the proposed mining and reclamation activities would detract from the visual quality of views from public viewpoints, resulting in a potentially significant impact related to scenic vistas.

Impact AES-2 Implementation of the proposed mining and reclamation activities would result in removal or substantial adverse change of features (i.e., golf course and visually notable trees) that contribute to the visual character of the area, resulting in a potentially significant impact related to scenic resources.

Impact AES-3a Implementation of the proposed mining and reclamation activities would affect views across the Project site from Willow Glen Drive, resulting in a potentially significant impact related to obstruction, interruption, or detraction from a valued vista from a public road.

Impact AES-3b Implementation of the proposed mining and reclamation activities would affect views across the Project site from elevated portions of the Wildlife Refuge Loop Trail, resulting in a potentially significant impact related to obstruction, interruption, or detraction from a valued vista from a trail within an adopted County and State trail system.

Impact AES-3c Implementation of the proposed mining and reclamation activities would affect views across the Project site from the Sweetwater Regional Trail, resulting in a significant impact related to scenic resources related to obstruction, interruption, or detraction from a valued vista from a trail within an adopted County and State trail system.

Impact AES-4 Implementation of the proposed mining and reclamation activities would not conform to certain applicable goals and policies related to visual resources during mining activities, resulting in a significant impact.

Impact AES-5 Implementation of the proposed mining and reclamation activities would result in a considerable contribution to a potential cumulative impact associated with the combined visual contrast in the landscape.

2.1.5 Mitigation

No additional mitigation is available to reduce project-level aesthetics impacts related to scenic vistas and resources, visual character and quality, and conflicts with applicable goals and policies that would occur during proposed mining and reclamation activities. These impacts would be significant and unmitigable until reclaimed and revegetated areas reach mature vegetation densities and height (at approximately 15 to 20 years post-initiation of subphase 1A mining when trees and shrubs in all subphase areas would reach maturity).

Several Project design considerations would be implemented during the mining and reclamation phases of the Project to reduce aesthetics effects, as documented in Section 7.2.1 of this EIR. These include retaining approximately 64 acres where no mining activities would be permitted, adhering to the proposed subphase plan, timely installation and removal of appropriate screening vegetation, use of screening mesh in selective locations on fencing along Willow Glen Drive and the Steele Canyon Road bridge, use of shielded/downward-oriented lighting, and painting mining equipment in a light color to help diminish the contrasting quality of these features. A landscape screening and entrances plan would be implemented to provide additional vegetative screening along Willow

Glen Drive. These considerations will become Project Conditions to ensure their implementation if the Project is approved.

2.1.6 Conclusion

The Project would introduce a phased mining operation, including reclamation and revegetation of disturbed areas, into the visual environment of the Project site and surrounding setting. The Proposed Project would change the composition of the visual environment in terms of dominance, scale, diversity, and continuity, by introducing exposed soil, mining operations and equipment, a processing plant area, and stockpiles that would be out of scale and visually dominant features. This would create notable physical changes in the composition of the visual environment, as viewed from Willow Glen Drive, Steele Canyon Road, and surrounding recreational trails and residential areas that would be inconsistent with the existing visual character of the area. However, existing vegetation and fencing combined with targeted screening elements including screening mesh and new landscaping associated with the landscape screening and entrances plan would, to the extent feasible, moderate the visual effects of the Project until reclaimed and revegetated areas reach mature vegetation densities and height (at approximately 15 to 20 years post-initiation of subphase 1A mining, trees and shrubs in all subphase areas would reach maturity).

While the Project is proposed to be phased such that only smaller subphase areas are mined individually, the visual effects of vegetation removal, mining, and extractive activities would create strong contrasts in the landscapes. In addition, the installation of new landscaping and mesh screening near the processing plant would block portions of the processing plant from view but would also shorten available views and reduce visual quality through creation of a walled experienced for road users. Views onto the Project site would be available from nearby roads, trails, and residential properties and contrasting forms, lines, and colors resulting from mining activities would be apparent from public and private vantage points. Once mining has been completed in each subphase area, excavated areas would be backfilled and reclaimed. The revegetation plan would be implemented and would entail the planting of container trees, shrubs, and the application of seed mixes. Over time, the native riparian and upland plant palettes would help reduce the visual effects of mining and reclamation activities by screening the ground surface and enhancing densely vegetated segments of the nearby Sweetwater River corridor. Several Project design features, such as installation of new landscaping (i.e., the landscape screening and entrances plan), fencing, mesh screening, box trees along the western and southern boundary of the processing plant, painting of mining equipment to blend with the color of the exposed soil, and limiting the height of stockpiles to 25 feet (see Chapter 7.0 for all design considerations), would help to reduce the visual impacts and enhance screening of Project components during active mining of the site. However, due to the anticipated strong contrasts associated with Project effects to terrain and vegetation; visibility of effects from roads, trails, and residences; and the duration of mining and reclamation activities (i.e., up to 12 years), impacts would be significant and unmitigable (Impact AES-1).

No designated landmarks (i.e., a visual feature or element designated or identified in an adopted land use plan as an important visual or scenic resource) or identified visual resources such as unique topographical features, designated historic resources, or prominent rock outcroppings or ridgelines occur on site. The areas of potentially important trees on site primarily occur along the southern portion of the site where no mining is proposed. Riparian vegetation communities are

valued for their both biological value and visual aspects, and most of these resources would be retained during implementation of the Proposed Project; however, as described in Subchapter 2.2, the Project would result in direct impacts to approximately 1.63 acres of riparian habitat or other sensitive vegetation communities, including 0.50 acre of disturbed wetland, 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.8 acre of Diegan coastal sage scrub habitats. While impacts to sensitive vegetation communities would be limited, the riparian corridor of the Sweetwater River including the golf course is a major scenic resource of the community and is considered visually notable at the local level. Therefore, implementation of the Project would result in the loss of these features during mining, which would be considered a significant and unmitigable impact relative to the loss of on-site sensitive vegetation and trees within the Sweetwater River corridor (Impact AES-2).

The Valle de Oro Community Plan identifies Willow Glen Drive as a scenic highway corridor. The Project would introduce visually contrasting elements into views from the roadway to the golf course that under existing conditions are partially screened and broken. Changes to views during Project mining and reclamation would be notable. Visually contrasting elements such as mining operations, construction equipment and vehicles, and stockpiles would be partially screened from view of motorists through the installation of screening fences and landscaping. However, detectable visual contrasts would remain strong and would be perceived negatively by road users. Further, scenic elements of existing views would be obscured by Project features and while these views would be restored once motorists travel beyond the Project site; the existing character of the site would be negatively affected. Lastly, the visual quality of the scenic landscape visible from Willow Glen Drive would be degraded as mining activities would impact existing intactness, unity, and memorability. Thus, scenic vista impacts from Willow Glen Drive would be significant and unmitigable (Impact AES-3a).

The changes created by the Project in the vistas available from the Wildlife Refuge Loop Trail would be notable during Phase 1 and would create strong contrasts in form, line, and color on the Project site. Further, areas of exposed soils, the overexcavation pit, and presence of mining equipment and mobile vehicles would detract from and interrupt the existing view as these components would grab the attention of viewers. Phase 2 mining activities and operations at the processing plant would be visible but distant. Mining of Phase 1 would occur over a three-year period and reclamation of the overall area would be completed approximately five years post initiation of mining in subphase 1A. While the prominent peaks, ridgelines, and hills in the background of views from this area would not be obstructed and the volume of viewers at the Wildlife Refuge Loop Trail is assumed to be low, anticipated visual change would be strong and Project elements would detract from and interrupt the available view. Therefore, the anticipated impacts to existing views from elevated portions of the Wildlife Refuge Loop Trail would be significant and unmitigable (Impact AES-3b).

Distance between the McGinty Mountain Trail and the Project site would generally obscure prominent form and lines contrasts associated with vegetation removal and mining activities such that the perceived changes would not substantially affect scenic views. Further, due to the broad, panoramic nature of available views and the wide geographic area visible, color variations on the Project site would occupy a small portion of the seen landscape and would be a minor component. Therefore, impacts to valued focal and/or panoramic vistas from the McGinty Mountain Trail would be less than significant.

Vegetation removal and mining activities in subphases 1B and 1C would be visible from the Sweetwater Regional Trail. Further, existing easterly views from the short trail segment are primarily comprised of the unmaintained Lakes Course in the foreground and mountainous terrain in the background. Despite the low visual quality displayed by elements on the Lakes Course, the removal of all vegetation, alteration of terrain including the over-excavation area, and presence of mining equipment and vehicles would sharply contrast with the existing character of the Project site. Further, foreground Project elements would be visually prominent during active mining and maturation of vegetation and as a result, would substantially detract from available views to local hills and mountains. Therefore, potential impacts to views across the Project site from the Sweetwater Regional Trail would be significant and unmitigable (Impact AES-3c). Impacts associated with views of Project effects from Hilton Head County Park would be less than significant.

The Project would be inconsistent with several applicable goals and policies related to aesthetics contained within the Valle De Oro Community Plan and County of San Diego General Plan Conservation and Open Space Element. During mining and reclamation, the visual elements of the Project would be visually incompatible with the existing visual setting and natural features of the surrounding area and would contrast with the existing character of the Project site and surrounding community. While the Project has been designed to comply with the applicable goals and policies to the extent feasible for an extractive use, including implementation of a comprehensive reclamation plan that would ensure that the long-term conditions on site would comply, impacts during mining and reclamation would be significant and create several conflicts with goals and policies of applicable planning documents. As such, impacts related to compliance with the goals, policies, and requirements of applicable land use plans would be significant and unmitigable (Impact AES-4).

Mining operations are planned to be conducted during daylight hours, such that only safety lighting within the processing plant area would be required. All light fixtures would conform to the County LPC and no highly reflective building materials would be used. Project lighting would not adversely affect nighttime views or astronomical observations because it would conform to the County LPC lighting requirements as well as the hours of operation detailed in the LPC. Visual impacts associated with Project-related lighting and glare would be less than significant.

The Project would result in a considerable contribution to a potential cumulative visual impacts, since the combined visual change associated with potential visual impacts attributed to the Ivanhoe Ranch project compounded by the effects of the Proposed Project would temporarily create strong contrast in the landscape (Impact AES-5).

Table 2.1-1
CUMULATIVE PROJECTS WITHIN THE VIEWSHED

Project Name	County Reference Number	Location	Size (acres)	Development Type	Proposed Improvements
Ivanhoe Ranch	PDS2018-TM-5629, PDS2018-REZ-18-004, PDS2018-GPA- 18-005	5261 Ivanhoe Ranch Road (between Cottonwood Golf Course and Steele Canyon Golf Course) APNs: 518-030-34 and 518-030-37	122	Residential	119 dwelling units, open space
Cuyamaca College Facilities Master Plan Update	N/A	Bound by Fury Lane to the east and SR 54/ Jamacha Road to the south	165	Educational	Modernization/ renovations and site improvements/ infrastructure upgrades to existing facilities.

GPA = General Plan Amendment; REZ = Rezone; TM = Tentative Map; N/A = Not Applicable

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A: Looking east from eastern portion of Project Site

B: Closed Lakes Course

C: Cottonwood Golf Club clubhouse

D: Cottonwood Golf Club parking lot

Source: Dudek (2020)

HELIX Environmental Planning

On-site Existing Conditions

Figure 2.1-1a

E: Looking south from eastern portion of Project Site

F: West of clubhouse looking southwest

G: Sweetwater River channel looking upstream from east of Steele Canyon Road bridge

H: Central portion of Ivanhoe Course looking southwest

Source: Dudek (2020)

HELIX Environmental Planning

On-site Existing Conditions

Figure 2.1-1b

I: View north (upstream) from Steele Canyon Road bridge

J: View northeast from Upper Wildlife Refuge Trail

K: View southwest from SDGE access roads

Source: Dudek (2020)

HELIX Environmental Planning

Off-site Existing Conditions

Figure 2.1-2a

L: View from Willow Glen Drive looking southwest across Ivanhoe Course

M: View from Willow Glen Drive looking southwest across to existing landscape screen

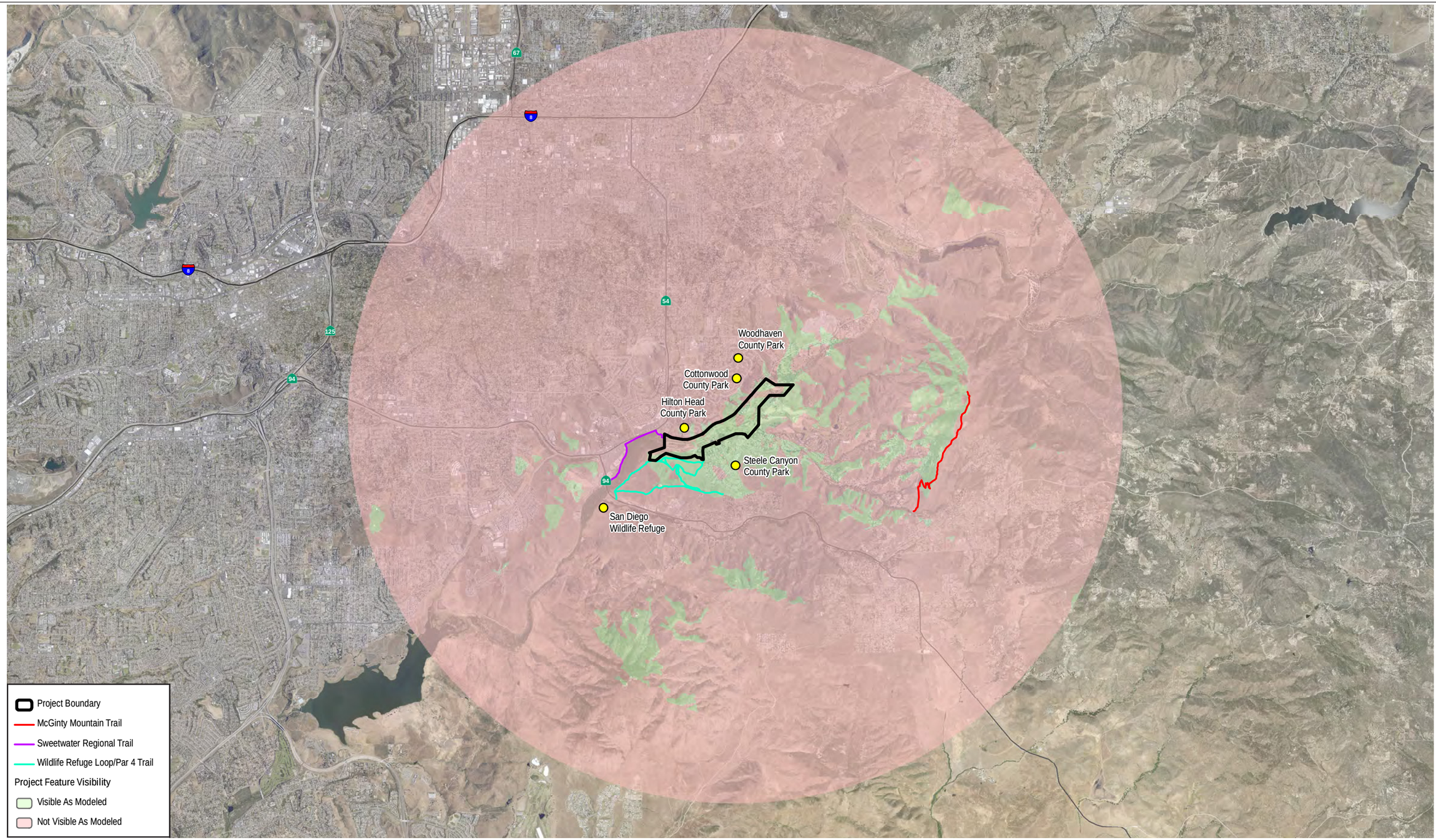
N: View from Hilton Head County Park looking south along Muirfield Drive

Source: Dudek (2020)

HELIX Environmental Planning

Off-site Existing Conditions

Figure 2.1-2b



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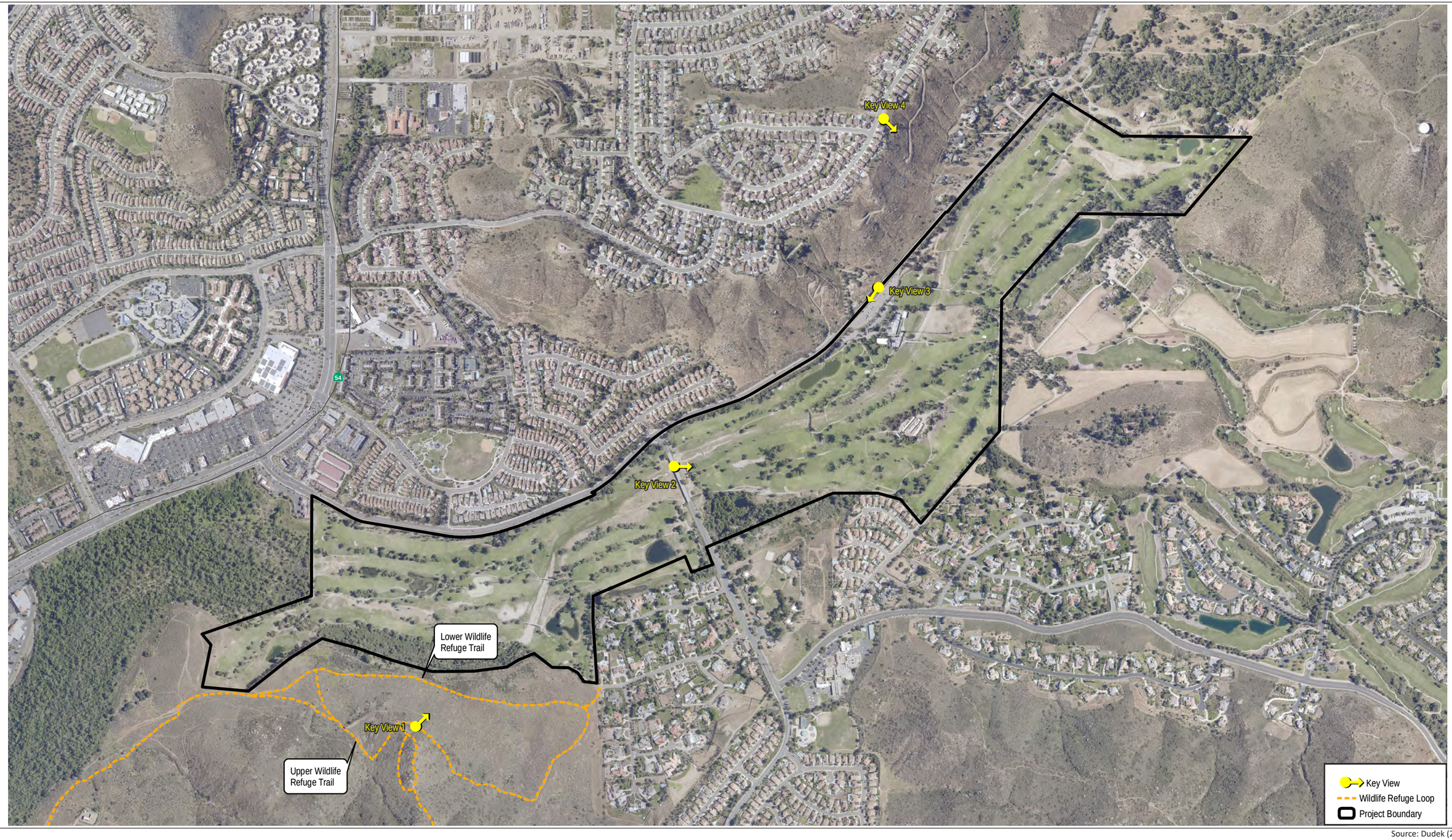
Source: Dudek (2020)



Source: Dudek (2020)

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HELIX Environmental Planning

Key Views

Figure 2.1-4

Existing view to the northeast from the upper segment of the Wildlife Refuge Loop Trail (SDNWR)

Source: Dudek (2020)

HELIX Environmental Planning

Key View 1 - Wildlife Refuge Loop Trail (SDNWR) - Existing Conditions

Figure 2.1-5a

Conceptual Visual Simulation of Project During Subphase 1C Mining

Source: Dudek (2021)

HELIX Environmental Planning

Key View 1 - Wildlife Refuge Loop Trail (SDNWR) – During Mining

Figure 2.1-5b

Conceptual Visual Simulation of Project Post-Reclamation

Source: Dudek (2020)

HELIX Environmental Planning

Key View 1 - Wildlife Refuge Loop Trail (SDNWR) – Post-Reclamation

Figure 2.1-5c

Existing view to the east from Steele Canyon Road Bridge towards Project site

Source: Dudek (2020)

HELIX Environmental Planning

Key View 2 – Steele Canyon Road Bridge - Existing Conditions

Figure 2.1-6a

Conceptual Visual Simulation of Project during Subphase 2A

Source: Dudek (2021)

HELIX Environmental Planning

Key View 2 – Steele Canyon Road Bridge - During Mining

Figure 2.1-6b

Conceptual Visual Simulation of Project During Phase 2 Mining

Source: Dudek (2020)

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HELIX Environmental Planning

Key View 2 – Steele Canyon Road Bridge - During Mining

Figure 2.1-6c

Conceptual Visual Simulation of Project Post-Reclamation

Source: Dudek (2020)

HELIX Environmental Planning

Key View 2 – Steele Canyon Road Bridge - Post-Reclamation

Figure 2.1-6d

Existing view from Willow Glen Drive towards Project site

Source: Dudek (2021)

HELIX Environmental Planning

Key View 3 – Willow Glen Drive - Existing Conditions

Figure 2.1-7a

Conceptual Visual Simulation of Project During Mining of Phase 1A

Source: Dudek (2021)

HELIX Environmental Planning

Key View 3 – Willow Glen Drive - During Mining

Figure 2.1-7b

Conceptual Visual Simulation of Project Post-Reclamation

Source: Dudek (2021)

HELIX Environmental Planning

Key View 3 – Willow Glen Drive - Post-Reclamation

Figure 2.1-7c

Existing view to the southeast from the Wind River Road lookout

Source: Dudek (2020)

HELIX Environmental Planning

Key View 4 – Wind River Road Lookout - Existing Conditions

Figure 2.1-8a

Visual Simulation of Project During Subphase 3B Mining

Source: Dudek (2021)

HELIX Environmental Planning

Key View 4 – Wind River Road Lookout - During Mining

Figure 2.1-8b

Conceptual Visual Simulation of Project Post-Reclamation

Source: Dudek (2021)

HELIX Environmental Planning

Key View 4 – Wind River Road Lookout - Post-Reclamation

Figure 2.1-8c

2.2 Biological Resources

This subchapter describes existing biological conditions within the Proposed Project site and vicinity, identifies associated regulatory requirements and evaluates potential impacts (including cumulative impacts) and mitigation measures related to implementation of the Proposed Project. A Biological Technical Report (BTR) was prepared for the Project by HELIX Environmental Planning, Inc. (HELIX; 2021a), in conformance with the County Guidelines for Determining Significance and Report Format and Content Requirements – Biological Resources (County 2010a) and is summarized below. The complete updated report is included as Appendix C of this EIR.

2.2.1 Existing Conditions

2.2.1.1 *Existing Setting*

Land Uses

The Project site is generally located within the southern valley humid temperate ecoregion of San Diego County, partially within the boundaries of the Rancho San Diego Specific Plan area and within the Valle de Oro Community Plan area. Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters. Mean annual precipitation is between 14 and 18 inches, and the mean annual temperature is between 60 degrees and 62 degrees Fahrenheit. The frost-free season is 260 to 300 days.

Important biological resources in the region generally include core blocks of coastal sage scrub and chaparral, open space conserved within the SDNWR and Otay Valley Regional Park, and perennial waters and riparian habitat associated with Sweetwater River and Otay River corridors and Sweetwater and Otay Reservoirs. The Project site is located within the Sweetwater River Valley and in the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the central portion of the site. The region hosts core populations of sensitive plants, including Dean's milk-vetch (*Astragalus deanei*), Orcutt's brodiaea (*Brodiaea orcuttii*), and felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*), in addition to important habitat for several sensitive animals, including least Bell's vireo and coastal California gnatcatcher, among others. As shown on Figures 2.2-1, *MSCP Designations*, and Figure 2.2-2, *Critical Habitat*, USFWS-designated critical habitat for three species occurs within the extreme southwestern portion of the Project site: coastal California gnatcatcher (2.66 acres), least Bell's vireo (10.42 acres), and San Diego ambrosia (*Ambrosia pumila*; 15.66 acres). Additionally, critical habitat for southwestern willow flycatcher occurs just to the west of the site along a downstream segment of the Sweetwater River. The portion of least Bell's vireo critical habitat mapped within the Project site is primarily located within areas that have been converted to golf course, though a small portion of riparian habitat along Sweetwater River is present. Mapped critical habitat for coastal California gnatcatcher within the Project site is associated with edge of the Sweetwater River riparian canopy, though critical habitat for this species also occurs directly off-site in areas vegetated with coastal sage scrub. Designated critical habitat for San Diego ambrosia within the Project site is located along the Sweetwater River, though some of these areas consist of golf course.

In the context of the MSCP, the Project site occurs within both the northeastern portion of the South County Segment and southwestern portion of the Metro-Lakeside-Jamul Segment of the adopted County MSCP Subarea Plan. The majority of the site is mapped as developed on Attachment J (Habitat Evaluation Map) of the BMO (County 2010b), though small portions along the Project site's southern boundary are also mapped as low, moderate, high, and very high habitat value. The MSCP Hardline is mapped off site to the west and south of the Project along Sweetwater River and within the SDNWR (Figure 2.2-1).

Three small areas of PAMA, totaling 16.40 acres, occur along the northeastern, southeastern, and southern Project boundaries (Figure 2.2-1). A narrow strip of PAMA (4.96 acres) occurs at the northeastern boundary just south of Willow Glen Drive. A small portion of PAMA (3.20 acres), connected to a larger block of off-site habitat that continues further east and southeast of the Project site, is found at the extreme southeastern portion of the Project. The largest patch of PAMA (8.24 acres) occurs directly east of Steele Canyon Road, along the Project site's southern border, in an area that was excavated as part of previous sand mining activities. This area was mined to a depth that created conditions suitable to support riparian habitat. Lastly, approximately 37.79 acres of the Project site at the southwestern boundary represent a Minor Amendment Area. This includes riparian habitat at the downstream portion of Sweetwater River, and lands developed as part of the golf course.

Biological Surveys

General biological surveys of the Project site were conducted, consistent with County requirements, by HELIX on August 13 and November 7, 2018, September 28 and 29, 2020, and October 6, 2020. The site was examined for general biological data, including vegetation mapping and species inventories. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. The Project site was also examined for evidence of potential jurisdictional waters and wetlands.

Surveys for special status plant species were conducted in the spring and summer of 2019, in accordance with applicable protocols. Special status plant species include species that are: listed as threatened or endangered by the USFWS or the CDFW; those with a Rare Plant Rank 1 through 4 designated by the California Native Plant Society (CNPS); those that are on the County's Sensitive Plant List (County 2010c); and those covered by the County's MSCP Subarea Plan (County 1997).

Protocol-level surveys for arroyo toad (*Anaxyrus californicus*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*) were conducted in spring and summer of 2019. Focused surveys for arroyo toad were conducted within the Project site and consisted of six survey visits, spaced at least seven days apart, conducted between April 15 and June 25, 2019, in accordance with *Survey Protocol for Arroyo Toad* (USFWS 1999). At least one survey was conducted during the months of April, May, and June. Focused surveys for least Bell's vireo were conducted and consisted of eight survey visits spaced at least 10 days apart, between April 16 and July 15, 2019, in accordance with *Least Bell's Vireo Survey Guidelines* (USFWS 2001). The survey area consisted of potential least Bell's vireo riparian habitat present within the Project site. Focused surveys for southwestern willow flycatcher were conducted within

the Project site and consisted of five survey visits conducted at least five days apart, between May 30 and July 15, 2019, in accordance with USFWS-approved survey protocol.

HELIX conducted a formal jurisdictional delineation on September 18 and October 5, 2018, to identify and map water and wetland resources potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), RWQCB jurisdiction pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code). The delineation was also conducted to determine the presence or absence of County Resource Protection Ordinance (RPO) wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

All portions of the Project site were surveyed for potential resources and evaluated for Project impacts. More information on the extent and nature of these surveys is provided in the BTR for this Project (Appendix C).

Habitats

Fourteen vegetation communities/land use types occur on the Project site, as shown on Figure 2.2-3, *Vegetation and Sensitive Resources*. The numeric codes in parentheses following each community/land use type name are from the Holland classification system (Holland 1986) as added to by Oberbauer (2008) and as presented in the County's Biology Guidelines (County 2010a). The communities are presented in Table 2.2-1, *Existing Vegetation Communities/Land Use Types*, and described below in order by MSCP Tier.

Disturbed Wetland

Disturbed wetland is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Characteristic species of disturbed wetlands include giant reed, tamarisk, cocklebur (*Xanthium strumarium*), umbrella sedge (*Cyperus involucratus*), and wild celery (*Apium graveolens*).

Disturbed wetland on site is located along the Sweetwater River and is dominated by Bermuda grass or bare ground. The river channel has been altered from current and past disturbances associated with previous mining activities and golf course development. It has been planted with turf grass and is regularly mowed as part of golf course maintenance activities. Approximately 10.41 acres of disturbed wetland are mapped within the Project site.

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, and freshwater or brackish marshes. These areas are semi-permanently or permanently flooded, yet lack a significant current (Holland 1986). Dominant species include cattails (*Typha* sp.) and bulrushes

(*Schoenoplectus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge (*Eleocharis* sp.).

Freshwater marsh within the Project site is dominated by cattails and California bulrush (*Schoenoplectus californicus*). A small patch occurs in the southwestern portion of the Project site at the downstream end of Sweetwater River, just east (upstream) of a bridge crossing. Freshwater marsh also occurs in the south-central portion of the Project site, just east of Steele Canyon Road, in an area that was previously disturbed by sand mining activities. A total of 0.31 acre of freshwater marsh are mapped on site.

Southern Cottonwood-Willow Riparian Forest (including disturbed)

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter deciduous riparian species and is dominated by cottonwood species (e.g., *Populus* spp.), with willow species (*Salix* spp.) composing the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater number of cottonwoods and western sycamores (*Platanus racemosa*). Disturbed southern cottonwood-willow riparian forest contains a higher percentage of exotic species such as tamarisk, shamel ash (*Fraxinus udehi*), eucalyptus (*Eucalytpus* spp.), peppertree (*Schinus* spp.), and Mexican fan palm (*Washingtonia robusta*).

Typical species occurring within southern cottonwood-willow riparian forest on site include western cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), arroyo willow (*Salix lasiolepis*), and black willow (*Salix gooddingii*). Non-native species within disturbed portions of southern cottonwood-willow riparian forest include eucalyptus, tamarisk, and Mexican fan palm. Approximately 13.96 acres of southern cottonwood-willow riparian forest, which includes 0.99 acre disturbed, are mapped at the northeastern and southwestern portions of the Project site along Sweetwater River, and to the east of Steele Canyon Road along the site's southern boundary in an area previously disturbed by sand mining activities.

Southern Willow Scrub (including disturbed)

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat (*Baccharis salicifolia*), and with scattered emergent cottonwood and western sycamores. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest. Disturbed southern willow scrub contains a higher percentage of exotics and non-native species.

This habitat occurs along the downstream portion of Sweetwater River in the southwestern portion of the Project site. Dominant species include arroyo willow, black willow, and sandbar willow (*Salix exigua*). Disturbed southern willow scrub includes the same species along with intermixed giant reed and tamarisk trees. A total of 4.67 acres of southern willow scrub, which includes 3.87 acres disturbed, is mapped on site.

Tamarisk Scrub

Tamarisk scrub typically comprises shrubs and/or small trees of exotic tamarisk species but may also contain willows, salt bushes (*Atriplex* spp.), 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 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 stream channel.

Tamarisk scrub on site is dominated by tamarisk with occasional cattails and willows. It is found along the downstream portion of Sweetwater River in the southwestern portion of the Project site. A total of 0.62 acre of tamarisk scrub is mapped on site.

Open Water

Open water on the Project site consists of stands of fresh water located to the east of Steele Canyon Road along the Project's southern boundary in an area that was previously disturbed by mining activities. The area was excavated during sand extraction creating lower-lying areas that intersect the water table. These open water features are surrounded by native riparian habitat. A total of 0.82 acre of open water/freshwater pond is mapped on site.

Arundo-dominated Riparian

Arundo-dominated riparian consists of densely vegetated riparian thickets dominated almost exclusively by giant reed. It occurs along disturbed water courses. On site, this habitat occurs as a near monoculture of giant reed within a portion of Sweetwater River, an associated tributary off Ivanhoe Ranch Road, and at the fringe of a constructed pond west of Steele Canyon Road. A total of 0.54 acre of arundo-dominated riparian is mapped on site.

Diegan Coastal Sage Scrub (including Disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native, annual species.

Small patches of this habitat occur at the southeastern and southwestern Project boundaries. These patches are connected to larger swaths of coastal sage scrub that occur off-site within preserved lands and open space. Dominant species include California sage brush, California buckwheat, singlewhorl burrobrush (*Ambrosia monogyra*) and broom baccharis (*Baccharis sarothroides*). Disturbed coastal sage scrub on site occurs as narrow bands of habitat to the south of Willow Glen Drive at the northeastern boundary, and to the west of Steele Canyon Road along the southern boundary. These areas consist of scattered shrubs of California sagebrush and California

buckwheat growing among planted non-native trees and woody debris deposited on the slopes. A total of 1.7 acres of Diegan coastal sage scrub, including 0.6 acre disturbed, is mapped within the site.

Non-Native Woodland

Non-native woodland is dominated by exotic trees, often intentionally planted. These areas are not artificially irrigated or maintained. A single stand of non-native woodland is found in the southeastern portion of the site. Dominant species include eucalyptus, tamarisk, and Peruvian pepper tree (*Schinus molle*) with an understory comprised of scattered California sagebrush and California buckwheat shrubs, and annual non-native grasses (*Bromus* spp.). Approximately 0.8 acre of non-native woodland is mapped within the Project site.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the trees, limit the ability of other species to grow in the understory, thereby decreasing floristic diversity. If sufficient moisture is available, eucalyptus becomes naturalized and can reproduce and expand its cover.

Scattered stands of eucalyptus woodland occur throughout the Project site, mostly at the northeastern, southeastern, and southern boundaries. Scattered eucalyptus trees also occur throughout the golf course amongst the trees lining the fairways. A total of 3.0 acres of eucalyptus woodland is mapped within the Project site.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* spp.], peppertree [*Schinus* spp.), many of which are also used in landscaping. On site, this habitat consists of Peruvian pepper trees and oleander (*Nerium oleander*) lining Willow Glen Drive along the site's northern boundary, totaling approximately 4.2 acres.

Disturbed Habitat

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010c).

Disturbed habitat on site predominantly occurs to the west of Steele Canyon Road within the closed portion of the golf course. This area is no longer being irrigated and maintained, though it is subject to periodic mowing. Disturbed habitat consists of dirt roads and non-native, weedy vegetation such as Bermuda grass, foxtail chess (*Bromus madritensis*), filaree (*Erodium* spp.), shortpod mustard (*Hirschfeldia incana*), and Russian thistle (*Salsola tragus*). Additionally, native and non-native planted trees including cottonwoods, eucalyptus, shamel ash, and northern catalpa (*Catalpa speciosa*) are present along the borders of the previous fairways. A total of 93.1 acres of disturbed habitat is mapped on site.

Man-made Pond

Man-made ponds on site consist of open water habitat excavated in uplands. A total of six constructed ponds totaling 3.5 acres are present on site, which serve as water hazards and aesthetic features for the golf course. Four ponds are present in the eastern portion of the site and two occur to the west of Steele Canyon. The water level in these constructed ponds is maintained artificially by pumping groundwater into them.

Developed Land

Developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010c).

Developed land within the Project site consists of the active portion of Cottonwood Golf Club, to the east of Steele Canyon Road. These areas include a club house, parking lot, maintenance facilities and other buildings, golf cart paths, and other areas of hardscape or maintained landscaping. Approximately 139.0 acres of developed land are mapped within the Project site.

Sensitive Vegetation Communities/Habitat Types

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines. Table 5 of the County guidelines (County 2010a, 2010c) provides a list of habitat mitigation ratios for each vegetation community type.

Sensitive vegetation communities/habitat types mapped on the Project site include disturbed wetland, freshwater marsh, southern cottonwood-willow riparian forest (including disturbed), southern willow scrub (including disturbed), tamarisk scrub, open water, arundo-dominated riparian, and Diegan coastal sage scrub (including disturbed).

Non-native woodland, eucalyptus woodland, non-native vegetation, disturbed habitat, man-made pond, and developed lands do not meet the definition of sensitive habitat under CEQA.

Jurisdictional Wetlands/Waters

The Project site does not contain any vernal pools, but supports wetland and non-wetland waters of the U.S. (WUS) subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the federal CWA; wetland and non-wetland waters of the State (WS) subject to the regulatory jurisdiction of the RWQCB pursuant to Section 401 of the CWA; riparian-vegetated and unvegetated streambed subject to the regulatory jurisdiction of the CDFW pursuant to Section 1600 et seq. of California Fish and Game Code; and wetlands subject to the regulatory jurisdiction of the County pursuant to the RPO. However, as discussed in further detail in the local regulatory framework under *Resource Protection Ordinance*, below, the Proposed Project is exempt from RPO requirements based on implementation of measures specified in Section 86.605(d) of the RPO as conditions of the Project's MUP.

Impacts to jurisdictional wetlands/waters would require consultation and approvals from federal and state agencies, including a Section 404 Permit from USACE, 401 Certification from the San Diego RWQCB and a 1602 Streambed Alteration Agreement (SAA) from CDFW.

Wetland habitat on site is primarily associated with the Sweetwater River, which enters the Project site at the northeastern boundary, flows west, and exits the site at the southwestern boundary. The majority of habitat along the river has been heavily modified by development of the golf course and is dominated by Bermuda grass that is subjected to on-going disturbances associated with maintenance activities (i.e., mowing). A stand of riparian habitat is present at the downstream portion of the river within the southwestern portion of the Project site.

Three unnamed ephemeral drainages, two of which are tributary to Sweetwater River, are also present within the Project site. All three drainages enter the site at separate locations along the Project's southern boundary. The eastern-most drainage enters the Project site from the south and terminates within a lower lying area that was excavated in the 1960s during construction of the golf course. This drainage course does not have downstream connectivity to Sweetwater River or any other waterways. A second drainage enters the site from Ivanhoe Ranch Road, just east of Steele Canyon Road. The drainage flows north, eventually converging with Sweetwater River. Development of the golf course and on-going maintenance activities have severely altered this drainage, which lacks a defined bed and bank. Vegetation along the drainage consists of Bermuda grass, which serves as turf grass along the golf course's fairways. The westernmost drainage flows west from Steele Canyon Road, south of the Project boundary. The off-site reach of this drainage enters a small detention basin located within a residential property at the terminus of Heatherwood Drive. A spillway is located at the western portion of the basin at the point where the narrow drainage feature enters the Project site. The on-site reach of this drainage flows west for approximately 400 feet then converges with the Sweetwater River.

USACE Jurisdiction

Through implementation of the CWA, the USACE claims jurisdiction over waterways that are, or drain to, "WUS" or "waters." The definition of "waters" includes (but is not limited to) inland waters; lakes, rivers, and streams that are navigable; tributaries to these waters; and wetlands adjacent to these waters or their tributaries. The jurisdictional limit of non-wetland waters (i.e., creeks and drainages) is the ordinary high-water mark. The jurisdictional limit of wetlands is the upper limit of the wetland. Delineations of wetland limits were conducted for the Proposed Project according to the procedures found in the Wetlands Delineation Manual (USACE 1987).

USACE wetlands must satisfy criteria to three parameters: vegetation, soils, and hydrology. If any single parameter does not contain a positive wetland indicator, the site is not a USACE jurisdictional wetland. Where USACE wetlands are present, projects may be permitted on an individual basis or may be covered under one of several approved nationwide permits. Individual permits are required when more than 300 linear feet of drainages, more than 0.5 acre of wetlands, or any vernal pools would be impacted.

All areas with depressions or drainage channels were evaluated for the presence of WUS, including jurisdictional wetlands. If an area was suspected of being a wetland, vegetation and hydrology indicators were noted, and a soil pit was dug and described. The area was then determined to be a

federal (USACE) wetland if it satisfied the three wetland criteria (vegetation, hydrology, and soil). Fifteen sampling points were studied, and soil pits were excavated at each of these. Sampling points were located within representative uplands and wetlands. Drainages lacking evidence of wetland hydrology (i.e., inundation for more than five percent of the growing season) were considered non-wetland WUS.

Potential WUS in the Project site include wetland WUS and non-wetland WUS within Sweetwater River and unnamed tributaries, as shown in Table 2.2-2, *Waters of the U.S. – Existing Conditions* and Figure 2.2-4, *Waters of the U.S.*). A total of 24.52 acres of potential WUS occurs on site, comprised of 23.96 acres of wetlands and 0.56 acre of non-wetland waters. These WUS would also be subject to RWQCB jurisdiction pursuant to CWA Section 401.

RWQCB Jurisdiction

Potential RWQCB-jurisdictional WS were delineated in the same manner as potential USACE-jurisdictional WUS. All WUS were considered WS subject to RWQCB jurisdiction pursuant to CWA Section 401; no geographically isolated waters subject to Porter-Cologne are present on the Project site (refer to Table 2.2-2 and Figure 2.2-4).

CDFW Jurisdiction

Under Section 1600 of the CFG Code, a project applicant may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream or lake, unless CDFW receives written notification regarding the activity. After said notification is complete, CDFW must determine whether the activity may substantially adversely affect an existing fish and wildlife resource. The Project Applicant would be required to apply for and receive approval of a SAA from CDFW.

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-bank to top-of-bank width for the features within the Project site. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream.

Potential CDFW jurisdictional areas within the Project site consist of arundo-dominated riparian, disturbed wetland, freshwater marsh, open water, southern cottonwood-willow riparian forest (including disturbed), southern willow scrub (including disturbed), tamarisk scrub, and streambed, as presented in Table 2.2-3, *California Department of Fish and Wildlife Jurisdiction*, and shown on Figure 2.2-5, *CDFW Jurisdictional Areas*. The potential CDFW jurisdiction totals 50.38 acres on site.

San Diego County RPO Wetlands

The County's RPO is more inclusive than the USACE's criteria for defining wetlands. Under the RPO, a wetland must only meet one of the following criteria in order to be classified as a wetland: (1) at least periodically the land supports predominantly hydrophytes (plants whose habitat is water

or very wet places); (2) the substratum is predominantly undrained hydric soils; or (3) an ephemeral or perennial stream is present, whose substratum is predominantly non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

As shown in Table 2.2-4, *County Resource Protection Ordinance Wetlands*, and Figure 2.2-6, *County RPO Wetlands*, areas meeting the criteria to be considered County RPO wetlands (County 2011a) in the Project site include arundo-dominated riparian, disturbed wetland, freshwater marsh, open water, southern cottonwood-willow riparian forest (including disturbed), southern willow scrub (including disturbed), and tamarisk scrub. County RPO wetlands total 31.32 acres on site.

Plant Species

HELIX identified a total of 151 plant species within the Project site, of which 69 (46 percent) are native species and 82 (54 percent) are non-native species (refer to Appendix G of the BTR [EIR Appendix C] for a complete list of identified plant species).

Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County and may also be included in the CNPS' Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be more or less abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

Four special status plant species were observed on the Project site, as listed below, referenced in Appendix G to the BTR, and shown on Figure 2.2-3.

Singlewhorl Burrobrush (*Ambrosia monogyra*)
Sensitivity Status: --/--; California Rare Plant Rank (CRPR) 2B.2
Distribution: Elevations below 1,640 feet in Inyo County and southern California regions.
Habitat(s): Sandy soils of dry riverbeds and washes.
Status on site: Approximately 151 individuals were mapped within Diegan coastal sage scrub at the extreme northeastern portion of the site.

San Diego Sagewort (*Artemisia palmeri*)
Sensitivity Status: --/--; CRPR 4.2; County List D
Distribution: Coastal regions of Orange and San Diego Counties at elevations below 1,970 feet.
Habitat(s): Moist drainages and stream courses on sandy and mesic soils.
Status on site: Two individuals were observed at the western Project boundary at the edge of southern riparian forest along Sweetwater River.

San Diego County Viguiera (*Bahiopsis laciniata*)
Sensitivity Status: --/--; CRPR 4.3, County List D
Distribution: Coastal portions of southern California from Ventura County south to San Diego County and into western Riverside County at elevations below 2,500 feet.
Habitat(s): Grows on a variety of soil types within coastal sage scrub and chaparral.
Status on site: Four individuals observed at the northeastern portion of the Project site within disturbed coastal sage scrub and disturbed habitat.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)
Sensitivity Status: --/--; CRPR 4.2; County List D
Distribution: Coastal regions of southern California at elevations below 1,000 feet. San Luis Obispo County south to San Diego County, and further east into Riverside and Imperial Counties.
Habitat(s): Moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps.
Status on site: Six individuals observed at southwestern portion of Project site in wetland habitat at the downstream portion of Sweetwater River.

Special Status Plant Species with Potential to Occur

Special status plant species that may have potential to occur on the Project site but were not observed are listed in Appendix I of the BTR (EIR Appendix C). In total, two special status plant species were determined to have a high potential to occur on site: San Diego ambrosia (*Ambrosia pumila*) and Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*). No additional species have a high potential to occur, primarily due to the lack of suitable conditions, habitat conversion and disturbances from previous golf course uses, ongoing maintenance activities, and prevalence of non-native vegetation.

Animal Species

A total of 97 animal species were observed or otherwise detected on the Project site during the biological surveys, including 11 invertebrate, 4 amphibian, 4 reptile, 74 bird, and 4 mammal species (Appendix H of the BTR [EIR Appendix C]).

Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Seventeen special status animal species have been observed or detected on or directly adjacent to the Project site, or observed flying over the Project site, during biological surveys conducted for the Project. Each species is listed below in alphabetical order by common name, described, and shown on Figure 2.2-3. Status codes are defined in Appendix K of the BTR (EIR Appendix C).

Barn Owl (*Tyto alba*)
Status: --/--; County Group 2
Distribution: Common, yearlong resident of California.
Habitat: Open habitats such as grassland, chaparral, riparian, and wetlands avoiding dense forests and open desert habitats. Also found in urban and suburban areas. Nest in sheltered areas of cliffs or man-made structures, on ledges, in crevices, culverts, nest boxes, and in cavities in trees. Roosts in dense vegetation, cliffs, and buildings and other man-made structures.
Presence on Site: A single individual was observed foraging in the eastern portion of the Project site during an evening toad survey.

Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)
Status: --/WL; MSCP Covered; County Group 2
Distribution: Southern Orange County and southern San Bernardino County, south through Baja California below 3,500 feet.
Habitat(s): Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).
Presence on Site: At least three individuals were observed on several occasions in the northeastern portion of the Project site between Willow Glen Drive and Sweetwater River, and at least two individuals were observed adjacent to the patch of riparian habitat east of Steele Canyon Road.

Coastal California Gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC; MSCP Covered, County Group 1
Distribution: Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside Counties.
Habitat(s): A female gnatcatcher was observed foraging with and feeding one fledgling within coastal sage scrub at the Project's southwestern boundary on June 11, 2019. Additional observations of the species include a single juvenile calling within the patch of riparian habitat along Sweetwater River in the southwestern portion of the Project site on July 1, 2019 and another female/juvenile type foraging in the same general area on July 17, 2019. Though the species was observed within the Project site, suitable habitat present is limited to small patches of coastal sage scrub in the extreme southwestern and southeastern portions of the site that connect to larger blocks of coastal sage scrub that continue off site. The species may utilize these areas for foraging opportunities but would most likely breed off site in more extensive, higher quality habitat.

Cooper's Hawk (*Accipiter cooperii*)
Status: --/Watch List (WL); MSCP Covered; County Group 1
Distribution: In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet.
Habitat(s): Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests. Increasingly found in suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.
Presence on Site: A single individual was documented at three different locations within the southwestern portion of the Project site. Observations included individuals perched in trees within the developed golf course and riparian habitat, and flying over the Project site.

Great Blue Heron (*Ardea herodias*)
Status: --/--; County Group 2
Distribution: Year-round resident of California occurring throughout most of the state.
Habitat(s): Found in a wide variety of habitats foraging in various wetland habitats, water bodies, and occasionally uplands. Nests as single pairs and in small colonies with nests located on the ground, in trees and bushes, and on artificial structures that are usually adjacent to water and secluded from human disturbance.
Presence on Site: Individuals observed foraging in two separate locations within the Project site. One individual was detected within the patch of riparian habitat just east of Steele Canyon Road and another was detected at the edge of a man-made pond to the west of Steele Canyon Road.

Green Heron (*Butorides virescens*)
Status: --/--; County Group 2
Distribution: In California, the species is a year-round found generally west of the Sierra Nevada and within the southern deserts.
Habitat(s): Found in a wide variety of wetland habitats such as swamps, marshes, riparian habitat along creeks and streams, lake edges, and man-made ditches, canals, and ponds preferring thick vegetation and avoiding open areas.
Presence on Site: Detected in three separate locations within the Project site. A pair was observed at a man-made pond at the eastern boundary, an individual was observed perched within riparian habitat just east of Steele Canyon Road, and another individual was detected at the edge of a man-made pond to the west of Steele Canyon Road.

Lawrence's Goldfinch (*Spinus lawrencei*)
Status: BCC/--
Distribution: Resident of California breeding from Tehama, Shasta, and Trinity Counties to the foothills surrounding Central Valley, south through the southern Coast Range to Santa Barbara County continuing into San Diego County and east to the western edge of the southern Mojave and Colorado Deserts.
Habitat(s): Inhabits arid and open woodlands adjacent to scrub or chaparral habitats, grasslands or meadows, and water resources such as a stream, pond, or lake from sea level up to 10,000 feet.
Presence on Site: A small flock consisting of approximately eight birds was observed foraging within the eastern portion of the Project site along the southern boundary. The species is highly nomadic, flocking to areas where food sources are abundant, and most likely utilizes the site for foraging opportunities.

Least Bell's Vireo (*Vireo bellii pusillus*)
Status: FE/SE; MSCP Covered and NE; County Group 1
Distribution: In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo, San Bernardino, and Riverside Counties.
Habitat(s): Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. A structurally diverse canopy and dense shrub cover is required for nesting and foraging. The species can be tolerant of the presence of non-native species such as tamarisk.

Presence on Site: A total of two vireo pairs, and six additional male vireos were detected during the 2019 protocol surveys. One least Bell's vireo pair and three male vireos were detected within the Project site. The least Bell's vireo pair was observed foraging with and feeding three fledglings on May 30, 2019 in the patch of riparian habitat directly east of Steele Canyon Road. Additionally, one least Bell's vireo pair and three male vireos were detected outside of the Project site. The pair was observed to the west within the SDNWR, two of the males were detected within the Steele Canyon Golf Course, and one male was observed to the west within the SDNWR. Critical habitat for the species occurs both on-site and off-site along Sweetwater River.

Monarch Butterfly (*Danaus plexippus*)
Status: FC/--; County Group 2
Distribution: Winter roost sites extend along the coast from northern Mendocino south to Baja California, Mexico.
Habitat: Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.).
Presence on Site: A single individual was observed flying within non-native woodland in the southeastern portion of the Project site in August 2018. An additional individual was observed just outside of the Project boundary, to the south of the patch of riparian habitat east of Steele Canyon Road, in July 2019.

Oak Titmouse (*Baeolophus inornatus*)
Status: BCC/--
Distribution: Year-round resident found from southern Oregon south through California to northwestern Baja California, Mexico.
Habitat(s): Prefers dry oak and oak-pine woodlands but may use scrub oaks and other scrub habitat near woodlands. Also found in juniper woodlands and open pine forests.
Presence on Site: One individual foraging within trees in the developed golf course to the west of Steele Canyon Road.

Peregrine Falcon (*Falco peregrinus*)
Status: BCC/FP; MSCP Covered and NE, County Group 1
Distribution: In California, the species is a very uncommon breeding resident and migrant throughout the state.
Habitat(s): Inhabits a large variety of open habitats including marshes, grasslands, coastlines, and woodlands but is generally absent from desert areas. Typically nest on cliff faces in remote rugged sites where adequate food is available nearby, but the species can also be found in urbanized areas nesting on man-made structures.
Presence on Site: A pair was observed flying overhead on May 5, 2019. The pair flew north and perched on a transmission tower located on the hillside north of the Project site. An individual was later observed perched on a tree in the western portion of the site before flying further west and off site. The pair is presumed to have been foraging individuals moving through the area. No suitable nesting habitat for the species is present within or immediately adjacent to the Project site, and no nesting individuals were observed during Project surveys.

Red-shouldered Hawk (*Buteo lineatus*)
Status: --/--; County Group 1
Distribution: In California, occurs throughout the state in areas west of Sierra Nevada.
Habitat(s): Mature oak and riparian woodlands, eucalyptus groves, and suburban areas near forested areas. Nests in trees, both native and non-native, often located near a water source.
Presence on Site: Multiple individuals observed at four locations across the Project site. Observations included single individuals and at least one pair perched in trees or flying overhead within both the eastern and western portions of the Project site.

Turkey Vulture (*Cathartes aura*)
Status: --/--; County Group 1
Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest.
Habitat(s): Foraging habitat includes most open habitats with breeding occurring in crevices among boulders. Roosts communally preferring stands of large trees or hilly areas, usually away from human disturbance.
Presence on Site: Single individual observed soaring overhead in the southwestern portion of the Project site. No potentially suitable breeding habitat is present on site.

Vermilion Flycatcher (*Pyrocephalus rubinus*)
Status: --/Species of Special Concern (SSC); County Group 1
Distribution: Scarce breeding records occur in southern California with a few individuals wintering regularly along the California coast from Ventura County south to San Diego County.
Habitat(s): Arid scrub, farmlands, parks, golf courses, desert, savanna, cultivated lands, and riparian woodland, usually near water. Wintering individuals can be found in open and semi-open areas with hedges, scattered trees and bushes, and often near water.
Presence on Site: Multiple individuals and pairs were observed within and throughout the Project site during Project surveys. At least two breeding pairs were confirmed to occupy the site during 2019. A pair with at least one fledging was observed in the eastern portion of the Project site, just southwest of the clubhouse. Another pair with two fledglings was observed in the western portion of the Project site, to the east of Sweetwater River.

Western Bluebird (*Sialia mexicana*)
Status: --/--; MSCP Covered; County Group 2
Distribution: Common year-round resident throughout California but absent from the higher mountains and eastern deserts.
Habitat(s): Breeds in open woodlands, riparian habitats, grasslands, and farmlands. Nests and roosts in cavities of trees and snags, often in holes previously created by woodpeckers, and nest boxes. Winters in a wider variety of habitats.
Presence on Site: Multiple individuals were detected in thirteen different locations throughout the Project site within riparian habitat and the developed golf course. Observations included single individuals and small flocks of up to five individuals perched on trees, flying over the site, or foraging within the Project site. Suitable breeding habitat is present on site.

Yellow-breasted Chat (*Icteria virens*)
Status: --/SSC; County Group 1
Distribution: In California, occurs as a migrant and summer resident breeding from the coastal regions in northern California, east of the Cascades, and throughout the central and southern portions of the state.
Habitat(s): Breeds in early successional riparian habitats with well-developed shrub layer and an open canopy nesting on the borders of streams, creeks, rivers, and marshes.
Presence on Site: A single individual was heard singing in the southwestern portion of the Project site within the patch of riparian habitat along Sweetwater River. Additional individuals were detected further west of the Project site within the SDNWR.

Yellow Warbler (*Setophaga petechia*)
Status: BCC/SSC; County Group 2
Distribution: Common to locally abundant species breeding throughout California at elevations below 8,500 feet, excluding most of the Mojave Desert, and all of the Colorado Desert.
Habitat(s): Breeds in riparian areas dominated by willows and cottonwoods, near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests at higher elevation areas.
Presence on Site: Multiple individuals were observed within 18 locations throughout the Project site. Observations included individuals perched in trees and along fences in the northeastern portion of the Project site, as well as foraging in these areas.

Special Status Animal Species with Potential to Occur

Special status animal species present on site or with potential to occur on site are included in Appendix J of the BTR (EIR Appendix C). The species are grouped into invertebrates and vertebrates (fish, amphibians, reptiles, birds, and mammals) and alphabetized by scientific name. Eight additional special status animal species that were not observed on the Project site were determined to have a high potential to occur: western spadefoot (*Spea hammondii*), two-striped garter snake (*Thamnophis hammondii*), sharp-shinned hawk (*Accipiter striatus*), Canada goose (*Branta canadensis*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), merlin (*Falco columbarius*), loggerhead shrike (*Lanius ludovicianus*), and Mexican long-tongued bat (*Choeronycteris mexicana*). These species are further discussed in Appendices J and K of the BTR (EIR Appendix C).

Focused surveys for San Diego fairy shrimp (*Branchinecta sandiegonensis*), Quino checkerspot butterfly (*Euphydryas editha quino*), coastal California gnatcatcher (*Polioptila californica californica*), and Stephens' kangaroo rat (*Dipodomys stephensi*) were not warranted, as the site either lacks habitat suitable for the species (fairy shrimp and Quino checkerspot butterfly), is located outside of the species known range (Stephens' kangaroo rat), or the species is known to occur immediately adjacent to the site and is assumed to be present (coastal California gnatcatcher) as detailed in Appendix J of the BTR (EIR Appendix C).

San Diego fairy shrimp are generally restricted to vernal pools and other ephemeral basins. No vernal pools or other suitable habitat for fairy shrimp is present on-site; therefore, the site lacks suitable habitat for the species and focused surveys are not required.

Quino checkerspot butterfly inhabits open-canopied habitats such as sage scrub, open chaparral, grassland, and open oak and juniper woodland communities. The project site consists of a developed golf course lacking suitable habitat for the species and focused surveys are not required. Construction of the golf course resulted in the conversion of previous habitat, which primarily consisted of wetland- and riparian-associated habitat along the Sweetwater River, to non-native vegetation and developed areas associated with the current commercial uses of the site. On-going golf course maintenance and operation since the 1960s has resulted in further degradation and disturbance to the site, creating unsuitable conditions for Quino checkerspot butterfly occupation. Furthermore, host plants associated with the species were not found to occur within the project site and potential nectaring resources are limited as a result of on-going golf course operation and maintenance activities.

The coastal California gnatcatcher occurs in arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas where California sagebrush is at least present as a dominant or co-dominant species. The species is known to occur within the local area and was heard calling off-site to the southwest within the SDNWR during the August 2018 general biological survey, in addition to observations of foraging individuals in coastal sage scrub and riparian habitat in the southwestern portion of the Project site in June and July 2019. Two small patches of suitable coastal sage scrub habitat occur within the extreme southwestern and southeastern portions of the Project site. These patches are contiguous with other coastal sage scrub habitat present within preserved lands, open space areas, or undeveloped habitat. Therefore, the species is presumed to be present within or immediately adjacent to these areas. Two small patches of disturbed coastal sage scrub habitat are located to the south of Willow Glen Drive and west of Steele Canyon Road. These areas are composed of scattered shrubs intermixed with disturbed habitat and non-native trees and are considered unsuitable for the gnatcatcher based on their small size, disturbed nature, and isolation from other stands of coastal sage scrub.

Stephens' kangaroo rat inhabits native to open grasslands and sparse coastal sage scrub (less than 30 percent cover) on relatively flat or gently sloping ground. The species occurs in southwestern San Bernardino, western Riverside, and northwestern San Diego Counites. In San Diego County, the species is found north of the City of Escondido within the Marine Corps Base Camp Pendleton, Fallbrook, and Lake Henshaw (USFWS 1997). The project site is located in the southern portion of the County outside of the species known range; therefore, focused surveys are not required.

Raptor Foraging

Several species of raptors were observed within the Project site during the biological surveys. Raptors observed during these surveys include Cooper's hawk, turkey vulture, red-shouldered hawk, peregrine falcon, and red-tailed hawk (*Buteo jamaicensis*).

The County (2010a) defines raptor foraging habitat as, "Land that is a minimum of five acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." The disturbed habitat on the Project site could be considered raptor foraging habitat based on this definition since it occupies greater than five acres and supports burrows of common small mammals, namely Botta's pocket gopher (*Thomomys bottae*); however, the overall foraging value of the site is relatively low considering that the site has operated as an active golf course for decades and golf play to the west of Steele Canyon Road was

only recently suspended in 2017. Therefore, the Project site has likely not functioned as a local or regional foraging resource of importance for raptors and would provide low quality foraging habitat in its current state. Other more expansive areas occur in the local area and region that provide better quality foraging habitat, such the SDNWR to the southwest. The area east of Steele Canyon Road is still an active golf course subject to human disturbances and maintenance activities (i.e., mowing) that could discourage and limit raptor foraging activities.

Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals, providing access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

With respect to wildlife movement in the region, conservation targets generally include conserving core blocks of coastal sage scrub and chaparral habitat, as well as maintaining linkages between critical biological resource areas. The Project site is shown as a habitat linkage between the McGinty Mountain/Sycuan Peak-Dehesa Biological Resource Core Area (BRCA) and Sweetwater Reservoir/San Miguel Mountain BRCA, which overlap the extreme southwestern and southeastern portions of the Project site, respectively. These BRCA are generally associated with the SDNWR to the west, southwest, and southeast of the Project site, along with open space areas to the east and southeast located within the McGinty Mountain Ecological Reserve and McGinty Mountain Preserve. The Sweetwater River and Sweetwater Reservoir are expected to be key components to the movement of wildlife in the region, namely birds and mammals. These resources support permanent water sources and cover for a wide range of species known to the region. Large mammals, such as southern mule deer (*Odocoileus hemionus fuliginata*) and coyote (*Canis latrans*), would be expected to travel to and from the Sweetwater River/Sweetwater Reservoir and expansive habitat blocks associated with the SDNWR. Large mammals would also be expected to travel along the Sweetwater River valley and riparian corridor. Birds would be expected to move unobstructed between key habitat blocks of coastal sage scrub and riparian habitat providing important breeding, foraging, and dispersal functions. Key blocks of coastal sage scrub where gnatcatchers are known to occur include the SDNWR, with additional habitat extending further northeast within Crestridge and Harbison Canyon, and to the southeast into Proctor Valley and areas surrounding Jamul Mountain.

As noted above, the Project site includes areas identified as PAMA under the County's MSCP Subarea Plan. The PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas and important functional linkages and movement corridors between them. The Project site is mostly developed or disturbed, with only three small portions of the site at the northeastern, southeastern, and southern boundaries

containing lands identified as PAMA under the County's MSCP Subarea Plan (Figure 2.2-1). The northeastern lands mapped as PAMA represent a narrow patch of habitat to the south of Willow Glen Drive and north of Sweetwater River. Vegetation in this area is comprised of small patches of disturbed wetland, southern willow scrub, disturbed southern cottonwood-willow riparian forest, disturbed Diegan coastal sage scrub, eucalyptus woodland, non-native vegetation, and disturbed habitat. The southeastern section of PAMA is contiguous with other off-site lands mapped as PAMA. These lands represent undeveloped habitat and open space areas associated with the McGinty Mountain Ecological Reserve and SDNWR. The southern section of PAMA within the Project site represents an isolated patch of riparian habitat that is surrounded on all sides by development and provides no direct connectivity to other open space areas.

The Project site is shown as a habitat linkage in the South County MSCP, contains lands mapped as PAMA, is located along the Sweetwater River, and is adjacent to preserved and open space areas. The Project site is an active golf course that is characterized by open, exposed areas that lack suitable cover and resources typically associated with wildlife movement areas. Large portions of the Project boundary are fenced along the northern, eastern, and southern boundaries, which can impede wildlife access into the site. Residential development is present to the north and south of the Project site, and Steele Canyon Golf Club occurs to the southeast. The Sweetwater River runs through the Project site, and although riparian habitat occurs upstream and downstream of the site, most of the on-site reach of the river is characterized by open areas vegetated with low-growing plant species, primarily Bermuda grass, as part of the golf course development. The site is also subject to regular human activity and other disturbances associated with golf course operations (such as mowing, night lighting, and noise) that would discourage larger animals from utilizing the site.

Common birds and mammals might move through the Project site to forage and during dispersal activities; however, they would not be expected to use the site, in its current condition, as a main corridor, linkage, or specific travel route to and from important resources based on current site uses and disturbances and lack of sufficient vegetative cover to conceal larger wildlife species that may move through the area. Larger blocks of open space areas associated with the SDNWR occur further south between Steele Canyon Golf Club and Jamul that provide better access to resources and connectivity between preserved lands, open spaces areas, and pockets of undeveloped lands located to the east and west of the site. However, the presence of two major roadways, Campo Road and Jamul Drive, connecting these two communities could impede wildlife movement.

Regulatory Setting

Biological resources in the Project site are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a Proposed Project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply include federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), CFG Code, Porter-Cologne Water Quality Control Act, and County regulations.

With respect to the Proposed Project, the USFWS will be responsible for reviewing issues related to migratory birds pursuant to the MBTA and Project consistency with the adopted South County

MSCP Subarea Plan. The USACE will be responsible for reviewing issues related to WUS. The RWQCB will be responsible for reviewing issues related to WS pursuant to the CWA and the Porter-Cologne Water Quality Control Act. The CDFW will be responsible for reviewing issues related to riparian habitat and streambeds pursuant CFG Code, nesting birds and raptors pursuant to CFG Code, and Project consistency with the adopted South County MSCP Subarea Plan.

The County is the lead agency for the CEQA environmental review process in accordance with state law and local ordinances. During CEQA review, the County will be responsible for reviewing Project issues per the Guidelines for Determining Significance for Biological Resources (County 2010a) and the County RPO. The County will also be responsible for reviewing the Project with respect to consistency with the County BMO, County RPO, and adopted South County MSCP Subarea Plan.

Federal

Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a 'take' under the FESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." 'Harm' and 'harass' are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. The FESA defines critical habitat as specific geographic areas that contain features considered necessary for endangered or threatened species to recover. Critical habitat designations can include areas that are not currently occupied by the species, as the ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. Only activities that involve a federal permit, license, or funding require consultation with the USFWS.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' use of a site and impacts associated with federal action (e.g., the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be

submitted for issuance of Section 10(a) permits. The MSCP is a regional HCP that was developed pursuant to Section 10(a) of the ESA.

Migratory Bird Treaty Act

All migratory bird species that are native to the U.S. or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act (CWA). The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. (including wetlands) is overseen by the USACE under Section 404 of the CWA. Projects could be permitted on an individual basis or be covered under one of several approved Nationwide Permits.
State

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met. The MSCP is a regional Natural Communities Conservation Plan that was granted take coverage under Section 2081 of the CESA.

Native Plant Protection Act

Sections 1900 to 1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the State Legislature's intent to "…preserve, protect and enhance endangered or rare

native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 requires an SAA for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors, owls, and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds would not be disturbed, subject to approval by CDFW and/or USFWS.

Section 401 Water Quality Certification / Porter-Cologne Water Quality Control Act

The RWQCB through the State Water Resources Control Board (SWRCB) asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction (i.e., waters of the State) need to be delineated on the project site and typically extend to the top of bank for streams and to the outer edge of wetlands, pursuant to the SWRCB's wetland definition that was adopted on April 2, 2019 (SWRCB 2019) and implemented as of May 28, 2020.

Whenever a project requires a federal CWA Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must first obtain a CWA Section 401 Water Quality Certification. The RWQCB administers the 401 Certification program. Federal CWA Section 401 requires that every applicant for a Section 404 permit must request a Water Quality Certification that the proposed activity will not violate state and federal water quality standards.

The SWRCB and RWQCB regulate the discharge of waste into waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code. The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from

any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA Section 401 Water Quality Certification.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species that began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species in exchange for conserving their habitat. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits. As described below, the County MSCP Subarea Plan is an NCCP plan adopted for South County.

Local

Multiple Species Conservation Program

The San Diego MSCP Plan for the southwestern portion of San Diego County was approved in August 1998 and covers 85 species (County 1998). The City of San Diego, portions of the unincorporated County, and 10 additional city jurisdictions make up the San Diego MSCP Plan area. It is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve.

County MSCP Subarea Plan

The County MSCP Subarea Plan, adopted by the Board of Supervisors in March 1998, implements the MSCP within the unincorporated areas under County jurisdiction (County 1997. The County

Subarea Plan is divided into three Segments: Lake Hodges, Metro-Lakeside-Jamul, and South County. The Plan addresses areas authorized for take and planned for conservation, including portions of the South County Segment that are conserved subject to agreements with the Wildlife Agencies. Take of covered species and their habitat is authorized for projects that satisfy the requirements of the County's BMO.

The Project site is located within both the South County Segment and the Metro-Lakeside-Jamul Segment of the County MSCP Subarea Plan (Figure 2.2-1). A total of approximately 38 acres of the Project site lies within the South County Segment and is classified by the MSCP as Minor Amendment Area. Minor Amendment Areas "contain habitat that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's MSCP Subarea Plan." Minor Amendment Areas must meet the criteria and achieve the goals of linkages and corridors described in the County MSCP Subarea Plan and provide mitigation consistent with the BMO. Impacts to Minor Amendment Areas require approval from the USFWS Field Office Supervisor and CDFW NCCP Program Manager. The remainder of the Project site lies within the Metro-Lakeside-Jamul Segment and is classified as Unincorporated Land except for 16.4 acres that is classified as PAMA. The portion classified as PAMA lies east of Steele Canyon Road . Limited portions of the Project site are shown as Very High or High on the County's Habitat Evaluation Map from the BMO.

Biological Mitigation Ordinance

The BMO is the ordinance by which the County implements the County MSCP Subarea Plan at the project level within the unincorporated area. The BMO contains design criteria and mitigation standards that, when applied to projects requiring discretionary permits, protect habitats and species and ensure that a project does not preclude the viability of the MSCP Preserve System. In this way, the BMO promotes the preservation of lands that contribute to contiguous habitat core areas or linkages.

Resource Protection Ordinance

The County regulates natural resources (among other resources) as sensitive biological resources via the RPO (County 2011a), the regulations of which cover wetlands, wetland buffers, sensitive plant and animal species, sensitive vegetation communities/habitat types, and habitats containing sensitive animals or plants.

Wetland habitats are defined per the RPO as described under *San Diego County RPO Wetlands* in Section 2.1.1.1, above. Sensitive habitat lands are identified by the RPO as lands that "support unique vegetation communities, or habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines." It is the intent of the RPO to increase the preservation and protection of the County's unique topography, natural beauty, biological diversity, and natural and cultural resources. Pursuant to Section 86.605(d) of the RPO, the Proposed Project would be exempt from RPO requirements provided that the following mitigation measures are required as conditions of the Project's Major Use Permit:

a. Any wetland buffer area shall be restored to protect environmental values of adjacent wetlands;

b. In a floodplain, any net gain in functional wetlands and riparian habitat shall occur in or adjacent to the area of extraction;

c. Native vegetation shall be used on steep slopes lands to revegetate and landscape cut and fill areas in order to restore substantially original habitat value, and slopes shall be graded to produce contours and soils that reflect natural landform consistent with the surrounding area; and

d. Mature riparian woodland[1] may not be destroyed or reduced in size due to sand, gravel, or mineral extraction.

2.2.2 Analysis of Project Effects and Determination as to Significance

2.2.2.1 *Special Status Species*

Guidelines for the Determination of Significance

A significant impact to special status species would occur if the Proposed Project would:

1. Impact one or more individuals of a species listed as federally or state endangered or threatened.

2. Impact the survival of an on-site population of any County Group A or B plant species, a County Group 1 animal species, or a species listed as a state Species of Special Concern.

3. Impact the local long-term survival of a County Group C or D plant species or a County Group 2 animal species.

4. Impact arroyo toad aestivation, foraging or breeding habitat.

5. Impact golden eagle habitat, foraging or nesting habitat.

6. Result in a loss of functional foraging habitat for raptors.

7. Impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

8. Cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

9. Impact occupied burrowing owl habitat.

[1] Mature riparian woodland is defined in the RPO as "a grouping of sycamores, cottonwoods, willows, and/or oak trees having substantial biological value, where at least ten of the trees have a diameter of six inches or greater."

10. Impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

11. Impact occupied Hermes copper butterfly habitat.

12. Impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification and/or other noise generating activities such as construction:

    - Coastal cactus wren
    - Coastal California gnatcatcher
    - Least Bell's vireo
    - Southwestern willow flycatcher
    - Tree-nesting raptors
    - Ground-nesting raptors
    - Golden eagle
    - Light-footed Ridgway's rail (*Rallus longirostris levipes*)

Guidelines Source

These guidelines are based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

Federally or State Endangered or Threatened Species (Guideline 1)

The Project would result in significant impacts under the above guidelines for the following reasons:

The Project would result in potentially significant impacts to the federal listed threatened coastal California gnatcatcher, and potentially significant impacts to the federal and state listed endangered least Bell's vireo, further discussed below. In addition, USFWS-designated critical habitat for coastal California gnatcatcher, least Bell's vireo, and federal-listed endangered San Diego ambrosia, is present in the southwestern portion of the Project site (Figure 2.2-2) and critical habitat for the federal -and state-listed endangered southwestern willow flycatcher occurs to the west of the Project site, within the SDNWR. The Project would not impact southwestern willow flycatcher critical habitat off site within the SDNWR, but would result in minor impacts to San Diego ambrosia, coastal California gnatcatcher, and least Bell's vireo critical habitat areas that occur on-site as discussed below.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened, CDFW Species of Special Concern, and County Group 1 species. The coastal California gnatcatcher was incidentally detected within the southwestern portion of the site during Project surveys. Observations included an adult female foraging with and feeding a juvenile gnatcatcher within coastal sage scrub at the Project's southwestern boundary, and female/juvenile types foraging within riparian habitat along Sweetwater River in the southwestern portion of the site.

A narrow strip of critical habitat, totaling 2.7 acres, for the coastal California gnatcatcher is mapped in the southwestern portion of the Project site (Figure 2.2-2). Critical habitat within the Project site is mostly composed of riparian forest along the Sweetwater River that provides foraging opportunities for the species, but gnatcatchers would not be expected to utilize this habitat for breeding purposes. A small portion of critical habitat for the species would be impacted by the Proposed Project, consisting of 0.08 acre of disturbed habitat associated with the golf course development. These impacts would be less than significant since the area does not support suitable coastal sage scrub habitat required by the species.

Suitable coastal sage scrub with potential to support the species within the Project site is comprised of small patches of habitat at the southwestern and southeastern borders of the Project boundary (Figure 2.2-3). These patches are contiguous with large swaths of coastal sage scrub that occur off site within undeveloped areas and preserved lands bordering the site. The Proposed Project would avoid direct impacts to these locations, thereby avoiding direct impacts to the California gnatcatcher. However, the Project would impact 0.8 acre of disturbed Diegan coastal sage scrub in the northeastern and eastern portions of the site. Gnatcatchers were not observed within the impact habitat areas and the species is not anticipated to occupy these isolated patches of habitat. However, gnatcatcher could utilize these areas for dispersal and foraging opportunities. **Impacts to coastal California gnatcatcher foraging habitat would be potential significant (Impact BIO-1a).** Additionally, **if mining and reclamation activities take place within 500 feet of suitable gnatcatcher habitat during the gnatcatcher breeding season (March 1 to August 15), indirect impacts related to noise to nesting gnatcatchers would be potentially significant (Impact BIO-1b)**.

Following reclamation, the Project would provide additional habitat for the species through the revegetation of 11.91 acres of Diegan coastal sage scrub along the cut slopes constructed at the margins of the expanded Sweetwater River floodplain. The expanded Sweetwater River floodplain and associated riparian corridor would also provide additional foraging and dispersal habitat for gnatcatchers.

Least Bell's Vireo

Least Bell's vireo is a federally and state listed endangered and County Group 1 species. The least Bell's vireo was detected in several areas within riparian habitat located both on and off site, and at least one confirmed breeding pair was observed on site just east of Steele Canyon Road (Figure 2.2-3).

Approximately 10.42 acres of critical habitat for the least Bell's vireo occur in the southwestern portion of the Project site (Figure 2.2-2). Most of this habitat occurs within the footprint of the closed golf course, with small inclusions of undeveloped areas consisting of riparian forest habitat associated with the Sweetwater River. The Project would result in impacts to 1.14 acres of least Bell's vireo critical habitat consisting of 0.16 acre of southern cottonwood-willow riparian forest, 0.78 acre of disturbed habitat, 0.20 acre of developed land associated with golf course development. Impacts to disturbed habitat and developed land would be less than significant since these areas do not contain suitable riparian habitat required by the species. Impacts to southern cottonwood-willow riparian forest would be potentially significant as discussed below.

The Project would impact approximately 0.32 acre of southern cottonwood-willow riparian forest in the southwestern portion of the Project site. Least Bell's vireo was detected adjacent to the impacted southern cottonwood-willow riparian forest in the southwestern portion of the Project site. **Direct impacts to potentially occupied vireo habitat would be potentially significant (Impact BIO-1c)**. Additionally, **if mining and reclamation activities take place within 500 feet of suitable vireo habitat during the vireo breeding season (March 15 to September 15), indirect noise impacts to nesting vireos would be potentially significant (Impact BIO-1d)**.

Following reclamation, the Project would provide additional, higher quality habitat for the species through the revegetation of approximately 110.51 acres of wetland/riparian habitat within the expanded Sweetwater River floodplain.

The Project would result in less than significant or no impact to the following species under the above guidelines for the stated reasons:

San Diego Ambrosia

San Diego ambrosia is a federally listed endangered, CRPR 1B.1, County List A, and MSCP narrow endemic species. Approximately 15.66 acres of critical habitat for San Diego ambrosia occurs in the southwestern portion of the Project site, though the species was not detected within the Project site during rare plant surveys conducted in 2019. On-site areas mapped as critical habitat for the species are comprised of golf course and riparian habitat associated with the Sweetwater River. The Project would result in impacts to 0.70 acre of San Diego ambrosia critical habitat consisting of 0.001 acre of disturbed wetland, 0.20 acre of southern cottonwood-willow riparian forest, and 0.46 acre of disturbed habitat, and 0.04 acre of developed lands associated with golf course development. These impacts would be less than significant since the species was not found to occur within the Project site; therefore, **no direct impact to San Diego ambrosia would occur.**

Southwestern Willow Flycatcher

Southwestern willow flycatcher is a federally and state listed endangered and County Group 1 species. USFWS-designated critical habitat for the southwestern willow flycatcher occurs to the west of the Project site within the SDNWR (Figure 2.2-2), and potentially suitable riparian habitat for the species is found on-site to the east of Steele Canyon Road, and at the downstream portion of Sweetwater River in the southwestern portion of the site (Figure 2.2-3). The species was not detected within or adjacent to the Project site during protocol surveys conducted in 2019 and there are no reported occurrences of the species within the Project vicinity. The last recorded breeding occurrence of the species within the area is located approximately 3 miles southwest of the site along Sweetwater River within the SDNWR. A single pair attempted to nest in this area in 1998 and 1999, though all nest attempts were unsuccessful. Migrants were recorded in the Project vicinity between 2000 and 2002, but no recent occurrences of the species have been reported. The Project would impact 0.32 acre of southern cottonwood-willow riparian forest in the southwestern portion of the site. However, the species is not expected to occupy the site given the negative survey results and lack of recent observations of the species in the area; therefore, **impacts to southwestern willow flycatcher would be less than significant.**

State Species of Concern, County Group A and B Plant Species, and County Group 1 Animal Species (Guideline 2)

No County List A or B plant species would be impacted by the Project; thus, **impacts to these plant species would be less than significant**. Two County List A plant species were determined to have a high potential to occur within the Project site: San Diego ambrosia and Robinson's pepper grass. San Diego ambrosia is a federally listed endangered, CRPR 1B.1, County List A, and MSCP narrow endemic species. San Diego ambrosia was not detected within the Project site during rare plant surveys conducted in 2019, but USFWS-designated critical habitat for the species occurs within the southwestern portion of the site. The Project would result in impacts to 0.70 acre of San Diego ambrosia critical habitat; however, these impacts would be less than significant as discussed above under Guideline 1. Robinson's pepper grass is a CRPR 4.3 and County List A species. The species was not detected within the Project site during the 2019 rare plant surveys, but the Project would result in impacts to 0.8 acre of Diegan coastal sage scrub with potential to support the species. However, these impacts would be less than significant as the species was not found to occur within the project site and the small amount of potential habitat that would be impacted would not support a significant population of the species.

Project impacts to the following County Group 1 animal species and/or state Species of Special Concern are potentially significant: coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, red-shouldered hawk, vermilion flycatcher, turkey vulture, peregrine falcon, yellow-breasted chat, and yellow warbler. Additionally, the Project would result in impacts to suitable habitat with potential to support following County Group 1 animal species and/or state Species of Special Concern that were determined to have high potential to occur within the Project site: loggerhead shrike, Mexican long-tongued bat, sharp-shinned hawk, two-striped garter snake, western spadefoot, and white-tailed kite. Coastal California gnatcatcher and least Bell's vireo are discussed above in Section 2.1.2.1 (Guideline 1), while the remaining species are discussed below.

Cooper's Hawk

Cooper's hawk, a CDFW Watch List and County Group 1 species, was observed within the eastern and western portions of the Project site. The Project would impact approximately 3.32 acres of potential nesting and foraging habitat for the species comprised of 0.32 acre of southern cottonwood-willow riparian forest, 2.2 acres of eucalyptus woodland, and 0.8 acre of non-native woodland, in addition to removing trees along the golf course fairways that provide potential nesting and foraging habitat for this species. **Impacts to potential nesting and foraging habitat would be potentially significant (Impact BIO-2a)**. **Direct impacts to nesting Cooper's hawk and/or indirect noise impacts to Cooper's hawks nesting within 300 feet of active construction, mining, or reclamation areas would be potentially significant (Impact BIO-2b).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Loggerhead Shrike

Loggerhead shrike is a USFWS Bird of Conservation Concern, CDFW Species of Special Concern, and County Group 1 species. This species was not observed within the Project site but

was determined to have a high potential to occur based on the presence of suitable habitat and documented occurrences within adjacent habitat west of the site. **Direct impacts to nesting loggerhead shrikes would be considered potentially significant (Impact BIO-2c).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Mexican Long-tongued Bat

Mexican long-tongued bat, a CDFW Species of Special Concern and County Group 2 species, was not observed within the Project site but was determined to have a high potential to occur based documented occurrences within Project vicinity. This species is associated with urban areas and has been found within the nearby communities of Mt. Helix and El Cajon. The Project site contains ornamental plantings that could provide suitable foraging habitat, and buildings associated with the golf course provide potential roosting habitat. However, individuals would most likely utilize the surrounding residential neighborhoods for roosting and foraging opportunities which provide more extensive habitat for the species. As such, **impacts to potential habitat for the Mexican long-tongued bat would be less than significant**.

Peregrine Falcon

Peregrine falcon is a USFWS Bird of Conservation Concern, CDFW Fully Protected species, and County Group 1 species. A pair was observed soaring over the Project site and temporarily perched on a tree in the western portion of the site. Suitable breeding habitat for the species is absent from the Project site, therefore, no suitable breeding habitat or breeding individuals would be impacted by the Project.

Potential foraging habitat occurs on site and would be impacted by the project; however, suitable foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for foraging opportunities. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable foraging habitat for the species. Temporal loss of potential foraging habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to foraging habitat for this species would be considered potentially significant (Impact BIO-2a).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Red-Shouldered Hawk

Red-shouldered hawk, a County Group 1 species, was observed within riparian areas and flying overhead during Project surveys. Suitable woodland nesting habitat occurs on site for this species, although it was not observed nesting on site. The Project would impact approximately 3.32 acres

of potential nesting and foraging habitat for the species comprised of 0.32 acre of southern cottonwood-willow riparian forest, 2.2 acres of eucalyptus woodland, and 0.8 acre of non-native woodland, in addition to removing trees along the golf course fairways that provide potential nesting and foraging habitat for this species. **Impacts to potential nesting and foraging habitat would be potentially significant (Impact BIO-2a)**. **Direct impacts to nesting red-shouldered hawk and/or indirect noise impacts to red-shouldered hawk nesting within 300 feet of active construction, mining, or reclamation areas would be potentially significant (Impact BIO-2b).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Sharp-shinned Hawk

Sharp-shinned hawk, a CDFW Watch List and County Group 1 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of suitable overwintering and foraging habitat and documented occurrences within Project vicinity. This species is an uncommon winter visitor in San Diego but breeds in the northern and central portions of California. As such, suitable breeding habitat for the species is absent from the Project site; therefore, no suitable breeding habitat or breeding individuals would be impacted by the Project.

The Project would result in impacts to potential overwintering and foraging habitat for the species; however, suitable wintering and foraging opportunities for the species would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable foraging habitat for the species. Temporal loss of potential wintering and foraging habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to potential overwintering and foraging habitat would be potentially significant (Impact BIO-2a)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Turkey Vulture

Turkey vulture is a County Group 1 species that has been observed soaring over the southwestern portion of the Project site. No potentially suitable breeding habitat is present on site or would be impacted by the Project. Therefore, no suitable breeding habitat or breeding individuals would be impacted by the Project.

Potential foraging habitat for this species occurs on-site and would be impacted by the Project; however, suitable foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible

for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable foraging habitat for the species. Temporal loss of potential foraging habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to foraging habitat for this species would be considered potentially significant (BIO-2a)**.

Two-striped Garter Snake

Two-striped garter snake, a CDFW Species of Special Concern and County Group 1 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of potentially suitable aquatic and riparian habitat and reported occurrences within the surrounding area. The Proposed Project would result in impacts to 0.50 acre of disturbed wetland, 0.32 acre of southern cottonwood-willow riparian forest, and 3.5 acres of constructed ponds with potential to support the species. Suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **direct impacts to suitable habitat for two-striped garter snake would be potentially significant (Impact BIO-2a).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Vermilion Flycatcher

Vermilion flycatcher is a CDFW Species of Special Concern and County Group 1 species that was detected on numerous occasions in the eastern and western portions of the Project site and at least two breeding pairs were confirmed to occupy the Project site in 2019. The Proposed Project would impact potentially suitable breeding and foraging habitat for the species; however, suitable nesting and foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for nesting and foraging opportunities. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential nesting and foraging habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to potential nesting and foraging habitat would be**

potentially significant (Impact BIO-2a). **Direct impacts to nesting individuals would be considered potentially significant (Impact BIO-2c).**

Western Spadefoot

Western spadefoot, a CDFW Species of Special Concern and County Group 2 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of potentially suitable aquatic and riparian habitat and reported occurrences within the surrounding area. The Proposed Project would result in impacts to 0.50 acre of disturbed wetland, 0.32 acre of southern cottonwood-willow riparian forest, and 3.5 acres of constructed ponds with potential to support the species. Suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **direct impacts to suitable habitat for western spadefoot would be potentially significant (Impact BIO-2a).**

Following reclamation, the project would provide additional, higher quality habitat for the species through revegetation and restoration of the expanded Sweetwater River floodplain.

White-tailed Kite

White-tailed kite, a CDFW Fully Protected and County Group 1 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of suitable riparian habitat and reported occurrences within the Project vicinity. The Proposed Project would impact approximately 0.32 acre of suitable riparian breeding habitat for the species. Suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing us of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to potential nesting and foraging habitat would be potentially significant (Impact BIO-2a)**. **Direct impacts to nesting white-tailed kite and/or indirect noise impacts to white-tailed kite nesting within 300 feet of active construction, mining, or reclamation areas would be potentially significant (Impact BIO-2b)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Yellow-breasted Chat

Yellow-breasted chat, a CDFW Species of Special Concern and County Group 1 species, was detected within riparian habitat in the southwestern portion of the Project site along the Sweetwater River. The Proposed Project would impact approximately 0.32 acre of southern cottonwood-willow riparian forest in the southwestern portion of the site (Figure 2.2-7, *Vegetation and Sensitive Resources/Impacts*). However, suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to potential nesting habitat would be potentially significant (Impact BIO-2a)**. **Direct impacts to nesting individuals would be considered potentially significant (Impact BIO-2c)**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Yellow Warbler

Yellow warbler is a USFWS Bird of Conservation Concern, CDFW Species of Special Concern, and County Group 2 species. The species was detected on several occasions throughout the Project site. The Project would impact approximately 0.32 acre of southern cottonwood-willow riparian forest in the southwestern portion of the site. However, suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Regardless, **impacts to potential nesting habitat would be potentially significant (Impact BIO-2a)**. **Direct impacts to nesting individuals would be considered potentially significant (Impact BIO-2c).**

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

County List C and D Plant Species and County Group 2 Animal Species (Guideline 3)

One County List D plant species would be impacted by the Project, San Diego County viguiera, as discussed below. No other County Group C or D plant species would be impacted by the Project.

San Diego County Viguiera

The Project would impact four individuals of San Diego County viguiera observed within the Project site along the Project's northeastern boundary. San Diego County viguiera is a County List D plant and has a CRPR of 4.3. The impacted individuals are not part of a population at the periphery of the species' range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Additionally, there are numerous documented occurrences of this species throughout the surrounding area. Regardless, **Project impacts to four San Diego County viguiera shrubs would be considered potentially significant (Impact BIO-3a).**

Project impacts to the following County Group 2 animal species are potentially significant, though the Project would not impact the local long-term survival of any of these species: barn owl, Belding's orange-throated whiptail, great blue heron, green heron, monarch butterfly, western bluebird, and yellow warbler. Additionally, the Project would result in impacts to suitable habitat with potential to support following County Group 2 animal species that were determined to have high potential to occur within the Project site: California horned lark, Canada goose, merlin, Mexican long-tongued bat and western spadefoot. With the exception of Mexican long-tongued bat, western spadefoot, and yellow warbler, which are described under Guideline 2, these species are further discussed below.

Barn Owl

Barn owl, a County Group 2 species, was observed in the northeastern portion of the Project site. The Proposed Project would impact potential breeding and foraging habitat for this species. However, suitable habitat for the species would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not adversely affect the local long-term survival of this species. Regardless, **loss of potential nesting and foraging habitat during mining and reclamation activities would be considered potentially significant (Impact BIO-3b). Direct impacts to nesting individuals would be potentially significant (Impact BIO-3c)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation and restoration of the expanded Sweetwater River floodplain.

Belding's Orange-throated Whiptail

Belding's orange-throated whiptail, a CDFW Watch List and County Group 2 species, was observed in the eastern and northeastern portions of the Project site. The Project would impact 0.8 acre of suitable disturbed Diegan coastal sage scrub habitat for the species (Figure 2.2-7). However, patches of habitat for the species would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site

either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for foraging. Additionally, existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not adversely affect the local long-term survival of this species. Furthermore, extensive habitat for the species is already preserved throughout the region and within the SDNWR in the local area. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, **loss of suitable habitat during mining and reclamation activities would be considered potentially significant (Impact BIO-3b)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the creation of graded slopes planted with coastal sage scrub along the cut slopes constructed at the margins of the expanded Sweetwater River floodplain.

California Horned Lark

California horned lark, a CDFW Watch List and County Group 2 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of potentially suitable habitat and reported occurrences within the Project vicinity. The Project would result in impacts potential foraging and breeding habitat for the species. However, suitable nesting and foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for nesting and foraging opportunities. Temporal loss of potential habitat during mining and reclamation activities would not adversely affect the local long-term survival of this species. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, **loss of suitable habitat during mining and reclamation activities would be considered potentially significant (Impact BIO-3b)**. **Direct impacts to nesting individuals would be potentially significant (Impact BIO-3c).**

Canada Goose

Canada goose, a County Group 2 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of suitable overwintering habitat and documented occurrences within the Project vicinity. The species overwinters in southern California, but local breeding records occur within the County as a result of introductions and translocations. The Project would result in impacts to suitable wintering and foraging habitat for the species, and potential breeding habitat. However, suitable habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible to the species. Temporal loss of potential habitat during mining and reclamation activities would not adversely affect the local long-term survival of this species. Furthermore, suitable habitat for the species is also present within the surrounding area including at other golf courses (e.g., Steele Canyon Golf Club) and local reservoirs (e.g., Sweetwater Reservoir). Therefore, the Project would not adversely affect the long-term survival of the species,

which is known to occur within adjacent preserved lands. Regardless, **loss of suitable habitat during mining and reclamation activities would be considered potentially significant (Impact BIO-3b)**. **Direct impacts to nesting individuals would be potentially significant (Impact BIO-3c).**

Great Blue Heron and Green Heron

Great blue heron and green heron are County Group 2 species that have the potential to forage within riparian areas and man-made ponds present within the Project site. The Project would impact 3.5 acres of man-made ponds, which are used as foraging habitat for this species, and 0.32 acre of potential riparian breeding habitat for the species. However, the site is not expected to support a rookery site or significant population of these two herons based on the low numbers observed. Suitable nesting and foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for nesting and foraging opportunities. Additionally, existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable nesting and foraging habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Furthermore, extensive habitat for the species is already preserved throughout the region and within the SDNWR in the local area. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, loss of potential foraging and breeding habitat during mining and reclamation activities would be significant **(Impact BIO-3b)**. **Direct impacts to nesting individuals would be considered potentially significant (Impact BIO-3c)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation of the expanded Sweetwater River floodplain.

Merlin

Merlin, a CDFW Watch List and County Group 2 species, was not observed within the Project site but was determined to have a high potential to occur based on the presence of suitable overwintering and foraging habitat and documented occurrences within Project vicinity. This species is an uncommon winter visitor in southern California occurring within San Diego from October to March; it does not breed in San Diego region. As such, the Project would not result in impacts to suitable breeding habitat or breeding individuals. The Project would result in impacts to potential overwintering and foraging habitat for the species; however, however, suitable wintering and foraging habitat would remain on-site during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for use. Additionally, large areas of foraging habitat for the species are present within preserved habitat in the local area, including the SDNWR, and existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project's BOS providing suitable foraging habitat for the species. Temporal loss of potential wintering and foraging habitat during mining and reclamation activities would not

affect the local long-term survival of this species. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, **loss of potential wintering and foraging habitat during mining and reclamation activities would be considered potentially significant (Impact BIO-3b)**.

Following reclamation, the project would provide additional, higher quality habitat for the species through the revegetation of the expanded Sweetwater River floodplain.

Monarch Butterfly

A single monarch butterfly, which is a County Group 2 species, was observed flying through the Project site. This species is expected to migrate through the region but is not expected to roost on the site due to its inland location. The project would impact 3.32 acres of potential habitat for this species comprised of 0.8 acre of non-native woodland, 2.2 acres of eucalyptus woodland, and 0.32 acre of riparian habitat. However, potential habitat for the species would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for the species. Additionally, existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable habitat for the species. Temporal loss of potential habitat during mining and reclamation activities would not affect the local long-term survival of this species. Furthermore, extensive habitat for the species is already preserved throughout the region and within the SDNWR in the local area. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, **loss of potential habitat during mining and reclamation activities would be considered a significant impact (Impact BIO-3b)**.

Following reclamation, the project would contribute additional nectaring habitat for the species through revegetation and restoration of the expanded Sweetwater River floodplain.

Western Bluebird

Western bluebird, a County Group 2 animal species, was observed in multiple locations through the Project site. The Project would impact the golf course where this species is known to forage and would remove trees suitable for nesting. However, foraging and breeding opportunities for the species would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible to the species. Additionally, existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by Project activities and preserved within the Project's BOS providing suitable nesting and foraging habitat for the species. Temporal loss of potential nesting and foraging habitat during mining and reclamation activities would not affect the local long-term survival of this species. Furthermore, extensive habitat for the species is already preserved throughout the region and within the SDNWR in the local area. Therefore, the Project would not adversely affect the long-term survival of the species, which is known to occur within adjacent preserved lands. Regardless, **loss of potential foraging**

and breeding habitat during mining and reclamation activities would be significant (Impact BIO-3b). **Direct impacts to nesting individuals would be considered potentially significant (Impact BIO-3c).**

Following reclamation, the project would provide additional, higher quality habitat for the species through revegetation and restoration of the expanded Sweetwater River floodplain.

Arroyo Toad (Guideline 4)

The Project site contains potentially suitable breeding, aestivation, and foraging habitat for arroyo toad; however, no arroyo toads were detected within or adjacent to the Project site during protocol level surveys in 2019. The Sweetwater River is within the historical range of the species, but the river and associated floodplain within the region have been heavily modified by development including the Singing Hills Golf Resort and rural residences upstream of the Project site. Furthermore, the hydrological regime of the river has been substantially altered by the creation of artificial impoundments including Loveland Reservoir upstream and Sweetwater Reservoir downstream of the site. The Sweetwater dam was constructed in 1888 and the Loveland dam was built in 1945, both of which are operated by the Sweetwater Authority and control releases of water to downstream areas.

Potentially suitable habitat within the Project site has been heavily degraded by development of the golf course and previous mining activities. These disturbances have resulted in the removal and conversion of riparian habitat to turf grass throughout most of the Project site, along with the realignment and constriction of the river channel. Therefore, potentially suitable habitat for arroyo toad is now restricted to a single stand of riparian habitat in the southwestern portion of the Project site, and although this area has been subjected to past disturbances, it connects to more extensive, higher quality habitat off-site within the SDNWR. The species is not expected to occupy the Project site as toads have not been detected south of Sloan Canyon Road, located over five miles upstream of the site, since 1997 (USFWS 2014; United States Geological Survey [USGS] 2005), and focused arroyo toad surveys conducted within the SDNWR, which occurs east and immediately west of site, were negative (Martin 2005). Furthermore, focused arroyo toad surveys were conducted within the Project site by the USGS in 2003, during which no arroyo toads were observed (USGS 2005). Although it is possible that toads may repopulate the reach of the Sweetwater River south of Sloan Canyon Road in the future, it is currently unlikely that a self-sustaining population of arroyo toads persists in the local area.

The Project site does not contain habitat critical to the survival of this species and the reach of river within the Project site is currently considered unoccupied by this species given the lack of observations in the area for several years, including during the 2019 protocol surveys conducted for the Proposed Project. Since arroyo toad was not found to occur within the Project site, **impacts to potentially suitable arroyo habitat would be less than significant**.

Golden Eagle (Guideline 5)

The Project site does not contain suitable nesting habitat for golden eagle and the site is not within a known golden eagle territory. The site does not contain adequate eagle foraging habitat as it is a developed and abandoned golf course which has historically been subjected to human visitation

and disturbances. Golden eagles are less tolerant of development and areas associated with high amounts of human visitation and are known to avoid these areas. Golden eagles are occasional visitors to the SDNWR; however, no known active nest sites occur within 4,000 feet of the Project site. The closest golden eagle nest is the San Miguel Mountain pair, which nests over eight miles to the southeast of the site. A prime foraging area for this pair is the area around Sweetwater Reservoir, west of the Project. The Project would not impact golden eagle habitat or a known golden eagle territory, and the site does not contain suitable foraging habitat for the species based on current and past commercial uses. **Therefore, impacts to golden eagle habitat would be less than significant.**

Raptor Foraging Habitat (Guideline 6)

The Project site consists of an active and abandoned golf course, which has historically been subjected to frequent human visitation and ongoing disturbances related to golf course operations, such as regular mowing, that would discourage raptor foraging within the site. In its current state, the Project site provides marginal and relatively low-quality foraging opportunities for common raptors that are resident and migratory to the region. Although the Project site provides some function and value for raptor foraging, it has been a golf course for decades and has likely not functioned as a local or regional foraging resource of importance for raptors. Other more expansive areas occur in the local area and region that provide foraging habitat, such as the SDNWR. Potential foraging opportunities for the raptors would remain during mining and reclamation activities as mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for foraging. As such, **impacts to raptor foraging habitat would be less than significant.**

Core Wildlife Areas (Guideline 7)

The extreme southwestern and southeastern portions of the Project site are located within designated Sweetwater Reservoir/San Miguel Mountain/Sweetwater River and McGinty Mountain/ Sycuan Peak-Dehesa BRCAs, respectively. However, these areas are highly degraded and fragmented by development of the golf course. The Project site is identified as a linkage between core areas in the MSCP, and small portions of the site are identified as PAMA (16.4 acres). The Project site mainly consists of an existing golf course which lacks adequate vegetative cover preferred by many species for use of an area as a corridor. The on-site reach of river is narrow and mostly devoid of native riparian habitat (except in the southwest where it connects directly to off-site conserved lands), and the Project site is fenced in many locations, with both historic and ongoing human-related disturbances spanning several decades. For these reasons, its current linkage/corridor functions are considered low. However, the location of the Project site along the Sweetwater River and between two MSCP core areas gives it high restoration potential that could significantly increase the function and viability of the linkage.

Extraction activities would temporarily impact the low-functioning linkage; however, mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for wildlife use. Additionally, existing stands of native riparian habitat to the east of Steele Canyon Road and in the southwestern portion of the site along Sweetwater River would be avoided by

Project activities and preserved within the Project's BOS providing suitable nesting and foraging habitat for wildlife species. As such, temporal impacts to these areas during mining and reclamation activities would be less than significant as any wildlife temporarily displaced by activities would be anticipated to reoccupy the area once the activities had concluded and impacts.

The Project would result in direct impacts to lands mapped as BRCA and PAMA and would impact sensitive habitats present in these areas found to support, or with potential to support, special status wildlife species. **Impacts to sensitive habitats and wildlife species within the BRCA would be considered potentially significant (Impact BIO-4)**. As part of the reclamation process the Project would ultimately contribute 142.8 acres of preserved, rehabilitated, and restored habitat to the linkage through placement of these areas within a BOS easement (Figure 2.2-8, *Proposed Open Space*). This BOS includes lands mapped as BRCA and PAMA and would restore and improve connection of the riparian corridor along the Sweetwater River to off-site areas within the SDNWR providing important foraging, dispersal, breeding, and migratory habitat for several special status animals including the coastal California gnatcatcher and least Bell's vireo. The open space will be managed in accordance with a County-approved Resource Management Plan (RMP) to ensure preservation of native habitats and long-term management of the preserve. As such, the Project would have a less than significant effect on the viability of a core wildlife area with the implementation of mitigation**.**

Indirect Impacts/Edge Effects (Guideline 8)

Indirect impacts are actions that are not direct removal of habitat but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.), or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). Potential significant indirect impacts may occur as a result of Project implementation, as described further below.

Noise

Construction noise from sources related to clearing, grubbing, grading, and extraction and processing activities would temporarily impact wildlife. Construction of the facility, aggregate extraction, and processing operations would require the daily use of heavy equipment that would elevate existing noise levels on site. Breeding birds and mammals may temporarily or permanently leave their territories to avoid disturbances from human activities, which could lead to reduced reproductive success and increased mortality. Potential short-term noise impacts could result from the proposed mining and reclamation of the site. Impacts would occur incrementally, meaning that not all areas would be impacted at once as mining activities would begin within Phase 1 and generally progress eastward following completion of earlier phasing. For example, as activities occur within subphase 1A, habitat within subphase 1B (and later phases) would not be impacted. **Noise effects would be considered potentially significant if noise levels generated during construction and/or extraction operations exceed a level of 60 A-weighted decibels (dBA) hourly average (L_{EQ}) or ambient (whichever is greater) adjacent to sensitive nesting bird species such as California gnatcatcher, least Bell's vireo, and raptors (Impact BIO-5).**

Lighting

Night lighting that extends from a developed area onto adjacent wildlife habitat can discourage use of the habitat by nocturnal wildlife and can also provide nocturnal predators with an unnatural advantage over their prey, resulting in a potentially significant impact. However, the Proposed Project is required to direct all necessary lighting in a downward direction with appropriate shield and illumination technology to prevent adverse spillover of light. The only proposed night lighting would be installed around the processing plant for security purposes. Sand excavation and processing would only occur between the hours of 7:00 a.m. and 5:00 p.m. Therefore, no lighting associated with night work would occur. All Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Lighting within the Proposed Project footprint adjacent to undeveloped habitat (including reclaimed areas) would be of the lowest illumination allowed for human safety, and would be selectively placed, shielded, and directed away from these areas. As such, **indirect impacts related to lighting would be less than significant.**

Fugitive Dust

Fugitive dust produced by construction and extraction operations has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants. Fugitive dust also may make plants unsuitable as habitat for insects and birds. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction and/or extraction operations, which could lead to reduced reproductive success and increased mortality. As a project design feature, the Project would implement a Fugitive Dust Control Plan (refer to Appendix I of this EIR) during construction (as well as during operations and reclamation activities) that would include fugitive dust control measures to minimize dust emissions and meet applicable dust control requirements. As part of the Proposed Project, active construction and extraction areas, unpaved surfaces, and stockpiles would be watered to minimize dust generation; all exposed soil would be watered a minimum of twice per day. Outgoing loaded trucks would be surface watered for dust suppression purposes and would either be covered or two feet of freeboard would be maintained. **Indirect impacts related to fugitive dust would be less than significant.**

Human Activity

Increases in human activity in the area could result in degradation of open space habitat and associated indirect impacts on sensitive species through the creation of unauthorized trails and removal of vegetation. The Project site currently consists of active and abandoned golf courses which have been historically subject to moderate to heavy human activity related to golf play and maintenance activities. Additionally, aggregate extraction activities have occurred periodically within the site since the 1950s. Golf play would cease after approval of the MUP. Public access during mining and reclamation activities would be controlled by fencing on the perimeter of the property and gates on the access roads within the project boundaries. In addition, appropriate signage would be posted around the perimeter of the excavation area and project boundary at 150-foot intervals. The majority of the Project site is already surrounded by chain link fencing, with fencing to be replaced/repaired where missing or damaged. The access gates would be locked

during non-operating hours. Following mining activities, the Project site would be reclaimed, restored, and revegetated habitat would be preserved within open space, and a multi-use trail system would be constructed. **Potentially significant direct and indirect impacts could occur to biological open space, and sensitive habitats and species present in these areas, if protective measures are not implemented to control human access into open space areas (Impact BIO-6)**. Permanent fencing and signage would be installed at the edge of open space and along on-site trails to prevent unauthorized access to sensitive habitat areas. The proposed trails would only be available for day use and are anticipated to be used primarily by residents of the immediate area. As the site is already subjected to human uses, the Proposed Project would not represent a substantial increase in human activity and would provide protections for sensitive habitat areas that are not currently in place.

Domestic Predators

The Project site is adjacent to existing residential development and is already subject to some level of disturbance and predation by domestic animals from adjacent lands. Domestic predators (e.g., dogs and cats) have potential to harm native wildlife species. For example, free-roaming cats are known to injure and/or kill native wildlife, and are of particular threat to small animals, including lizards, birds, and small rodents, while off-leash dogs can be a nuisance to wildlife, resulting in changes in wildlife behavior such as alteration in patterns of habitat utilization, or damage to burrows of ground-dwelling animals. Implementation of the Proposed Project would not result in increased potential for encounters between cats and native wildlife as no residential development is proposed as part of the Project. Hiking trails, however, are proposed to be constructed along the perimeter of the open space, which would likely increase the presence of domestic dogs within the Project site. Effects of off-leash dogs on wildlife would be minimized through installation of permanent fencing and signage along the edge of the open space and trail system and requiring dogs to be on leash. Trails that occur adjacent to or cross the open space would be fenced on either side, which would further discourage off-leash dogs from leaving the trail. Trails would not be lit and are considered unlikely to be used by people walking dogs during the night, thus minimizing encounters with nocturnal wildlife. **Indirect impacts related to domestic predators would be less than significant.**

Exotic Plant Species

Non-native plants could colonize areas disturbed by construction and extraction and could potentially spread into adjacent native habitats. Many non-native plants are highly invasive and can displace native vegetation (reducing native species diversity), potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife dependent on native plant species. However, the site is already heavily infested by non-native vegetation. The Project would include weed control during operations and the reclamation process as described in the Reclamation Plan (EnviroMINE 2021a), with a focus on highly invasive species. The occurrence of weeds on-site would be monitored by quarterly visual inspection during mine operations and removal would be initiated if the inspection reveals that weeds have become, or are becoming, established. The Project includes restoration and rehabilitation of existing riparian habitat within the southwestern portion of the site, and revegetation of the expanded Sweetwater River floodplain and constructed cut slopes at the margins of the expanded floodplain with native riparian and upland habitats. Further, graded pad

areas located outside of the expanded floodplain would be revegetated with native or non-invasive plant species that would also minimize the chance for colonization and spread of invasive species into the open space. Successful completion of site reclamation and native restoration and revegetation areas would require achieving success criteria that include the amount of non-native cover on-site. Additionally, only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [Cal-IPC; 2020]). Therefore, **indirect impacts related to exotic plant species would be less than significant**.

Occupied Burrowing Owl Habitat (Guideline 9)

The Project site consists of a developed and abandoned golf course which have historically been subjected to on-going disturbances such as mowing and human visitation. As such, the site does not support suitable burrowing owl habitat and no burrowing owl or burrowing owl sign was detected within the site during biological surveys. As such, **the Project would have a less than significant impact on burrowing owl.**

Occupied Coastal Cactus Wren Habitat (Guideline 10)

The Project site does not contain suitable habitat (i.e., cacti thickets) for the coastal cactus wren. As such, **the Project would have a less than significant impact on cactus wren.**

Occupied Hermes Copper Butterfly Habitat (Guideline 11)

The Project site does not support Hermes copper butterfly habitat. The species' host plant, spiny redberry (*Rhamnus crocea*), was not observed within the Project site. Therefore, this species is not likely to occur, and **the Project would have a less than significant impact on the Hermes copper butterfly**.

Nesting Success (Guideline 12)

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 500 feet of impact areas. **Removal of vegetation during the breeding season could result in significant direct impacts to nesting coastal California gnatcatcher (Impacts BIO-1b and BIO-2c), least Bell's vireo (Impacts BIO-1d and BIO-2c), and tree-nesting raptors (Impacts BIO-2b and BIO-2c)**. Noise from such sources as clearing, grading, and mining and reclamation activities could result in a potential significant indirect impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. **If construction or mining activities would be initiated within 500 feet of suitable habitat during the breeding seasons for California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), indirect noise effects would be potentially significant (Impact BIO-5).**

2.2.2.2 *Riparian Habitat and Sensitive Natural Communities*

Guidelines for the Determination of Significance

A significant impact to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW would occur if:

13. Project-related grading, clearing, construction or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as identified in Table 5 in the County Guidelines for Determining Significance – Biological Resources, excluding those without a mitigation ratio) on or off the Project site.

14. Any of the following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by USACE, CDFW, and County: removal of vegetation; grading; obstruction, or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

15. The Project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.

16. The Project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

17. The Project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

Guidelines Source

These guidelines are based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

Vegetation Communities/Habitats (Guideline 13)

The majority of Project impacts would be restricted to disturbed habitat and developed land currently occupied by the Cottonwood Golf Club. The Project would result in impacts to a total of 1.63 acres of riparian habitat or other sensitive natural communities, as shown in Table 2.2-5, *Project Impacts to Vegetation Communities/Habitat Types* and Figure 2.2-7, including 0.50 acre of disturbed wetland (Tier I), 0.32 acre of southern cottonwood-willow riparian forest (Tier I), 0.01 acre of arundo-dominated riparian (Tier I), and 0.8 acre of Diegan coastal sage scrub (including disturbed; Tier II). **Impacts to sensitive natural communities would be considered potentially significant (Impact BIO-7). Potentially significant indirect impacts to riparian**

habitat or other sensitive vegetation communities could occur through inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel (Impact BIO-8).

Jurisdictional Wetlands/Waters (Guideline 14)

As addressed under County Guideline 13, the Project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, CDFW, and/or County. Impacts to jurisdictional wetlands and riparian habitat would occur through mining and reclamation activities. In addition to Project impacts related to extraction and other ground disturbance activities, up to three temporary river crossings would be utilized to transport heavy equipment across the Sweetwater River low-flow channel during mining operations. Channel crossings would only be used when there is no water flow in the channel. An operating procedure would be established to maintain communication with Sweetwater Authority prior to, and during, water transfers to ensure channel crossings during water flows are avoided. Permanent Project impacts to jurisdictional wetlands would include construction of three permanent grouted riprap drop structures within the expanded Sweetwater River floodplain. Two drop structures would be located along the constructed upland slopes bordering the expanded floodplain: one at the eastern of the site where the Sweetwater River enters the property along the eastern, western-facing slope; and one east of Steele Canyon Road along the southern, north-facing slope where Mexican Canyon Creek flows into the Sweetwater River. These drop structures would protect the slopes against upstream head cutting. A third structure would be located perpendicular to Sweetwater River on the west side of the Steele Canyon Road bridge and would prevent head cutting of the channel during infrequent, high flow events. As shown in Table 2.2-6, *Impacts to Jurisdictional Wetlands and Waterways*, impacts to jurisdictional waters and wetlands include 0.62 acres of wetland and 0.37 acre of non-wetland WUS (Figure 2.2-9, *Waters of the U.S./Impacts*) and 17.89 acres of CDFW jurisdictional areas (including 0.32 acre of southern cottonwood-willow riparian forest, 0.50 acre of disturbed wetland, 0.01 acre of arundo-dominated riparian, and 17.06 acres of streambed Figure 2.2-10, *CDFW Jurisdictional Areas/Impacts*). **Impacts to jurisdictional waters and wetlands would be considered potentially significant (Impact BIO-9).**

The Proposed Project would also impact 0.83 acres of County RPO wetland (Table 2.2-6; Figure 2.2-11, *County RPO Wetlands/Impacts*); however, the Project is exempt from RPO requirements pursuant to Section 86.605(d) of the RPO, as described above in Section 2.1.1.1 in the local regulatory framework under *Resource Protection Ordinance*, and evaluated in more detail below in Section 2.1.2.5, *Local Policies, Ordinances, and Adopted Plans*, under *County RPO Wetlands (Guideline 27)* in Section 2.1.2.5. The Project would be conditioned as required by the RPO to restore wetland buffer areas and provide a net gain in functional wetlands and riparian habitat that would be conserved in open space post reclamation. No steep slopes occur on site or would be created as a result of mining activities. The final landform is proposed to be a relatively flat plain that gently slopes downward from east to west, with a widened river channel bisecting the length of the site. Graded slopes along the widened Sweetwater River floodplain would be revegetated with coastal sage scrub. Mature riparian woodland[2] would not be destroyed or reduced in size due to sand, gravel, or mineral extraction. The Proposed Project would not destroy or reduce

[2] Mature riparian woodland is defined in the RPO as "a grouping of sycamores, cottonwoods, willows, and/or oak trees having substantial biological value, where at least ten of the trees have a diameter of six inches or greater."

the size of mature riparian woodland habitat. Therefore, **impacts to County RPO wetlands would be less than significant.**

Mining and reclamation activities would involve ground disturbance, movement of earth material, and use of heavy equipment which have potential to impact on-site and off-site jurisdictional wetlands and riparian habitat through alteration of the Sweetwater River floodplain and associated drainage patterns. These impacts were determined to be less than significant as detailed in the Project's Drainage Study (Chang Consultants 2021a), which completed hydraulic models and compared existing and post-Project conditions to evaluate the effects of the proposed mining and reclamation activities on flood conveyance through the Project site, the findings which are summarized below.

Though the Project would impact the jurisdictional wetlands and riparian habitat during mining and reclamation, the bottom of the current Sweetwater River low-flow channel would not be altered. Extraction activities would be set back at least five feet from the outer edge of each side of the existing low-flow Sweetwater River channel. If mining were to occur within 10 feet of the low-flow channel, berms approximately five feet in height would be constructed to separate operation areas from the channel, as needed. Mining activities proposed during the rainy season (November through March) would be located away from the river channel to the extent feasible. The post-reclamation condition of the site would retain the low-flow river channel in its current alignment with an expanded floodplain that be slighter higher in elevation than the low-flow channel. As such, the Proposed Project **would have a less than significant impact on flow rates within the Sweetwater River channel**.

Extraction pits that are temporarily created during excavation activities would be progressively backfilled. The final landform of the Project site post-reclamation would be a relatively flat plain that gently slopes downward from east to west, with an expanded floodplain bisecting the length of the site. The expanded floodplain is expected to average approximately 250 to 300 feet in width and would be slightly higher in elevation than the existing low-flow river channel. Slopes bordering the expanded floodplain would slope up at a 3:1 ratio or shallower with an elevation difference of up to 25 feet between the top of slope and bottom of the expanded floodplain. The expanded floodplain would improve the site's ability to accommodate both natural flows and high flows during storm events and would dissipate water energy during large storm events. As such, the Proposed Project would not result in increased velocities and peak flow rates exiting the Project site and would not cause downstream flooding. Furthermore, restored and revegetated wetland and riparian habitat would reduce the velocity of water flow, and the expanded floodplain would allow peak flows to extend outward from the existing low-flow channel during overtopping events increasing the carrying capacity and minimizing long-term erosion and sedimentation from the site. Therefore, the Project **would have a less than significant impact on downstream waters and habitats**.

Potential impacts to on-site and off-site jurisdictional wetlands and riparian habitat resulting from erosion, sedimentation, and project run-off would be less than significant through compliance with current federal, State, and local regulations as detailed in the Project's Stormwater Quality Management Plan (Chang Consultants 2021b), Groundwater Investigation Report (Geo-Logic Associates 2021a), Sediment Load Analysis (Geo-Logic Associates 2021b), and Water Quality Evaluation Report (Geo-Logic Associates 2021c) and summarized below.

The Project would prepare and submit Storm Water Pollution Prevention Plan (SWPPP) prior to the commencement of construction activities. Best Management Practices (BMPs) to control runoff and prevent erosion and the discharge of sediment to surface waters would be implemented during all Project phases. Erosion control measures may include, but are not limited to, monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, and installing silt fencing, compacting soils with equipment, and re-grading as necessary. During mining activities, silt fencing would be installed five feet from the outer edge of each side of the existing low-flow Sweetwater River channel, and other areas as needed. Temporary de-siltation basins would be established within the Project site to capture runoff from existing culverts within Willow Glen Drive and to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Runoff would be directed from the disturbed mining and reclamation areas towards these basins, as necessary, to allow for de-siltation and infiltration. The Project would not result in a substantial increase in impervious surfaces. Stormwater runoff from the new impervious surfaces on Willow Glen Drive would be directed along the southerly curb of Willow Glen Drive and conveyed into tree wells just south of the roadway, thus limiting potential for erosion and siltation.

Based on the results of the studies discussed above, **indirect impacts to critical habitat up or downstream of the project resulting from potential changes in hydrology would be less than significant**.

Potentially significant indirect impacts to adjacent jurisdiction waters and wetlands could occur through inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel (Impact BIO-10).

Groundwater table (Guideline 15)

Eight groundwater wells currently occur on the Project site and are used to provide irrigation water for the existing golf course and to fill the man-made ponds. The existing groundwater use by the Cottonwood Golf Club is conservatively estimated to be approximately 803.6 acre-feet per year based on pump ratings and irrigation schedules (EnviroMINE 2021b). The existing wells would be used to provide water for mining operations, but consumption would be substantially reduced. The Project's estimated water usage is estimated at 139.9 acre-feet annually at the maximum annual production rate of 570,000 tons of construction aggregate, which is a reduction of approximately 663.7 acre-feet per year relative to current golf course consumption (Geo-Logic Associates 2021a). Water would be required for the washing operation (90 percent of which would be continuously used and recycled), dust suppression, irrigation of landscaping near the site entrance, and supplemental water for revegetation activities. Water demand estimates for the Project considered irrigation usage and evaporation rates associated with the extraction pits and revegetation of the reclaimed areas. The 139.9 acre-feet per year estimated for the Project's total water consumption represents an 80 percent decrease in the annual groundwater consumption during mining operations than the entire golf club operation (or 60 percent reduction compared to groundwater use for a single course). Therefore, **Project impacts to ground water during mining operations would be less than significant**. Ultimately, wells not proposed for use by Sweetwater Authority for groundwater monitoring and/or by the property owner after mining and reclamation are completed would be properly abandoned in accordance with County requirements and standards. It is assumed that six of the wells would be abandoned and two would be left in place.

The post-reclamation condition of the Project would include backfilling of excavation areas, widening of the Sweetwater River floodplain, and restoring and revegetating the channel with wetland/riparian vegetation. The groundwater study prepared for the Project calculated the post-reclamation groundwater use associated with these areas, which accounted for loss due to evapotranspiration, at 337-acre feet per year, which is a reduction of approximately 467 acre-feet per year relative to current golf course consumption (Geo-Logic Associates 2021a). This represents a 58 percent decrease in the annual groundwater consumption in the post-reclamation condition compared to existing consumption related to the golf club operation. Therefore, **site reclamation and the proposed native habitat restoration and revegetation would have a less than significant effect on groundwate**r.

The approximate groundwater elevation is 310 feet amsl at the western end of the site and 354 feet amsl at the eastern end of the site, between 10 and 20 feet below the existing ground surface. The groundwater study prepared for the Project determined that pumping would not lower the water table three-feet below the historical low groundwater level (HLGL) as established from available water level data (Geo-Logic Associates 2021a). Therefore, **the Project would not exceed the County's three-foot drawdown threshold below HLGL for groundwater-dependent habitat and potential impacts would be less than significant.**

Indirect Impacts (Guideline 16)

As discussed above in Guideline 8, potential significant indirect impacts to sensitive habitat resulting from lighting, dust, human activity, domestic animals, and exotic plant species would be avoided through the following project design features: (1) all Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code and lighting within the Proposed Project footprint adjacent to undeveloped habitat (including reclaimed areas) would be of the lowest illumination allowed for human safety, and would be selectively placed, shielded, and directed away from these areas; (2) a Fugitive Dust Plan would be implemented during mining and reclamation activities that would include fugitive dust control measures to minimize dust emissions and meet applicable dust control requirements; (3) permanent fencing would be installed around open space, and signs precluding access to areas outside of established trails would be posted (in accordance with mitigation measure M-BIO-10); (4) off-leash pets would not be allowed on trails or public areas and signs would be posted along trails notifying pet owners of this regulation; (5) weed control measures would be implemented during mining and reclamation activities in accordance with the Project's Reclamation Plan, including monitoring the occurrence of weeds on-site would be monitored by quarterly visual inspection during mine operations and initiating removal if the inspection reveals that weeds have become, or are becoming, established; and (6) only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2020]). **Indirect impacts related to lighting, dust, human activity, domestic predators, and exotic plant species would be less than significant. Potential significant indirect impacts from construction noise (Impact BIO-5) are discussed under Guideline 12.**

Wetland Buffer (Guideline 17)

The Proposed Project is exempt from the County's BMO (County 2010b) and RPO (County 2012a) requirements pursuant to Section 86.503(a)(9) of the BMO and Section 86.605(d) of the

RPO. Therefore, no wetland buffer is required during the extraction process and **impacts to wetland buffers would be less than significant**. A material part of these exemptions requires reclamation of the site following extraction to restore wetland buffers to protect environmental values of adjacent wetlands. As such, the Project would be conditioned to restore wetland buffer areas and provide a net gain in functional wetlands and riparian habitat that would be conserved in open space post reclamation.

2.2.2.3 *Federal Wetlands*

Guideline for the Determination of Significance

A significant impact to federal wetlands would occur if the Proposed Project would:

18. 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.

Guideline Source

This guideline is based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

As previously stated in Section 2.1.2.2, implementation of the Proposed Project would result in impacts to 3.70 acres of wetland WUS and 0.34 acre of non-wetland WUS (refer to Table 2.2-6 and Figure 2.2-9). **Impacts to wetland and non-wetland WUS would be considered potentially significant (refer to Impact BIO-9).**

2.2.2.4 *Wildlife Movement and Nursery Sites*

Guidelines for the Determination of Significance

A significant impact to wildlife movement or nursery sites would occur if the Proposed Project would:

19. Impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

20. Substantially interfere with connectivity between blocks of habitat or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

21. Create artificial wildlife corridors that do not follow natural movement patterns.

22. Increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

23. Not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

24. Not maintain adequate visual continuity (i.e., long lines-of-sight) within wildlife corridors or linkages.

Guidelines Source

These guidelines are based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

Wildlife Access (Guideline 19)

Wildlife foraging habitat, breeding habitat, and water sources necessary for reproduction are generally restricted to riparian habitat found in the southern portion of the site east of Steele Canyon Road, and the southwestern portion of the site along Sweetwater River. Proposed mining activities would primarily occur within disturbed and developed portions of the Project site already disturbed by golf course development and operations, thereby avoiding these areas. Wildlife access to foraging habitat, breeding habitat, and water sources to these areas would continue to exist during Project implementation, as these areas are located contiguous with off-site habitats and preserved lands adjacent to the Project site. In addition, mining and reclamation activities would occur incrementally in 20- to 30-acre subphases leaving other, previously disturbed portions of the site, either inactive or in the five-year restoration and revegetation monitoring period, and accessible for wildlife use. As such, **the Project would not impede wildlife access and impacts would be less than significant**.

Local and Regional Wildlife Corridors and Linkages (Guideline 20)

The Project would not substantially interfere with the already constrained linkage between the McGinty Mountain/Sycuan Peak-Dehesa BRCA to the east and the Sweetwater Reservoir/San Miguel Mountain BRCA to the west. The Proposed Project is located within developed lands that have been altered by development of the golf course and disturbed by previous mining activities. Only 1.63 acres (0.8 percent) of the 209.63 acres of on-site impacts would be within native or sensitive habitats. Furthermore, mining would occur incrementally in 20- to 30-acre subphases leaving other portions of the site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for wildlife use. As part of reclamation, the Project would preserve, rehabilitate, restore, and revegetate native habitat along the expanded Sweetwater River floodplain, thereby restoring and improving functional connectivity within the area. The Project would conform to the goals and requirements of the County Subarea MSCP and BMO, including effects on habitat linkages and wildlife corridors. **Impacts associated with habitat linkages and wildlife corridors would be less than significant.**

Artificial Wildlife Corridors (Guideline 21)

The Project does not create artificial corridors, and movement functions would continue and be substantially improved on the site under post-Project conditions. Adequate upland scrub and riparian habitat associated with favorable topography and cover for target wildlife would be preserved, rehabilitated, and restored as part of the Project site's reclamation following sand extraction operations. The Sweetwater River floodplain would be widened and planted with native riparian vegetation along the channel bottom and coastal sage scrub along the channel's slopes (Figure 2.2-8). The site is already situated along the path of a constrained linkage and the Project would not introduce significant barriers further separating or fragmenting key habitat stands. Rather, the Project would restore and improve functional connectivity of the linkage by re-establishing a riparian corridor connecting existing habitat to the east and west of the site, including to areas preserved within the SDNWR. Proposed mining activities would occur within disturbed and developed portions of the Project site already disturbed by golf course development and operations. The Project would preserve adequate space and resources to conserve existing movement patterns and would result in a beneficial effect on species as a result of the site's proposed reclamation. **No artificial corridors would be created, and no adverse impacts associated with artificial corridors would occur.**

Indirect Effects (Guideline 22)

The Project occurs along the path of a constrained linkage that is already subjected to noise and nighttime lighting impacts associated with operation of the Cottonwood Golf Club. The reach of river traversing the Project site currently has low function as a wildlife corridor as it is narrow, lacks suitable vegetative cover, and is adjacent to developed golf course operations. Large portions of the Project site are fenced, further impeding wildlife access across the site.

Construction-related noise generated from mining and reclamation activities could temporarily impact wildlife. Mining operations and reclamation activities would require the daily use of heavy equipment that would elevate existing noise levels on site. Wildlife may be temporarily displaced from or avoid the Project site during construction activities but would be expected to return to the area was activities have ceased. The proposed mining and reclamation would occur in 20- to 30-acre subphases across the site, rather than the entire project footprint impacted concurrently. This would allow for wildlife, particularly avian species, to continue to use or occupy portions of the site outside of active work areas. Larger wildlife species, such as mule deer or bobcat, would already be discouraged from utilizing the Project site based on current golf course activity and lack of vegetative cover along the Sweetwater River. Reclamation activities would begin immediately following mining activities and would generally proceed eastwards with Project phasing. Reclamation of the Project site would include widening of the Sweetwater River floodplain and planting the area with native riparian habitat. Reclamation activities would first occur adjacent to existing riparian habitat along the Sweetwater River channel in the western portion of the Project site, followed by the southern portion of the site adjacent to the SDNWR. As mining activities progress eastward and reclamation is completed, active revegetation areas would provide a buffer between later extraction areas and core areas to the west of the Project site reducing potential project-related disturbances to these areas. Therefore, **potential noise related impacts to wildlife corridors or linkages during mining operations and reclamation activities would be less than significant.**

The final post-reclamation condition of the Project site would include a widened and re-established riparian corridor along Sweetwater River through the center of the site. Noise levels post-reclamation are anticipated to be similar to current baseline conditions which range between 52.4 to 77.2 dBA across the Project site (HELIX 2021b). Therefore, **post-reclamation impacts to wildlife corridors or linkages resulting from noise would be less than significant.**

Nighttime lighting is not anticipated to adversely impact the linkage or on-site movement corridors. All Project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Project lighting adjacent to undeveloped habitat (including reclaimed areas) would be of the lowest illumination allowed for human safety, and would be selectively placed, shielded, and directed away from such habitat. **Impact to wildlife corridors or linkages resulting from lighting would be less than significant.**

Adequate Corridor Width (Guideline 23)

The Project would not further constrain existing corridors or linkages in the local area. As discussed above, the Project site occurs along the path of an east-west linkage that is already constrained and fragmented as a result of previous golf course development of the site. The Project would predominately result in impacts to disturbed and developed areas associated with the golf course development; only 1.63 acres (0.8 percent) of the 209.63 acres of the on-site impacts would occur to native or sensitive habitats. These impacts would occur in 20- to 30-acre subphases during mining and reclamation activities across the site rather than the entire project footprint impacted concurrently. Portions of the Project site located outside of active work areas would still be available for wildlife access and use.

The Project would not include the construction or placement of barriers in any wildlife movement paths. Steele Canyon Road crosses the Project site north to south bisecting the entirety of the east-west linkage; therefore, species that are currently accessing the Project site and crossing below the road will continue to be able to do so following Project implementation. No additional road crossings are proposed as part of the Project.

The Project would not narrow the existing wildlife linkage width. As stated above, the Project would widen the proposed post-reclamation condition of the site would consist of an expanded Sweetwater River floodplain that would be restored and revegetated with wetland/riparian habitat. Graded slopes would be created on either side of the channel and planted with coastal sage scrub. This would increase the width of the existing linkage and restore available vegetative cover that would encourage and adequately conceal wildlife movement within the area. The preserved, rehabilitated, and restored riparian habitat along Sweetwater River would be conserved within open space that directly abuts the SDNWR to the west of Project boundary. Biological open space would follow the path of the river across the entire site, extending approximately 10,040 feet from end to end, with an average width of approximately 600 feet. The Project does not propose additional development following reclamation of the site, though select areas outside of the widened river channel would be available for land uses allowed by the existing land use designation and zoning classification (if approved through a subsequent review process). The Project would restore and greatly improve habitat connectivity; therefore, **impacts associated with corridor width would be less than significant.**

Adequate Visual Continuity (Guideline 24)

The Project would not impair visual continuity within corridors or linkages within the local area. The site is currently an active golf course that lacks sufficient vegetative cover to conceal and encourage wildlife movement through the linkage. The Project would predominantly result in impacts to disturbed and developed areas associated with the golf course development; only 1.63 acres (0.8 percent) of the 209.63 acres of the on-site impacts would occur to native or sensitive habitats. These impacts would occur in 20- to 30-acre subphases across the site, rather than concurrently impacting the entire Project footprint, during mining and reclamation activities leaving other portions of the Project site either undisturbed or in the five-year restoration and revegetation monitoring period and accessible for foraging. Reclamation of the site would include widening of the Sweetwater River floodplain and planting the area with native wetland/riparian habitat, first occur adjacent to existing riparian habitat along the Sweetwater River channel in the western portion of the Project site. As mining activities progress eastward and reclamation is completed, active revegetation areas would provide a buffer between later extraction areas and existing riparian habitat off-site improving visual continuity within the linkage.

The Project would also preserve and rehabilitate existing riparian habitat thereby preserving stepping-stone/archipelago habitat for avian species moving through the area. Although 0.32 acre of riparian habitat would be impacted as part of Project implementation, these impacts are on the outer edges of existing habitat and would not adversely affect visual continuity within the wildlife linkage. As part of the proposed reclamation, the Project would increase topographic complexity of the site by establishing a widened Sweetwater River floodplain with bordered graded slopes and elevated graded pads to the north and south. This would create topographic features more favorable to wildlife or target species along the linkage path and would separate the restored riparian corridor from upland areas available for future development. The Project would also increase vegetative cover along the river channel providing adequate coverage for wildlife species that would utilize the linkage. As such, the Project would not impair, but would ultimately improve, visual continuity within corridors or linkages in the local area and **visual continuity impacts would be less than significant.**

2.2.2.5 *Local Policies, Ordinances, and Adopted Plans*

Guidelines for the Determination of Significance

A significant impact would occur if the Proposed Project would:

25. Impact coastal sage scrub vegetation within lands outside the MSCP in excess of the County's five-percent habitat loss threshold as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

26. Preclude or prevent the preparation of the subregional NCCP. (If, for example, the Project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.)

27. Impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.

28. Not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

29. Not conform to the goals and requirements as outlined in any applicable HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or similar regional planning effort.

30. Not minimize impacts to BRCAs within lands in the MSCP, as defined in the Biological Mitigation Ordinance (BMO).

31. Preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

32. Not maintain existing movement corridors and/or habitat linkages, as defined by the BMO.

33. Not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

34. Reduce the likelihood of survival and recovery of listed species in the wild.

35. Result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

36. Result in the take of eagles, eagle eggs or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

Guidelines Source

These guidelines are based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

Impact Coastal Sage Scrub in Excess of Five Percent, Preclude/Prevent NCCP, or Not Meet NCCP Requirements (Guidelines 25 and 26)

Implementation of the Project would not preclude or prevent the preparation of the subregional NCCP; the Project is located within the boundaries of the South County MSCP Subarea Plan, which has already been prepared and adopted. The Project would impact 0.8 acre of Diegan coastal sage scrub, but because the Project is located within the adopted South County MSCP Subarea Plan and the loss would be mitigated in accordance with the MSCP and BMO, **no NCCP-related impact would occur**.

County RPO Wetlands (Guideline 27)

The Project would directly impact a total of 1.63 acres of riparian habitat or other sensitive natural communities, including 0.83 acres of County RPO wetlands. However, the Proposed Project is

exempt from this guideline pursuant to Section 86.605(d) of the RPO. The Project would be required to include the mitigation measures listed under *San Diego County RPO Wetlands* in Section 2.1.1.1, above, as conditions of the Project's Major Use Permit. The Proposed Project would comply with these measures as follows:

a. Wetland buffer areas surrounding the Sweetwater River, currently consisting of golf course fairways and greens, would be restored as part of the site's reclamation. The Sweetwater River floodplain would be widened with the channel bottom planted with native riparian habitat and the slopes abutting the river planted with coastal sage scrub. Outside of the river, the other RPO wetland on site is the stand of riparian habitat to the east of Steele Canyon Road. This area is located immediately south of the proposed widened river channel which would be vegetated with native coastal sage scrub and riparian habitat, thereby restoring the wetland buffer area.

b. The site is located within the Sweetwater River floodplain. Reclamation of the site following mining activities would substantially widen the existing Sweetwater River floodplain and revegetate the area with native riparian habitat, resulting in a substantial net gain in functional wetland and riparian habitat.

c. Native vegetation (i.e., coastal sage scrub) shall be used on sloped lands to revegetate and landscape cut and fill areas in order to substantially restore the original habitat value, and slopes shall be graded to produce contours and soils which reflect a natural landform that is consistent with the surrounding area.

d. The site contains southern riparian forest meeting the definition of mature riparian woodland. The Proposed Project would result in impacts to approximately 0.32 acre of southern cottonwood-willow riparian forest located in the southwestern portion of the Project site. Impacts to riparian forest would be limited to the perimeter of existing habitat and would not occur as part of extraction activities. Impacts would occur during site reclamation as part of creation of the widened Sweetwater River floodplain. These impacts are required to maintain proper drainage of the widened floodplain and prevent ponding and erosion where the widened floodplain meets existing riparian habitat within the SDNWR. The impacted area would be restored with native riparian habitat following Project activities as part of site reclamation and Project's proposed mitigation. Therefore, the Project would not destroy or reduce the size of mature riparian habitat. Furthermore, the post-reclamation condition of the Project would result in a substantial increase in riparian habitat through widening and revegetation of the Sweetwater River floodplain. The restored and revegetated riparian habitat, and existing stands of riparian habitat would be preserved within open space following reclamation of the site. As such, the Proposed Project would not destroy or reduce the size of mature riparian woodland habitat.

The Project would conform with conditions (a) through (d) of Section 86.605(d) of the RPO; thus, **the Project is exempt from the RPO and no significant impact would occur**.

Coastal Sage Scrub Habitat Loss (Guideline 28)

The Project would impact 0.8 acre of Diegan coastal sage scrub. The Project is located within the adopted South County MSCP Subarea Plan and the loss would be mitigated in accordance with the South County MSCP Subarea Plan and BMO. **Therefore, impacts associated with coastal sage scrub habitat loss would be less than significant.**

Regional Planning Goals and Conformance/Minimization of Impacts (Guidelines 29 and 30)

The Project occurs within the boundaries of the adopted South County MSCP. The Project would impact a total of 9.0 acres of the 16.4 acres of on-site lands designated as PAMA under the County's Subarea MSCP (County 1997), comprising 55 percent of PAMA mapped within the Project site. However, most Proposed Project impacts within PAMA would be in lands that are in existing disturbed and developed land use categories, which together make up 8.1 acres of impact to on-site PAMA (90 percent of on-site PAMA impacts). Project impacts to sensitive vegetation communities in PAMA total 0.9 acre, representing only 10 percent of on-site PAMA impacts. As shown in Table 2.2-7, *PAMA Impacts Summary*, only 12.9 percent of the sensitive vegetation communities within PAMA would be impacted, compared to 86.2 percent of the non-sensitive vegetation communities within PAMA.

Additionally, a total of 7.6 acres of lands within the Minor Amendment Area would be impacted, comprised primarily of disturbed habitat (7.1 acres) and developed lands (less than 0.1 acre) associated with inactive portions of the golf course. A small portion of these impacts also include disturbed southern cottonwood-willow riparian forest (0.2 acre) and disturbed wetland habitat (0.2 acre). The impacted areas would be restored with native riparian habitat following Project activities as part of site reclamation and the Project's proposed mitigation. The remainder of habitat within the Minor Amendment Area would either be left in place in impact neutral areas (13.3 acres) or would be conserved within open space (24.5 acres, including the 7.6 acres of impacted habitat) and would be restored as part of the Project's proposed mitigation.

The Project minimizes impacts to sensitive habitat, PAMA, and Minor Amendment Area to the greatest extent practicable. Impacts to PAMA and the Minor Amendment Area would largely encompass disturbed habitat and developed lands associated with the golf course development. The Project would preserve existing native habitat within open space and would further restore these areas through removal of exotic, invasive species. As required by the MSCP, development within the Minor Amendment Area would require approval from the USFWS, CDFW, and County. Therefore, **the Project would conform to goals and requirements outlined in the County MSCP Subarea Plan, and no significant impact would occur in regard to regional planning efforts**

The Project minimizes impacts to BRCA in accordance with the MSCP and BMO. **Impacts to BRCA would be less than significant.**

Connectivity between Areas of High Habitat Values (Guideline 31)

The Project is located within the adopted MSCP and connectivity is evaluated according to the MSCP and BMO. **Impacts related to connectivity between high habitat value areas in the region would be less than significant.**

Maintenance of BMO-identified Corridors (Guideline 32)

The Project site is located within an identified habitat linkage in the South County MSCP. As part of the reclamation process, the Proposed Project would substantially improve the condition of the existing linkage through widening of the Sweetwater River floodplain and planting of riparian habitat. A riparian corridor would be re-established throughout the Project site which would encourage and facilitate wildlife movement within the region. Therefore, the Project would ultimately conserve and enhance the functions and values of the habitat linkage in accordance with the MSCP and BMO. **Impacts to BMO-identified corridors would be less than significant.**

Avoidance of MSCP Narrow Endemic Species (Guideline 33)

Two MSCP narrow endemic species were observed within the Project site, peregrine falcon and least Bell's vireo. One MSCP narrow endemic species has high potential to occur, San Diego ambrosia.

The Project site lacks suitable breeding habitat for peregrine falcon but does contain suitable foraging habitat for this species. The Project does not contain a core population of peregrine falcon as the site lacks suitable breeding habitat and observations are limited to foraging individuals. Therefore, **no impact would occur to a core population of peregrine falcon**. **Impacts would occur to suitable foraging habitat for this species which are considered potentially significant (Impact BIO-2a)**. Least Bell's vireo was detected within the riparian habitat both on-site and immediately adjacent to the Project site within the SDNWR. However, the Project does not contain a core vireo population as the Project site contains limited suitable habitat for the species, which would be avoided by the Proposed Project, and multiple vireos were detected within off-site habitat, including the SDNWR located immediately west of the site, indicating that the site does not contain an isolated or significant population of the species. Therefore, **the Project would not result significant impacts to a core population of least Bell's vireo**. The Project would impact approximately 0.32 acre of southern cottonwood-willow riparian forest with potential to support least Bell's vireo, which includes 0.16 acre mapped as least Bell's vireo critical habitat, with potential to support least Bell's vireo. **Direct impacts to occupied vireo habitat would be potentially significant (Impact BIO-1d)**.

USFWS critical habitat for San Diego ambrosia occurs within the southwestern portion of the site, though the species was not detected within the Project site during rare plant surveys in 2019. The Project would result in 0.70 acre of impacts to USFWS critical habitat for the species but would not result in direct impacts to individuals or core populations. Therefore, **the Project would not result in a significant impact to San Diego ambrosia.**

For the reasons outlined above, **the Project would result in potential significant impacts to MSCP narrow endemic species (Impact BIO-11)**.

Survival and Recovery of Listed Species in the Wild (Guideline 34)

Two listed species were detected within the Project site: coastal California gnatcatcher and least Bell's vireo. The Project would impact 0.9 acre of disturbed Diegan coastal sage scrub habitat that provides potential foraging habitat for the coastal California gnatcatcher and 0.32 acre of southern cottonwood-willow riparian forest with potential to support least Bell's vireo. **Impacts to suitable**

gnatcatcher and vireo foraging and breeding habitat would not adversely affect the recovery of either species in the wild as these impacts are minimal and larger blocks of the habitat for the species would be avoided by Project activities and preserved within the Project's BOS. Furthermore, following reclamation the Project would result in a substantial net gain in suitable gnatcatcher and vireo foraging and breeding habitat within the expanded Sweetwater River floodplain contributing to the species recovery. However, removal of vegetation during the breeding season for gnatcatcher (March 1 to August 15) or vireo (March 15 to September 15) could result in significant impacts to nesting gnatcatcher and vireo. Additionally, if mining and reclamation activities took place within 500 feet of suitable gnatcatcher or vireo habitat during the gnatcatcher or vireo breeding season, indirect impacts related to noise to nesting gnatcatchers and vireos would be potentially significant. These impacts **would be considered potentially significant (Impact BIO-12).**

Migratory Bird Treaty Act (Guideline 35)

Implementation of the Project could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. **These impacts would be significant (Impact BIO-13).**

Bald and Golden Eagle Treaty Act (Guideline 36)

The Project site does not contain eagle foraging habitat or nesting habitat and it is not within any known golden eagle territory. The surrounding habitat fragmentation and the distance from known eagle territories indicate that the site does not have high value for golden eagle. The surrounding area is primarily urbanized and new nesting in the vicinity is unlikely. Therefore, **no impacts would occur to golden eagle or its habitat.**

2.2.3 Cumulative Impact Analysis

Guidelines for the Determination of Significance

A significant cumulative impact would occur if the Proposed Project would:

37. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal species.

38. Have impacts that are individually limited, but cumulatively considerable.

Guidelines Source

These guidelines are based on the County Guidelines for Determining Significance – Biological Resources (2010a).

Analysis

Impacts that may not be considered significant on a project-specific level can become significant when viewed in the context of other losses in the vicinity of the Project site. When evaluating cumulative impacts, CEQA states that "lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used" (Section 15130[b][3]). The area of consideration for cumulative biological projects impacts is based on an approximate 5.0-mile radius from the Project site and includes surrounding PAMA connections to the Project site, as well as Preserve areas (i.e., SDNWR, Sweetwater Reservoir, Ranch Jamul Ecological Reserve, McGinty Mountain Preserve), and foothills and canyons abutting the Sweetwater River (refer to Figures 1-15 and 2.2-1). The cumulative study area was chosen because it includes areas with similar biological resources as the Project site, as well as capturing the local watershed for the site. The area of consideration includes lands within a reasonable distance from the Project site that may have a biologically based connection to the site in terms of habitat connectivity and development in the region.

A total of 15 projects (including the Proposed Project) were reviewed for this cumulative analysis (Table 2.2-8, *Cumulative Impacts on Biological Resources*; Figure 1-15). Of these 15 cumulative projects, nine would result in significant or potentially significant cumulative impacts to sensitive biological resources. The remaining six projects either would not result in impacts to sensitive biological resources or information on impacts is not available. The Project has the potential to contribute to the cumulative impact on coastal California gnatcatcher and least Bell's vireo as discussed below.

Cumulative Impacts to Special Status Species

The cumulative projects with available data would impact 118.38 acres of coastal sage scrub habitat, including impacts from the Proposed Project. The loss of coastal sage scrub habitat would represent a potential cumulative impact on the coastal California gnatcatcher. This impact would be potentially significant. The Proposed Project would result in impacts to 0.8 acre of coastal sage scrub, no portions of which were determined to support coastal California gnatcatcher, which is considered less than cumulatively considerable. Projects are required to implement avoidance measures so that direct, inadvertent take of gnatcatcher individuals is prevented. In addition, projects are required to compensate impacts on coastal sage scrub at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for the gnatcatcher is fully compensated. The Proposed Project would implement required gnatcatcher avoidance measures and compensate the loss of coastal sage scrub habitat at a 1.5:1 ratio through the on-site preservation of existing and revegetated of coastal sage scrub habitat within a BOS easement. The post-reclamation condition of the Project site would result in a biologically superior condition following site reclamation compared to its current condition as developed golf course. The Sweetwater River floodplain would be substantially widened and revegetated with native riparian habitat along the channel's bottom and with coastal sage scrub along the constructed channel slopes. These areas would be placed within an open space easement and would be contiguous with existing native habitat located to the east and west of the site, including preserved areas within the SDNWR. With the implementation of these measures and project design features, the Proposed Project would have a less than significant contribution to the potentially significant cumulative impact on coastal sage scrub habitat or coastal California gnatcatcher**.**

The cumulative projects would impact 4.05 acres of riparian/wetland habitat, which is the preferred habitat of the least Bell's vireo. The cumulative loss of riparian/wetland habitat would represent a significant cumulative impact on least Bell's vireo. The Proposed Project would result in impacts to 0.32 acre of riparian/wetland habitat, a portion of which was determined to support least Bell's vireo. As with the coastal California gnatcatcher, projects are required to implement avoidance measures so that direct, inadvertent take of vireo is prevented. In addition, projects are required to compensate impacts on riparian/wetland habitat at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for vireo is fully compensated. The Proposed Project would implement required vireo avoidance measures and compensate the loss of riparian/wetland habitat at a minimum 1:1 ratio through the on-site preservation, rehabilitation, restoration, and revegetation of riparian habitat along the expanded Sweetwater River floodplain. The post-reclamation condition of the Project site would result in a biologically superior condition following site reclamation compared to its current condition as developed golf course. The Sweetwater River floodplain would be substantially widened and revegetated with native riparian habitat along the channel's bottom and coastal sage scrub along the constructed channel slopes that would be contiguous with existing riparian habitat located to the east and west of the Project site, including preserved areas within the SDNWR. Therefore, the Proposed Project would have a less than significant contribution to the potentially significant cumulative impact on riparian/wetland habitat or least Bell's vireo**.**

As the Proposed Project would ultimately be in conformance with the South County MSCP Subarea Plan and any other projects proposed in the vicinity would also have to follow the South County MSCP Subarea Plan, cumulative impacts would be considered fully mitigated.

Cumulative Impacts to Riparian and Sensitive Habitats

The Proposed Project would result in impacts to 0.32 acre of riparian/wetland habitat and 0.8 acre of Tier II Diegan coastal sage scrub habitat. Project-level impacts would be mitigated in accordance with County and regulatory agency guidelines and requirements. The County-approved mitigation ratios are standardized and not dependent upon the quality of habitat. Rather, the mitigation ratios recognize the regional importance of the habitat, the overall rarity of the habitat, and the number and variety of species it supports. Mitigation for habitat loss is required to compensate for direct impacts as well as cumulative loss of habitat. Impacts to wetland/riparian habitat and sensitive upland communities would be fully mitigated at County-approved ratios through the on-site preservation, rehabilitation, restoration, and revegetation of wetland/riparian habitat and sensitive upland habitat (Diegan coastal sage scrub) along the expanded Sweetwater River floodplain bordering slopes. These areas would be placed within a BOS easement; thus, providing long-term conservation value. Since current regulations require mitigation for wetland impacts to include establishment (i.e., creation) or re-establishment of the same habitat at a minimum 1:1 ratio, coupled with rehabilitation (i.e., restoration), enhancement, and/or preservation of habitat, there ultimately would be no contribution to cumulative loss of the resource. As the Project would be in conformance with County guidelines and mitigation ratios, Project impacts to wetland/riparian habitat and sensitive upland communities would not be cumulatively considerable and **the Proposed Project's contribution to cumulative impacts to sensitive vegetation communities would be less than significant.**

Cumulative Impacts to Jurisdictional Areas

The Proposed Project's impacts to 0.99 acre of USACE jurisdictional areas, comprised of 30.51 acre of wetland waters of the U.S. and 0.37 acre of non-wetland waters, while significant at the project level would be fully mitigated through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, enhancement and/or preservation; and/or off-site purchase of mitigation credits at an approved mitigation bank, or other location deemed acceptable by the County, Wildlife Agencies, and Regulatory Agencies. A "no net loss" policy has been established for wetlands by state and federal resource agencies, as well as the County; the Project is required to establish/re-establish jurisdictional habitat at a minimum 1:1 ratio. Other projects within the cumulative study area that may impact wetlands would be required to mitigate impacts as well, at ratios commensurate with the type and location of the impacts, pursuant to the MSCP and regulatory agency requirements, thereby ensuring that cumulative impacts would result in no net loss of wetlands. Accordingly, implementation of the Project and other cumulative projects would not result in the net loss of jurisdictional resources, and **the Project would not result in a cumulatively considerable contribution to loss of sensitive jurisdictional habitat and impacts would be less than significant**.

Cumulative Impacts to Wildlife Movement and Nursery Sites

The cumulative projects are located in existing urbanized areas of El Cajon, Rancho San Diego and Jamul within the unincorporated County, or on the fringes of urbanization. A cumulative impact on wildlife movement has already occurred in the local area where commercial and residential development and major roadways (such as SR 94, SR 54, and Steele Canyon Road) has constrained available areas for wildlife movement. Primary wildlife use areas in the local area are located in the McGinty Mountain/Sycuan Peak-Dehesa and Sweetwater Reservoir/San Miguel Mountain BRCAs, generally associated with the SDNWR, Sweetwater River and Sweetwater Mountain Ecological Reserve, McGinty Mountain Ecological Reserve, and McGinty Mountain Preserve. These resources provide wildlife movement areas for a wide range of species known to the region. As described in Section 2.2.1.1 under Habitat Connectivity and Wildlife Corridors, and in Section 2.2.2.4 under Guideline 19, the current function of the Project site as a linkage/corridor for wildlife movement is considered low based on previous golf course development, on-going disturbances related to golf course maintenance and operations, and lack of sufficient habitat cover to conceal wildlife movement through the site. As such, the Project is not expected to substantially interfere with the movement of wildlife species or impede the use of nursery sites.

The Project would comply with the requirements of the BMO and MSCP, including preserve design criteria related to corridors and linkages. In addition, the Project would improve habitat quality and connectivity compared to the site's current state as a golf course. The Project's proposed reclamation would preserve, rehabilitate, and restore native riparian and upland habitats along the Sweetwater River. This would result in widened riparian corridor that re-establishes functional connectivity to BRCAs located to the east and west of the Project site, including the SDNWR. The contribution of the Project to the cumulative impact on wildlife movement would not be cumulatively considerable and would be less than significant.

Cumulative Impacts to Local Policies, Ordinances, and Adopted Plans

The Project would comply with the requirements of the MBTA, RPO, BGEPA, BMO, and MSCP. All currently proposed and future projects within the cumulative study area also would be required to comply with these regulations, thus **no significant cumulative impacts with respect to local policies, ordinances, and adopted plans would occur**.

2.2.4 Significance of Impacts Prior to Mitigation

The following significant impacts related to biological resources would occur with Project implementation (refer to Table 2.2-9, *Summary of Vegetation Communities Impact and Mitigation Acreages*):

Impact BIO-1a Direct impacts to potential foraging habitat for coastal California gnatcatcher would be potentially significant.

Impact BIO-1b If mining and reclamation activities take place within 500 feet of suitable gnatcatcher habitat during the gnatcatcher breeding season (March 1 to August 15), indirect impacts related to noise to nesting gnatcatchers would be potentially significant.

Impact BIO-1c Direct impacts to potentially occupied vireo habitat would be potentially significant.

Impact BIO-1d If mining and reclamation activities take place within 500 feet of suitable vireo habitat during the vireo breeding season (March 15 to September 15), indirect noise impacts to nesting vireos would be potentially significant.

Impact BIO-2a Direct impacts to potential breeding, wintering, and foraging habitat to the following County Group 1 animal species and/or state Species of Special Concern during mining and reclamation activities would be potentially significant: coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, loggerhead shrike, peregrine falcon, red-shouldered hawk, sharp-shinned hawk, turkey vulture, vermilion flycatcher, white-tailed kite, yellow-breasted chat, yellow warbler, two-striped garter snake, and western spadefoot.

Impact BIO-2b Direct impacts to nesting Cooper's hawk, red-shouldered hawk, white-tailed kite, and other raptors, and/or indirect noise impacts to nesting raptors within 300 feet of construction, mining, or reclamation areas would be potentially significant.

Impact BIO-2c Direct impacts to nesting coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, loggerhead shrike, red-shouldered hawk, vermilion flycatcher, white-tailed kite, yellow-breasted chat, and yellow warbler individuals would be considered potentially significant.

Impact BIO-3a Direct impacts to four County List D San Diego County viguiera shrubs would be considered potentially significant.

Impact BIO-3b Direct impacts to potential breeding, wintering, or foraging habitat to the following County Group 2 animal species during mining and reclamation activities would be considered potentially significant: barn owl, California horned lark, Canada goose, great blue heron, green heron, merlin, western bluebird, yellow warbler, Belding's orange-throated whiptail, monarch butterfly, and western spadefoot.

Impact BIO-3c Direct impacts to nesting barn owl, California horned lark, Canada goose, great blue heron, green heron, western bluebird, and yellow warbler individuals would be considered potentially significant.

Impact BIO-4 Direct impacts to sensitive habitats located in lands designated as a biological core resource area during mining and reclamation activities would be considered potentially significant.

Impact BIO-5 If construction or mining activities would be initiated within 500 feet of suitable habitat during the breeding seasons for California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), indirect noise effects would be potentially significant.

Impact BIO-6 If protective measures are not implemented to control human access into open space areas, direct and indirect impacts to sensitive habitat and species located in the biological open space be potentially significant.

Impact BIO-7 Implementation of the Proposed Project would result in direct impacts to approximately 1.63 acres of sensitive vegetation communities made up of 0.50 acre of disturbed wetland (Tier I), 0.32 acre of southern cottonwood-willow riparian forest (Tier I), 0.01 acre of arundo-dominated riparian (Tier I), and 0.8 acre of Diegan coastal sage scrub (Tier II). Impacts to sensitive natural communities would be considered potentially significant.

Impact BIO-8 Inadvertent intrusion into riparian habitat or other sensitive habitats located adjacent to work areas by construction vehicles, equipment, and personnel during mining and reclamation activities would be considered potentially significant.

Impact BIO-9 The Project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, CDFW, and/or County. Impacts to jurisdictional waters and wetlands include 0.62 acres of wetland and 0.37 acre of non-wetland waters of the U.S. and 17.89 acres of CDFW jurisdictional areas (including 0.83 acres of vegetated habitat and 17.06 acres of streambed). Impacts to jurisdictional waters and wetlands would be considered potentially significant.

Impact BIO-10 Inadvertent intrusion into jurisdictional waters and wetlands located adjacent to work areas by construction vehicles, equipment, and personnel during mining and reclamation activities would be considered potentially significant.

Impact BIO-11 Implementation of the Proposed Project would result in potentially significant impacts to MSCP narrow endemic species during mining and reclamation activities.

Impact BIO-12 Implementation of the Proposed Project would result in potentially significant impacts to listed species during mining and reclamation activities.

Impact BIO-13 Direct impacts to nesting birds protected under the Migratory Bird Treaty Act would be considered potentially significant.

2.2.5 Mitigation

The following mitigation measures would reduce Project impacts to below a level of significance (refer to Table 2.2-10, *Summary of Biological Resources Mitigation Measures*).

M-BIO-1 Mitigation for impacts to 0.8 acre of potential foraging habitat for coastal California gnatcatcher, comprised solely of Diegan coastal sage scrub, shall occur at a 1.5:1 ratio for a total mitigation requirement of 1.2 acres. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Diegan coastal sage scrub to be preserved within the biological open space easement.

M-BIO-2 Grading or clearing of vegetation within 500 feet of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (March 1 to August 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur within 500 feet of suitable gnatcatcher habitat during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether gnatcatchers occur within 500 feet of the proposed impact area(s). If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 500 feet of any location at which gnatcatchers have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after August 15.

M-BIO-3 Mitigation for impacts to 0.32 acre of potential nesting and foraging habitat for least Bell's vireo (southern cottonwood-willow riparian forest) shall occur at a minimum 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.

M-BIO-4 Grading or clearing of riparian habitat during the breeding season of the least Bell's vireo (March 15 through September 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur within 500 feet of suitable vireo habitat during the least Bell's vireo breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether vireos occur within 500 feet of proposed impact area(s). Impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any vireos are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 500 feet of any location at which vireos have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after September 15.

M-BIO-5 If operation of construction or excavation equipment is initiated within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within three days (72 hours) of the proposed start of construction, mining, or reclamation activities. If it is determined at the completion of pre-construction survey(s) that active nests belonging to these sensitive species are absent from the potential impact area, activities shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then activities shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the impact footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater. The type(s) and location(s) of noise barrier(s) shall be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output would be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that noise levels remain below 60 dBA at occupied areas.

M-BIO-6 Grubbing or clearing of vegetation during the general avian breeding season (February 15 through August 31) or raptor breeding season (January 15 through July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the general avian breeding season within 300 feet of general bird nesting habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall

be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until a qualified biologist has determined that nesting behavior has ceased, nests have failed, or young have fledged.

M-BIO-7 Upon completion of all extraction activities, reclamation, and final grading to establish the final landform shall occur in accordance with the approved Reclamation Plan. Revegetation with native species will occur within the expanded Sweetwater River floodplain and constructed bordering slopes according to a revegetation plan to be approved by the County.

M-BIO-8 Mitigation for impacts to 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.50 of disturbed wetland shall occur at a 3:1 ratio with at least 1:1 creation for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.

M-BIO-9 Mitigation for 0.8 acre of impacts to Diegan coastal sage scrub shall occur at a 1.5:1 ratio through the on-site preservation of 1.2 acres of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Tier II Diegan coastal sage scrub to be preserved within the biological open space easement.

BIO-10 The applicant shall dedicate 142.8 acres of biological open space to be managed by a long-term manager approved by the County in accordance with a Resource Management Plan. The biological open space easement shall include native habitat revegetation areas located within the expanded Sweetwater River floodplain and bordering constructed slopes. Permanent open space fencing and signage shall be installed around the perimeter of the biological open space as detailed in the final Resource Management Plan.

M-BIO-11 The Project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP would provide direction for the permanent preservation and management of the on-site biological open space in accordance with County regulations.

M-BIO-12 To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, temporary environmental fencing (including silt fencing where determined necessary by the SWPPP), would be

installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction.

M-BIO-13 A qualified biologist shall monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space. The biologist also would conduct a pre-construction environmental training session for construction personnel prior to all phases of construction to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with Project approvals. The biologist shall monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist shall periodically monitor the limits of construction and mining operations to ensure that mining and avoidance areas are delineated with temporary fencing and that fencing remains intact.

M-BIO-14 Impacts to 0.62 acre of U.S. Army Corps of Engineers (USACE) wetland waters of the U.S. shall be mitigated a minimum 3:1 ratio and 0.37 acre of USACE non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 2.23 acres waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts.

M-BIO-15 Impacts to 0.83 acre of California Department of Fish and Wildlife (CDFW) jurisdictional riparian habitat (0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.50 acre of disturbed wetland) shall be mitigated at a 3:1 ratio, totaling 2.49 acres of riparian habitat mitigation. Impacts to 17.06 acres of CDFW streambed shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 17.06 acres of riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 19.55 acres. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Code Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts.

M-BIO-16 The Project requires preparation of a wetland mitigation plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts

only) and U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) (impacts to waters of the U.S. and State, and CDFW riparian habitat and streambed), as applicable. Approval of the plan and/or acceptance of mitigation bank credits by the USACE, CDFW, and RWQCB shall be a condition of the associated wetland permits for the Project.

2.2.6 Conclusion

Project implementation would result in potentially significant impacts to federally and state listed animal species, state Species of Special Concern animals, County Group 1 and Group 2 animal species, County List D plant species, and raptors with the potential to nest and/or forage over the Project site and immediate vicinity. Potential significant impacts would result from direct disturbance, loss of habitat, and noise. Implementation of mitigation measures M-BIO-1 through M-BIO-11 would reduce impacts to less-than-significant levels through implementation of breeding season avoidance and/or pre-construction surveys to avoid direct and indirect impacts to sensitive birds and raptors; mitigation for direct impacts to suitable habitat for the coastal California gnatcatcher; mitigation for direct impacts to suitable habitat for least Bell's vireo; habitat-based mitigation for direct impacts to sensitive vegetation communities with potential to support special status plant and animal species; reclamation of the Project site following completion of mining activities; placement of preserved, restored, and revegetated native habitat within BOS; and long-term management of the biological open space areas in accordance with a County-approved RMP.

The Project would also result in potentially significant impacts to sensitive natural communities and riparian habitat; however, a combination of avoidance through project design, proposed open space, and mitigation measures to fully compensate the loss of habitat would reduce impacts to below a level of significance, and there would be no net loss of sensitive natural communities and riparian habitat. Mitigation is proposed at ratios consistent with those required by the County, Wildlife Agencies, and Resource Agencies. With the implementation of mitigation measures M-BIO-7 through M-BIO-16, impacts on sensitive natural communities, including riparian habitat, would be less than significant.

Implementation of the Project would result in significant impacts to USACE wetland and non-wetland waters of the U.S. The Project would also result in significant impacts to RWQCB wetland and non-wetland waters of the State and CDFW-jurisdictional riparian habitat and streambed. Mitigation measures M-BIO-14 through M-BIO-16 would reduce potential impacts to a less-than-significant level; final mitigation measures will be determined in consultation with the USACE, RWQCB, and CDFW.

Impacts to jurisdictional areas would require permitting through the appropriate regulatory agencies, as discussed below. Securing necessary wetland permits prior to issuance of a grading permit would be required. Anticipated wetland permits include a CWA Section 404 permit from the USACE, CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Waste Discharge requirements from the RWQCB, and CFG Code Section 1602 Streambed Alteration Agreement from CDFW. Final mitigation requirements would be

determined through consultation with the USACE, RWQCB, and CDFW, and would reduce impacts to less than significant.

With the Project's proposed open space, incorporation of design features, and implementation of the measures listed above, impacts to wildlife movement, corridors and linkages, and nursery sites would be less than significant and no additional mitigation measures are required.

Implementation of the Project would result in potentially significant impacts to MSCP narrow endemic species (peregrine falcon and least Bell's vireo), federally listed species (coastal California gnatcatcher and least Bell's vireo), and breeding migratory birds. Implementation of mitigation measures M-BIO-1 through M-BIO-11 would reduce these impacts to below a level of significance.

Although the Project is exempt from the RPO as discussed in the local regulatory framework under *Resource Protection Ordinance* in Section 2.1.1.1, and *County RPO Wetlands (Guideline 27)* in Section 2.1.2.5, above, mitigation measures M-BIO-8, and M-BIO-14 through M-BIO-16, would compensate for habitat loss to these areas and mitigate potential impacts associated with local policies, ordinances, and adopted plans to less than significant.

With the Project's proposed open space, incorporation of design features, compliance with the requirements of the MBTA, RPO, BGEPA, BMO, and MSCP, and implementation of the measures listed above, cumulative impacts would be less than significant and no additional mitigation measures are required to address potential cumulative impacts.

Table 2.2-1
EXISTING VEGETATION COMMUNITIES/LAND USE TYPES

Vegetation Community[1]	Within MUP (Acres)[2]	Outside MUP (Acres)[2]	Total (Acres)[2]
Tier I[3]			
Disturbed Wetland (11200)	10.41	0	10.41
Freshwater Marsh (52400)	0.31	0	0.31
Southern Cottonwood-willow Riparian Forest (61330)	10.73	2.24	12.97
Southern Cottonwood-willow Riparian Forest - disturbed (61330)	0.86	0.13	0.99
Southern Willow Scrub (63320)	0.80	0	0.80
Southern Willow Scrub - disturbed (63320)	3.87	0	3.87
Tamarisk Scrub (63810)	0.62	0	0.62
Open Water (64140)[4]	0.82	0	0.82
Arundo-dominated Riparian (65100)	0.47	0.07	0.54
Tier II			
Diegan Coastal Sage Scrub (32500)	0.6	0.5	1.1
Diegan Coastal Sage Scrub –disturbed (32500)	0.6	0	0.6
Tier IV			
Non-native Woodland (79000)	0.8	0	0.8
Eucalyptus Woodland (79100)	2.2	0.8	3.0
Non-native Vegetation (11000)	4.2	0	4.2
Disturbed Habitat (11300)	80.7	12.4	93.1
N/A			
Man-made Pond (64140)[4]	3.5	0	3.5
Developed Land (12000)	124.2	14.8	139.0
TOTAL	**245.69**	**30.94**	**276.63**

Source: HELIX 2021a
[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[2] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total does not reflect rounding.
[3] County Subarea Habitats and Tiers within the Multiple Species Conservation Program (MSCP).
[4] The numerical Holland/Oberbauer code refers to Fresh Water which describes year-round bodies of fresh water in the form of lakes, streams, ponds, or rivers and is the most appropriate vegetation community that represents these areas.
MUP = Major Use Permit

Table 2.2-2
WATERS OF THE U.S. – EXISTING CONDITIONS

Waters of the U.S.	Acreage[1]
Wetland Waters	
Disturbed Wetland	10.21
Freshwater Marsh	0.31
Open Water	0.82
Riparian Forest (including disturbed)	7.16
Southern Willow Scrub (including disturbed)	4.84
Tamarisk Scrub	0.61
Subtotal	*23.96*
Non-wetland Waters	
Streambed	0.56
Subtotal	*0.56*
TOTAL	**24.52**

Source: HELIX 2021a
[1] Acres rounded to the nearest hundredth. Total reflects rounding.

Table 2.2-3
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION – EXISTING CONDITIONS

Habitat Type	Acreage[1]
Riparian-Vegetated Streambed	
Arundo-dominated Riparian	0.54
Disturbed Wetland	10.41
Freshwater Marsh	0.31
Open Water	0.82
Riparian Forest (including disturbed)	13.96
Southern Willow Scrub (included disturbed)	4.67
Tamarisk Scrub	0.61
Subtotal	*31.32*
Unvegetated Streambed	
Streambed	19.06
Subtotal	*19.06*
TOTAL	**50.38**

Source: HELIX 2021a
[1] Acres rounded to the nearest hundredth.

Table 2.2-4
COUNTY RESOURCE PROTECTION ORDINANCE WETLANDS – EXISTING CONDITIONS

Habitat Type	Acreage[1]
Arundo-dominated Riparian	0.54
Disturbed Wetland	10.41
Freshwater Marsh	0.31
Open Water	0.82
Riparian Forest (including disturbed)	13.96
Southern Willow Scrub (including disturbed)	4.67
Tamarisk Scrub	0.61
TOTAL	**31.32**

Source: HELIX 2021a
[1] Acres rounded to the nearest hundredth.

Table 2.2-5
PROJECT IMPACTS TO VEGETATION COMMUNITIES/HABITAT TYPES

Vegetation Community[1]	Impact Neutral Areas (Acres)[1]	Project Impacts (Acres)[2]					Road Improvement Impacts (Acres)[2]			Total Impacts (Acres)[2]		
		Phase 1	Phase 2	Phase 3	Phase 4	Total On-Site	On-Site	Off-Site	Total	On-Site	Off-Site	Total
Sensitive Vegetation Communities												
Tier I[3]												
Disturbed Wetland (11200)	0	0.15	0.26	0.09	0	0.50	0	0	0	0.5	0	0.50
Freshwater Marsh (52400)	0	0	0	0	0	0	0	0	0	0	0	0
Southern Cottonwood-willow Riparian Forest – including disturbed (61330)	0.27	0.27	0	0	0.05	0.32	0	0	0	0.32	0	0.32
Southern Willow Scrub – including disturbed (63320)	0	0	0	0	0	0	0	0	0	0	0	0
Tamarisk Scrub (63810)	0	0	0	0	0	0	0	0	0	0	0	0
Open Water (64140)	0	0	0	0	0	0	0	0	0	0	0	0
Arundo-dominated Riparian (65100)	0.07	0.01	0	0	0	0.01	0	0	0	0.1	0	0.01
Tier II												
Diegan Coastal Sage Scrub – including disturbed (32500)	0.4	0.2	0	0.4	0	0.6	0	0.2	0.2	0.6	0.2	0.8
Subtotal Sensitive Communities	*0.74*	*0.63*	*0.26*	*0.49*	*0.06*	*1.43*	0	*0.2*	*0.2*	*0.6*	*0.2*	*1.63*
Non-Sensitive Vegetation Communities												
Tier IV												
Non-native Woodland (79000)	0	0	0	0.8	0	0.8	0	0	0	0.8	0	0.8
Eucalyptus Woodland (79100)	0.8	0.1	0	2.1	0	2.2	0	<0.1	<0.1	2.2	<0.1	2.2
Non-native Vegetation (11000)	0	2.0	0.6	1.0	0.3	3.9	0.1	1.7	1.8	4.0	1.7	5.7
Disturbed Habitat (11300)	14.3	73.3	1.9	1.4	0	76.6	<0.1	0.1	0.1	76.6	0.1	76.7
N/A												
Man-made Pond (64100)	0	1.8	0	0.7	1.0	3.5	0	0	0	3.5	0	3.5
Developed Land (12000)	15.6	0.5	47.1	66.0	7.5	121.1	<0.1	2.8	2.8	121.1	2.8	123.9
Subtotal Non-Sensitive Communities	*30.7*	*77.7*	*49.6*	*72.0*	*8.8*	*20 8.1*	*0.1*	*4.6*	*4.7*	*208.2*	*4.8*	*212.8*
TOTAL	**31.44**	**78.33**	**49.86**	**72.49**	**8.86**	**209.53**	**0.1**	**4.8**	**4.9**	**209.63**	**4.8**	**214.43**

Source: HELIX 2021a

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

[2] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total does not reflect rounding.

[3] County Subarea Habitats and Tiers within the MSCP.

Table 2.2-6
IMPACTS TO JURISDICTIONAL WETLANDS AND WATERWAYS (acre[s])[1]

Habitat	Waters of U.S.	CDFW	County RPO
Wetland Waters/Riparian			
Disturbed Wetland	0.50	0.50	0.50
Southern Cottonwood-willow Riparian Forest	0.12	0.32	0.32
Arundo-Dominated Riparian	0	0.01	0.01
Subtotal	*0.62*	*0.83*	*0.83*
Non-wetland Waters			
Streambed	0.37	17.06	0
TOTAL	**0.99**	**17.89**	**0.83**

Source: HELIX 2021a
[1] Areas are presented in acre(s) rounded to the nearest 0.01.
CDFW = California Department of Fish and Wildlife; RPO = Resource Protection Ordinance

Table 2.2-7
PAMA IMPACTS SUMMARY

Category of Impacts	Existing PAMA On-Site Acreage	Proposed Impacts in PAMA On-Site Acreage	Percent Impacted[1]
Sensitive Vegetation Community[2]	7.0	0.9	12.9
Non-sensitive Vegetation Community/ Land Use Type[3]	9.4	8.1	86.2
TOTAL	**16.4**	**9.0**	**54.9**

Source: HELIX 2021a
[1] Percent impacted represents impacts relative to the impact category, not total impacts.
[2] Disturbed wetland, freshwater marsh, open water, southern cottonwood-willow riparian forest (including disturbed), southern willow scrub, and Diegan coastal sage scrub (including disturbed).
[3] Eucalyptus woodland, non-native woodland, non-native vegetation, disturbed habitat, and developed land.
PAMA = Pre-approved Mitigation Area

Table 2.2-8
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES

Project Number	Project Name	Resource Riparian / Wetland Impacts	Resource Riparian / Wetland Mitigation	CSS[1] Impacts	CSS[1] Mitigation
PDS2004-TM-5289; PDS2004-ER-03-19-04; PDS2004-3100-5289	Jamul Highlands Subdivision	3.04	--	0.31	--
PDS2002-TPM 20628; PDS2002-3200-20628	Yacoo Minor Subdivision	0	0	1.44	1.56
PDS2004-TPM-20868; PDS2004-ER-91-19-038A; PDS2004-3200-20868	Steinbarth Minor Subdivision	0	0	0.86	0.86
PDS2002-TPM 20594; PDS2002-3200-20594	Pioneer Minor Subdivision	--	0.44	0.03	0.03
PDS2005-MUP-05-010; PDS2005-3300-05-010	St. Gregory of Nyssa Greek Orthodox Church	--	--	--	--

Project Number	Project Name	Resource Riparian / Wetland Impacts	Resource Riparian / Wetland Mitigation	CSS[1] Impacts	CSS[1] Mitigation
PDS2005-TM 5460; PDS2005-TM-5460TE; PDS2005-ER-3910-05-19-023; PDS2005-3100-5460	Simpson Farms Major Subdivision	0.14	0.42	95.0	95.0
PDS2018-TM-5629; PDS2018-GPA-18-005; PDS2018-REZ-18-004; PDS2018-STP-18-016	Ivanhoe Ranch	--	--	--	--
N/A	Cuyamaca College Master Plan Revisions	--	--	--	--
PDS2014-GPA-14-003; PDS2014-REZ-14-003; PDS2014-TM-5588; PDS2014-STP-14-015	Sweetwater Place	0	0	0.64	0.68
PDS2015-MUP-15-006; PDS 2015-ER-15-19-002	College Preparatory Middle School	0	0	0	0
PDS2016-GPA-16-005; PDS2016-REZ-16-003; PDS2016-ER-16-19-001 PDS2016-MUP-16-003	Skyline Retirement Center	0	0	4.4	--
PDS2018-TPM-21262; PDS-2018-MUP-18-008	Jamul Commercial	--	--	--	--
PDS2015-ER-89-19-015I; PDS2015-REZ-15-008; PDS2015-TM-5608; PDS2015-SPA-15-002; PDS2015-STP-15-016; PDS2015-MUP-89-015W4; PDS2015-GPA-15-006	Sweetwater Vistas	0.04	0.04	14.9	22.4
PDS2018-SPA-18-002; PDS2018-GPA-18-004; PDS2018-REZ-18-002; PDS2018-STP-18-013; MUP-70-299W1M32; PDS2018-ER-18-19-003; PDS2018-TM-5627	Aventine at Sweetwater Springs	0	0	0	0
	Subtotal	***3.22***	***0.9***	***117.58***	***120.53***
PDS2018-MUP-18-023 PDS2018-RP-18-001 PDS2018-ER-18-19-007	Cottonwood Sand Mine (Proposed Project)	0.83	2.49	0.8	1.2
	TOTAL	**4.05**	**3.39**	**118.38**	**121.73**

Source: HELIX 2021a

[1] This column combines all sage scrub habitat variants and ecotones (e.g., coastal sage-chaparral scrub, flat-topped buckwheat scrub, coyote brush scrub, etc.)

ER = Environmental Review; GPA = General Plan Amendment; MUP = Major Use Permit; REZ = Rezone;
RP = Reclamation Plan; SPA = Specific Plan Amendment; STP = Site Plan: TM = Tentative Map; TPM = Tentative Parcel Map;
-- = Information Not Available or Not Applicable; CSS=coastal sage scrub

Table 2.2-9
SUMMARY OF VEGETATION COMMUNITIES IMPACT AND MITIGATION ACREAGES[1]

Vegetation Community/Habitat[2]	Total Existing	Total Impacts (Acres)[3]	Mitigation (Acres) Ratio[4]	Mitigation (Acres) Required	Preserved On Site[5]	Preserved in Excess of Required Mitigation
Tier I						
Streambed (Emergent Wetland) (52440)	0	0	--	0	9.56	9.56
Disturbed Wetland (11200)	10.41	0.5	3:1	1.5[6]	0	0
Freshwater Marsh (52400)	0.31	0	--	0	0.31	0.31
Southern Cottonwood-willow Riparian Forest – including disturbed (61330)	13.96	0.32	3:1	0.96[6]	27.71[6]	25.22[7]
Southern Willow Scrub – including disturbed (63320)	4.67	0	3:1	0	90.68	90.68
Tamarisk Scrub (63810)	0.62	0	--	0	0	0
Open Water (64140)	0.82	0	--	0	0.82	0.82
Arundo-dominated Riparian (65100)	0.54	0.01	3:1	0.03[6]	0	0
Subtotal	***31.33***	***0.83***	***--***	***2.49***	***129.08***	***126.59***
Tier II						
Diegan Coastal Sage Scrub – including disturbed (32500)	1.7	0.8	1.5:1	1.2	12.00	10.80
Subtotal	***1.7***	***0.8***	***--***	***1.2***	***12.00***	***10.80***
Tier IV						
Non-native Woodland (79000)	0.8	0.8	--	0	0	0
Eucalyptus Woodland (79100)	3.0	2.2	--	0	0	0
Non-native Vegetation (11000)	4.2	5.7	--	0	0	0
Disturbed Habitat (11300)	93.1	76.7	--	0	0	0
Subtotal	***101.1***	***85.4***	***--***	***0***	***0***	***0***
Man-made Pond (64140)	3.5	3.5	--	0	0	0
Developed Land (12000)	139.0	123.9	--	0	1.74[8]	1.74[8]
Subtotal	***142.5***	***127.4***	***--***	***0***	***1.74***	***1.74***
TOTAL	**276.63**	**214.43**	**--**	**3.69**	**142.82**	**139.13**

Source: HELIX 2021a

1 Area presented in acre(s) rounded to the nearest hundredth for wetlands and the nearest tenth for uplands. Totals reflect rounding.
2 Vegetation categories and numerical codes are from Oberbauer (2008)
3 Includes both on- and off-site impacts.
4 Proposed mitigation ratios are consistent with those contained in the South County MSCP Subarea Area (County 1997) and Biological Mitigation Ordinance (County 2010c) and assume that impacts and mitigation shall occur within Biological Resource Core Areas.
5 In Biological Open Space.
6 Mitigation location for impacts to wetland habitats to be determined through consultation with USACE, RWQCB, CDFW, and the County.
7 Includes 1.5 acres of mitigation for impacts to 0.5 acre of disturbed wetland and 0.03 acre of mitigation for impacts to 0.01 acre of arundo-dominated riparian.
8 Consists of grouted riprap.

Table 2.2-10
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Proposed Mitigation		Level of Significance After Mitigation	Guideline Number
M-BIO-1	Mitigation for impacts to 0.8 acre of potential foraging habitat for coastal California gnatcatcher, comprised solely of Diegan coastal sage scrub, shall occur at a 1.5:1 ratio for a total mitigation requirement of 1.2 acres. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Diegan coastal sage scrub to be preserved within the biological open space easement.	Less than significant	1 2 34
M-BIO-2	Grading or clearing of vegetation within 500 feet of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (March 1 to August 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur within 500 feet of suitable gnatcatcher habitat during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) days prior to commencement of activities to determine whether gnatcatchers occur within 500 feet of the proposed impact area(s). If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 500 feet of any location at which gnatcatchers have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after August 15.	Less than significant	1 2 12 34 35
M-BIO-3	Mitigation for impacts to 0.32 acre of potential nesting foraging habitat for least Bell's vireo (southern cottonwood-willow riparian forest) shall occur at a minimum 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.	Less than significant	1 2 33 34

Proposed Mitigation		Level of Significance After Mitigation	Guideline Number
M-BIO-4	Grading or clearing of riparian habitat during the breeding season of the least Bell's vireo (March 15 through September 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur within 500 feet of suitable vireo habitat during the least Bell's vireo breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether vireos occur within 500 feet of proposed impact area(s). Impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any vireos are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 500 feet of any location at which vireos have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after September 15.	Less than significant	1 2 12 33 34 35
M-BIO-5	If operation of construction or excavation equipment is initiated within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within three days (72 hours) of the proposed start of construction, mining, or reclamation activities. If it is determined at the completion of pre-construction survey(s) that active nests belonging to these sensitive species are absent from the potential impact area, activities shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then activities shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater. The type(s) and location(s) of noise barrier(s) shall be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output would be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that noise levels remain below 60 dBA at occupied areas.	Less than significant	1 2 8 12 16 33 34 35

Proposed Mitigation		Level of Significance After Mitigation	Guideline Number
M-BIO-6	Grubbing or clearing of vegetation during the general avian breeding season (February 15 through August 31) or raptor breeding season (January 15 through July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the general avian breeding season within 300 feet of general nesting bird habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until the qualified biologist has determined that nesting behavior has ceased, nests have failed, or young have fledged.	Less than significant	1 2 3 12 16 33 34 35
M-BIO-7	Upon completion of all extraction activities, reclamation, and final grading to establish the final landform shall occur in accordance with the approved Reclamation Plan. Revegetation with native species will occur within the expanded Sweetwater River floodplain and constructed bordering slopes according to a revegetation plan to be approved by the County.	Less than significant	1 2 3 7 8 13 16 33 34
M-BIO-8	Mitigation for impacts to 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.50 acre of disturbed wetland shall occur at a 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.	Less than significant	1 2 3 7 13
M-BIO-9	Mitigation for 0.8 acre of impacts to Diegan coastal sage scrub shall occur at a 1.5:1 ratio through the on-site preservation of 1.2 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Tier II Diegan coastal sage scrub to be preserved within the biological open space easement.	Less than significant	1 2 3 7 13 28

Proposed Mitigation		Level of Significance After Mitigation	Guideline Number
M-BIO-10	The applicant shall dedicate 142.8 acres of biological open space to be managed by a long-term manager approved by the County in accordance with a Resource Management Plan. The biological open space easement shall include native habitat revegetation areas located within the expanded Sweetwater River floodplain and bordering constructed slopes. Permanent open space fencing and signage shall be installed around the perimeter of the biological open space as detailed in the final Resource Management Plan.	Less than significant	1 2 3 7 8 13 16 33
M-BIO-11	The Project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP would provide direction for the permanent preservation and management of the on-site biological open space in accordance with County regulations.	Less than significant	1 2 3 7 8 13 16 33
M-BIO-12	To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, environmental fencing (including silt fencing where determined necessary by the SWPPP), would be installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction.	Less than significant	13 14 18
M-BIO-13	A qualified biologist shall monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space. The biologist also would conduct a pre-construction environmental training session for construction personnel prior to all phases of construction to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with Project approvals. The biologist shall monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist shall periodically monitor the limits of construction and mining operations to ensure that mining and avoidance areas are delineated with temporary fencing and that fencing remains intact.	Less than significant	13 14 18

Proposed Mitigation		Level of Significance After Mitigation	Guideline Number
M-BIO-14	Impacts to 0.62 acre of U.S. Army Corps of Engineers (USACE) wetland waters of the U.S. shall be mitigated a minimum 3:1 ratio and 0.37 acre of USACE non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on-and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 2.23 acres waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts.	Less than significant	14 18
M-BIO-15	Impacts to 0.83 acre of California Department of Fish and Wildlife (CDFW) jurisdictional riparian habitat (0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.50 acre of disturbed wetland) shall be mitigated at a 3:1 ratio, totaling 2.49 acres of riparian habitat mitigation. Impacts to 17.06 acres of CDFW streambed shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on-and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 17.06 acres of riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 19.55 acres. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Code Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts.	Less than significant	13 14 18
M-BIO-16	The Project requires preparation of a wetland restoration plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts only) and U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) (impacts to waters of the U.S. and State, and CDFW riparian habitat and streambed), as applicable. Approval of the plan and/or acceptance of mitigation bank credits by the USACE, CDFW, and RWQCB shall be a condition of the associated wetland permits for the Project.	Less than significant	13 14 18

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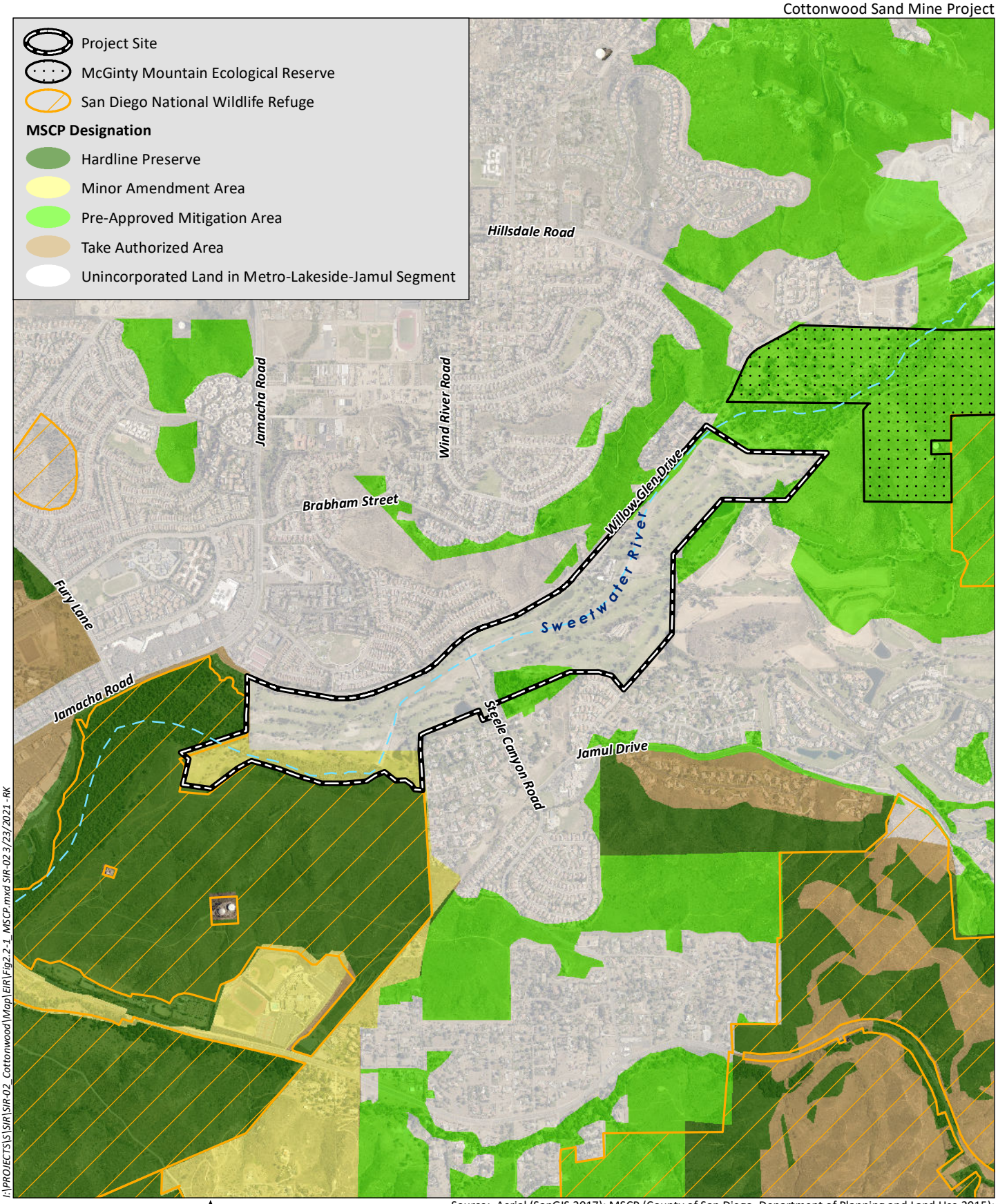

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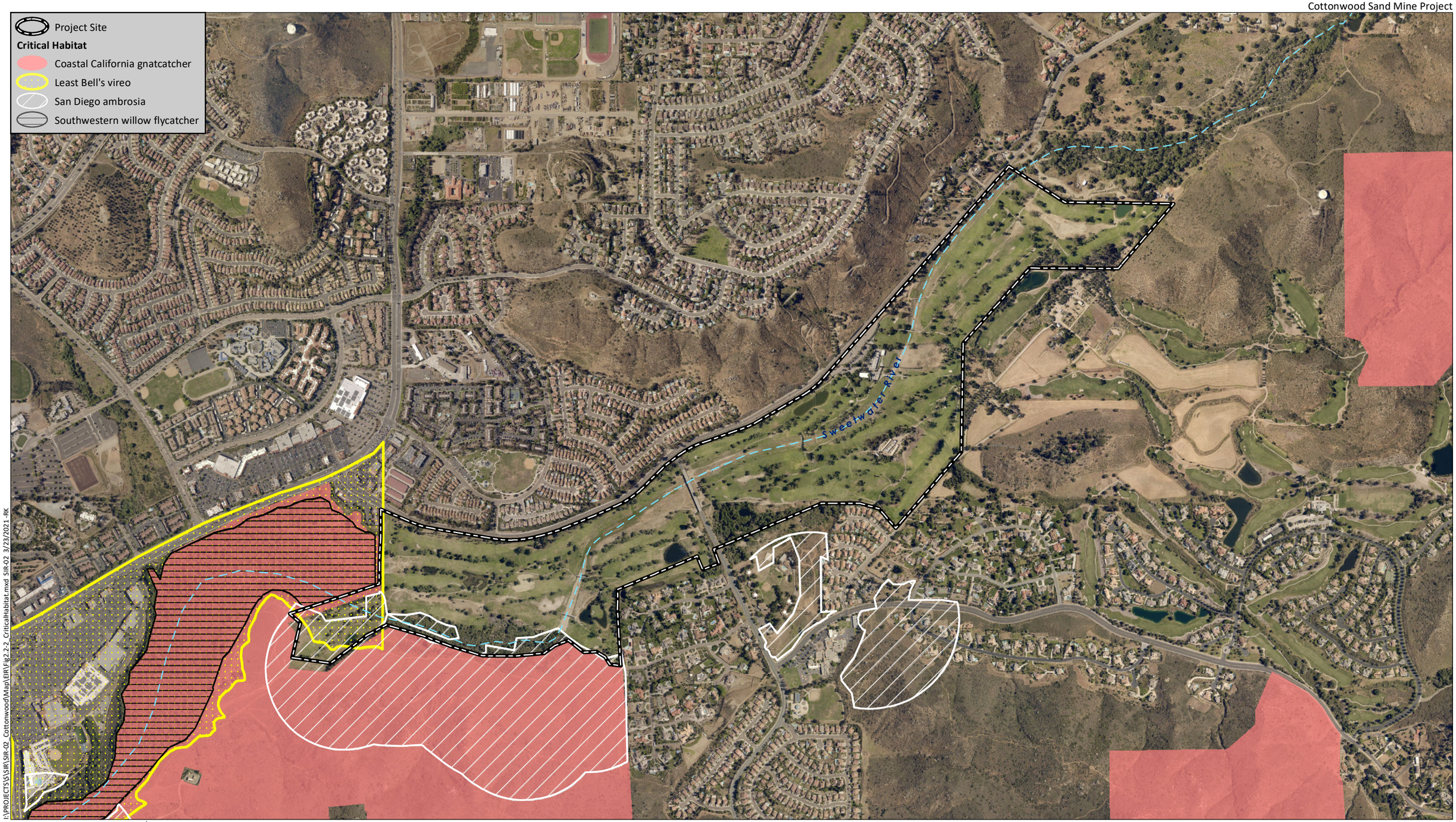
0 2,000 Feet

Source: Aerial (SanGIS 2017); MSCP (County of San Diego, Department of Planning and Land Use 2015); NWR (U.S. Fish and Wildlife Service 2016); Ecological Reserves (CDFW 2013)

HELIX Environmental Planning

MSCP Designations

Figure 2.2-1



Source: Aerial (SanGIS 2017)

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Critical Habitat

Figure 2.2-2

Cottonwood Sand Mine

Project Site

Major Use Permit Boundary

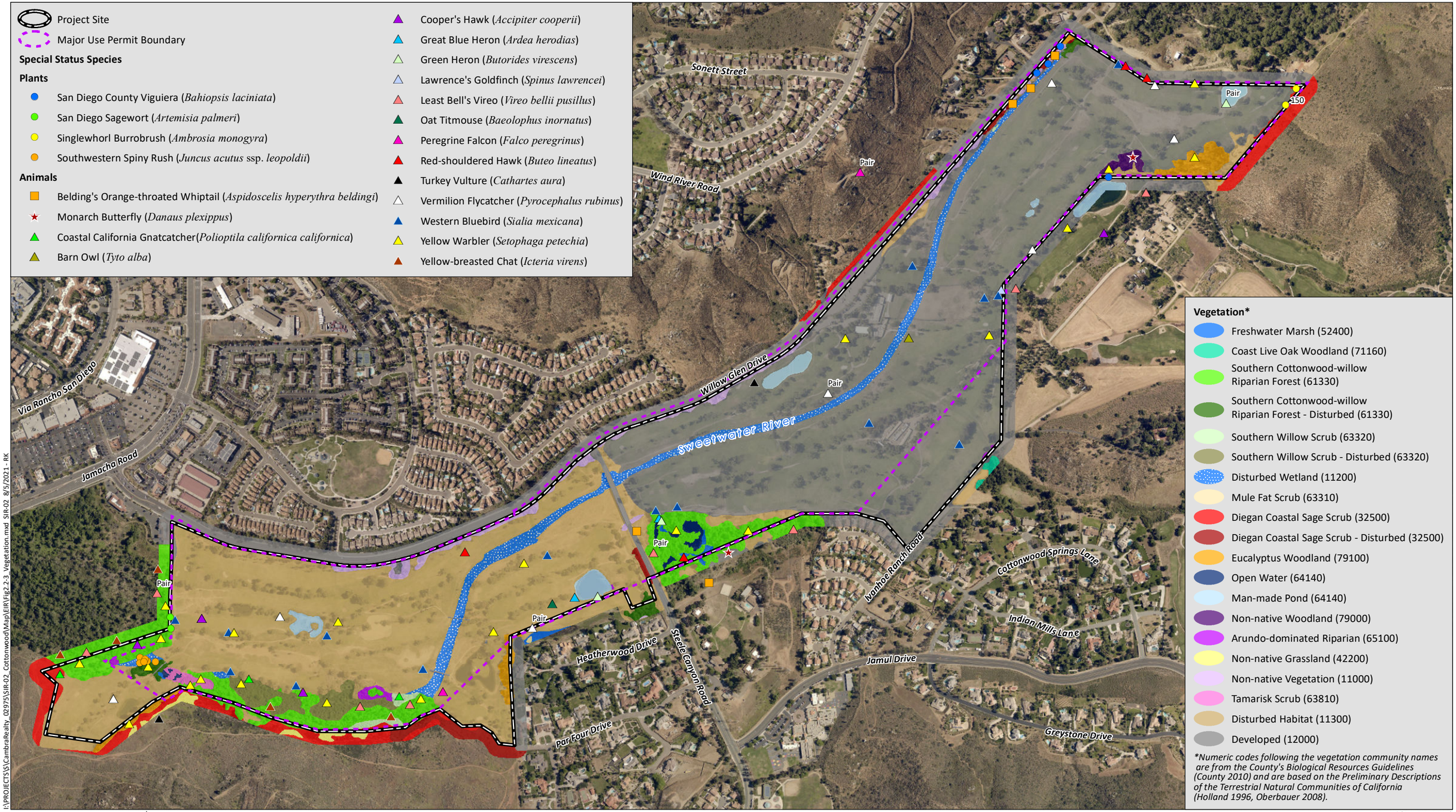
Special Status Species

Plants

- San Diego County Viguiera (*Bahiopsis laciniata*)
- San Diego Sagewort (*Artemisia palmeri*)
- Singlewhorl Burrobrush (*Ambrosia monogyra*)
- Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

Animals

- Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)
- Monarch Butterfly (*Danaus plexippus*)
- Coastal California Gnatcatcher(*Polioptila californica californica*)
- Barn Owl (*Tyto alba*)
- Cooper's Hawk (*Accipiter cooperii*)
- Great Blue Heron (*Ardea herodias*)
- Green Heron (*Butorides virescens*)
- Lawrence's Goldfinch (*Spinus lawrencei*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Oat Titmouse (*Baeolophus inornatus*)
- Peregrine Falcon (*Falco peregrinus*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Turkey Vulture (*Cathartes aura*)
- Vermilion Flycatcher (*Pyrocephalus rubinus*)
- Western Bluebird (*Sialia mexicana*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)



Vegetation*

- Freshwater Marsh (52400)
- Coast Live Oak Woodland (71160)
- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Cottonwood-willow Riparian Forest - Disturbed (61330)
- Southern Willow Scrub (63320)
- Southern Willow Scrub - Disturbed (63320)
- Disturbed Wetland (11200)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Eucalyptus Woodland (79100)
- Open Water (64140)
- Man-made Pond (64140)
- Non-native Woodland (79000)
- Arundo-dominated Riparian (65100)
- Non-native Grassland (42200)
- Non-native Vegetation (11000)
- Tamarisk Scrub (63810)
- Disturbed Habitat (11300)
- Developed (12000)

**Numeric codes following the vegetation community names are from the County's Biological Resources Guidelines (County 2010) and are based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1996, Oberbauer 2008).*

0 700 Feet

Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

Vegetation and Sensitive Resources

Figure 2.2-3

Project Site

Sample Point

Non-jurisdictional Features

Man-made Pond

Non-wetland Waters of the U.S.

Streambed

Wetland Waters of the U.S.

Disturbed Wetland

Freshwater Marsh

Open Water

Southern Cottonwood-willow Riparian Forest

Southern Cottonwood-willow Riparian Forest - Disturbed

Southern Willow Scrub

Southern Willow Scrub - Disturbed

Tamarisk Scrub

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Via Rancho San Diego
Jamacha Road
Willow Glen Drive
Sweetwater River
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

SP1
SP2
SP3
SP4
SP5
SP6
SP7
SP8
SP9
SP10
SP11
SP12
SP13
SP14
SP15

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0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Waters of the U.S.

Figure 2.2-4

Project Site
Sample Point

Non-jurisdictional Features
Man-made Pond

CDFW Jurisdictional Areas
Arundo-dominated Riparian
Disturbed Wetland
Freshwater Marsh
Open Water
Southern Cottonwood-willow Riparian Forest
Southern Cottonwood-willow Riparian Forest - Disturbed
Southern Willow Scrub
Southern Willow Scrub - Disturbed
Streambed
Tamarisk Scrub

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Willow Glen Drive
Sweetwater River
Via Rancho San Diego
Jamacha Road
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

SP1
SP2
SP3
SP4
SP5
SP6
SP7
SP8
SP9
SP10
SP11
SP12
SP13
SP14
SP15

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0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdictional Areas

Figure 2.2-5

Project Site

Sample Point

Non-jurisdictional Features

Man-made Pond

County RPO Wetlands

Arundo-dominated Riparian

Disturbed Wetland

Freshwater Marsh

Open Water

Southern Cottonwood-willow Riparian Forest

Southern Cottonwood-willow Riparian Forest - Disturbed

Southern Willow Scrub

Southern Willow Scrub - Disturbed

Tamarisk Scrub

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Via Rancho San Diego
Jamacha Road
Willow Glen Drive
Sweetwater River
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

SP1
SP2
SP3
SP4
SP5
SP6
SP7
SP8
SP9
SP10
SP11
SP12
SP13
SP14
SP15

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0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

County RPO Wetlands

Figure 2.2-6

- Project Site
- Major Use Permit Boundary
- Phase 1
- Phase 2
- Phase 3
- Phase 4/Proccessing Plant
- Impact Area
- Impact Neutral Area
- Roadway Improvement Impacts
- Trail Impacts
- Easements and Rights-of-way
- Proposed Pathway
- Conceptual Multi-Use Trails (Post-Reclamation)

Special Status Species

Plants

- San Diego County Viguiera (*Bahiopsis laciniata*)
- San Diego Sagewort (*Artemisia palmeri*)
- Singlewhorl Burrobrush (*Ambrosia monogyra*)
- Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

Animals

- Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)
- Monarch Butterfly (*Danaus plexippus*)
- Coastal California Gnatcatcher(*Polioptila californica californica*)
- Barn Owl (*Tyto alba*)
- Cooper's Hawk (*Accipiter cooperii*)
- Great Blue Heron (*Ardea herodias*)
- Green Heron (*Butorides virescens*)
- Lawrence's Goldfinch (*Spinus lawrencei*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Oat Titmouse (*Baeolophus inornatus*)
- Peregrine Falcon (*Falco peregrinus*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Turkey Vulture (*Cathartes aura*)
- Vermilion Flycatcher (*Pyrocephalus rubinus*)
- Western Bluebird (*Sialia mexicana*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)

Trail Impacts
Sonett Street
Pair
150
3a
3b
3c
3d
2c
Willow Glen Drive
Bridge
Right-of-way
2a
Sweetwater River
2b
SDG&E
Easement
Trail Impacts
Jamacha Road
Trail Impacts
Trail Impacts
1a-1
1a
1c
1b
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

Vegetation*

- Freshwater Marsh (52400)
- Coast Live Oak Woodland (71160)
- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Cottonwood-willow Riparian Forest - Disturbed (61330)
- Southern Willow Scrub (63320)
- Southern Willow Scrub - Disturbed (63320)
- Disturbed Wetland (11200)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Eucalyptus Woodland (79100)
- Open Water (64140)
- Man-made Pond (64140)
- Non-native Woodland (79000)
- Arundo-dominated Riparian (65100)
- Non-native Grassland (42200)
- Non-native Vegetation (11000)
- Tamarisk Scrub (63810)
- Disturbed Habitat (11300)
- Developed (12000)

**Numeric codes following the vegetation community names are from the County's Biological Resources Guidelines (County 2010) and are based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1996, Oberbauer 2008).*

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Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Impacts

Figure 2.2-7

- Project Site
- Proposed Pathway
- Conceptual Multi-Use Trails (Post-Reclamation)
- Open Space Conceptual Signage Location
- Existing Fencing
- Proposed Fencing
- Easements and Rights-of-way
- Limited Building Zone Easement
- Biological Open Space
- Non-Biological Open Space
- Additional Reclaimed Areas*
- Retained in Existing Condition

**Additional reclaimed areas are composed of graded upland pads located outside of the expanded Sweetwater River floodplain that will be seeded with an erosion control seed mix.*

Jamacha Way
Sonett St
Aspen Ln
Wind River Rd
Sweetwater River
Sea Pines Rd
Via Rancho San Diego
Bridge Right-of-way
Augusta Ct
SDG&E Towers
Ivanhoe Ranch Rd
Access Road
Jamacha Rd
Hilton Head Rd
Willow Glen Dr
SDG&E Easement
Steele Canyon Rd
Cottonwood Springs Ln
Ashley Park Dr
Indian Mills Ln
Wentworth Way
Heatherwood Dr
Jamul Dr
Par Four Dr
Greystone Dr

I:\PROJECTS\SCambraRealty_02975\SIR-02_Cottonwood\Map\EIR\Fig2.2-8_OpenSpace.mxd SIR-02 11/10/2021 - RK

0 700 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Proposed Biological Open Space

Figure 2.2-8

Cottonwood Sand Mine

- Project Site
- Impact Area
- Impact Neutral Area
- Roadway Improvement Impacts
- Sample Point

Non-jurisdictional Features

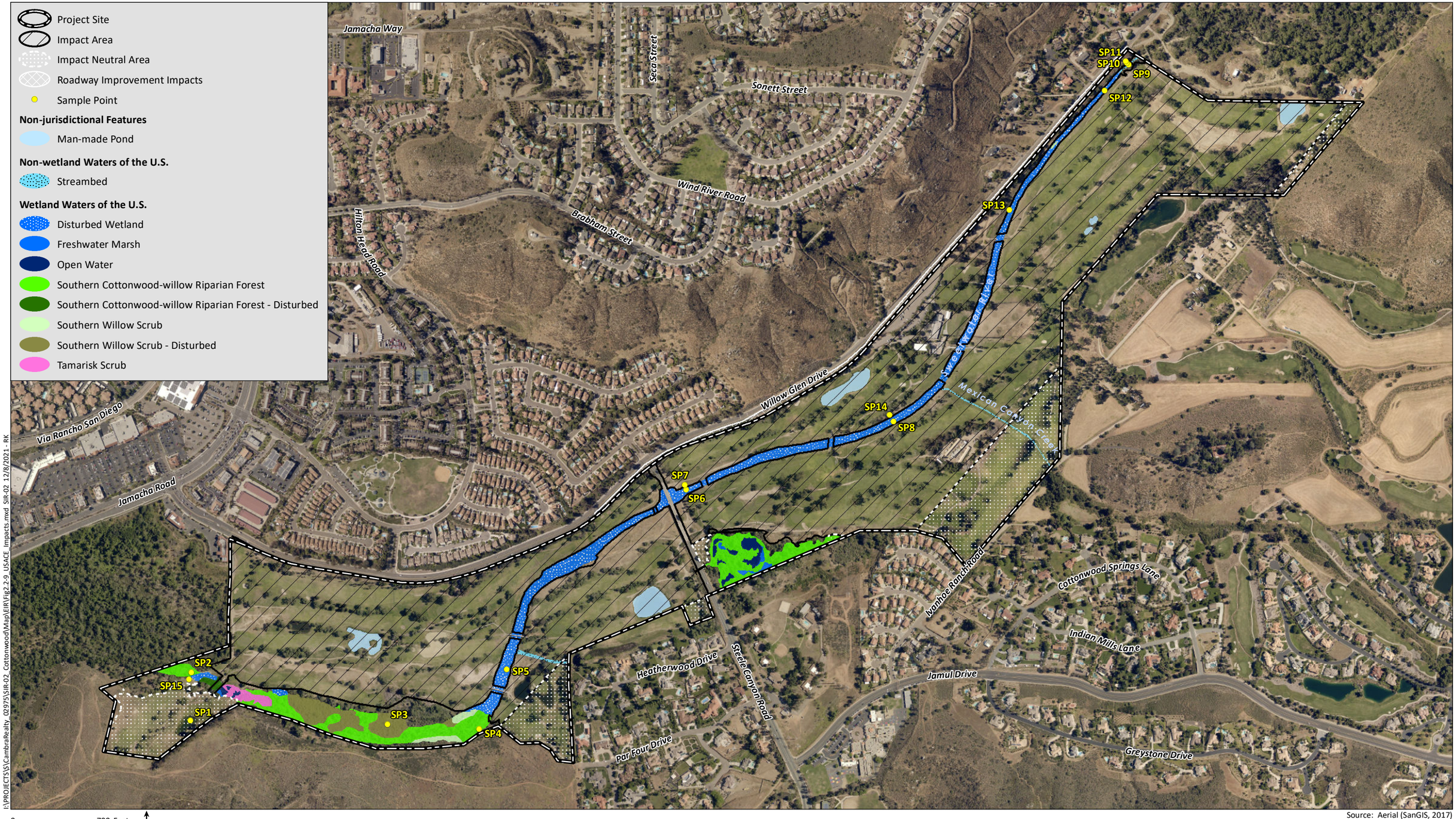
- Man-made Pond

Non-wetland Waters of the U.S.

- Streambed

Wetland Waters of the U.S.

- Disturbed Wetland
- Freshwater Marsh
- Open Water
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Tamarisk Scrub



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Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

Waters of the U.S./Impacts

Figure 2.2-9

Cottonwood Sand Mine

- Project Site
- Impact Area
- Impact Neutral Area
- Roadway Improvement Impacts
- Sample Point

Non-jurisdictional Features

- Man-made Pond

CDFW Jurisdictional Areas

- Arundo-dominated Riparian
- Disturbed Wetland
- Freshwater Marsh
- Open Water
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Streambed
- Tamarisk Scrub

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Willow Glen Drive
Mexican Canyon Creek
Via Rancho San Diego
Jamacha Road
Heatherwood Drive
Par Four Drive
Steele Canyon Road
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

SP1
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SP15

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0 700 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdictional Areas/Impacts

Figure 2.2-10

Cottonwood Sand Mine

- Project Site
- Impact Area
- Impact Neutral Area
- Roadway Improvement Impacts
- Sample Point

Non-jurisdictional Features

- Man-made Pond

County RPO Wetlands

- Arundo-dominated Riparian
- Disturbed Wetland
- Freshwater Marsh
- Open Water
- Southern Cottonwood-willow Riparian Forest
- Southern Cottonwood-willow Riparian Forest - Disturbed
- Southern Willow Scrub
- Southern Willow Scrub - Disturbed
- Tamarisk Scrub

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Willow Glen Drive
Sweetwater River
Mexican Canyon Creek
Via Rancho San Diego
Jamacha Road
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Jamul Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Greystone Drive

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0 700 Feet

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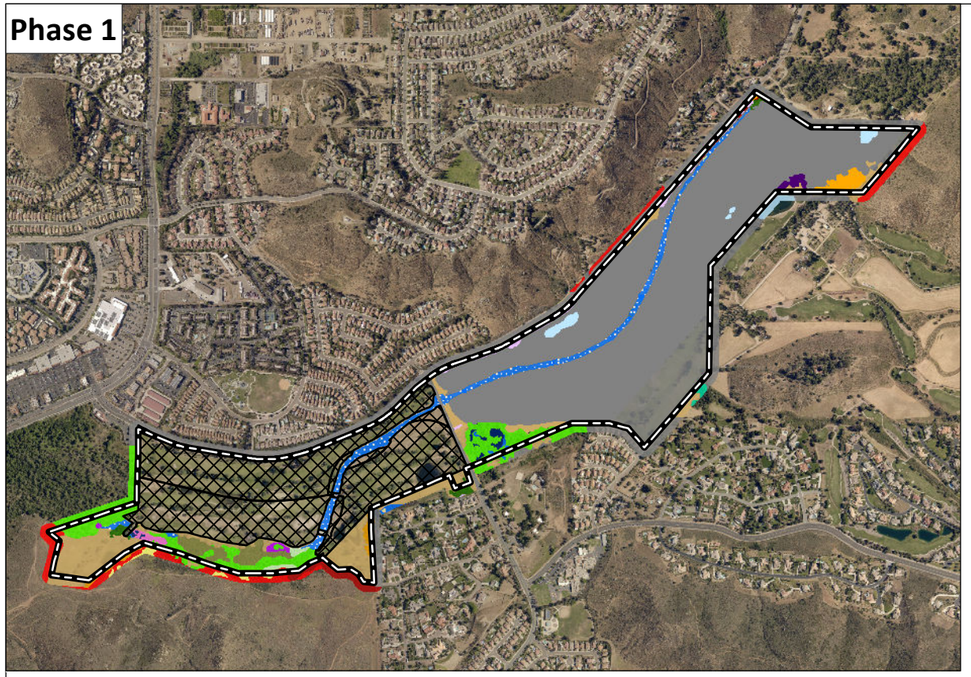
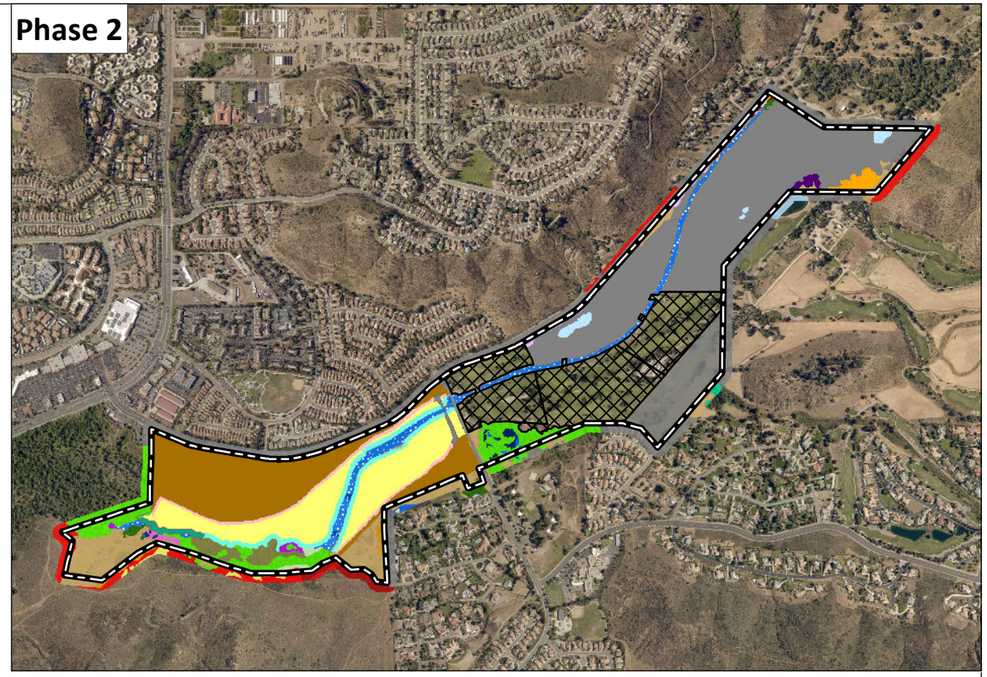
Source: Aerial (SanGIS, 2017)

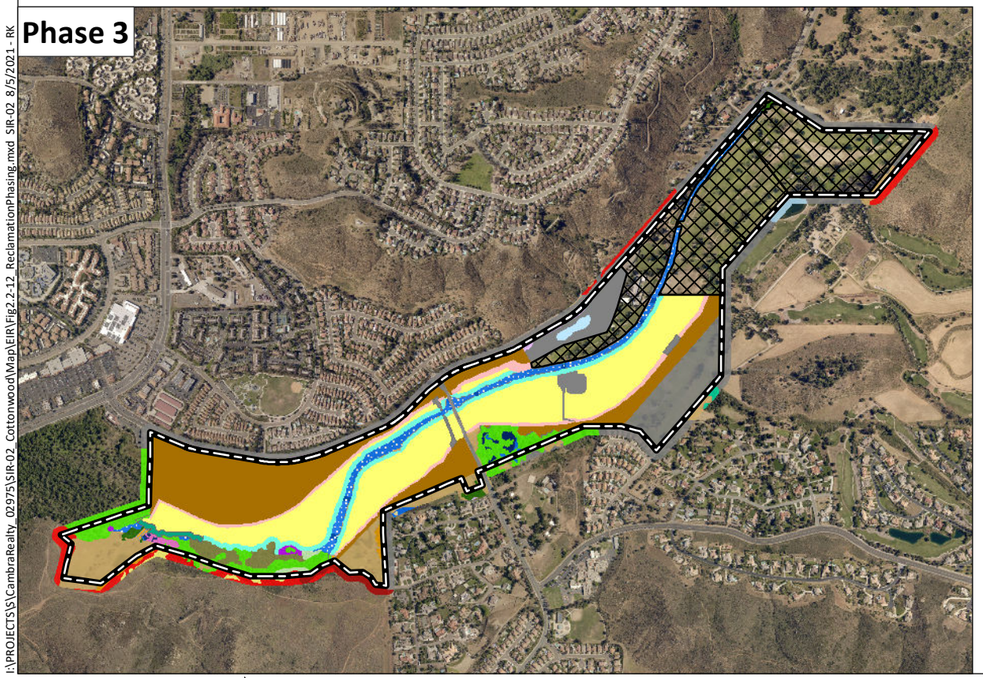
HELIX Environmental Planning

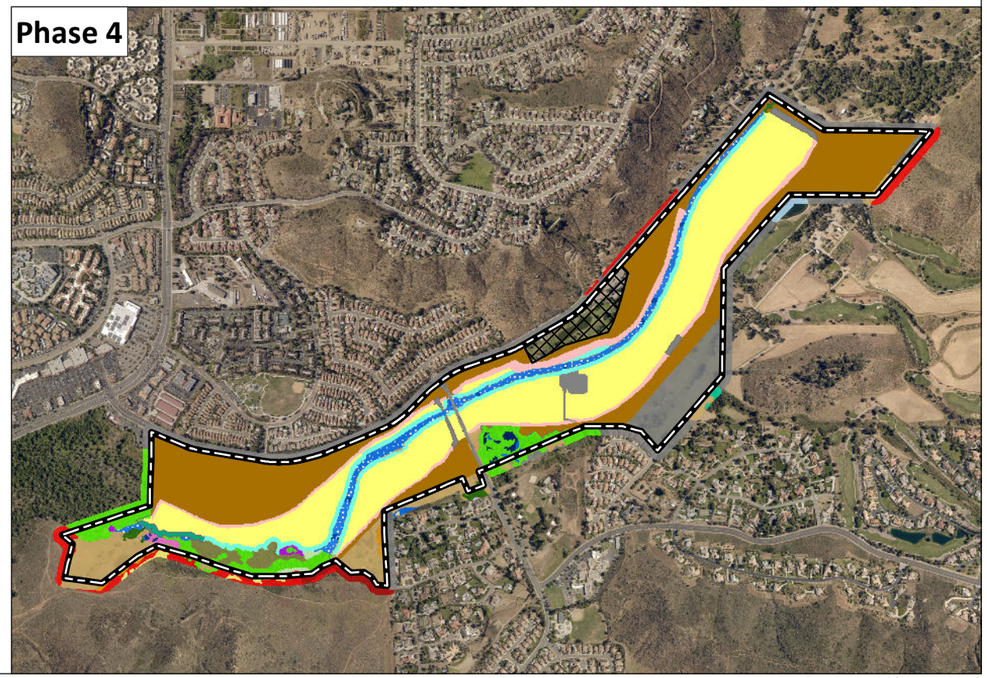
County RPO Wetlands/Impacts

Figure 2.2-11









Project Site

Phases

Conceptual Reclamation Revegetation

- Streambed
- Riparian Scrub
- Riparian Forest
- Coastal Sage Scrub
- Additional Reclaimed Areas

Conceptual Compensatory Mitigation

- Wetland Waters Re-establishment Riparian Forest
- Riparian Rehabilitation Riparian Scrub

Vegetation

- Freshwater Marsh (52400)
- Coast Live Oak Woodland (71160)
- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Cottonwood-willow Riparian Forest - Disturbed (61330)
- Southern Willow Scrub (63320)
- Southern Willow Scrub - Disturbed (63320)
- Disturbed Wetland (11200)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Eucalyptus Woodland (79100)
- Open Water (64140)
- Man-made Pond (64140)
- Non-native Woodland (79000)
- Arundo-dominated Riparian (65100)
- Non-native Grassland (42200)
- Non-native Vegetation (11000)
- Tamarisk Scrub (63810)
- Disturbed Habitat (11300)
- Developed (12000)

0 1,700 Feet

N

Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

Extraction and Reclamation Phasing

Figure 2.2-12

2.3 Cultural Resources

An Archaeological Inventory and Assessment was prepared for the Proposed Project to determine the potential for significant impacts to archaeological sites and cultural resources as a result of Project development (HELIX 2021b). A Historic Resources Evaluation Report was prepared to evaluate the significance of built environment resources occurring within the Project site (PanGIS, Inc. [PanGIS] 2021). The reports were prepared in conformance with the County Guidelines for Determining Significance and Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources (2007a). The results of the technical studies are presented below and included as Appendices D and E, respectively, to this EIR. Confidential records and maps are on file at the County and have been submitted to the South Coastal Information Center (SCIC).

2.3.1 Existing Conditions

Riparian forest, southern willow scrub, coast live oak, and freshwater marsh are present on site and in the surrounding area, along with other vegetation communities. These vegetation communities, as well as others, were historically used by Native American populations for a broad range of uses, including food, clothing, tools, décor, and ceremonial purposes. The vegetation also supported many of the animals living within these communities, which were then also used by Native American populations as sources of food, leather, and bone.

The Project area lies within the floodplain of the Sweetwater River, which flows in a northeast-to-southeast direction through the center of the site. Several habitation and village areas have been documented both upriver and downriver from the Project site, suggesting that the Project area was used prehistorically as a travel route along the Sweetwater River corridor and as a resource processing and gathering area. The area was also attractive to later ranchers and farmers continuing into the historic period, and ranches such as the Julian Leffering Ranch and Ivanhoe Ranch were established nearby. The area continued to develop as bridges, a highway, and the Hillsdale Knoll Site were built in the area in the early years of the 20th century. The Project site's current development, the Cottonwood Golf Course, as well as the on-site residence located at 3629 Willow Glen Drive, were developed in the mid-20th century.

The presence and significance of existing cultural resources within the boundaries of the Proposed Project were determined based on a review of institutional records, Native American outreach and consultation, a field survey, and archaeological testing. There are five previously recorded cultural resources that were identified as being in or immediately adjacent to the Project site according to the records: CA-SDI-4765 (P-37-004765), CA-SDI-5468 (P-37-005468), CA-SDI-14767 (P-37-016257), CA- SDI-17943 (P-37-027624), and P-37-027625. The field surveys resulted in the identification of four additional resources within the Project site: CA-SDI-22864 (P-37-038837), CA-SDI-22865 (P-37-038838), Cottonwood Golf Club at 3121 Willow Glen Drive (P-37-039116), and a residence at 3629 Willow Glen Drive (P-37-039117).

2.3.1.1 *Methodology*

This section presents the methods used in the historic resources evaluation and archaeological site assessment, and Native American participation to evaluate cultural resources within the Project

site and surrounding area. The presence and significance of existing cultural resources associated with the Proposed Project were determined using the following methodologies: a review of previous studies of the Project site, a records search conducted at the SCIC, a review of historic aerial photographs and maps, Sacred Lands File search, Native American outreach, field surveys of the Project site, and archaeological testing. The evaluation of cultural resources is in conformance with the County RPO, Public Resources Code (PRC) Section 21083.2, and the CEQA Guidelines. Statutory requirements of CEQA (Section 15064.5) were followed in evaluating the significance of cultural resources. The records search, field surveys, and testing are described in detail below. Please refer to Section 2.6, *Tribal Cultural Resources,* for discussion on Native American consultation.

Records Search Results

The SCIC records search identified a total of 114 cultural resource studies conducted within a one-mile radius of the Project area, 18 of which are within or adjacent to the Project site. A total of 83 previously recorded cultural resources are within a one-mile radius of the Project. These sites include prehistoric habitation debris, flaked stone, ground stone, Tizon Brown Ware pottery, midden soil, lithic scatters, trash, and remnants of ranches. It also includes historic resources such as bridges, a mortar structure, a highway, remains of a farming complex, stone walls, terraces, a barbed wire corral area, the Julian Leffering Ranch, resources associated with the Ivanhoe Ranch, the Hillsdale Knoll Site, trash, and scatters. Of those previously recorded resources, the records indicated that five of the sites were mapped within the Project area; those sites are CA-SDI-4765 (P-37-004765), CA-SDI-5468 (P-37-005468), CA-SDI-14767 (P-37-016257), CA-SDI-17943 (P-37-027624), and P-37-027625.

Additional research found that site CA-SDI-5468 (P-37-005468) had been inaccurately mapped in the records, and was actually situated adjacent to the Project site, not within it. The four sites that the records had indicated were present on the Project site included a variety of prehistoric and historic features and material. Site CA-SDI-4765 (P-37-004765) consists of a prehistoric archaeological resource classified as a lithic tool production and maintenance location that was possibly utilized in the early Late Prehistoric Period or Archaic Period. Site CA-SDI-14767 (P-37-016257) was classified as a historic site consisting of a water pump station constructed in the early 20th century. The majority of the site was mapped to be outside of the Project area, with the records only showing a small portion of a flume and pipeline crossing into the boundaries of the Project site. Site CA-SDI-17943 (P-37-027624) was recorded as a prehistoric archaeological resource consisting of two bifacial thinning flakes and two pieces of angular waste. Site P-37-027625 was classified as an isolate consisting of two flakes.

Historic resources that were constructed in 1969 or earlier within the Project site and immediate vicinity were identified through a number of archival and background research methods. To determine the legal history of the Project property, documents from the Offices of the County Assessor, Recorder and Tax Collector (including property ownership records, maps, property sales listings, historical Tax Collector information, and the online property index) were accessed at the San Diego County Administration Center. Construction dates were obtained from parcel records where available and refined based on aerial photography. Historic maps of the Project area dating from 1903 to 1971 and aerial photographs dating from 1928 to 1971 were reviewed. Historic contexts related to golf course design and modernism at the national and regional level were

consulted to assist in the evaluation of the golf course structures and landscaping in the Project area. Historic contexts related to rural residential development at the national and state level were consulted to assist in the evaluation of the residential structures in the Project area.

Historic Resources Field Survey

On November 19, 2019, PanGIS staff conducted an intensive-level survey to document the historic-era structures and landscape features within the Project site and vicinity, including the structures at the Project site associated with the Cottonwood Golf Club at 3121 Willow Glen Drive (P-37-039116) and the residence at 3629 Willow Glen Drive (P-37-039117). The exterior of each structure was examined and photographed (interior access was not provided). Architectural style and features, construction methods, modifications, and property condition were identified and evaluated. Factors that were considered in the assessment of the properties included:

- The construction history of the properties;
- The history of the surrounding area; the properties' relationship to local history;
- The properties' association with important people or events;
- The design, style, and construction of the structures and landscaping on the properties and whether they are the work of a master architect or craftsman or possess high artistic value;
- Whether and to what degree any structures or landscaping have been modified since construction; and
- The current condition of the properties.

Archaeological Resources Field Survey and Testing

On August 16 and 17, 2018 HELIX archaeological field director Julie Roy, HELIX archaeologists Amber Parron and Sheila Adolph, and Kumeyaay Native American monitor Justin Linton of Red Tail Environmental surveyed the Project property for cultural resources. The study area for the Project included both 18-hole golf courses within the Project site, consisting of the active Ivanhoe Course within the eastern portion of the site, and the closed Lakes Course within the western portion. The study area was surveyed in parallel transects spaced approximately 15 meters apart within the closed Lakes Course. Within the active Ivanhoe Course, the survey included a mix of transects spaced approximately 15 meters apart and spot survey focused on areas of open ground. During the survey, vegetation within the Project site was found to primarily be disturbed or ornamental, reflecting the site's developed nature. Vegetation within the Sweetwater River channel had been heavily modified as part of golf course development.

During the field survey, resource CA-SDI-4765 (P-37-004765) was found to be located adjacent to the Project site, not within it and isolate P-37-027625 could not be relocated. The results of the survey also determined that the portion of site CA-SDI-14767 (P-37-016257) that had once crossed into the Project area had since been destroyed. Of the four sites that had been recorded as being located within the Project area, resource CA-SDI-17943 (P-37-027624) was the only one that was relocated within the Project area and was still intact.

In addition to site CA-SDI-17943 (P-37-027624), two additional sites containing artifact scatters were discovered within the Project area: site CA-SDI-22864 (P-37-038837) and CA-SDI-22865 (P-37-038838). All three sites were subjected to a testing program, conducted on November 20 and 21, 2018. Testing was conducted by archaeologists Mary Villalobos and Kent Smolik of HELIX, and Kumeyaay Native American monitors Gabe Kitchen and Justin Linton of Red Tail Environmental. A total of 12 shovel test pits, 30 centimeters (cm) in diameter, were excavated to a minimum depth of 30 cm; five were excavated within CA-SDI-22864 (P-37-038837), three within CA-SDI-22865 (P-37-038838), and four within CA-SDI-17943. Following the completion of the excavations, artifacts and ecofacts on the surface were collected; however, many of the artifacts and ecofacts identified during the August 2018 survey could not be relocated during the November 2018 field effort. This change in condition is due to golf course maintenance activities and seasonal conditions. Recovered artifacts and ecofacts were brought to the HELIX archaeological laboratory for cleaning, sorting, and inventory. This entailed identification of material and species, counts, weights, and descriptions of the artifacts and ecofacts recovered during the testing program. Recovered artifacts and ecofacts from the testing program would either be repatriated to a Kumeyaay tribe for disposition or curated at an appropriate curation facility within San Diego County, such as the San Diego Archaeological Center.

2.3.1.2 *Regulatory Setting*

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) was passed in 1966 and set the foundation for much of the more specific legislation that guides cultural resource protection and management in local jurisdictions such as the County of San Diego. The Act established an Advisory Council on Historic Preservation to help implement and monitor it.

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties (both prehistoric and historic resources) and allow the Advisory Council a reasonable opportunity to comment on such undertakings. The goal of the Section 106 process is to identify historic properties potentially affected by the undertaking; assess its effects; and seek ways to avoid, minimize, or mitigate adverse effects on historic properties.

National Register of Historic Places

Developed in 1981, the National Register of Historic Places (NRHP) is an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment. Listing in the NRHP provides formal recognition of a property's historical, architectural, or archaeological significance based on national standards. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order as those outlined in CEQA. National Register listing places no obligation on private property owners. There are no restrictions on the use, treatment, transfer, or disposition of private property.

State

California Environmental Quality Act

Section 15064.5 of the CEQA Guidelines, as amended, and the County guidelines, state that a cultural resource would be considered significant if it is:

1. A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in, the California Register (PRC §5024.1; Title 14 California Code of Regulations [CCR], Section 4850 et seq.).

2. A resource included in the local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, 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.

3. 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 (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

    A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    B. Is associated with the lives of persons important in our past;

    C. 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

    D. Has yielded, or may be likely to yield, information important in prehistory or history.

4. The fact that a resource is not listed in the California Register, determined not to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the PRC), and not identified in an historical resources survey (meeting the criteria in Section 5024.1[g] of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(i) or 5024.1.

In accordance with CEQA, cultural resources must be assessed for project-related actions that could directly or indirectly impact them. Under this scenario, impacts to cultural resources not

deemed important or unique according to the above criteria would be considered less than significant. The resource and potential effects must be addressed in the EIR, but the site need not be further considered during the CEQA process. A summary of on-site and off-site cultural resources is provided in Section 2.3.2, along with a determination as to the significance of the impact pursuant to Section 15064.5 of the CEQA Guidelines.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is an authoritative guide for use by state and local agencies, private groups, and citizens to identify the state's historical resources. An historical resource can include any object, building, structure, site, area, or place that is determined to be historically or archaeologically significant. The CRHR also identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and provides a certain measure of protection under CEQA, including TCRs.

All resources that are eligible for listing in the CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

Local

San Diego County General Plan

The General Plan (2011b) contains a series of policies in the Conservation and Open Space Element relevant to archaeological and historical resources as well as human remains. The reader is referred to Section 3.1.6 of this EIR for a detailed evaluation of Project consistency with the applicable General Plan goals and policies.

Grading, Clearing, and Watercourses Ordinance

Section 87.429 of the County's Grading and Clearing Ordinance requires that grading operations cease if human remains or Native American artifacts are found; and Section 87.216(a)(7) requires changes to grading plans/operations if it is determined that previously unknown historical resources or unique archaeological resources may be located on the site, and a modification is necessary to prohibit grading in the area of the resources so as to preserve the resources, or to redirect proposed grading so as to avoid the location of such resources until they can be retrieved, or potential impacts to them have been appropriately mitigated.

Resource Protection Ordinance

The County of San Diego's RPO protects significant cultural resources. The RPO defines "Significant Prehistoric or Historic Sites" as follows:

Sites that provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious, or other ethnic value of local, regional, state, or federal importance. Such locations shall include, but not be limited to:

1) Any prehistoric or historic district, site, interrelated collection of features or artifacts, building, structure, or object either:

    a) Formally determined eligible or listed in the NRHP by the Keeper of the National Register; or

    b) To which the Historic Resource ("H" Designator) Special Area Regulations have been applied; or

2) One-of-a-kind, locally unique, or regionally unique cultural resources which contain a significant volume and range of data and materials; and

3) Any location of past or current sacred religious or ceremonial observances, which is either:

    a) Protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code Section 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures; or

    b) Other formally designated and recognized sites, which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

The RPO does not allow non-exempt activities or uses damaging to significant prehistoric or historic lands on properties under County jurisdiction. All discretionary projects are required to be in conformance with applicable County standards related to cultural resources, including the noted RPO criteria for prehistoric and historic sites, unless exempt. Non-compliance would result in a project that is inconsistent with the County's standards. As discussed in further detail in the local regulatory framework under *Resource Protection Ordinance* in Section 2.2.1.1, the Proposed Project is exempt from RPO requirements based on implementation of measures specified in Section 86.605(d) of the RPO as conditions of the Project's MUP.

San Diego County Local Register of Historical Resources

The County requires that resource importance be assessed not only at the state level as required by CEQA, but at the local level as well. Sites, places, or objects that are eligible to the NRHP or the CRHR are automatically included in the San Diego County Local Register of Historical Places (Local Register). If a resource meets any one of the following criteria as outlined in the Local Register, it will be considered an important resource.

1. Resources associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;

2. Resources associated with the lives of persons important to the history of San Diego or its communities;

3. Resources that embody the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Resources that have yielded, or may be likely to yield, information important in prehistory or history.

2.3.2 Analysis of Project Effects and Determination as to Significance

The following discussion evaluates potential impacts to cultural resources resulting from the Proposed Project.

2.3.2.1 *Historical Sites*

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if:

1. The Project causes a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance, or any alteration of characteristics or elements of a resource that cause it to be significant in a manner consistent with the Secretary of Interior Standards.

Guideline Source

This guideline is derived from PRC Section 21083.2 and CEQA Guidelines Section 15064.5, which recommend evaluating historical resources to determine whether or not a proposed action would have a significant effect on unique historical resources. A project that would have an adverse impact (direct, indirect, and cumulative) on significant archaeological resources as defined by these guidelines would be considered a significant impact.

Analysis

Two built environment resources occurring within the Project site were evaluated for their historical significance: the Cottonwood Golf Club located at 3121 Willow Glen Drive (P-37-039116) and a single-family residence and its associated outbuildings located at 3629 Willow Glen Drive (P-37-039117). The Cottonwood Golf Course is a public golf course consisting of two 18-hole golf courses (Lakes and Ivanhoe) and associated structures, landscaping, and infrastructure. The clubhouse, parking lot, maintenance facility, and Ivanhoe Course were completed by 1964 and were still in use at the time of the historical survey. The Lakes Course (formerly the Monte Vista Course) was completed by 1968, extended to the southwest between 1989 and 1993, and abandoned in 2017; all features remain, although the landscaping is unmanicured. The single-family residence with an associated garage structure were both constructed between the 1900s and 1920s. The house includes an addition to the south façade of the structure that was constructed between 1953 and 1964. Structures at both addresses are dated at more than 50 years old, and therefore were evaluated for eligibility for the CRHR, Local Register, CEQA provisions, and the County RPO within the Historic Resources Evaluation Report prepared for the Project.

3121 Willow Glen Drive (P-37-039116)

The historical significance of the Cottonwood Golf Club is evaluated in a context of 1960s golf course design and contemporary modern architecture; a detailed description of the clubhouse, maintenance facility, restrooms, Ivanhoe and Lakes courses, and other features are provided in Appendix E to this EIR. While the property has played a general role in the 1960s recreational development of San Diego County, it does not appear to be directly associated with events that have made significant contributions to the history of the area (Criterion 1). The Cottonwood Golf Club has not made a significant contribution to the history of the area, nor have its owners (Criterion 2). Based upon review of national and regional historical contexts for these types of sites, the facility is evaluated as a modest example of a 1960s public golf resort and is not a unique or outstanding example of its type. The courses do not appear to be the work of a master architect, landscape architect, or craftsman or possess high artistic value; the course architects O.W. Moorman and A.C. Sears are not listed with the American Society of Golf Course Architects, and no other courses of their design could be located (Criterion 3). The facility has not yielded, and is not likely to yield, important information about history or prehistory that is not available through historic research (Criterion 4). Therefore, 3121 Willow Glen Drive is not eligible for listing to the CRHR and the Local Register. While the property retains enough of its historic character or appearance to be recognizable as historical resource dated at more than 50 years old, it lacks historical significance.

3629 Willow Glen Drive (P-37-039117)

As a single-family residence, 3629 Willow Glen Drive, is best classified as a building which exemplifies early 20th century rural development; a detailed description of the property is provided in Appendix E to this EIR. While the property has played a general role in the early 20th century rural development of the Jamacha Valley, it does not appear to be directly associated with events that have made significant contributions to the history of the area (Criterion 1). It is unclear who the original occupants of the residence were; the ranches and residences of most of the founding families of the community have been identified and were not located in this portion of the valley (Criterion 2). The home is not a unique example of its type of vernacular architecture and does not appear to be the work of a master architect or craftsman (Criterion 3). The residence is a common property type that has not yielded and is not likely to yield important information about history or prehistory that is not available through historic research (Criterion 4). Therefore, 3629 Willow Glen Drive is not eligible for the CRHR and the Local Register. Additionally, the resource does not retain enough of its historic character to convey the reasons for its significance; the surrounding golf resort and modern housing tracts and the loss of agricultural fields have resulted in the loss of character, aesthetic, and historic sense of an early 20th century agriculture-related residence as well as removing any association with early 20th century rural agricultural development.

Summary

As stated above, 3121 and 3629 Willow Glen Drive are not listed, or determined to be eligible for listing, on the CRHR. Additionally, the sites are not included in a local register or identified as significant as a historical resource, nor are they determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social,

political, military, or cultural annals of California. Therefore, 3121 and 3629 Willow Glen Drive do not meet any of the definitions of or qualify as historical resources set forth by CEQA.

As previously discussed, 3121 and 3629 Willow Glen Drive are not formally determined eligible or listed in the NRHP. None of the existing structures have been given an "H" designator. Neither of the sites is determined to be one of a kind, locally unique, or regionally unique cultural resources that contain a significant volume and range of data or materials. Therefore, 3121 and 3629 Willow Glen Drive do not meet any of the definitions set forth by the RPO, and do not qualify as significant historic resources under the RPO.

The structures located on the Project site that would be demolished through implementation of the Proposed Project are recommended as ineligible for listing in the CRHR and the Local Register, and do not qualify as significant historic resources under CEQA provisions or the RPO. Therefore, impacts to historic resources would be **less than significant**.

2.3.2.2 *Archaeological Sites*

Guideline for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site that contains or has the potential to contain information important to history or prehistory.

Guideline Source

This guideline is derived from PRC Section 21083.2 and CEQA Guidelines Section 15064.5, which recommend evaluating archaeological resources to determine whether or not a proposed action would have a significant effect on unique archaeological resources. A project that would have an adverse impact (direct, indirect, and cumulative) on significant archaeological resources as defined by these guidelines would be considered a significant impact.

Analysis

Five sites containing cultural resources were identified within the Project area in the record search conducted for the Project: CA-SDI-4765 (P-37-004765), CA-SDI-5468 (P-37-005468), CA-SDI-14767 (P-37-016257), CA-SDI-17943 (P-37-027624), and P-37-027625. Following the field investigation, it was determined that site CA-SDI-5468 (P-37-005468) had been previously mapped incorrectly and did not occur within the Project area.

Of the four remaining sites previously identified to occur within the Project area, only site CA-SDI-17943 (P-37-027624) was relocated within the Project boundaries during the field investigation. Site CA-SDI-4765 (P-37-004765) was identified as present adjacent to the Project site and is located near an area that would be retained in its existing condition. Archaeologists found that the portion of site CA-SDI-14767 (P-37-016257) that had once crossed into the Project boundaries has been destroyed. Site P-37-027625 could not be relocated during the field survey and was

formerly documented outside of the area proposed for mining and within an area that would be retained in its existing condition. As such, impacts to sites CA-SDI-4765 (P-37-004765)) CA-SDI-14767 (P-37-016257), and P-37-027625 would be less than significant.

In addition to relocating site CA-SDI-17943 (P-37-027624), two additional prehistoric archaeological sites were identified within the Project area during the field survey: sites CA-SDI-22864 (P-37-038837) and CA-SDI-22865 (P-37-038838). Each of the three sites has been tested to assess significance. All three of the sites are sparse lithic and shell scatters with limited material and situated in disturbed areas of the golf course. The three sites have poor integrity due to the consistent construction and maintenance of the golf course over the last 50 years. As such, all are not significant and not eligible for listing in the CRHR or Local Register under CEQA; however, all archaeological sites are considered important under County guidelines. Impacts to these three archaeological resources have been reduced to less-than-significant levels through testing, recording, and documentation undertaken as part of the archaeological inventory and assessment conducted for the Project. Because the general area of the Project is sensitive in terms of archaeological resources, however, direct impacts would occur if Project mining activities disturb undiscovered archaeological resources. **Impacts to unknown archaeological resources are identified as potentially significant (Impact CR-1)**.

2.3.2.3 *Human Remains*

Guideline for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

3. Disturb any human remains, including those interred outside of formal cemeteries.

Guideline Source

This guideline is derived directly from CEQA and is included because human remains must be treated with dignity and respect and CEQA requires consultation with the Most Likely Descendant (MLD) as identified by the NAHC for any project in which human remains have been identified. A project that would have an adverse impact (direct, indirect, cumulative) on human remains as defined by this guideline would be considered a significant impact. Identification of human remains is considered significant under the County RPO.

Analysis

During the current archaeological evaluation, no evidence of human remains, including those interred outside of formal cemeteries, was identified during the records search, literature review, field survey, or site testing and evaluation program. However, the general area of the Project is within a tribally culturally significant area. An archaeological monitoring program would be included in the mitigation monitoring and reporting program which includes California State law requirements should human remains be identified during ground disturbing activities. While the discovery of human remains is considered unlikely, the potential for unknown remains exists. Therefore, **if human remains were to be unexpectedly unearthed during the Project's ground-disturbing activities, impacts could be significant (Impact CR-2).**

2.3.2.4 *RPO Significant Cultural Resources*

Guideline for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

4. Propose activities or uses damaging to significant cultural resources as defined by the County RPO and the project fails to preserve those resources.

Guideline Source

This guideline is derived from the County's RPO, which does not allow non-exempt activities or uses damaging to significant prehistoric lands on properties under County jurisdiction. Non-compliance would result in a project that is inconsistent with County standards. A project that would have an adverse impact (direct, indirect, cumulative) on significant prehistoric or historic resources as defined by this guideline would be considered a significant impact.

Analysis

As noted above and described in further detail in Section 2.2.2.5, *Local Policies, Ordinances, and Adopted Plans*, under *County RPO Wetlands (Guideline 27)*, the Project would conform with conditions (a) through (d) of Section 86.605(d) of the RPO and is therefore exempt from RPO requirements.

2.3.3 Cumulative Impact Analysis

According to CEQA, the importance of cultural resources stems from their research value and the information that they contain. Therefore, the issue that must be explored in a cumulative analysis is the cumulative loss of that information. For sites considered less than significant, the information is preserved through recordation, test excavations, and preservation of artifactual data. Culturally significant sites that are placed in protected open space easements avoid direct impacts, as well as preserve potential research data. Significant sites that are not placed within open space easements and are directly impacted by a project, preserve information through recordation, test excavations, and data recovery programs that would be presented in reports and filed with the County and SCIC. Because cultural resources are non-renewable in nature, it is critical that information obtained through survey and excavation is appropriately recorded and retained.

No on-site significant cultural resources were located. There is, however, an identified potential for on-site impacts to subsurface deposits or features that are currently not recorded, which could result in a cumulatively considerable impact.

Prehistoric and historic settlement patterns can be very broad; therefore, it is prudent to consider a large study area when evaluating cumulative impacts. The cultural resources cumulative study area includes the Sweetwater River valley surrounding the Project site and was selected because the similarity in types of natural resources, topography, and patterns of prehistoric and historic land use suggests that similar types of cultural resources would occur within the area. The cumulative study area was identified based on potential future research questions that could be developed

within the context of subsistence and settlement models for the Project area. Within the cumulative study area, it is assumed that numerous sites are CEQA significant.

The cumulative projects in the vicinity of the Proposed Project are listed in Table 1-11 in Chapter 1.0 and are shown on Figure 1-15. Projects within the cumulative study area include primarily residential and commercial development projects, as well as two school projects and a church. Given the confidential nature of archaeological resources, specific details on the resources that might occur within the cumulative project sites are not known; however, it is assumed that projects in the study area have the potential to impact both known and unknown cultural resources that are or would be considered significant cultural resources because of their potential to provide important information about scientific research questions, as well as the presence of culturally significant elements, such as pictographs, petroglyphs, or human remains. Impacts to these sites would contribute to a regionally significant cumulative loss of non-renewable cultural resources.

Impacts to the significant sites on the cumulative projects list, however, have been, or will be, mitigated through avoidance/preservation in open space, data recovery, and curation of cultural material collected. These projects would be subject to the same state and County requirements as the Proposed Project, and similar mitigation would be required to reduce impacts to less than significant. As noted above, no significant impacts are currently anticipated to result from implementation of the Proposed Project. If significant sites were to be located during Project construction and mining operations, direct impacts to cultural resources would be reduced to less than significant through mitigation measures that include monitoring of ground-disturbing activity, avoidance of unique cultural resources (if feasible), and protocols for the treatment of unanticipated discoveries. Because the Proposed Project and the projects identified within the cumulative impact study area would be mitigated through avoidance/preservation, data recovery, and curation/repatriation of artifactual materials, adequate mitigation would be implemented for in situ appreciation of and access to archived research materials for future generations. This results in the Project contribution to the significant cumulative impact being less than considerable, and therefore **less than significant**.

2.3.4 Significance of Impacts Prior to Mitigation

The following potentially significant impacts would occur with Project implementation without mitigation:

Impact CR-1 There is potential for significant direct impacts related to undiscovered buried archaeological resources on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.

Impact CR-2 There is potential for significant direct impacts related to discovery of unknown human remains on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.

2.3.5 Mitigation

Impacts CR-1 and CR-2 would be reduced to less than significant with the implementation of mitigation measures M-CR-1, M-CR-2, and M-CR-3 as described below.

M-CR-1 <u>Cultural Resources Treatment Agreement and Preservation Plan</u>

A single Cultural Resources Treatment Agreement and Preservation Plan shall be developed between the applicant or their representative and the culturally-affiliated Kumeyaay Native American tribe(s) prior to the commencement of sand extraction operations, including the removal of any trees or vegetation. The Cultural Resources Treatment Agreement and Preservation Plan shall be reviewed and agreed to by the County prior to final signature and authorization. The Cultural Resources Treatment Agreement and Preservation Plan shall include but is not limited to the following:

- Parties entering into the agreement and contact information.
- Responsibilities of the Property Owner or their representative, Principal Investigator, archaeological monitors, Kumeyaay Native American monitors, and consulting tribes.
- Requirements of the Pre-Grade Survey and Data Recovery Program and Archaeological Monitoring Program including unanticipated discoveries.
- Requirements of tree removal monitoring.
- Identification of areas for archaeological and Native American monitoring during earth-disturbing activities related to sand extraction operations.
- Treatment of identified Native American cultural materials.
- Treatment of Native American human remains and associated grave goods.
- Confidentiality of cultural information including location and data.
- Negotiation of disagreements should they arise during the implementation of the Agreement and Preservation Plan.
- Regulations that apply to cultural resources that have been identified or may be identified during construction.

M-CR-2 <u>Pre-Grade Survey and Data Recovery Program</u>

Prior to sand extraction operations, a Pre-Grade Survey and Data Recovery Program shall be implemented, consistent with the Cultural Resources Treatment Agreement and Preservation Plan and criteria outlined below.

- **Pre-Construction**

  A pre-grade survey shall be implemented due to the sensitivity of the area. The pre-grade and data recovery program shall include the following:

  - **Tree Removal:** Removal of trees shall be monitored by an Archaeological Monitor and Kumeyaay Native American Monitor for the presence of cultural resources.

  - **Pre-Grade:** Upon completion of grubbing and vegetation removal, and prior to sand extraction activities, a pre-grade survey shall be conducted in all areas identified for development. Development shall be defined as construction, extraction, or any other grading activity. The pre-grade survey shall include both an Archaeological Monitor and Kumeyaay Native American Monitor.

  - **Identified Resources.** In the event that cultural resources are identified:

    - Both the Project Archaeologist and Kumeyaay Native American monitor(s) have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery.

    - The Project Archaeologist shall contact the County Archaeologist.

    - The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American monitor(s) shall determine the significance of discovered resources.

    - Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor(s) may collect the cultural material for transfer to a Tribal curation facility or repatriation program.

    - If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor(s) and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources or Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance).

  - **Human Remains**

    - The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist.

- Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. Should the human remains need to be taken offsite for evaluation, they shall be accompanied by a Kumeyaay Native American monitor.

- If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner or their representative in order to determine proper treatment and disposition of the remains.

- The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted.

- Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered.

- **Vegetation Removal Completion**

  - Upon completion of grubbing and vegetation removal for each phase, a monitoring report shall be prepared identifying whether resources were encountered during the removal of trees or Pre-Grade Survey. A copy of the monitoring report shall be provided to any culturally-affiliated tribe who requests a copy. If resources were encountered, the analysis shall be included in the final archaeological monitoring report and shall comply with all requirements of that condition.

M-CR-3 <u>Archaeological Monitoring Program</u>

- **Pre-Construction**

  - Contract with a County approved archaeologist to perform archaeological monitoring and a potential data recovery program during earth-disturbing activities in areas identified in the Treatment and Preservation Agreement described in M-CR-1. The Project Archaeologist shall perform the monitoring duties before, during and after construction.

  - Pre-construction meeting to be attended by the Project Archaeologist and Kumeyaay Native American monitor to explain the monitoring requirements.

- **Construction**

  - **Monitoring**: Both the Project Archaeologist and Kumeyaay Native American monitor are to be onsite during earth disturbing activities. The frequency and

location of monitoring of native soils will be determined by the Project Archaeologist in consultation with the Kumeyaay Native American monitor.

- **Identified Resources.** In the event that cultural resources are identified:
  - Both the Project Archaeologist and Kumeyaay Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery.
  - The Project Archaeologist shall contact the County Archaeologist at the time of discovery.
  - The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American shall determine the significance of discovered resources.
  - Construction activities will be allowed to resume after the County Archaeologist has concurred with the significance evaluation.
  - Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program.
  - If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources of Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance).
- **Human Remains**
  - The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist.
  - Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. If the human remains are to be taken offsite for evaluation, they shall be accompanied by the Kumeyaay Native American monitor.
  - If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner or their

representative in order to determine proper treatment and disposition of the remains.

- The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted.

- Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered.

- **Rough Grading**

  - Monitoring Report: Upon completion of Rough Grading, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy.

- **Final Grading**

  - Final Report: A final monitoring report shall be prepared substantiating that earth-disturbing activities are completed and whether cultural resources were encountered. A copy of the final report shall be submitted to the South Coastal Information Center, and any culturally-affiliated tribe who requests a copy.

  - Cultural Material Conveyance:

    - The final report shall include evidence that all prehistoric materials have been curated at a San Diego curation facility or Tribal curation facility that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79, or alternatively have been repatriated to a culturally affiliated tribe.

    - The final report shall include evidence that all historic materials have been curated at a San Diego curation facility that meets federal standards per 36 CFR Part 79.

2.3.6 Conclusion

Implementation of the Proposed Project would not significantly impact known historic or archaeological resources. The Proposed Project would potentially result in significant impacts if undiscovered buried archaeological resources or human remains are uncovered or unearthed during the Project's ground-disturbing mining activities (Impacts CR-1 and CR-2). With implementation of the above mitigation, impacts to potential buried archaeological resources and human remains would be **less than significant**, thereby also ensuring compliance with CEQA and County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources.

2.4 Noise

This subchapter of the EIR summarizes the Project's Acoustical Site Assessment Report (HELIX 2021c), contained in Appendix F, which was prepared in conformance with the County Guidelines for Determining Significance – Noise (County 2009a) and the County Report Format and Content Requirements – Noise (County 2009b).

2.4.1 Existing Conditions

2.4.1.1 *Noise Descriptors*

Noise has been defined as "unwanted sound." Sound becomes "unwanted" when it interferes with normal activities, causes actual physical harm, or has adverse effects on health.

Sound-level values discussed in this subchapter are expressed in terms of decibels (dB). Sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA), which are adjusted to approximate the hearing sensitivity of humans. Time-averaged noise levels are referred to as "equivalent sound level" (L_{EQ}), which represents the average sound level over a given sample period. Unless a different time period is specified, L_{EQ} refers to a period of one hour.

The Community Noise Equivalent Level (CNEL) is the average of the intensity of a sound, with corrections made for time of day, and then averaged over 24 hours. The corrections are additions made to actual sound levels to account for increased human sensitivity to sound during the evening and night hours, when there is a decrease in the overall amount and loudness of noise generated, as compared to daytime hours. During these hours, sounds seem louder, and are weighted accordingly. The time-of-day corrections require the addition of 5 dBA to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and the addition of 10 dBA to sound levels at night from 10:00 p.m. to 7:00 a.m.

2.4.1.2 *Existing Noise Sources*

The dominant permanent noise source in the vicinity of the Project site is the traffic along Willow Glen Drive and Steele Canyon Road. Ambient noise from neighborhoods, ambient nature sounds, distant helicopter noise, and distant leaf blower noise can also be currently heard on the site.

2.4.1.3 *Existing Ambient Noise Levels*

To determine the existing noise environment, short-term ambient daytime noise measurements were conducted on Thursday, January 3, 2019 at eight different locations adjacent to or near the Project site, as shown on Figure 2.4-1, *Noise Measurement Locations.* The locations were chosen to be representative of the existing noise environments of general areas in proximity to the Project site containing NSLUs. Measurement locations included: M1, located on the eastern side of Steele Canyon Road, between Heatherwood Drive and Par 4 Drive; M2, located at the western terminus of Par 4 Drive; M3, located at the northern side of Willow Glen Drive, east of Muirfield Drive; M4, located at the western boundary of the Project site, approximately 500 feet south of Willow Glen Drive; M5, located in the existing parking lot of Cottonwood Golf Club, approximately 70 feet from the roadway centerline; M6, located at the northwestern side of Willow Glen Drive

near the eastern edge of the Project site boundary; M7, located at the southeastern side of Wind River Road between Sonett Street and Ryan Court; and M8, located at the southern edge of the Project site boundary, along Ivanhoe Ranch Road and east of Cottonwood View Drive. The measured noise levels were 75.7 dBA L_{EQ} at M1, 52.4 dBA L_{EQ} at M2, 77.2 dBA L_{EQ} at M3, 52.5 dBA L_{EQ} at M4, 65.3 dBA L_{EQ} at M5, 76.7 dBA L_{EQ} at M6, 52.4 dBA L_{EQ} at M7, and 55.5 dBA L_{EQ} at M8. See Table 5 in the Acoustical Site Assessment Report in Appendix F for additional details regarding the ambient noise measurements.

2.4.1.4 *Existing Noise-sensitive Land Uses*

Noise-sensitive land uses (NSLUs) include uses associated with indoor and/or outdoor activities that may be subject to stress and/or substantial interference from noise. NSLUs include any residence, hospital, school, hotel, resort, library, or other facilities where lower noise levels are an important attribute of the environment. NSLUs in the area include single-family residences to the north of the Project site across Willow Glen Drive, adjacent to the southern boundary of the Project site, near the northeast corner of the Project site, and near Steele Canyon Golf Course; Hilton Head County Park located 0.1 mile north of the Project site; the Adeona Healthcare facility located along Steele Canyon Road to the south of the Project site; and Jamacha Elementary School at the intersection of Steele Canyon Road and Jamul Drive south of the Project site.

2.4.1.5 *Regulatory Setting*

The Proposed Project's noise generation would be subject to noise-land use compatibility standards of the Noise Element in the General Plan at off-site residential properties and Noise Ordinance standards related to construction and operational noise levels at the Project site's property lines.

County of San Diego General Plan Noise Element

The County has adopted interior and exterior noise standards as part of the Noise Element in the General Plan for assessing the compatibility of land uses with noise impacts. For assessing noise impacts to sensitive residential land uses, the County standard is an exterior noise level (for usable outdoor space) of 60 dB CNEL or less and an interior noise standard of 45 dB CNEL for single-family homes. Applicable goals from the Noise Element are provided relative to land use compatibility, protection of noise-sensitive uses, and both transportation-related and non-transportation-related noise sources. Project consistency with these policies is addressed in Subchapter 3.1.7, *Land Use and Planning*, of this EIR, with additional detail provided in Appendix B, *Planning Analysis*.

County of San Diego Noise Ordinance

The purposes of the Noise Ordinance include controlling disturbing, offensive, and excessive noise, providing an environment in which noise is not detrimental to life, health, and enjoyment of property and "securing and promoting the public health, comfort, convenience, safety, welfare, prosperity, peace and quiet of the County of San Diego and its inhabitants" (County Code Sections 36.401[b], [d], and [e]). Compliance with Noise Ordinance limits would ensure that noise generated on the Project site would fall within the dB levels specified in the ordinance.

Section 36.404 of the County Noise Ordinance provides performance standards and noise control guidelines for determining and mitigating non-transportation (stationary) noise source impacts. According to County stationary source exterior noise standards, no person shall operate any source of sound at any location within the County or allow the creation of any noise on a property that causes the noise levels to exceed the exterior noise standards at the property boundary. County Code Section 36.404[e] states that the one-hour average sounds level limit applicable to extractive industries shall be 75 dBA at the property line regardless of the zone in which the extractive industry is located.

Section 36.408 of the Noise Ordinance prevents the operation of construction equipment between the hours of 7:00 p.m. and 7:00 a.m., or on a Sunday or holiday. In this case, a holiday means January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, and December 25. Section 36.408 does allow the operation of construction equipment on a Sunday or holiday between the hours of 10:00 a.m. and 5:00 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in Sections 36.409 and 36.410.

Section 36.409 of the Noise Ordinance controls construction equipment noise and establishes a 75 dBA L_{EQ} standard averaged over a period of eight hours between 7:00 a.m. and 7:00 p.m. at the boundary line of the property where the noise source is being generated or any occupied property where noise is received during construction.

In addition to the general limitations on sound levels in Section 36.404, and excluding emergency work, Section 36.410 of the County Noise Ordinance sets sound level limitations on "impulsive" or "single event" noise of 82 dBA L_{MAX} at residential uses, and 85 dBA L_{MAX} for agricultural, commercial, or industrial uses. For public road projects, this is 85 dBA L_{MAX} and 90 dBA L_{MAX}, respectively.

County of San Diego Standards for Sensitive Birds

Some studies, such as that completed by the Bioacoustics Research Team at the University of California, Davis Transportation Noise Control Center to study the environmental effects of transportation noise on endangered birds (1997), have concluded that 60 dBA is a single, simple criterion to use as a starting point for passerine impacts until more specific research is done, as noted in Significance Guideline 4.1.H in the County's Guidelines for the Determination of Significance for Biological Resources (County 2010a). Associated guidelines produced by the USFWS require that noise be limited to a level not to exceed an hourly limit of 60 dBA L_{EQ} or the average ambient noise level, whichever is greater, at the edge of habitat during the breeding season. Subchapter 2.1 addresses potential noise impacts to sensitive birds.

2.4.2 Analysis of Project Effects and Determination as to Significance

The analysis of Project effects and determination as to significance for operational noise levels, construction noise levels, and ground-borne vibration and noise levels are discussed below.

2.4.2.1 *Excessive Noise Levels (Operational Noise)*

Guidelines for the Determination of Significance

A significant direct noise impact would occur if Project implementation would:

1. Result in the exposure of any on- or off-site, existing or reasonably foreseeable future NSLUs to exterior or interior noise (including noise generated by the project, together with noise from roads, railroads, airports, heliports and all other noise sources) in excess of 60 dB CNEL or an increase of 10 dB CNEL over pre-existing noise in areas where ambient noise levels are 49 dB CNEL or less for exterior locations, or in excess of 45 dB CNEL in interior locations.

2. Result in a one-hour average noise levels in excess of 75 dBA L_{EQ} at the property line of the project site, per the County of San Diego Noise Ordinance (refer to Section 36.404(e)).

A 45 dB CNEL interior limit would be achieved if exterior locations achieve a 60 dB CNEL or less noise level, based on a typical attenuation of 15 dB by standard residential building construction. As such, the following analysis relies on the 60 dB CNEL exterior noise limit as the applicable threshold and does not analyze interior noise levels separately.

The project's mining operations would also generate elevated noise levels at adjacent land that contains potentially suitable habitat for nesting bird species. Noise effects would be considered potentially significant if noise levels generated during the project's operations exceed a level of 60 dBA L_{EQ} or ambient (whichever is greater) adjacent to sensitive nesting bird species such as coastal California gnatcatcher, least Bell's vireo, and raptors. Potential noise-related impacts to nesting bird species are addressed in Section 2.2, *Biological Resources*, of this EIR.

Guideline Source

The above guidelines are based on the County of San Diego Guidelines for Determining Significance for Noise (County 2009a). The criteria can be found in the County of San Diego General Plan Noise Element, and Section 36.404(e) of the County of San Diego Noise Ordinance.

Analysis

The Project would generate elevated noise levels during operation of its individual components that would have the potential to affect nearby NSLUs. Prominent operational noise sources would include processing plant activities (on-site haul truck loading and stationary plant machinery); excavation area grading activities, including vegetation clearing, topsoil removal, and stockpile creation (dozer); raw material extraction, including loading and transport activities (off-road equipment and conveyor belt); and on-road haul truck activities (up to 18 trucks per hour traveling west of the Project driveway along Willow Glen Drive). Processing plant activities would be in a constant location over the 10-year mining period. Grading and material extraction would occur sequentially for each subphase, and noise sources from each activity would not occur at the same time and location; however, because these activities may occur in proximity to one another when in adjacent subphase areas, grading activities and material excavation activities are analyzed as occurring simultaneously and thereby generating combined noise at nearby receptors. It is

important to note that because of the Project's proposed phased approach to mining operations, individual receivers surrounding the Project site would not be exposed to noise from the Project's most substantial noise generating activities (grading and material extraction) for the entire 10-year Project period. While the processing plant would be stationary, noise levels from operation of the processing plant would be below the applicable thresholds of 60 dB CNEL at nearby NSLUs and 75 dBA L_{EQ} at the Project site property line (as discussed in further detail below). Because equipment used for reclamation would be limited to a skid steer loader, which is a relatively small piece of equipment that does not generate substantial noise (approximately 65 dBA at 100 feet), noise levels from reclamation activities would be minimal and impacts associated with reclamation are not further analyzed.

Exterior Use Area Noise Impacts

Potential NSLUs immediately surrounding the Project site that would be subject to noise from the Project's mining operations include single-family residences, Hilton Head County Park, and the Adeona Healthcare facility. Due to the large number of residential properties adjacent to the Project site, surrounding residences were categorized into 11 different residential groups based on general location and anticipated proximity to the Project's various mining operations. For noise modeling, each group included one modeled receiver location that was estimated to be representative of the maximum noise levels that would be experienced by residences in that group. Additionally, Hilton Head County Park, the Adeona Healthcare facility, and four isolated single-family residences each included a receiver to estimate noise levels. Refer to Figure 2.4-2, *Receivers and Residential Groups.*

As shown in Table 2.4-1, *Mining Operation Noise Levels*, noise at modeled receiver locations within residential groups 1 through 5, 8, 10, and 11, as well as Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility would exceed the applicable 60 dB CNEL noise threshold and impacts to receivers in these areas would be potentially significant. Generally, the receiver locations that exceed the 60 dB CNEL limit are located near Project site areas where material extraction would occur. For the purpose of conservative analysis, extraction activities were modeled adjacent to receivers. Actual extraction activities during mining operations would not occur within these areas for the entire duration of the active mining phase. In addition, extraction activities were modeled to occur at-grade, while during actual mining operations a substantial amount of extraction would occur below-grade, thus providing noise attenuation between the equipment and off-site NSLUs. It can therefore be reasonably assumed that noise levels at a given receiver would not exceed the 60 CNEL threshold for the entire phase duration. However, because nine of the receiver locations exceed the applicable 60 dB CNEL limit, **noise impacts from mining activities to exterior use areas at NSLUs are conservatively assessed as potentially significant (Impact N-1).**

Property Line Noise Impacts

Noise levels at the Project site property line were calculated at two locations near the processing plant area adjacent to noise sources (refer to Figure 2.4-2). Due to the proximity of the noise sources, these two property line locations are anticipated to be subject to the highest property line noise levels of the Project site. One modeled location is at the property line adjacent to the screen plant and the other modeled location is at the property line adjacent to the haul truck loading area.

The calculated noise level at the location adjacent to the screen plant is 74.7 dBA and the calculated noise level at the location adjacent to the haul truck loading area is 71.4 dBA. Both are below the 75-dBA threshold, and so it is anticipated that noise levels along the entire Project site property line would be below the 75-dBA threshold. In addition, as shown in Table 2.4-1, noise levels at the receivers at residential groups 10 and 11, which are along the property line in proximity to mining excavation areas, would not exceed 75 dBA. Therefore, noise impacts at on-site property lines from the operation of the Project would be **less than significant.**

2.4.2.2 *Temporary Increase in Ambient Noise (Construction Noise)*

Guideline for the Determination of Significance

A significant direct noise impact would occur if Project implementation would:

3. Cause a temporary or periodic increase in ambient noise levels due to construction if noise from non-emergency construction activity exceeds 75 dBA for an eight-hour period between 7:00 a.m. and 7:00 p.m.; if impulsive noise exceeds 82 dBA L_{MAX} at an occupied residential use or 85 dBA L_{MAX} at an occupied agricultural, commercial, or industrial use; or if noise is generated between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, or any time on Sundays or holidays.

Guideline Source

The above guideline is based on the County of San Diego Guidelines for Determining Significance for Noise (County 2009a); specifically, Sections 36.408, 36.409, and 36.410 of the County of San Diego Noise Ordinance.

Analysis

Construction of the Project's site access roads, improvements on the south side of Willow Glen Drive, and processing plant, as well as associated installation of screening berms, the conveyor belt, and processing plant equipment prior to the commencement of mining operations would result in temporary increases in ambient noise levels. These construction activities would involve the use of heavy equipment. Equipment operating for these activities would be mobile across their respective work areas. The distances referenced below that are assumed for noise modeling for the site access road and processing plant construction activities are based on the estimated center point of the respective construction area footprints where mobile equipment would be operating over an eight-hour workday. Because construction of the Willow Glen Drive improvements would occur in a mobile and linear manner parallel to the property line on the opposite side of the roadway, construction equipment is assessed as occurring in a single location along the linear work area for a portion (assumed to be two hours) of an eight-hour workday before moving to another location along the construction alignment. No impulsive noise sources are anticipated to be used as part of the Project.

The loudest noise during construction of the primary site access road would occur from the simultaneous use of a dozer, loader, and dump truck. This would occur within the processing plant area, at an assumed average distance of 250 feet from the Project site property line and 500 feet from the nearest off-site occupied property over the course of an 8-hour workday. At 250 feet, a

dozer, loader, and dump truck would generate a noise level of 66.4 dBA L_{EQ} (8-hour), and at 500 feet a dozer, loader, and dump truck would generate a noise level of 60.4 dBA L_{EQ} (8-hour). The loudest noise during construction of the western site access road would also occur from the simultaneous use of a dozer, loader, and dump truck. This would occur at an assumed average distance of 100 feet from the Project site property line and 220 feet from the nearest off-site occupied property over the course of an 8-hour workday. At 100 feet a dozer, loader, and dump truck would generate a noise level of 74.4 dBA L_{EQ} (8-hour), and at 220 feet a dozer, loader, and dump truck would generate a noise level of 67.5 dBA L_{EQ} (8-hour). Noise from the access road construction would be less than the 75-dBA L_{EQ} (8-hour) limit and **impacts would be less than significant.**

The loudest noise during construction grading of the processing plant pad would occur from the use of a grader. This would occur at the processing plant area, at an assumed average distance of 250 feet from the Project site property line and 500 feet from the nearest off-site occupied property over the course of an 8-hour workday. At 250 feet a grader would generate a noise level of 67.0 dBA L_{EQ} (8-hour), and at 500 feet a grader would generate a noise level of 61.0 dBA L_{EQ} (8-hour). Noise from construction grading of the processing plant pad would be less than the 75-dBA L_{EQ} (8-hour) limit and **impacts would be less than significant.**

The loudest noise during construction of the Willow Glen Drive improvements is anticipated to occur from the simultaneous use a dozer, dump truck, and water truck and the individual use of a saw cutter. The use of this equipment would occur 50 feet from the property line on the opposite side of the roadway and 170 feet from the nearest off-site occupied property usable area, as measured from the portion of the improvement area closest to the off-site occupied property. For work at this location for a duration of two hours (before moving to another location along the linear construction work area), the simultaneous use of a dozer, dump truck, and water truck would generate a noise level of 73.8 dBA L_{EQ} (8-hour) at 50 feet and 63.2 dBA L_{EQ} (8-hour) at 170 feet, both of which are below the 75-dBA L_{EQ} (8-hour) limit. A saw cutter would generate a noise level of 76.6 dBA L_{EQ} (8-hour) at 50 feet and 66.0 dBA L_{EQ} (8-hour) at 170 feet. While noise from the saw cutter is estimated to exceed the 75-dBA L_{EQ} (8-hour) limit at the property line, the property line under consideration is at the edge of the roadway right-of-way (where there is no sidewalk) and consists of a steep bank that would not feasibly be used as open space. The County Noise Element (Table N-2, Noise Standards) defines "Private Usable Open Space" as "*usable* [emphasis added] open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies." Based on the presence of a steep bank at the property line, no receptors would be present at this location and the area where noise the saw cutter is estimated to exceed the 75-dBA L_{EQ} (8-hour) limit would not qualify as usable space. Above the bank and at areas of the property where there is potential for receptors to be located, noise levels would be below the 75-dBA L_{EQ} limit. Noise levels at the actual usable areas of the property would be lower than those presented herein (66.0 dBA L_{EQ}) due to the bank that would provide noise attenuation.[*] Further, noise from the saw cutter would be limited to a very short duration (expected to be a total of two days for the Willow Glen Drive improvements). As such, potential construction noise impacts from the Willow Glen Drive improvements would be **less than significant.**

[*] The model used for this analysis (the Roadway Construction Noise Model) does not account for topographical shielding.

Project construction would also involve demolition of existing on-site structures. The loudest noise during the demolition phase of construction would occur from the use of a concrete saw. This would occur at the existing clubhouse and maintenance building, 250 feet from the Project site property line and 450 feet from off-site occupied properties. At 250 feet, a concrete saw would generate a noise level of 68.6 dBA L_{EQ} (8-hour), and at 450 feet a concrete saw would generate a noise level of 63.5 dBA L_{EQ} (8-hour). Noise from demolition would be less than the 75-dBA L_{EQ} (8-hour) limit and **impacts would be less than significant.**

Construction noise could potentially affect biological resources such as sensitive habitat for nesting birds. Analysis and mitigation for these impacts are discussed in Subchapter 2.1 of this EIR.

2.4.2.3 *Combined Operation and Existing Ambient Noise*

Guideline for the Determination of Significance

A significant direct noise impact would occur if Project implementation would:

4. Result in an increase of 3 dB CNEL over existing conditions when noise levels exceed 60 dB CNEL at any on- or off-site, existing, or reasonably foreseeable future NSLU.

Guideline Source

The above guideline is based on the County of San Diego Report Format and Content Requirements – Noise (County 2009b).

Analysis

There are nine NSLUs that would be potentially subject to combined noise associated with the proposed Project's operations (processing plant, grading, material extraction, and haul truck activities) and existing noise levels associated with traffic along Willow Glen Drive. These nine locations are residential groups 1 through 7, as well as at Hilton Head County Park and the isolated residence north of Willow Glen Drive (Isolated Residence 1). As shown in Table 2.4-2, *Existing Plus Unmitigated Project Noise Levels*, three of the NSLUs would experience an increase of 3 dB CNEL above existing conditions when noise levels exceed 60 dB CNEL. Specifically, residential group 1 would experience an increase of 4.2 dB CNEL and a noise level of 68.0 dB CNEL; residential group 2 would experience an increase of 3.0 dB CNEL and a noise level of 68.2 dB CNEL; and residential group 5 would experience an increase of 5.4 dB CNEL and a noise level of 64.8 dB CNEL (refer to Figure 2.4-2). The Project would result in an increase of 3 dB CNEL above existing conditions when noise levels exceed 60 dB CNEL at three NSLUs; therefore, **noise impacts associated with the combination of the Proposed Project's operations and existing noise levels associated with traffic along Willow Glen Drive would be considered potentially significant at these three locations (Impact N-2).** While the Project would result in noise level increases of greater than 3 dB CNEL at residential groups 6 and 7, Isolated Residence 1, and Hilton Head County Park, overall noise levels would remain below 60 dB CNEL and, therefore, no impact would occur.

2.4.2.4 *Ground-borne Vibration/Noise*

Guidelines for the Determination of Significance

A significant direct noise impact would occur if Project implementation would:

Result in the exposure of persons to ground-borne vibration equal to or in excess of Caltrans' (2020) distinctly perceptible human response threshold of 0.035 inch per second (in/sec) peak particle velocity (PPV) for steady state sources or 0.24 in/sec PPV for transient sources.

Guidelines Source

The above guidelines are based on the County's Guidelines for Determining Significance for Noise (2009a), and Caltrans' Transportation and Construction Vibration Guidance Manual (2020).

Analysis

Construction Vibration

The primary source of vibration during Project construction would be a vibratory roller that would likely be used for soil and/or asphalt compaction for the site access roads and Willow Glen Drive improvements. The western access road would be located closer to off-site residences than the primary access road. Due to its mobile nature of operations, the use of vibratory roller during construction of the western site access road would occur at an average distance, over the course of a workday, of 220 feet from the nearest off-site vibration-sensitive land use, which is the residence located across Willow Glen Drive. A vibratory roller creates approximately 0.210 in/sec PPV at a distance of 25 feet. At a distance of 220 feet, a vibratory roller would create a PPV of 0.016 in/sec.[†] This would be below the distinctly perceptible vibration annoyance potential criterion of 0.035 in/sec PPV as provided in the Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020) for steady state sources. Use of a vibratory roller during construction of the proposed Willow Glen Drive improvements would occur approximately 170 feet from the nearest off-site occupied residence located across Willow Glen Drive, as measured from the portion of the Willow Glen Drive construction area closest to the residence. At a distance of 170 feet, a vibratory roller would create a PPV of 0.025 in/sec.,* which is also below the 0.035 in/sec PPV criterion; therefore, construction vibration impacts would be **less than significant**.

Operational Vibration

The most prominent source of vibration during mining operations would be the use of a low-profile haul truck or tractor-trailer for on-site transport of washed fines from the processing plant to backfill areas. Vibration levels from the low-profile haul truck or tractor-trailer were conservatively calculated using vibration levels of a larger dump truck, which would generate vibration levels of 0.076 in/sec PPV at 25 feet (Caltrans 2020). The Project's haul truck/tractor-

[†] Equipment PPV = Reference PPV * $(25/D)^n$(in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receptor in feet, and n= 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2013.

trailer is assumed for analysis purposes to operate as close as 150 feet from off-site occupied residences. This is a conservative assumption because the Project would incorporate mining activity setbacks of 100 feet from residential properties. Considering this setback distance in combination with residential yard space and/or roadways between the Project's mining areas and residential dwelling units, use of a haul truck/tractor-trailer would likely occur at distances much greater than 150 feet from residential dwelling units. At a distance of 150 feet, the haul truck/tractor-trailer (conservatively modeled as a dump truck) would generate a vibration level of 0.010 in/sec PPV, which would be below the distinctly perceptible vibration annoyance potential criterion of 0.035 in/sec PPV as provided in Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans 2020) for steady state sources. It should be noted that although the haul truck/tractor-trailer's vibration level is compared against Caltrans' steady state source threshold, the haul truck/tractor-trailer would be mobile and would not represent a constant source of vibration for a given receptor.

Loaded trucks hauling material away from the Project site along Willow Glen Drive would also generate vibration as a result of the weight of the material. Residential dwellings along Willow Glen Drive are located as close as 100 feet from the travel lanes that would accommodate the project's loaded haul trucks. At a distance of 100 feet, a loaded truck would generate a vibration level of 0.016 in/sec PPV, which would be below the distinctly perceptible threshold. In addition, vibration events created by loaded haul trucks at any one residence would be infrequent and limited to durations of a few seconds as the trucks pass by. Vibration impacts from both on-site and off-site truck activity would be less than significant.

The screening machine located at the processing area would generate vibration during operation, but it would be over 800 feet from occupied properties and therefore would not subject these properties to substantial vibration, as manufactured earthborne vibrations attenuate rapidly with distance (Caltrans 2020). Specific vibration data for the screening machine are not available at this time. To provide a conservative analysis, vibration levels associated with a vibratory roller, which is considered a high vibration-generating machine, are considered. A vibratory roller generates a vibration level of 0.210 in/sec PPV at 25 feet (Caltrans). At a distance of 800 feet, a vibratory roller would generate a vibration level of 0.005 in/sec PPV which is well below the distinctly perceptible vibration potential criteria of 0.035 in/sec PPV (Caltrans 2020). In addition, the screening machine would be mounted in sand, which is a vibration-dampening medium. Therefore, the screening machine would not generate substantial vibration at off-site occupied properties, and operational vibration impacts would be **less than significant.**

2.4.2.5 *Aircraft Noise*

Guidelines for the Determination of Significance

A significant direct noise impact would occur if Project implementation would:

5. Expose people residing or working to excessive noise levels within 2 miles of a public or private airport.

Guidelines Source

The County does not have specific guidelines for determining the significance for aircraft noise; therefore, the above guideline is based on Appendix G of the CEQA Guidelines.

Analysis

There are no public or private airports within two miles of the Project site; therefore, the Proposed Project would not expose people residing or working to excessive aircraft noise, and impacts would be **less than significant.**

2.4.3 Cumulative Impact Analysis

2.4.3.1 *Cumulative Noise Impacts*

Guideline for Determination of Significance

A significant cumulative impact would occur if the Project would:

6. Result in the exposure of any NSLU to an increase of 10 dB CNEL over pre-existing noise levels resulting in a combined exterior noise level of 60 dB CNEL or greater or if the project would contribute to an increase of 3 dB CNEL over existing conditions in the existing plus project plus cumulative scenario if that total is above 60 dB CNEL. A "cumulatively considerable" project contribution to an identified significant cumulative noise impact would occur if the project contributes more than a 1 dBA increase to the cumulative noise level.

Guideline Source

The above guideline is based on the County of San Diego Guidelines for Determining Significance for Noise (County 2009a).

Analysis

Off-site Cumulative Noise Impacts

The potential for a cumulative noise impact can occur when noise from multiple projects combines to increase noise levels above thresholds. The noise levels from the combination of existing traffic noise levels, cumulative traffic noise levels, and unmitigated Project noise levels, shown in Table 2.4-3, *Existing Plus Cumulative Plus Unmitigated Project Noise Levels*, indicate that Project operations combined with cumulative project traffic noise would result in an increase of 3 dB CNEL or greater compared to existing conditions at receivers in residential groups 1, 2, 3, and 5, where noise levels would exceed 60 dB CNEL. Therefore, cumulative impacts would occur at these locations. Furthermore, because the Project would result in more than a 1 dBA increase over existing plus cumulative conditions at these same receiver locations, impacts are considered cumulatively considerable**. Cumulative off-site noise impacts are identified as cumulatively significant (Impact N-3).**

Cumulative Noise Impacts from Adjacent Cumulative Project Construction

Construction of the Ivanhoe Ranch project is proposed to occur immediately east of the northeastern portion of the Project site. As a result, residential group 9 would potentially be subject to simultaneous noise from the Project's mining operations and construction of the Ivanhoe Ranch project.‡ It is conservatively assumed that a dozer and scraper would operate simultaneously at the Ivanhoe Ranch project site for earthwork activities and would represent the loudest construction activity. Based on the large area of the Ivanhoe Ranch site, these pieces of equipment would operate at varying distances from the receiver location at residential group 9. The distance from the receiver location to the center of the Ivanhoe Ranch site is approximately 2,300 feet; however, since large portions of earthwork would likely occur for extended periods of time closer to residential group 9 than 2,300 feet, for analysis purposes it is assumed that the equipment would operate at an average distance of 1,000 feet from the receiver at residential group 9. At a distance of 1,000 feet, a scraper and dozer would generate a noise level of 55.7 dBA L_{EQ}. It is assumed that construction activities for the Ivanhoe Ranch project would comply with the County construction noise ordinance hours of 7:00 a.m. to 7:00 p.m. Based on this, the calculated dB CNEL value at the modeled receiver in residential group 9 is 53.7 dB CNEL. Combined with the Project's unmitigated mining operation noise, the noise level at the receiver in residential group 9 would be 55.5 dB CNEL. Noise levels at the modeled receiver at residential group 9 would be below the applicable 60 dB CNEL threshold for residential uses. Therefore, **cumulative noise impacts from adjacent cumulative project construction are identified as less than significant.**

2.4.4 Significance of Impacts Prior to Mitigation

The following potentially significant impacts related to noise could occur with Proposed Project implementation without mitigation:

Impact N-1 Noise levels could exceed the 60 dB CNEL maximum allowable noise level for 11 NSLUs surrounding the Project site: the Adeona Healthcare facility, Isolated Residence 2, Isolated Residence 3, and residential groups 1 through 5, 8, 10, and 11.

Impact N-2 Project operations could cause an increase of 3 dB CNEL compared to existing conditions at three NSLUs where noise levels exceed 60 dB CNEL; these NSLUs are residential groups 1, 2, and 5.

Impact N-3 Project operations combined with cumulative traffic noise could cause an increase of 3 dB CNEL compared to existing conditions at four NSLUs where noise levels would exceed 60 dB CNEL; these NSLUs are residential groups 1, 2, 3, and 5. Additionally, the Project could result in more than a 1 dBA increase over existing plus cumulative conditions at these locations, thus resulting in a cumulatively considerable impact.

‡ Although Isolated Residences 3 and 4 were considered for impacts as a result of the Project's mining operations, these residences are located within the Ivanhoe Ranch project site and would therefore no longer be present if the Ivanhoe Ranch project is developed.

2.4.5 Mitigation

To decrease noise impacts associated with the Proposed Project, the following mitigation measure shall be implemented. The noise barrier requirements included in the following measures were determined through CadnaA modeling, which takes into account the topography of the Project site and surrounding areas.

M-N-1 Below-Grade Excavation and Noise Barriers: Raw material extraction equipment operating within 400 feet of off-site NSLU useable space areas shall be located at the lowest feasible elevation within the Project's excavation areas such that the topography shall provide noise attenuation to off-site properties. To achieve the lowest feasible elevation, initial at-grade excavation activities shall be performed at least 400 feet from off-site NSLU usable space areas, as indicated in Figures 2.4-3a-c, *Noise Barriers*. Following this initial excavation to the lowest feasible elevation, excavation can extend outward and toward the NSLUs while maintaining the lowest feasible elevation at the active working face where extraction equipment is operating.

For NSLUs located at residential groups 5 and 8 (as shown on Figure 2.4-2), as well as Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility, an 8-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c and break the line-of-sight between the excavation activities and receivers. For the barriers adjacent to residential groups 5 and 8, the required barrier height (8 feet) shall be measured relative to the adjacent Project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent property line, the total barrier height would be greater than the required barrier height in order to provide adequate noise attenuation (e.g., if the barrier with a required height of 8 feet is to be located at a surface elevation 5 feet below the adjacent Project site property line elevation, the total barrier height would be 13 feet).

For NSLUs located at residential groups 1, 2, 3, 4, 10, and 11 (as shown on Figure 2.4-2), a 12-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c and break the line-of-sight between the excavation activities and receivers. For the barriers adjacent to residential groups 1, 2, 3, and 4, the required barrier height (12 feet) shall be measured relative to the adjacent Project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent project site property line, the total barrier height would be greater than the required barrier

height in order to provide adequate noise attenuation (e.g., if the barrier with a required height of 12 feet is to be located at a surface elevation 5 feet below the adjacent project site property line elevation, the total barrier height would be 17 feet).

The noise barriers must be solid. They can be constructed of soil (in the form of a berm or stockpile), masonry, wood, plastic, fiberglass, steel, or a combination of those materials, as long as there are no cracks or gaps, through or below the walls. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least one-inch total thickness or have a density of at least 3.5 pounds per square foot. Sheet metal of 18-gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of wood with a thickness of at least one-inch, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with prefabricated doorjambs. Stockpiles must be continuous and maintain the required height along their entire length.

2.4.6 Conclusion

Operation of the Proposed Project would have potentially significant noise impacts. As shown in Table 2.4-1, noise levels at 11 NSLUs (residential groups 1 through 5, 8, 10, and 11, Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility) may exceed the applicable 60-dB CNEL limit as a result of mining operations (Impact N-1), and therefore would require mitigation. Implementation of M-N-1 would require the construction of a 12-foot noise barrier for NSLUs at residential groups 1, 2, 3, 4, 10, and 11 between the excavation activities and the NSLUs when excavation is occurring within 400 feet of these locations, and the construction of an 8-foot barrier for NSLUs at Isolated Residence 2, Isolated Residence 3, the Adeona Healthcare facility, and residential groups 5 and 8 between excavation activities and the NSLUs when excavation is occurring within 400 feet of these locations. The noise barriers would be solid and would follow the strict provisions outlined in M-N-1 to ensure they attenuate noise.

In addition to the construction of the sound barriers, M-N-1 requires all raw material excavation equipment operating within 400 feet of off-site NSLU useable space areas to be located at the lowest feasible elevation within the Project's excavation areas to provide noise attenuation to off-site properties. This allows the topography to block noise from extraction activities occurring below grade at the active working face. Given the potential for groundwater throughout the Project site, excavation depths would average 20 feet bgs, with some areas outside the existing low-flow channel excavated to a maximum depth of 40 feet bgs. Areas identified for mining up to 40 feet bgs, as applicable based on the water table, are those that have not been previously disturbed by golf course development or previous excavation activities within subphases 1B, 1C, 2B, 2C, and the eastern portion of subphase 3A. To achieve the lowest feasible elevation, initial at-grade excavation activities would be performed at least 400 feet from off-site NSLU property lines. Once at the lowest feasible elevation at the initial excavation locations, material excavation would extend outward and toward the NSLUs while maintaining this lowest feasible elevation. The below grade excavation in combination with noise barriers would effectively break the line-of-sight

between the mining equipment and NSLUs, thus attenuating noise levels. As shown in Table 2.4-4, *Mitigated (8-foot Barrier) Mining Operation Noise Levels*, and Table 2.4-5, *Mitigated (12-foot Barrier) Mining Operation Noise* Levels, the noise modeling results indicate that the implementation of M-N-1 would reduce noise levels at residential groups 1 through 5, 8, 10, and 11, and Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility to below 60 dB CNEL. It is worth noting that due to the varying potential excavation depths across the site (average of 20 feet bgs with a maximum depth of 40 feet bgs, as mentioned above), the noise modeling conducted for the Project conservatively assumed a 10-foot excavation depth. Actual noise levels would likely be less than those presented in Tables 2.4-4 and 2.4-5 due to the increased noise attenuation achieved by the greater excavation depths than what was included in the model. As a result, noise impacts associated with the operation of the Proposed Project would be lowered to less than significant levels with mitigation.

Operation of the Proposed Project combined with existing traffic noise could cause a potentially significant cumulative noise impact. As shown in Table 2.4-2, three NSLUs (residential groups 1, 2, and 5) would experience an increase of 3 dB CNEL above existing conditions when noise levels exceed 60 dB CNEL (Impact N-2), and therefore would require mitigation. As stated above, implementation of M-N-1 would include, in addition to excavation at low elevations, the presence of a 12-foot noise barrier for residential groups 1 and 2, and an 8-foot barrier for residential group 5 between the NSLU and the excavation activities when excavation is occurring within 400 feet of these locations. As shown in Table 2.4-6, *Existing Plus Mitigated Project Noise Levels,* the noise modeling results indicate that implementation of M-N-1 would cause the increase in CNEL in residential groups 1, 2, and 5 to be below the 3 dB CNEL increase threshold in NSLU locations with a CNEL of 60 dB or higher. Implementation of M-N-1 would reduce noise levels at residential groups 1, 2, and 5 to meet noise level standards. Therefore, noise impacts associated with mitigated Project noise and existing traffic noise along Willow Glen Drive would be less than significant with mitigation.

The noise levels from the combination of existing conditions, cumulative noise levels, and unmitigated Project noise levels would have a potentially significant impact on residential groups 1, 2, 3, and 5. As shown in Table 2.4-3, the noise levels at these NSLUs would have the potential to increase by at least 3 dB CNEL over existing conditions in the existing plus Project plus cumulative scenario when the CNEL would exceed 60 dB CNEL. Furthermore, because the Project would result in more than a 1 dBA increase over existing plus cumulative conditions at these locations, impacts are considered cumulatively considerable (Impact N-3) and would require mitigation. As stated above, implementation of M-N-1 would include, in addition to excavation at low elevations, the presence of a 12-foot noise barrier for residential groups 1, 2, and 3, and an 8-foot barrier for residential group 5 between excavation activities and the off-site locations when excavation is occurring within 400 feet of those locations. As shown in Table 2.4-7, *Existing Plus Cumulative Plus Mitigated Project Noise Levels*, the noise modeling results indicate that implementation of M-N-1 would cause the increase in CNEL in residential groups 1, 2, 3, and 5 to be below the 3 dB CNEL increase threshold in locations with a CNEL of 60 dB or higher. Implementation of M-N-1 would lower noise levels at Isolated Residence 1 and residential groups 1, 2, 3, and 5 to meet noise level standards. Therefore, noise impacts associated with existing noise, cumulative traffic noise along Willow Glen Drive, and mitigated Project noise would be less than significant with mitigation.

For all of the above potential impacts, implementation of proposed mitigation measure M-N-1 would ensure compliance with the County Noise Element standards and Noise Ordinance and reduce noise impacts to less than significant levels.

Table 2.4-1
MINING OPERATION NOISE LEVELS

Receiver Area	Maximum Noise from Processing Plant (dBA/CNEL)	Maximum Noise from Material Extraction and Grading (dBA/CNEL)	Maximum Noise from On-road Haul Trucks (dBA/CNEL)	Maximum Combined Noise (dBA/CNEL)	Exceed 60 dB CNEL Limit?
Residential Group 1	35.2/29.9	69.6/65.8	56.5/50.8	69.8/**65.9**	**Yes**
Residential Group 2	39.0/33.7	68.7/64.9	58.5/52.8	69.1/**65.2**	**Yes**
Residential Group 3	40.0/34.7	68.5/64.7	58.3/52.6	68.9/**65.0**	**Yes**
Residential Group 4	45.8/41.1	68.1/64.3	58.5/52.8	68.6/**64.6**	**Yes**
Residential Group 5	49.9/44.8	67.0/63.2	54.1/48.4	67.3/**63.4**	**Yes**
Residential Group 6	46.3/40.9	46.5/42.7	35.8/30.1	49.6/45.0	No
Residential Group 7	49.6/44.3	52.5/48.7	37.9/32.2	54.4/50.1	No
Residential Group 8	44.2/38.9	66.1/62.3	26.6/20.9	66.1/**62.3**	**Yes**
Residential Group 9	50.6/45.2	53.1/49.3	36.3/30.6	55.1/50.8	No
Residential Group 10	48.7/43.9	70.3/66.5	38.6/32.9	70.3/**66.5**	**Yes**
Residential Group 11	38.5/33.2	73.7/69.9	42.9/37.2	73.7/**69.9**	**Yes**
Isolated Residence 1	58.2/52.8	61.0/57.2	45.9/40.2	62.9/58.6	No
Isolated Residence 2	37.1/31.9	64.9/61.1	30.5/34.8	64.9/**61.1**	**Yes**
Isolated Residence 3	37.2/32.0	66.1/62.3	34.4/28.7	66.1/**62.3**	**Yes**
Isolated Residence 4	42.4/37.2	58.0/54.2	40.0/34.3	58.2/54.3	No
Hilton Head County Park	36.0/30.8	55.6/51.8	40.9/35.2	55.8/51.9	No
ADEONA Healthcare	45.5/40.4	64.5/60.7	38.8/33.1	64.6/**60.7**	**Yes**

Source: HELIX 2021c
CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Table 2.4-2
EXISTING PLUS UNMITIGATED PROJECT NOISE LEVELS

Receiver Area	CNEL Existing	CNEL Existing + Project	CNEL Increase	Direct Impact?[1]
Residential Group 1	63.8	68.0	4.2	**Yes**
Residential Group 2	65.2	68.2	3.0	**Yes**
Residential Group 3	65.4	68.2	2.8	No
Residential Group 4	65.6	68.1	2.5	No
Residential Group 5	59.4	64.8	5.4	**Yes**
Residential Group 6	40.1	46.2	6.1	No[2]
Residential Group 7	45.5	51.4	5.9	No[2]
Isolated Residence 1	52.8	59.6	6.8	No[2]
Hilton Head County Park	45.4	52.8	7.4	No[2]

Source: HELIX 2021c
[1] A direct impact would occur if the Project results in an increase of 3 dB CNEL above existing conditions and noise levels exceed 60 dB CNEL.
[2] While the Project would result in noise level increases of greater than 3 dB CNEL, overall noise levels would remain below 60 dB CNEL; therefore, no impact would occur.
CNEL = Community Noise Equivalent Level

Table 2.4-3
EXISTING PLUS CUMULATIVE PLUS UNMITIGATED PROJECT NOISE LEVELS

Receiver Area	Existing CNEL	Existing + Cumulative CNEL	Existing + Cumulative + Project CNEL	Existing + Cumulative + Project Change from Existing	Existing + Cumulative + Project Cumulative Impact?[1]	Existing + Cumulative + Project Change from Existing + Cumulative	Cumulatively Considerable Impact?[2]
Residential Group 1	63.8	64.1	68.1	4.3	Yes	4.0	**Yes**
Residential Group 2	65.2	65.5	68.4	3.2	Yes	2.9	**Yes**
Residential Group 3	65.4	65.7	68.4	3.0	Yes	2.7	**Yes**
Residential Group 4	65.6	65.9	68.3	2.7	No	2.4	No[3]
Residential Group 5	59.4	59.5	64.9	5.5	Yes	5.4	**Yes**
Residential Group 6	40.1	40.2	46.2	6.1	No	6.0	No[3]
Residential Group 7	45.5	45.6	51.4	5.9	No	5.8	No[3]
Isolated Residence 1	52.8	52.8	59.6	6.8	No	6.8	No[3]
Hilton Head County Park	45.4	45.7	52.8	7.4	No	7.1	No[3]

Source: HELIX 2021c

[1] A cumulative impact would occur if the Project would cause: an increase of 10 dB CNEL over existing noise levels, resulting in a combined exterior noise level of 60 dB CNEL or greater; an increase of 3 dB CNEL over existing conditions in the existing plus Project plus cumulative scenario if that total is above 60 dB CNEL; or if the Project would cause interior noise levels in excess of 45 dB CNEL while also causing an increase at least 3 dB CNEL over existing conditions.

[2] A cumulatively considerable contribution to an identified cumulative impact would occur if the Project would add more than 1 dBA to the cumulative noise increase.

[3] While the Project would cause a change from the Existing + Cumulative scenario that is greater than 1 dBA, no cumulative impact was identified so the Project's contribution is not cumulatively considerable.

CNEL = Community Noise Equivalent Level

Table 2.4-4
MITIGATED (8-FOOT BARRIER) MINING OPERATION NOISE LEVELS

Receiver Area	Maximum Noise from Processing Plant (dBA/CNEL)	Maximum Noise from Material Extraction and Grading (dBA/CNEL)	Maximum Noise from On-road Haul Trucks (dBA/CNEL)	Maximum Combined Noise (dBA/CNEL)	Exceed 60 dB CNEL Limit?
Residential Group 1	35.2/29.9	63.9/60.1	56.5/50.8	64.6/**60.6**	**Yes**
Residential Group 2	38.9/33.6	63.4/59.6	58.5/52.8	64.6/**60.4**	**Yes**
Residential Group 3	39.6/34.4	65.6/61.8	58.3/52.6	66.4/**62.3**	**Yes**
Residential Group 4	43.5/38.3	63.5/59.7	58.5/52.8	64.7/**60.5**	**Yes**
Residential Group 5	49.8/44.7	62.2/58.4	54.1/48.4	63.0/59.0	No
Residential Group 8	44.1/38.7	62.4/58.6	26.6/20.9	62.5/58.6	No
Residential Group 10	45.9/40.8	64.1/60.3	39.7/34.0	64.2/**60.4**	**Yes**
Residential Group 11	36.8/31.7	67.9/64.1	42.9/37.2	67.9/**64.1**	**Yes**
Isolated Residence 2	33.1/27.9	54.0/50.2	30.5/24.8	54.1/50.2	No
Isolated Residence 3	37.1/31.9	61.4/57.6	34.4/28.7	61.4/57.6	No
ADEONA Healthcare	43.1/38.0	57.2/53.4	38.8/33.1	57.4/53.6	No

Source: HELIX 2021c
CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Table 2.4-5
MITIGATED (12-FOOT BARRIER) MINING OPERATION NOISE LEVELS

Receiver Area	Maximum Noise from Processing Plant (dBA/CNEL)	Maximum Noise from Material Extraction and Grading (dBA/CNEL)	Maximum Noise from On-road Haul Trucks (dBA/CNEL)	Maximum Combined Noise (dBA/CNEL)	Exceed 60 dB CNEL Limit?
Residential Group 1	35.2/29.9	59.8/56.0	56.5/50.8	61.5/57.2	No
Residential Group 2	38.8/33.6	60.2/56.4	58.5/52.8	62.5/58.0	No
Residential Group 3	39.6/34.3	63.2/59.4	58.3/52.6	64.4/60.0	No
Residential Group 4	43.5/38.3	60.6/56.8	58.5/52.8	62.7/58.3	No
Residential Group 10	44.1/39.2	60.5/56.7	36.7/31.0	60.6/56.8	No
Residential Group 11	36.6/31.5	64.3/60.0	42.9/37.2	64.3/60.0	No

Source: HELIX 2021c
CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Table 2.4-6
EXISTING PLUS MITIGATED PROJECT NOISE LEVELS

Receiver Area	CNEL Existing	CNEL Existing + Project	CNEL Increase	Direct Impact?[1]
Residential Group 1	63.8	64.7	0.9	No
Residential Group 2	65.2	66.0	0.8	No
Residential Group 3[2]	65.4	66.5	1.1	No
Residential Group 4[2]	65.6	66.3	0.7	No
Residential Group 5	59.4	62.2	2.8	No

Source: HELIX 2021c
[1] A direct impact would occur if the Project results in an increase of 3 dB CNEL above existing conditions and noise levels exceed 60 dB CNEL.
[2] Although a direct impact was not identified for residential groups 3 or 4 under this threshold (refer to Table 2.4-2), a potentially significant impact was identified for residential groups 3 and 4 under the exterior use area noise threshold (Impact N-1) and residential groups 3 and 4 are therefore subject to mitigation measure M-N-1. Mitigated noise levels for residential groups 3 and 4 are presented here for informational purposes.
CNEL = Community Noise Equivalent Level

Table 2.4-7
EXISTING PLUS CUMULATIVE PLUS MITIGATED PROJECT NOISE LEVELS

Receiver Area	Existing CNEL	Existing + Cumulative CNEL	Existing + Cumulative + Project CNEL	Existing + Cumulative + Project Change from Existing	Existing + Cumulative + Project Cumulative Impact?[1]	Existing + Cumulative + Project Change from Existing + Cumulative	Existing + Cumulative + Project Cumulatively Considerable Impact?[2]
Residential Group 1	63.8	64.1	64.9	1.1	No	0.8	No
Residential Group 2	65.2	65.5	66.2	1.0	No	0.7	No
Residential Group 3	65.4	65.7	66.7	1.3	No	1.0	No
Residential Group 4[3]	65.6	65.9	66.6	1.0	No	0.7	No
Residential Group 5	59.4	59.5	62.3	2.9	No	2.8	No[4]

Source: HELIX 2021c

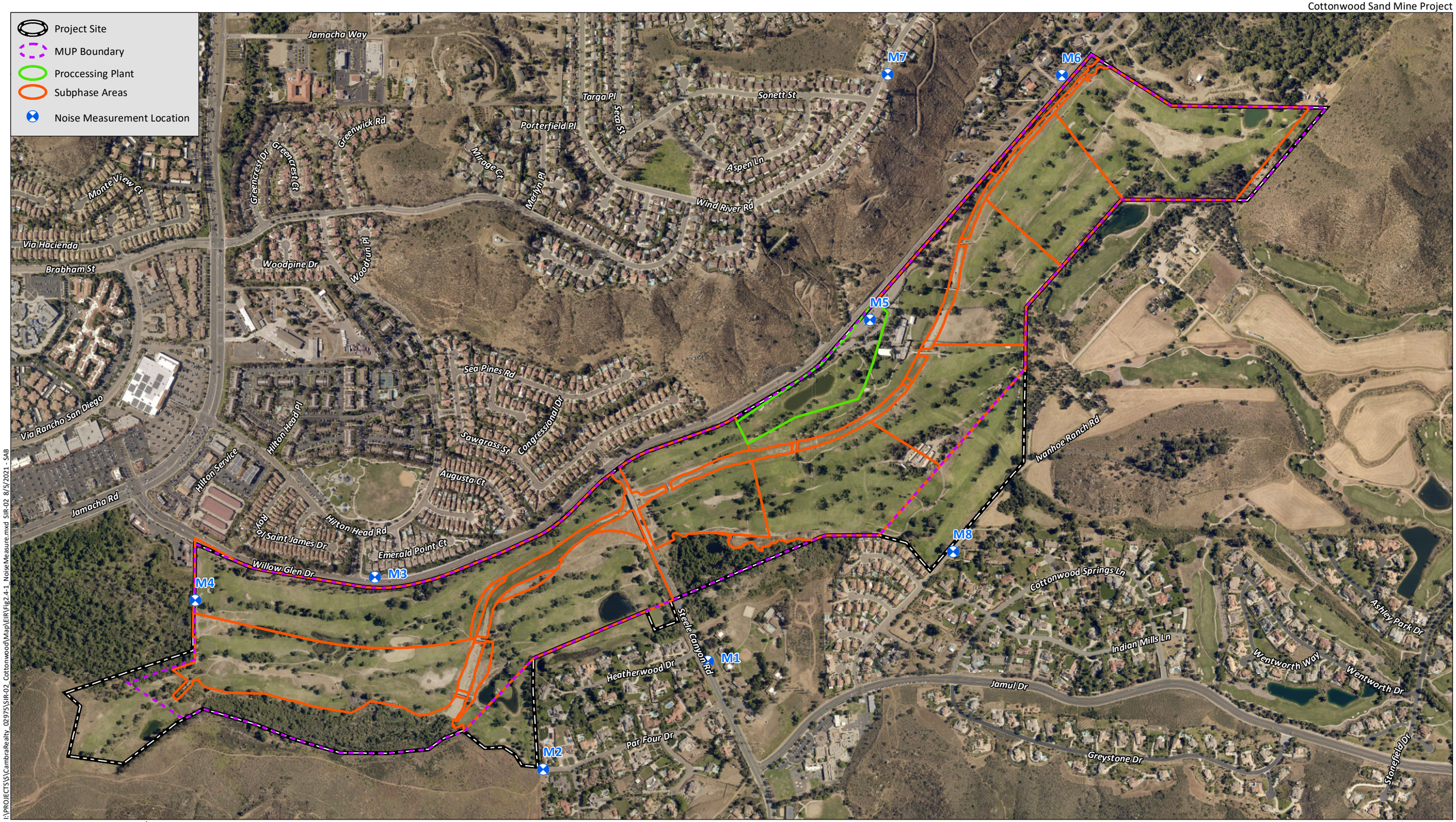
[1] A cumulative impact would occur if the Project would cause: an increase of 10 dB CNEL over existing noise levels, resulting in a combined exterior noise level of 60 dB CNEL or greater; an increase of 3 dB CNEL over existing conditions in the existing plus Project plus cumulative scenario if that total is above 60 dB CNEL; or if the Project would cause interior noise levels in excess of 45 dB CNEL while also causing an increase at least 3 dB CNEL over existing conditions.

[2] A cumulatively considerable contribution to an identified cumulative impact would occur if the Project would add more than 1 dBA to the cumulative noise increase.

[3] Although a direct impact was not identified for residential group 4 under this threshold (refer to Table 2.4-3), a potentially significant impact was identified for residential group 4 under the exterior use area noise threshold (Impact N-1) and residential group 4 is therefore subject to mitigation measure M-N-1. Mitigated noise levels for residential group 4 are presented here for informational purposes.

[4] While the Project would cause a change from the Existing + Cumulative scenario that is greater than 1 dBA, no cumulative impact was identified so the Project's contribution is not cumulatively considerable.

CNEL = Community Noise Equivalent Level



0 700 Feet

Source: Aerial (SanGIS, 2017)

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Noise Measurement Locations

Figure 2.4-1

Cottonwood Sand Mine Project

Project Site
San Diego Gas & Electric Easement
MUP Boundary
Processing Area
Subphase Areas
Residential Group
Property Line Receiver
Off-site Receiver
Modeled Excavation Area

Jamacha Way
Elva St
Capri Ct
Darlington Ct
Targa Pl
Sonett St
Porterfield Pl
Seca St
Greenwick Rd
Greencrest Dr
Greencrest Ct
Mirage Ct
Merlyn Pl
Aspen Ln
Wind River Rd
Brabham St
Via Hacienda
Woodpine Dr
Woodrun Pl
Via Rancho San Diego
Hilton Head Pl
Sea Pines Rd
Sawgrass St
Congressional Dr
Augusta Ct
Hilton Service
Jamacha Rd
Hilton Head County Park
Hilton Head Rd
Port of Saint James Dr
Emerald Point Ct
Willow Glen Dr
Steele Canyon Rd
Heatherwood Dr
Par Four Dr
Adeona Healthcare Facility
Jamul Dr
Greystone Dr
Cottonwood Springs Ln
Indian Mills Ln
Wentworth Way
Wentworth Dr
Ashley Park Dr
Stonefield Dr
Ivanhoe Ranch Rd

1
2
3
4
5
6
7
8
9
10
11

Isolated Residence 1
Isolated Residence 2
Isolated Residence 3
Isolated Residence 4
Steele Canyon Golf Course

0 700 Feet

Source: Aerial (SanGIS, 2017)

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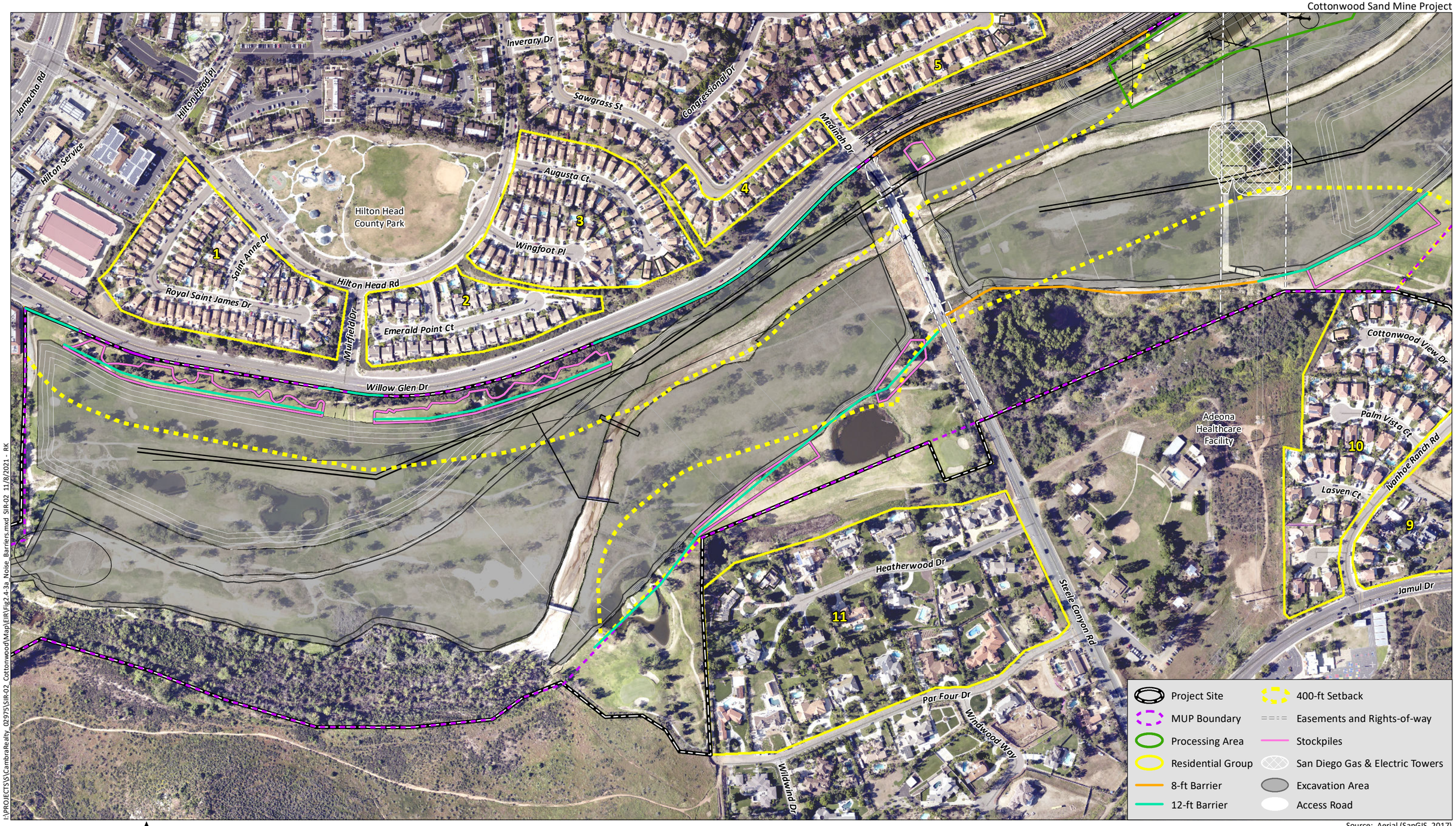
Receivers and Residential Groups

Figure 2.4-2

Cottonwood Sand Mine Project



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0 350 Feet

N

Source: Aerial (SanGIS, 2017)

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Noise Barriers

Figure 2.4-3a

Targa Pl
Sonett St
Seeds St
Zolder Ct
Lacava Pl
Aspen Ln
Wind River Rd
Jaraima Ct
Brabham St
Lime Rock Ct
6
7
8
Steele Canyon
Golf Course
Processing
Plant
Sea Pines Rd
Sawgrass St
5
Willow Glen Dr
Medinah Dr
4
Ivanhoe Ranch Rd

Project Site
MUP Boundary
Residential Group
400-ft Setback
Easements and Rights-of-way
Stockpiles
San Diego Gas & Electric Towers
Excavation Area
Access Road

0 400 Feet

Source: Aerial (SanGIS, 2017)

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Noise Barriers

Figure 2.4-3b

0 350 Feet

Source: Aerial (SanGIS, 2017)

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Noise Barriers

Figure 2.4-3c

2.5 Paleontology

The assessment of the Project's potential to have an adverse effect on paleontological resources is based on a review of the sensitivity map in the County's Guidelines for Determining Significance – Paleontological Resources (2009b, 2009c), and the Soil and Geologic Reconnaissance prepared for the Project by Geocon, Inc. (2020). This study is summarized in the following analysis, with the Soil and Geologic Reconnaissance report included as Appendix G of this EIR.

2.5.1 Existing Conditions

Paleontology is the science dealing with prehistoric plant and non-human animal life. Paleontological resources (or fossils) typically encompass the remains or traces of hard and resistant materials such as bones, teeth, or shells, although plant materials and occasionally less resistant remains (e.g., tissue or feathers) can also be preserved. The formation of fossils typically involves the rapid burial of plant or animal remains and the formation of casts, molds, or impressions in the associated sediment (which subsequently becomes sedimentary rock). Because of this, the potential for fossil remains in a given geologic formation can be predicted based on known fossil occurrences from similar (or correlated) geologic formations in other locations. Accordingly, while there are no recorded fossil occurrences or collection efforts known from the Project site, paleontological resource potential can be inferred from on-site geology and off-site fossil occurrences in similar materials.

Based on the referenced Soil and Geologic Reconnaissance, geologic formations and surficial deposits observed within the Project site and vicinity are described below. This discussion is followed by assessments of paleontological resource sensitivity and potential Project impacts, with additional description of site geology provided in Appendix G. Human-derived deposits such as fill are not included in the following analysis, due to their recent age and the associated lack of potential to contain fossil resources.

2.5.1.1 *Stratigraphy*

Surficial materials and geologic formations observed or expected to occur within the Project site and vicinity include granitic rocks and Quaternary-age (between approximately 11,000 and 2 million years old) alluvial channel and flood plain deposits.

Quaternary Alluvium Channel Deposits (Qualc)

Quaternary age alluvial channel deposits occur throughout the central portion of the Project site, and generally consist of loose, fine- to coarse-grained sand with varying amounts of silt and gravel.

Quaternary Alluvium Flood Plain Deposits (Qalf)

Quaternary age alluvial flood plain deposits generally occur on the north and south sides of the channel deposits. The flood plain deposits generally consist of soft to firm, micaceous, sandy clay, sandy silt, and silty sand.

Granitic Rocks (Kgr)

Granitic rocks underlie most of the site. Granitic rock encountered during drilling on the site was weathered and generally consisted of silty, fine to coarse sand.

2.5.1.2 *Paleontological Resource Sensitivity*

Each of the above units has been evaluated for paleontological resource potential and assigned a sensitivity rating, based on the following criteria derived from sources including the County's Guidelines for Determining Significance – Paleontological Resources (2009c).

- High Sensitivity – High resource sensitivity is assigned to geologic formations known to contain paleontological localities with rare, well preserved, critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleoclimatic, paleobiological and/or evolutionary history of animal and plant groups.

- Moderate Sensitivity – Moderate resource sensitivity is assigned to geologic formations known to contain paleontological localities and judged to have a strong but often unproven potential for producing unique fossil remains.

- Low Sensitivity – Low resource sensitivity is assigned to geologic formations that, based on their relatively young age and/or high-energy depositional history, are judged unlikely to produce unique fossil remains (although important paleontological resources have occurred infrequently in local low sensitivity deposits). When fossils are found in these formations, however, they are often very significant additions to the geologic understanding of the area.

- Marginal Resource Sensitivity – Marginal resource sensitivity is assigned to geologic formations that are composed either of volcaniclastic or metamorphosed sedimentary (metasedimentary) rocks, but that nevertheless have a limited probability for producing fossils from certain formations at localized outcrops.

- No Sensitivity – This designation is assigned to geologic formations that are composed entirely of volcanic or plutonic igneous rocks formed from molten material, such as basalt or granite, and therefore do not have any potential for producing fossil remains.

Based on these descriptions, the following paleontological resource sensitivity ratings are assigned to surficial and geologic units with the Project site: (1) Quaternary alluvial deposits are assigned a "low" resource sensitivity rating due to their relatively young age and high-energy depositional history; (2) granitic rocks are assigned a "no" sensitivity rating due to their molten origin.

2.5.1.3 *Regulatory Setting*

State

California Environmental Quality Act

CEQA requires lead agencies to consider the potential effects of a project on unique paleontological resources. CEQA requires an assessment of impacts associated with the direct or indirect destruction of unique paleontological resources or sites that are of value to the region or state.

Local

County of San Diego General Plan – Conservation and Open Space Element

The following goals and policies identified in the County General Plan Conservation and Open Space Element are applicable to the Proposed Project (County 2011b):

- **Goal COS-9: Education and Scientific Uses.** Paleontological resources and unique geologic features conserved for educational and/or scientific purposes.

- **Policy COS-9.1: Preservation.** Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.

- **Policy COS-9.2: Impacts of Development**. Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

County of San Diego Grading Ordinance

The County Grading Ordinance requires that projects involving grading, clearing, and/or removal of natural vegetation obtain a grading permit, unless the project meets one or more of the exemptions listed in Section 87.202 of the Grading Ordinance. The grading permit is discretionary and requires compliance with CEQA. Section 87.430 of the Grading Ordinance provides that the County official (e.g., permit compliance coordinator) may require a paleontological monitor during all or selected grading operations, to monitor for the presence of paleontological resources. If fossils greater than 12 inches in any dimension are encountered, then all grading operations in the area of discovery must be suspended immediately and not resumed until authorized by the County official. The Grading Ordinance also requires immediate notification of the County official regarding the discovery. The County official must determine the appropriate resource recovery operation, which the permittee must carry out prior to the County official's authorization to resume normal grading operations (County 2012b).

2.5.2 Analysis of Project Effects and Determination as to Significance

Guideline for the Determination of Significance

Impacts to paleontological resources would be significant if the Project (1) directly or indirectly destroys a unique paleontological resource or site or unique geologic feature, or (2) includes activities, such as project-related grading or excavation, that disturbs the substratum or parent material below the major soil horizons in any paleontologically sensitive area of the County, as shown on the San Diego County Paleontological Resources Potential and Sensitivity Map.

Guideline Source

This guideline is based on the County's Guidelines for Determining Significance– Paleontological Resources (County 2009c). Per County Guidelines, a unique paleontological resource is any fossil or assemblage of fossils, or paleontological resource site or formation that meets any one of the following criteria:

- The best example of its kind locally or regionally;
- Illustrates a paleontological or evolutionary principle (e.g., faunal succession; plant or animal relationships);
- Provides a critical piece of paleobiological data (illustrates a portion of geologic history or provides evolutionary, paleoclimatic, paleoecological, paleoenvironmental, or biochronological data);
- Encompasses any part of a "type locality" of a fossil or formation;
- Contains a unique or particularly unusual assemblage of fossils;
- Occupies a unique position stratigraphically within a formation; or
- Occupies a unique position, proximally, distally, or laterally within a formation's extent or distribution.

Analysis

Project activities would be anticipated to encounter all of the described on-site surficial and geologic units. Approximately 4.3 million cy of aggregate material are proposed to be extracted at an average depth of approximately 20 feet bgs across the site. Some areas would be excavated to a maximum depth of 40 feet bgs (refer to Figure 1-6a and 1-6b). Based on the described "low" sensitivity rating for Quaternary alluvial deposits, **implementation of the Project could potentially result in significant impacts to paleontological resources from excavation and grading in previously undisturbed deposits (Impact PAL-1).**

2.5.3 Cumulative Impact Analysis

The geologic units that occur under the Project site also are present in many other areas of the San Diego region. Development of the San Diego region has resulted in disturbance to these geologic units and the fossils that they contain. Development has also, however, led to the discovery of many fossil sites that have been documented and which have added to the natural history record of the region. Development of the San Diego area will continue and will have the potential to continue to disturb these geologic units. Because of the geographic extent of the potential impacts, development of a cumulative project list for this topic is not practical.

As described in Section 2.5.2, paleontological impacts associated with the Project are potentially significant, but would be fully mitigated through conformance with applicable regulatory requirements. Specifically, such conformance would entail implementing mitigation measures to monitor applicable Project grading and excavation operations and, if appropriate, evaluate, recover, document and curate paleontological resources. Accordingly, implementation of the described mitigation measures would ensure that important scientific information associated with on-site paleontological resources is protected and preserved. This could yield additional information or reinforce existing knowledge of local natural history. Projects throughout the San Diego region would be subject to similar requirements for paleontological resources, pursuant to CEQA and County requirements. If additional development projects result in potential impacts to paleontological resources, they also would be subject to associated regulatory requirements. The described requirements for regulatory conformance would ensure that paleontological resources and associated scientific data from cumulative project sites (including the Project) would be appropriately protected and preserved. Accordingly, the Project would not result in a significant contribution to cumulative impacts for the issue of paleontological resources and impacts would be **less than significant**.

2.5.4 Significance of Impacts Prior to Mitigation

Impact PAL-1 The Proposed Project could result in significant impacts to paleontological resources from the excavation of previously undisturbed deposits exhibiting low resource potential (i.e., Quaternary alluvial deposits).

2.5.5 Mitigation

M-PAL-1 The Project site has low resource potential for paleontological resources. All excavation activities are subject to the *County of San Diego Grading Ordinance Section 87.430*, if any significant resources (fossils) are encountered during excavation activities.

a. The grading contractor is responsible to monitor for paleontological resources during all grading activities. If any fossils are found greater than 12 inches in any dimension, stop all grading activities and contact PDS before continuing grading operations.

b. If any paleontological resources are discovered and salvaged, the monitoring, recovery, and subsequent work determined necessary shall be completed by or under the supervision of a Qualified Paleontologist pursuant to the *San Diego*

County Guidelines for Determining Significance for Paleontological Resources.

M-PAL-2 One of the following letters shall be prepared upon completion of the excavation/mining activities that require monitoring:

a. If no paleontological resources were discovered, submit a "No Fossils Found" letter from the grading contractor to PDS stating that the monitoring has been completed and that no fossils were discovered, and including the names and signatures from the fossil monitors. The letter shall be in the format of Attachment E of the *San Diego County Guidelines for Determining Significance for Paleontological Resources*.

b. If paleontological resources were encountered during grading, a letter shall be prepared stating that the field grading monitoring activities have been completed, and that resources have been encountered. The letter shall detail the anticipated time schedule for completion of the curation phase of the monitoring.

2.4.6 Conclusion

Implementation of the Project would potentially result in significant impacts to paleontological resources in association with proposed grading and excavation in previously undisturbed areas exhibiting low sensitivity. With implementation of the above mitigation, the described impacts to sensitive paleontological resources would be **less than significant** because the fossils would be removed from the site and research and curation completed as necessary and appropriate.

2.6 Tribal Cultural Resources

An Archaeological Inventory and Assessment was prepared for the Proposed Project to determine the potential for significant impacts to Tribal Cultural Resources (TCRs) as a result of Project development (HELIX 2021b). The report was prepared in conformance with the County Guidelines for Determining Significance and Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources (2007a). The results of the technical study are presented below and included as Appendices D to this EIR. Confidential records and maps are on file at the County and have been submitted to the SCIC.

2.6.1 Existing Conditions

Riparian forest, southern willow scrub, coast live oak, and freshwater marsh are present on site and in the surrounding area, along with other vegetation communities. These vegetation communities, as well as others, were historically used by Native American populations for a broad range of uses, including food, clothing, tools, décor, and ceremonial purposes. The vegetation also supported many of the animals living within these communities, which were then also used by Native American populations as sources of food, leather, and bone.

The Project area lies within the floodplain of the Sweetwater River, which flows in a northeast-to-southwest direction through the center of the site. Several habitation and village areas have been documented both upriver and downriver from the Project site, suggesting that the Project area was used prehistorically as a travel route along the Sweetwater River corridor and as a resource processing and gathering area.

The presence and significance of existing TCRs within the boundaries of the Proposed Project were determined based on a review of institutional records, Native American outreach and consultation, a field survey that involved Native American monitors, and archaeological testing. To date, no TCRs have been identified within the Project area that currently serve religious or other community practices.

2.6.1.1 *Methodology*

This section presents the methods used in the site assessment and Native American participation to evaluate TCRs within the Project site and surrounding area. The presence and significance of existing TCRs associated with the Proposed Project were determined using the following methodologies: a review of previous studies of the Project site and a records search conducted at the SCIC, field surveys of the Project site and archaeological testing, a Sacred Lands File Search, and Native American outreach. The evaluation of TCRs is in conformance with PRC Section 21083.2 and the CEQA Guidelines. Statutory requirements of CEQA (Section 15064.5) were followed in evaluating the significance of TCRs. Pursuant to Section 86.605(d) of the County RPO, and as described in further detail in Section 2.2.2.5, *Local Policies, Ordinances, and Adopted Plans*, under *County RPO Wetlands (Guideline 27)*, and in Section 2.3.1.2, *Regulatory Setting*, under *Resource Protection Ordinance*, the Project would be exempt from RPO requirements. The Sacred Lands File Search and Native American outreach are described in detail below. Summaries related to the records search, field survey, and testing are also provided. Please refer to Section 2.3, *Cultural Resources,* for additional detail related to the records search, field survey, and testing.

Records Search Results

The records search indicated that five previously identified sites have been mapped within the Project area; those sites are CA-SDI-4765 (P-37-004765), CA-SDI-5468 (P-37-005468), CA-SDI-14767 (P-37-016257), CA-SDI-17943 (P-37-027624), and P-37-027625. Additional research found that site CA-SDI-5468 (P-37-005468) had been inaccurately mapped in the records, and was actually situated adjacent to the Project site, not within it. Of the four remaining sites that the records indicated were present within the Project site, three of the sites, CA-SDI-4765 (P-37-004765), CA-SDI-17943 (P-37-027624), and P-37-027625, are prehistoric resources.

Field Survey and Testing

In August 2018, HELIX archaeological field director Julie Roy, HELIX archaeologists Amber Parron and Sheila Adolph, and Kumeyaay Native American monitor Justin Linton of Red Tail Environmental surveyed the Project property for cultural resources. During the field survey, of the four sites that had been recorded as being located within the Project area, resource CA-SDI-17943 (P-37-027624) was the only one that was relocated and was still intact. In addition to site CA-SDI-17943 (P-37-027624), two sites containing artifact scatters were discovered within the Project area: site CA-SDI-22864 (P-37-038837) and CA-SDI-22865 (P-37-038838). The three sites, which consist of sparse lithic and shell scatters with limited material, were subjected to a testing program. It was determined that all three sites have poor integrity due to the consistent construction and maintenance of the golf course over the last 50 years.

Native American Consultation

The NAHC was contacted on August 3, 2018 for a Sacred Lands File search and a list of Native American contacts. A response dated August 6, 2018 was received from the NAHC indicating that Native American cultural sites are present within the Project area. The commission recommended contacting the Viejas Band of Kumeyaay Indians (Viejas), Kumeyaay Cultural Repatriation Committee (KCRC), Ewiiaapaayp Band of Kumeyaay Indians (Ewiiaapaayp), Barona Band of Mission Indians (Barona), and Kwaaymii Laguna Band of Mission Indians (Kwaaymii). Phone calls were made to these entities in November 2018. Additional contact to tribes and organizations identified by the NAHC regarding the Project was made by letter on December 3, 2018. Responses were received from the contacted tribes identifying that the Proposed Project is in a highly sensitive area for cultural resources and concerns for the type of project and potential impacts to cultural resources; requesting the presence of a Kumeyaay cultural monitor during ground disturbing activities, a site visit, a copy of the cultural study and site forms; notification of inadvertent discoveries; and deferring to tribes in closer proximity to the Proposed Project.

County staff contacted the NAHC for an updated Sacred Lands File search and list of tribal contacts on January 7, 2019. Five tribal groups/organizations (Ewiiaapaayp, Inaja, La Posta, San Pasqual, and KCRC) were contacted on February 19, 2019 inquiring whether they had any information related to Sacred Lands. No responses were received from these groups.

On January 8, 2019, the County initiated AB 52 consultation with seven tribes (Barona, Campo, Jamul, Kwaaymii, Santa Ysabel, Sycuan, and Viejas). Barona, Campo, Jamul, Santa Ysabel, Sycuan, and Viejas requested AB 52 consultation. On February 19, 2019, AB 52 consultation was

initiated with the Manzanita Band of Kumeyaay Nation and no response was received. Tribal consultation under AB 52 has been ongoing and has occurred since January 2019 with all the tribes that have requested consultation. Field trips with consulting tribes to the Project site were conducted on April 11, 2019 and April 16, 2019.

A Kumeyaay Native American monitor from Red Tail Environmental participated in the field survey in August 2018 and during the testing program conducted in November 2018.

Although the Sacred Lands File search indicated that Native American cultural sites are present in the Project area, no specific information has been obtained through Native American outreach, consultation, or in communication with the Native American monitors during fieldwork that the archaeological sites within the Project area are culturally or spiritually significant. To date, no TCRs have been identified that currently serve religious or other community practices are known to exist within the Project area.

2.6.1.2 *Regulatory Setting*

A state regulation specific to TCRs and relevant to this analysis is described below. Additional federal, state, and local regulations relevant to this analysis, including the National Historic Preservation Act; National Register of Historic Places; CEQA Guidelines, California Register of Historical Resources; County's General Plan; County's Grading, Clearing, and Watercourses Ordinance; County's Resource Protection Ordinance; and County's Local Register of Historical Resources, are discussed in Section 2.3, *Cultural Resources.*

State

California Assembly Bill 52

California State Assembly Bill (AB) 52 revised PRC Section 21074 to include TCRs as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation and that is traditionally and culturally affiliated with the geographic area of a proposed project to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies.

2.6.2 Analysis of Project Effects and Determination as to Significance

The following discussion evaluates potential impacts to TCRs resulting from the Proposed Project.

2.6.2.1 *Tribal Cultural Resources*

Guideline for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

1. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as a site, feature, place, [or] cultural landscape that is geographically

defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

b. 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Guideline Source

This guideline is derived from CEQA Guidelines Appendix G. A project that would have a substantial adverse impact (direct, indirect, cumulative) on the significance of tribal cultural resources as defined by this guideline would be considered to result in a significant impact.

Analysis

As indicated by the Sacred Lands File search, Native American cultural sites have been identified within the Project area. No information has been obtained through Native American consultation or communication with Native American monitors during fieldwork that any of the archaeological sites previously identified within the Project area are culturally or spiritually significant. No TCRs that currently serve religious or other community practices are known to exist within the Project area. No artifacts or remains were identified or recovered during the archaeological evaluation that could be reasonably associated with such practices. Prehistoric artifactual material consisted of common flaked stone and ecofacts, and those in very limited quantities. All areas of past cultural use are of cultural importance to the Native American community, even if they do not meet the significance criteria for archaeological resources. Additionally, the Project site has been identified by several of the tribes that are consulting to be within a culturally significant area. Based on these considerations, implementation of proposed mining and reclamation activities has the potential to impact buried TCRs, particularly within the alluvial soils of the Sweetwater floodplain. **Impacts to buried TCRs are identified as potentially significant (Impact TCR-1)**.

2.6.3 Cumulative Impact Analysis

No on-site significant TCRs were located. There is, however, an identified potential for on-site impacts to subsurface resources or features that are currently not recorded, which could result in a cumulatively considerable impact.

Prehistoric settlement patterns can be very broad; therefore, it is prudent to consider a large study area when evaluating cumulative impacts. The TCRs cumulative study area includes the Sweetwater River valley surrounding the Project site and was selected because the similarity in types of natural resources, topography, and patterns of prehistoric land use suggests that similar types of resources would occur within the area.

The cumulative projects in the vicinity of the Proposed Project are listed in Table 1-11 in Chapter 1.0 and are shown on Figure 1-15. Projects within the cumulative study area include primarily residential and commercial development projects, as well as two school projects and a church. Given the confidential nature of resources, specific details on the resources that might occur within the cumulative project sites are not known; however, it is assumed that projects in the study area have the potential to impact both known and unknown TCRs that are or would be considered significant resources because of their potential to provide important information about scientific research questions, as well as the presence of culturally significant elements, such as pictographs, petroglyphs, or human remains. Impacts to these sites would contribute to a regionally significant cumulative loss of non-renewable TCRs.

Cumulative projects located in the region would potentially result in the destruction or loss of TCRs due to ground-disturbing activities, such as grading and excavation during construction. Any projects with the potential to destroy or damage tribal cultural resources would be regulated by applicable federal, state and local regulations, including the Native American Graves Protection and Repatriation Act (NAGPRA), Cal NAGPRA, National Historic Preservation Act Section 106, SB 18 and AB 52, PRC Section 5079, and CEQA Section 21084.3. Therefore, cumulative projects would not result in a potentially significant cumulative impact.

As noted above, no significant impacts to TCRs are currently anticipated to result from implementation of the Proposed Project. If significant sites were to be located during Project construction and mining operations, direct impacts to TCRs would be reduced to less than significant through mitigation measures that include monitoring of ground-disturbing activity, avoidance of unique cultural resources (if feasible), and protocols for the treatment of unanticipated discoveries. Because the Proposed Project and the projects identified within the cumulative impact study area would be mitigated through avoidance/preservation, data recovery, and curation/repatriation of artifactual materials, adequate mitigation would be implemented for protection of TCRs. This results in the Project contribution to the significant cumulative impact being less than considerable, and therefore **less than significant**.

2.6.4 Significance of Impacts Prior to Mitigation

The following potentially significant impacts would occur with Project implementation without mitigation:

Impact TCR-1 There is potential for significant direct impacts related to undiscovered buried TCRs on the Project site during the Project's ground-disturbing mining activities. Impacts to these resources would represent significant environmental effects.

2.6.5 Mitigation

Impact TCR-1 would be reduced to less than significant with the implementation of mitigation measures M-CR-1, M-CR-2, and M-CR-3 as described in Section 2.3.

2.6.6 Conclusion

The Proposed Project would potentially result in significant impacts if undiscovered buried TCRs are uncovered or unearthed during the Project's ground-disturbing mining activities (Impact

TCR-1). With implementation of the above mitigation, impacts to potential buried TCRs would be **less than significant**, thereby also ensuring compliance with CEQA and County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources.

2.7 Significant Irreversible Environmental Changes Resultant from Project Implementation

CEQA Guidelines Section 15127 requires irreversible changes be evaluated in EIRs prepared for projects that would involve: (a) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (b) the adoption by a Local Agency Formation Commission of a resolution making determinations; and (c) the requirement for preparing an environmental impact statement pursuant to the National Environmental Policy Act. None of these circumstances applies to the Proposed Project; therefore, analysis of significant and irreversible environmental changes is not required.

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CHAPTER 3.0 – ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

3.1 Effects Found Not Significant as Part of the EIR Process

3.1.1 Air Quality

This section of the EIR summarizes an Air Quality Technical Report (HELIX 2021d), contained in Appendix I, which was prepared in conformance with the County Report Format and Content Requirements – Air Quality (County 2007c). The Valley Fever Report (EnviroMINE 2021b) prepared to evaluate coccidioidomycosis (Valley Fever) exposure associated with the Project also is summarized herein.

3.1.1.1 *Existing Conditions*

Climate/Meteorology/Temperature Inversions

The Project site is located within the San Diego Air Basin (SDAB). The climate in southern California, including the SDAB, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity.

The annual average maximum temperature in the Project area is approximately 75 degrees Fahrenheit (°F), and the average minimum temperature is approximately 53°F. Total precipitation in the Project area averaged approximately 12.9 inches between 1899 and 2006. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2019). The predominant wind direction in the Project vicinity is from the west. The average wind speed in the vicinity is 5.4 mph (Iowa Environmental Mesonet 2019).

Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and nitrogen dioxide (NO_2) react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

Air Pollutants of Concern

Criteria Air Pollutants

Six air pollutants have been identified by the USEPA and California Air Resources Board (CARB) as being of concern both on a nationwide and statewide level: ground-level ozone (O_3), CO, NO_2, sulfur dioxide (SO_2), lead, and particulate matter (PM), which is subdivided into two classes based

on particle size: coarse PM equal to or less than 10 micrometers in diameter (PM_{10}) and fine PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). These air pollutants are commonly referred to as "criteria air pollutants" because air quality standards are regulated using human health and environmentally based criteria. Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants (secondary pollutants; e.g., ozone and NO_2) in the atmosphere. The principal precursor pollutants of concern are reactive organic gasses ([ROGs] also known as volatile organic compounds [VOCs])* and nitrogen oxides (NO_X).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 3.1.1-1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants,* based on information provided by the California Air Pollution Control Officers Association (CAPCOA; 2018). Specific adverse health effects to individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. As such, specific health effects from these criteria pollutant emissions cannot be directly correlated to the incremental contribution from a single project.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (§39655, subdivision (a)) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 U.S. Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines

* CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, the CARB identified DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a significant impact on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2018).

Crystalline silica is a common mineral found in the earth's crust. Materials like sand, stone, concrete, and mortar contain crystalline silica. Respirable crystalline silica—very small particles at least 100 times smaller than ordinary sand—is created when cutting, sawing, grinding, drilling, and crushing stone, rock, concrete, brick, and mortar. Potential health risks resulting from inhalation of respirable crystalline silica include silicosis, an incurable lung disease; lung cancer; chronic obstructive pulmonary disease; and kidney disease (U.S. Occupational Safety and Health Administration [USOSHA] 2018). In addition to respirable crystalline silica, the dust from mining operations and processing plants can contain very small amounts of toxic metals and elements including arsenic, beryllium, cadmium, copper, chromium, manganese, mercury, nickel, and selenium. Significant exposure to these toxic metals and elements can result in a wide range of health effects including cancer, long-term chronic conditions, and short-term acute effects. The Project would primarily mine, classify, and wash sand. Because dust from native sand can contain these toxic metals and elements, it assumed they are present in all fugitive dust particulate matter emitted during mining and processing operations.

Ambient Air Quality

The San Diego County Air Pollution Control District (SDAPCD) operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS), described below. The nearest ambient monitoring station to the Project site is the El Cajon-Lexington Elementary School Monitoring Station located at 533 First Street in El Cajon, approximately 3.4 miles northwest of the Project site. The El Cajon-Lexington Elementary School Monitoring Station is located in an inland valley and is representative of the climatological and topographical conditions at the Project site. Air quality data for the years 2018 through 2020 are shown on Table 3.1.1-2, *Air Quality Monitoring Data.*

Monitoring data at El Cajon-Lexington Elementary School Monitoring Station show no exceedances of the state 1-hour standard for ozone from 2018 to 2020. Exceedance of the state and federal 8-hour standards for ozone occurred on two days in 2018, on two days 2019, and on 14 days in 2020. Exceedance of the federal standard for $PM_{2.5}$ occurred once in 2018. Data from the monitoring station showed no days in exceedance of the maximum daily standards for PM_{10}. The annual average for state PM_{10} was exceeded in 2018.

Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005, OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptors to the Project site are single-family homes adjacent to the existing and former golf courses on the south and east sides of the Project site. In addition, there are single- and multi-family homes along the primary routes for aggregate delivery trucks entering and exiting the Project site, including along Willow Glen Drive and Jamacha Road. The closest school is the Jamacha Elementary School approximately 1,280 feet (0.24 mile) south of the Project Phase 2 mining area (refer to Figure 1-3).

Other Concerns Related to Air Emissions

Valley Fever: Several comments received during the Notice of Preparation period were concerned with the issue of Valley Fever.

Coccidioidomycosis, more commonly known as Valley Fever, is an infection (usually of the lungs) caused by inhalation of the spores of the *Coccidioides immitis* fungus (typically in California) (Centers for Disease Control and Prevention [CDC] 2020), which grows in the soils of the southwestern United States. Soil characteristics that are more likely to support Coccidioides include soils that are undisturbed, alkaline, silty, well aerated with a relatively high-water holding capacity, sparsely vegetated and have a high salinity level. Areas that are less likely to support Coccidioides include cultivated soils, heavily vegetated areas, higher elevations (above 7,000 feet), areas where commercial fertilizers have been applied, areas that are continually wet, paved, or oiled, soils containing abundant microorganisms and heavily urbanized areas where soil has been previously disturbed (Evans, V & Armstrong, S., 2018). Endemic areas for the fungus are usually arid to semiarid with mild winters and extended hot seasons (USGS 2000). When fungal spores are present, any activity that disturbs the soil—such as digging, grading, or other earth-moving operations—can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. Areas endemic for *Coccidioides* include portions of the southwestern United States and northern Mexico. San Diego County is a suspected endemic area for *Coccidioides* (CDC 2014). When present, the fungal spores are generally found in the upper 30 centimeters (12 inches) of the soil horizon, especially in undisturbed soils. Currently there are no commercially available tests to detect *Coccidioides* in soil. Testing that is done for limited scientific purposes does not always detect the spores even if they are present (CDC 2020).

It is estimated that 60 percent of those infected with Valley Fever have no symptoms. For the remaining cases, symptoms of Valley Fever can initially include fatigue, cough, fever, shortness

of breath, headache, night sweats, muscle pain, and rashes. In approximately five to ten percent of cases, people exposed to *Coccidioides* can develop complications or chronic pulmonary diseases. In rare cases, disseminated disease (which can be fatal) can occur and affect the skin, bones, soft tissues, and central nervous system. It is important to note that these symptoms are not unique to Valley Fever and can be caused by other illnesses. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of *Coccidioides* from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which can indicate prior exposure to the fungus (Valley Fever Center for Excellence 2021). People working in occupations such as construction, agriculture, and archaeology have an increased risk of exposure and disease because these jobs result in disturbance of soils where fungal spores may be found (California Department of Public Health [CDPH] 2013). There is currently no vaccine available to prevent one from contracting Valley Fever despite scientist's efforts to develop one since the 1960s (CDC 2020).

Valley Fever has been reported in most counties in California, with approximately 70 percent of the cases occurring within six counties including Kern, Kings, San Luis Obispo, Fresno, Tulare, and Madera Counties. These counties are considered highly endemic for the Coccidioides fungus with incidence rates of over 20 cases of Valley Fever per 100,000 population (California Labor Code, Section 6709). The reported number of cases in California was 9,004 cases in 2019, with an incidence rate of 23 per 100,000 population in 2019 (CDPH 2020). The San Diego County Health and Human Services Agency, for the 10-year period 2010 to 2019 reported a total of 2,052 cases of Coccidioidomycosis cases in San Diego County and an incidence rate of 6.3 cases per 100,000 population. Figures for the case counts and the incidence rate for the five zip codes near the Project site are presented in Table 3.1.1-3, San Diego County Valley Fever Incidence Rates 2010-2019. The Project site is located along the southern boundary of zip code 92019. The Project site in relation to zip code 92019 and four surrounding zip codes is shown in Figure 3.1.1-1, Valley Fever Evaluation Zip Codes.

Due to their very small size and buoyancy, *Coccidioides* spores can remain aloft for great distances and thus may be present in air that appears quite clear. Control of fugitive dust emissions is considered a primary tool to reduce potential exposure to the spores although dust in the air may not contain the spores if the airborne soil material has not originated from a location where the fungus and spores are present (CDPH 2020 and USGS 2000). As shown in Figure 3.0.1 of the Valley Fever Report (Appendix J of this EIR), San Diego County is in a region considered suspected endemic for *Coccidioides* spores.

Regulatory Setting

Federal and State

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish NAAQS, which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the

USEPA established both primary and secondary standards for criteria pollutants. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent CAAQS for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride and visibility-reducing particles. Table 3.1.1-4, *California and National Ambient Air Quality Standards,* shows the federal and state ambient air quality standards.

Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS.

The USEPA and the National Highway Traffic Safety Administration (NHTSA) worked together on developing a national program of regulations to reduce greenhouse gas (GHG) emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. The new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdraw of the waiver previously provided to California for that State's GHG and zero emissions vehicle (ZEV) programs under Section 209 of the CAA. The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards. While the SAFE Vehicle Rule primarily affects GHG emissions, the resulting decreases in anticipated future fuel economy also results in slightly higher emissions of ROG, NO_X and exhaust PM from gasoline-powered cars and light trucks.

Local

The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement

of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the County.

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). The Attainment Plan, which would be a revision to the state implementation plan (SIP), outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. Projects which are consistent with the growth assumptions used in the Attainment Plan and do not conflict with the control measures in the Attainment Plan, and which do not result in criteria pollutant and precursor emissions in excess of the thresholds adopted by the County, would not hinder the goal of the Attainment Plan to bring the SDAB into compliance with the NAAQS and CAAQS for the protection of public health.

In addition, SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material causing nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. Rule 55 prohibits construction activity that would discharge fugitive dust emissions into the atmosphere beyond the property line.

Air Basin Attainment Status

On April 30, 2012, the SDAB was classified as a marginal nonattainment area for the 8-hour NAAQS for ozone. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (severe nonattainment), PM_{10}, and $PM_{2.5}$. The SDAB is an attainment area for the NAAQS and CAAQS for all other criteria pollutants (SDAPCD 2017).

The current federal and state attainment status for San Diego County is shown in Table 3.1.1-5, *Federal and State Air Quality Designation.*

3.1.1.2 *Analysis of Project Effects and Determination as to Significance*

Conformance to the Attainment Plan

Guideline for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the SDAPCD's Attainment Plan and/or applicable portions of the SIP.

Guideline Source

This guideline is taken from the County Guidelines for Determining Significance – Air Quality (2007c).

Analysis

The Attainment Plan outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD relies on the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through the implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from the CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County. As such, projects that propose development that is consistent with the growth anticipated by the local jurisdictions' general plans would be consistent with the Attainment Plan. In the event that a project proposes development that is less dense than anticipated within the General Plan, the project would likewise be consistent with the Attainment Plan. If a project proposes development that is greater than that anticipated in the County General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project would be in conflict with the Attainment Plan and SIP and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine whether the project and the surrounding projects exceed the growth projections used in the Attainment Plan for the specific subregional area.

The Project site is currently zoned as Open Space (S80), Specific Planning Area (S88), and Holding Area (S90). The S80 designation is used to provide appropriate controls for areas considered generally unsuitable for intensive development, including hazard or resource areas, public lands, recreation sites, or lands subject to open space easement or similar restrictions. The S90 zone is intended to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Mineral extraction use is allowed within the S80 and S90

classifications with the issuance of a Major Use Permit. S88 zoning restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. The two Project parcels zoned S88 would not be actively mined and the end use for both parcels would be open space, consistent with the Rancho San Diego Specific Plan. The entire Project site is identified in the General Plan Land Use Element Open Space-Recreation (OS-R) land use designation, which applies to large, existing recreational areas and allows for active and passive recreational uses. The Project does not have a residential component and would not result in direct or indirect population growth in the County. The Project is anticipated to employ approximately nine persons, less than the employment from the Project site's use as golf courses. Therefore, the Project would be consistent with the General Plan, the Valle De Oro Community Plan, and the Rancho San Diego Specific Plan and consistent with the growth projections from those plans used in development of the Attainment Plan and the SIP.

The County of San Diego has developed a number of strategies and plans aimed at improving air quality. The aggregate produced by the Project must be transported to the project sites where it would be used. SANDAG released their *San Diego Region Aggregate Supply Study* in January 2011, which presented information related to the average miles traveled, and associated air quality emissions produced, by vehicles delivering aggregate to project sites (SANDAG 2011). The document explains that if the aggregate is transported by truck from current local mines to local project sites, the average distance between existing mines and construction sites in the region is 26 miles, which is used for vehicle miles traveled (VMT) projections in SANDAG's 2050 RTP for San Diego County, which in turn is used to develop mobile source emissions projections and control strategies for the Attainment Plan and SIP. Other options for aggregate transportation include truck, rail, and barge transportation from regions outside of the San Diego region (should the aggregate originate from a different region). The project VMT analysis concluded that the average one-way sand hauling distance for the project would be 16 miles based on the midpoint location of existing ready-mix concrete batch plants (the primary market for the project's sand) located within San Diego County (LLG 2021b). Although the Project would generate VMT, it would result in lower aggregate hauling VMT than assumed in the development of mobile source emissions projections and control strategies for the Attainment Plan and SIP.

The 570,000 tons of sand produced annually at the Project site is anticipated to be supplied entirely to local markets within the County. A VMT comparison of existing and near-term future sand transport in the region (sand procured within the county and imported into the county), and the Project sand transportation was completed in the TIA. The VMT analysis concluded that the Project's production and local distribution of 570,000 tons annually, which would reduce the import of this amount of sand from out-of-county suppliers, would result in a 79.2-percent reduction in region-wide VMT for sand transportation in the existing plus Project scenario and a 75.8-percent reduction in region-wide VMT for sand transportation in the near-term plus Project scenario (LLG 2021b). Consequently, the regional mobile-source air quality impacts produced by the Project aggregate transportation would be offset by the reduction of aggregate import transportation impacts and the Project would not result in an increase in the emissions from aggregate hauling over that assumed in development of the Attainment Plan.

The Conservation and Open Space Elements of the County General Plan present goals and policies designed to balance the regional need for construction materials with the community need for freedom from any disturbing effects of mining and aggregate processing activities while protecting

public health (County 2011b). The goal of the long-term production of mineral materials is to meet the local County average annual demand, while maintaining permitted reserves equivalent to a 50-year supply, using operational techniques and site reclamation methods consistent with California standards so that adverse effects on surrounding land uses, public health, and the environment are minimized. Implementation of these policies supports the controls for mobile source emissions in the Attainment Plan and SIP:

COS-10.5 Reclamation Plans. Require all mining projects to be conducted in accordance with a reclamation plan that meets the minimum reclamation standards required by the California Surface Mining and Reclamation Act and the associated State Mining and Geology Board regulations. Require the reclamation plan to include a phasing plan that provides for the completion of the surface mining on each segment of the mined lands so that the reclamation can be initiated at the earliest possible time on those portions of the mined lands that will not be subject to further disturbance by the surface mining operation.

COS-10.6 Conservation of Construction Aggregate. Encourage the continued operation of existing mining facilities and streamline the permitting of new mining facilities consistent with the goal to establish permitted aggregate resources that are sufficient to satisfy 50 years of County demand.

COS-10.8 New Mining Facilities. Develop specific permit types and procedures for the authorization of new mining facilities that recognize the inherent physical effects of mining operations and the public necessity for available mineral resources adequate to meet local demand, in accordance with PRC Section 2762.

In addition to the policies in the General Plan, the Project would be required to comply with the SDAPCD Rules and Regulations. The Attainment Plan control measures include the assumptions that new facilities with the required air permits would be consistent with the goals of the SIP. The Project, when constructed and operated using the Best Available Control Technology (BACT) and Best Management Practices (BMPs) described in section 1.3.2 of Appendix I, would comply with all of the standards of the SDAPCD Rules and Regulations. The Attainment Plan also assess the impact of all emission sources and all control measures, including those under the jurisdiction of the CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products).

The Project would be consistent with and support the General Plan goals of long-term production of mineral materials to meet the local County average annual demand and establishment of permitted aggregate resources that are sufficient to satisfy 50 years of County demand. The Project would be consistent with the land use designation and resulting growth projections in the General Plan, the Valle De Oro Community Plan, and the Rancho San Diego Specific Plan used in development of the Attainment Plan and SIP. In addition, the Project would result in a reduction of sand transport VMT in the region and therefore a reduction in the related aggregate hauling emissions. Therefore, the Project would not conflict with or obstruct the implementation of the San Diego Attainment Plan or applicable portions of the SIP and the impact would be **less than significant**.

Conformance to Federal and State Ambient Air Quality Standards

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Guideline Source

This guideline is taken from the County Guidelines for Determining Significance – Air Quality (2007c). To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD, as discussed below.

Analysis

The County recognizes the SDAPCD's established screening level thresholds for air quality emissions (Rules 20.1 et seq.) as screening-level thresholds for land development projects. As part of its air quality permitting process, the SDAPCD has established thresholds in Rules 20.2 and 20.3 (SDAPCD 2019a; 2019b) for the preparation of Air Quality Impact Assessments (AQIAs). The County has also adopted the SCAQMD's screening threshold of 55 pounds per day or 10 tons per year as a screening level threshold for $PM_{2.5}$, and the SCAQMD's Coachella Valley screening threshold of 75 lbs per day or 13.7 tons per year significance threshold for VOCs (SCAQMD 2015). The screening thresholds used in the following analysis are included in Table 3.1.1-6, *Screening-level Thresholds for Air Quality Impact Analysis.*

Construction

Project construction activities would have the potential to adversely affect air quality through the generation of criteria pollutants (which includes fugitive dust emissions) and TAC emissions. Criteria pollutant emissions for Project construction were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0.

Construction activities including site access, improvements to Willow Glen Drive, site preparation, demolition, and grading would be required prior to the start of mining (prior to Phase 1) to prepare the processing pad area and improve site access. Demolition activities would also be required prior to commencement of mining phases 2 and 3. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities of earth and debris to be moved. Heavy equipment would be required during site preparation, demolition, and grading. Because all equipment and structures would be mobile and/or prefabricated, the Project would not require building construction or architectural coatings (e.g., painting). Construction equipment estimates are based on default values in CalEEMod and input from the Project applicant.

Table 3.1.1-7, *Estimated Daily Construction Emissions,* provides a summary of the worst-case daily construction emission estimates by activity. As a project design feature, the Project would implement a Fugitive Dust Control Plan (refer to Appendix I of this EIR) during construction (as well as during operations and reclamation activities) that would include fugitive dust control measures to minimize dust emissions and meet applicable dust control requirements. The Fugitive Dust Control Plan would be submitted to SDAPCD for review and approval. Measures included in the Fugitive Dust Control Plan include but are not limited to: designating a Fugitive Dust Control Site Coordinator to respond to dust-related concerns of neighboring property owners and monitor the effectiveness of the dust control measures; implementing control measures related to vehicle travel on unpaved roads, such as limiting vehicle speeds, watering roadways, and applying soil stabilizers; implementing control measures related to vehicle travel on paved roads, such as limiting vehicle speeds, sweeping roadways, and/or utilizing rumble grates and wheel washers; and conducting employee and contractor awareness training (refer to Appendix I of this EIR for a complete discussion of the dust control measures the Project would implement as part of the Fugitive Dust Control Plan). While the numerous measures in the Fugitive Dust Control Plan would be implemented during construction, for modeling purposes it was conservatively assumed that only the dust control measures of watering a minimum of two times daily and a 15-mph speed limit on unpaved surfaces would be employed to reduce emissions of fugitive dust during construction. As shown in Table 3.1.1-7, without mitigation, emissions of all criteria pollutants would be below the daily thresholds during construction. The Phase 2 and Phase 3 demolition activities would overlap with the Phase 1 and Phase 2 mining operations, respectively, and are included in the Operational Impact analysis, below. The Project's construction activities would not result in a violation of the NAAQS or CAAQS and the impact would be **less than significant**.

Operation

Project operational activities would have the potential to adversely affect air quality through the generation of criteria pollutants (which includes fugitive dust emissions) and TAC emissions. Operation of the Project through the three mining phases would result in emissions of criteria pollutants and TAC from: exhaust emissions from the operation of off-road diesel-powered equipment; fugitive dust emissions from off-road equipment moving on unpaved surfaces; fugitive dust emissions from off-road equipment digging, moving, or transferring material; fugitive dust emissions from sand conveyance and processing equipment; and exhaust and fugitive dust emissions from on-road vehicle travel.

On-Road Vehicle Emissions: Operational emissions were modeled for each mining phase. Criteria air pollutant emissions from on-road vehicle trips (including sand delivery trucks, employee vehicles, and vendor vehicles) associated with each mining phase of the Project were modeled using CalEEMod version 2020.4.0, described above. The trip rates used in the model were provided in the Local Mobility Analysis (LMA) prepared for the Project (LLG 2021a). Emissions were modeled for the first full year of operation for each mining phase: assumed to be 2023 for Phase 1; 2025 for Phase 2; and 2028 for Phase 3. CalEEMod's default motor vehicle emission rates and fleet mix for San Diego County are based on CARB's EMFAC2017 database. The CalEEMod option to account for the SAFE Vehicles Rule in accordance with CARB off-model EMFAC2017 adjustments factors was selected. Sand delivery trip distance used in the model were provided in the Transportation Impact Analysis (TIA) prepared for the Project (LLG 2021b). The

San Diego County default CalEEMod values for vehicle speeds, worker and vendor trip lengths, and trip purpose were used.

Off-Road Vehicle Exhaust Emissions: Criteria air pollutant emissions from vehicle exhaust due to all vehicle and equipment movement on unpaved surfaces within the Project site were calculated using emissions and equipment data for San Diego County from the CARB Off-road Diesel Analysis & Inventory, OFFROAD2017 Database (CARB 2021). To be conservative, it was assumed that the mining equipment used would be a mixture of new and used equipment. The age of off-road equipment analyzed corresponds to the average ages of equipment for the year 2022 in San Diego. All equipment was assumed to comply with the minimum fleet average exhaust emissions for off-road diesel equipment per CARB regulations. Typical load factors for off-road equipment are provided in the CARB Off-road Diesel Emission Factors: Load Factor Look Up Table (CARB 2017).

Off-road Operational Fugitive Dust Emissions: Fugitive dust emissions from vehicle and equipment movement on unpaved surfaces were calculated using emissions factors from the USEPA Publication AP-42, *Compilation of Air Pollutant Emission Factors Vol. I: Stationary, Point, and Area Sources*. Fugitive dust emissions from open storage stockpiles, loading, transferring, and processing sand were calculated using emission factors from the SDAPCD Air Toxics "Hot Spots" and Emission Inventory Program (SDAPCD 1999).

As mentioned above, the Project would implement a Fugitive Dust Control Plan (refer to Appendix I of this EIR) as a project design feature during operations and reclamation activities that would include fugitive dust control measures to minimize dust emissions and meet applicable dust control requirements. The Fugitive Dust Control Plan would be submitted to SDAPCD for review and approval. In addition to the types of measures discussed above, the Fugitive Dust Control Plan would include operation-specific measures such as: containing exposed stockpiles within perimeter fencing, treating stockpiles with water or soil stabilizers, or covering stockpiles; limiting drop heights from excavators and loaders to a distance no more than five feet; and suspending mining activities when sustained wind speed instantaneously exceeds 25 mph or when the wind speed average for 15 minutes is greater than 15 mph. Although the numerous dust control measures included in the Fugitive Dust Control Plan would be implemented, to model the most conservative operational dust estimates, only application of water twice per day and limiting vehicle speed to 15 mph on unpaved surfaces were taken into consideration.

Reclamation Activities: Reclamation and establishment of final landforms would be implemented concurrently with mining using the same equipment used for clearing and sand extraction activities, including a grader and the fines off-road hauling truck, as well as a seeding truck. Accordingly, the maximum daily and annual average emissions estimates account for grading, replacing topsoil, and seeding or revegetation where mining has been completed. Once all mining is complete, final reclamation activities (Phase 4) would occur. During Phase 4, final grading of the last Phase 3 extraction area would be accomplished in a few days with a grader and dozer. In addition, a small tractor with a cultivator and a hydroseed truck may be used for several days for final revegetation. Because the total equipment used for final reclamation activities (a dozer, grader, hydroseed truck, and small tractor) would be a small fraction of equipment used for operations, the intensity (and pollutant emissions) of these final reclamation activities would be

substantially lower than the maximum daily and annual emissions analyzed for Project operations. Therefore, these emissions are not estimated in this analysis.

Emissions Summary: Table 3.1.1-8, *Estimated Daily Operational Emissions*, presents the summary of operational emissions for the Project for each phase of mining with implementation of the BMPs for fugitive dust control, including watering of exposed surfaces and unpaved roads twice per day and enforcing a 15-mph speed limit on all unpaved surfaces. Phase 2 and Phase 3 demolition activities are presumed to occur near the end of the prior phase and concurrent with mining activities. Phase 1 construction activities are assumed to be completed prior to the start of mining and are not included in the maximum daily operational emissions estimates. The Phase 1, 2, and 3 operational activities include ongoing reclamation as mining is completed in each sub-area. As discussed above, due to the limited amount of equipment use and duration, pollutant emissions from the Phase 4 final reclamation activities would be substantially lower than the maximum daily and annual emissions analyzed for project Phases 1 through 3, and the Phase 4 emissions are not included in the analysis.

As shown in Table 3.1.1-8, Project emissions of criteria pollutants and ozone precursors during operation of all mining phases would not exceed the daily screening thresholds. Because the total equipment used for final reclamation activities (Phase 4; a dozer, grader, hydroseed truck and small tractor) would be a small fraction of equipment used for operations, the intensity (and pollutant emissions) of these final reclamation activities would be substantially lower than the maximum daily and annual emissions analyzed for project operations and shown in Table 3.1.1-8. Therefore, the Project's operational emissions would not result in a violation of the NAAQS or CAAQS and the impact would be **less than significant**.

Impacts to Sensitive Receptors

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

3. Expose sensitive receptors to substantial pollutant concentrations as follows:

    a. The Project places sensitive receptors (including, but not limited to, residences, schools, hospitals, resident care facilities, or day-care centers) near CO "hot spots" or creates CO "hot spots" near sensitive receptors.

    b. Project implementation would result in exposure to TACs (including diesel particulate matter and respirable crystalline silica [particles four microns or less in diameter or PM_4]) resulting in a maximum incremental cancer risk greater than one in one million without application of Toxics-Best Available Control Technology (T-BACT) or a health hazard index greater than one, or exceeding the South Coast Air Quality Management District's threshold of an increase in cancer cases in the population of 0.5.

Guideline Source

This guideline is taken from the County Guidelines for Determining Significance – Air Quality (2007c). The County's significance thresholds are consistent with the SDAPCD's Rule 1210 requirements for stationary sources.

Analysis

As discussed above in *Existing Conditions*, criteria pollutants that would be generated by the Proposed Project are associated with some form of health risk. Existing models have limited sensitivity to small changes in criteria pollutant concentrations; attempting to correlate the amount of project-generated criteria pollutants to specific health effects or additional days of nonattainment would not yield meaningful results. Consequently, an analysis of impacts on human health associated with project-generated regional ROG and NO_X emissions is not included in this assessment. Localized pollutants generated by a project can, however, directly affect nearby sensitive receptors. Consistent with the current state of practice and published guidance by CAPCOA (2009) and CARB (2000), the analysis in this assessment focuses only on those pollutants with the greatest potential to result in a significant, material impact on human health, which are TACs (including DPM and respirable crystalline silica) and locally concentrated CO (i.e., CO hot spots).

Construction-related Health Risk

Project construction would generate DPM emissions from the use of off-road diesel equipment required for demolition, site preparation, and grading and other construction activities, including the Willow Glen Drive improvements. DPM is the primary toxic air contaminant that would be emitted during construction. Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The amount to which the receptors could be exposed, which is a function of concentration and duration of exposure, is the primary factor used to determine health risk. The generation of TAC emissions during construction would be variable and sporadic due to the nature of construction activity. The longest construction period would be prior to Phase 1 for preparation and grading the processing pad and settling ponds. This construction utilizing heavy diesel equipment is anticipated to last a maximum of 50 working days and would require up to six pieces of heavy equipment working at one time (Table 3.1.1-8). The closest sensitive receptors to this activity would be 650 feet west (upwind) of the proposed settling ponds. Project construction activities would also generate fugitive dust emissions (PM_{10} and $PM_{2.5}$). Because the native sand could contain TACs, construction fugitive dust could also include some respirable TACs. During construction implementation of the BMPs for the control of fugitive dust would substantially reduce emissions of fugitive dust related TACs. In addition, as described above, the longest period of construction is anticipated to last 50 working days and would be located 650 feet from the nearest sensitive receptor. DPM disperses rapidly with distance, and concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005). The maximum daily on-site emissions of exhaust PM_{10} (a proxy for DPM) during grading are anticipated to be 0.6 pound per day. This can be compared to, and is less than, the operational off-road equipment exhaust of 0.7 pound per day of PM_{10}. As such, it can be concluded that construction period health risks would be less than those analyzed below for operations. Therefore, due to the short duration and minimal

amount of emissions and distance to the nearest receptors, Project-related TAC emission impacts during construction would not expose sensitive receptors, including residences, schools, hospitals, resident care facilities, or day-care centers, to substantial pollutant concentrations and the impact would be **less than significant**.

Operation-related Health Risk

Toxic Air Contaminants. A Health Risk Assessment (HRA) was completed to support the analysis regarding the potential impacts on the health of nearby potential sensitive receptors and off-site workers due to TACs generated by the long-term operation of the Project. The HRA was completed following OEHHA *Air Toxics Hot Spots Program – Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (2015).

Almost all diesel exhaust particle mass is 10 microns or less in diameter. Therefore, it was conservatively assumed that all PM_{10} emissions from Project diesel powered vehicle exhaust emissions are DPM.

The fugitive dust trace metal concentrations are based on default values available through the SDAPCD's Air Toxics "Hot Spots" and Emission Inventory Program (SDAPCD 1999). TACs analyzed include arsenic, beryllium, cadmium, chromium (hexavalent and non-hexavalent), copper, lead, manganese, mercury, nickel, selenium, and crystalline silica.

A 30-day lead concentration screening analysis for evaluating sub-chronic lead exposure was completed following direction from the SDAPCD and maximum off-site exposure concentration limits from the CARB's *Risk Management Guidelines for New, Modified, and Existing Sources of Lead* (CARB 2001).

Localized concentrations of pollutants were modeled using the Lakes AERMOD View version 10.0.1. Operation of the Project would result in the generation of DPM emissions and respirable crystalline silica from the use of off-road diesel equipment, on-road haul trucks, and sand excavation and processing operations. Because each phase of mining would concentrate the operation of sand extraction equipment in different areas, potentially affecting different sensitive receptors, separate dispersion models were completed for each mining phase.

Health risks resulting from localized concentration DPM and fugitive dust trace TACs were estimated using the CARB Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 21081. Sand extraction for each mining phase would last three to four years. However, emissions from the processing area and on-road truck deliveries would last for the duration of the Project mining (10 years). Therefore, to be conservative, for the residential and worker cancer risk, an exposure duration of 10 years was selected. The model conservatively assumes that residents would be standing and breathing at the location of the property line closest to the Project site or haul route every day between 17 and 21 hours per day (depending on the age group, starting with fetuses in utero in the third trimester of pregnancy) for 10 years. For off-site worker cancer risk, an exposure duration of 10 years was selected with an assumption of eight hours per day, five days per week of exposure, in accordance with the OEHHA guidelines (2015). Because the dispersion modeling used variable emissions approximately equivalent to typical worker hours, no worker adjustment factors were used. Fraction of time at

home adjustments for residential exposure were selected for age bins 16 years and up. Because a school is located within 0.25 mile of the Project site, fraction of time at home adjustments were not selected for age bin below 16 years. The output of the modeling provides unitized ground level concentrations of the modeled constituent in micrograms per cubic meter for the maximum one-hour and the average over the five-year period of the meteorological data. An inventory of maximum hourly and average annual emissions for each source of TACs was entered into the ADMRT program. The ADMRT combines the emissions inventory, the ground level concentration plots from AERMOD, and pollutant-specific risk factors to determine the health risks at each receptor point identified in the model. The ADMRT output files are included with the Air Quality Technical Report (Appendix I).

Cancer burden evaluates an overall population's increased cancer risk and is defined as the increases in cancer cases in the population due exposure to TACs from a project. Cancer burden is calculated differently from individual risk. Per OEHHA, cancer burden uses a 70-year exposure to evaluate population-wide cancer risk, and the cancer burden only evaluates residential exposure (not schools or worksites). Cancer burden is calculated by multiplying the number of residents exposed to an incremental excess cancer risk of 1 in 1 million by the estimated incremental excess cancer risk of the maximum exposed individual resident (MEIR). Neither the SDAPCD or the County has not adopted thresholds for cancer burden and the operation of the Project is expected to last only 10 years; however, to be conservative and provide comparison to an existing threshold, cancer burden was estimated for the Project (using a 70-year exposure) and compared to the SCAQMD's threshold of an increase in cancer cases in the population of 0.5 (SCAQMD 2015).

As discussed in Section 3.1.1.1, the closest existing sensitive receptors to the Project site are the Adeona Healthcare facility and single-family homes adjacent to the existing and former golf courses south and east of the Project site. In addition, there are single- and multi-family homes along the primary routes for aggregate delivery trucks entering and exiting the Project site, including along Willow Glen Drive and Jamacha Road. The closest school is the Jamacha Elementary School approximately 1,280 feet (0.24 mile) south of the Phase 2 mining area. The sensitive receptor locations are shown in Figure 3.1.1-2, *Receptor Locations*.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

Operation of the Project would result in the generation of DPM emissions and fugitive dust trace TACs from the use of off-road diesel equipment, on-road haul trucks, and sand processing operations. Fugitive dust trace TACs analyzed include arsenic, beryllium, cadmium, chromium (hexavalent and non-hexavalent), copper, manganese, mercury, nickel, selenium, and crystalline silica. The Project would implement T-BACT, specifically, the implementation of BMPs and the use of water for dust suppression in sand processing, and the implementation of DPM emissions reduction technologies in accordance with USEPA and CARB regulations and implementation schedules. The resulting health risks for the maximum exposed non-Project worker and the

maximum exposed individual residents near the Project site and/or near the haul route are summarized in Table 3.1.1-9, *Health Risks from TAC Emissions*.

As shown in Table 3.1.1-9, the MEIR (i.e., the individual resident with the highest estimated cancer risk and/or health hazard index; located at a rural residence off of Ivanhoe Ranch Road southeast of the Project site) would have incremental increased cancer risk of 2.9 in 1 million, an acute health hazard index of 0.05, and a chronic health hazard index of 0.07 during Phase 2. The increased incremental cancer risk isopleths and the location of the MEIR are shown in Figure 3.1.1-3, *Increased Residential Cancer Risk.* The maximum exposed individual worker (located on Willow Glen Drive just east of the Jamacha Road intersection) would have an incremental increased cancer risk of 0.02 in 1 million, an acute health hazard index of less than 0.01, and a chronic health hazard index of less than 0.01 during Phase 1. The thresholds for increased incremental cancer risk, acute health risk, and chronic health risk would not be exceeded for the maximum exposed individual non-project worker or resident.

Residential cancer burden was estimated using the highest risk for a MEIR from all phases (which would occur in Phase 2). Using the 1 in 1 million cancer risk isopleth for a 70-year exposure overlaid on an aerial image, the number of residences within or touching the isopleth is 23 single-family homes (see Figure 3.1.1-3). Assuming up to 10 residents per residence, the total exposed population would be 230. The cancer burden would be 3.4×10^{-6} times 230, or 0.0008, which is below the SCAQMD threshold of 0.5.

Project implementation would not result in exposure to TACs resulting in a maximum incremental cancer risk greater than 10 in 1 million with application of T-BACT or a health hazard index greater than one or exceeding the SCAQMD's threshold of an increase in cancer cases in the population of 0.5.

A screening analysis was completed for sub-chronic lead exposure, as described above. Using conservative assumptions (a year of calculated lead emissions emitted in 30 days and emissions steady 24-hours per day), the maximum on-site lead concentration would be 0.014 micrograms per cubic meter ($\mu g/m^3$) and the highest concentration at any off-site sensitive receptor would be 0.003 $\mu g/m^3$. These lead concentration levels would be well below the high exposure scenario approval level of 0.12 $\mu g/m^3$ (CARB 2001). No further refinement of the lead concentration modeling/analysis is required.

Therefore, the impact on community health resulting from Project operational emissions of TACs would be **less than significant**.

CO Concentrations (CO Hotspot Analysis). CO hotspots are most likely to occur at heavily congested intersections where idling vehicles increase localized CO concentrations. The County guidelines call for a CO hotspot analysis if the Project would:

- Place sensitive receptors within 500 feet of a signalized intersection with a LOS of E or F, with peak-hour trips exceeding 3,000 vehicles; or

- Cause intersections to operate at LOS E or F, with peak-hour trips exceeding 3,000 vehicles.

The Project would generate approximately 212 average daily trips (ADT) during operation, or 476 ADT including a 2.5 passenger car equivalent (PCE) factor for trucks (LLG 2021a). According to the LMA, one signalized intersection in the study area operates with a LOS of E or F under existing conditions. The two-way stop-controlled intersection of Willow Glen Drive and Muirfield Drive would continue to operate at LOS E during the PM peak hour and degrade from LOS E to LOS F during the AM peak hour under the existing plus Project plus cumulative conditions with a peak hour traffic volume of 2,032 vehicles. The LMA concluded that this would be an acceptable LOS, as no mitigation would be required. Because the only intersection operating at LOS E or F with a significant increased delay resulting from Project and cumulative traffic is not signalized and would have a peak hour traffic less than 3,000 vehicles, Project implementation would not result in the formation of CO hotspots. Impacts to sensitive receptors resulting from CO hotspots would be **less than significant**.

Odor Impacts

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

4. Generate objectionable odors or place sensitive receptors next to existing objectionable odors that would affect a considerable number of persons or the public.

Guideline Source

This guideline is taken from the County Guidelines for Determining Significance – Air Quality (2007c).

Analysis

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 541700, prohibit the emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. In addition, the County's Zoning Ordinance, Section 6318, states: "all commercial and industrial uses shall be so operated as to not emit matter causing unpleasant odors which are perceptible by the average person at or beyond any lot line of the lot containing said uses." Projects required to obtain permits from SDAPCD, typically industrial and some commercial projects, are evaluated by SDAPCD staff for potential odor nuisance and conditions may be applied (or control equipment required), where necessary, to prevent occurrence of public nuisance.

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations (SCAQMD 1993). The Project, involving a sand mining and processing facility, would not include any of these uses. Project construction and operation could result in minor amounts of odors associated with unburned hydrocarbons in diesel heavy equipment exhaust. The Project sand processing and truck loading area would be located approximately 650 feet from the nearest residence. Sand extraction activities could require up to three pieces of equipment, but the equipment would be located at least 100 feet from residences in accordance with the Project's

proposed property line setbacks. Most mining activities would occur at distances much greater than 100 feet from residences based on the large area of the mining site. The odor of diesel exhaust from the mining equipment may be objectionable to some; however, emissions would be intermittent based on the mobile nature of mining activities and the Project's proposed phasing and would disperse rapidly with distance (CARB 2005); therefore, the Project's mining activities would not affect a substantial number of people. As such, impacts associated with odors during construction and operation of the Project would be **less than significant**.

Other Emissions

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

5. Result in other emissions adversely affecting a substantial number of people.

Guideline Source

This guideline is taken from Appendix G of the CEQA Guidelines.

Analysis

Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

Valley Fever and Generation of Fugitive Dust

To address comments and concerns related to Valley Fever, a Valley Fever Report (Appendix J of this EIR) was prepared for the Project.

The Project site is located near the southern edge of zip code 92019; however, Valley Fever case counts and incidence rates within the nearby 91935, 91978, 92020, and 92021 are also included for disclosure. The County of San Diego Health and Human Service Agency prepared case counts and rates of Valley Fever between years 2010 and 2019 for these zip codes and for San Diego County as a whole, which can be found in Table 3.1.1-3. The number of cases and rates of exposure of Valley Fever within these zip codes are representative of people residing in the vicinity of and north and south of the Project site but are not necessarily representative of the location of exposure. CDPH defines a confirmed Coccidioidomycosis case per the Council of State and Territorial Epidemiologists as a person with clinically compatible illness and at least one of the clinical or laboratory criteria (CDPH 2020).

Valley Fever is contracted through inhalation of airborne spores of the Coccidioides fungus that may be present in suitable soils. However, due to the spores' very small size and buoyancy, spores can remain aloft for great distances and thus may be present in air that appears quite clear. Conversely, dust in the air may not contain the spores if the airborne soil material has not originated from a location where the fungus and spores are present (CDPH 2020; USGS 2000). Unfortunately, there are no commercially available tests to detect Coccidioides spores in soil.

Although testing is done for scientific purposes, the testing methods do not always detect the spores even if they are present (CDC 2020). However, fugitive dust control is considered the primary tool to reduce potential exposure to the spores, if they are present in the soils being disturbed. The Project would be required to implement a Fugitive Dust Control Plan as a project design feature to minimize airborne emissions from soil-disturbing activities and other proposed mining operations (refer to the discussion under Significance Guideline 2). Since January 2019 confirmed cases only need laboratory evidence to be reported.

The on-site soils that would be disturbed from mining activities include Tujunga sand, Visalia sandy loam, and Riverwash. These soils are not alkaline, are sandy rather than silty (gravelly in the case of Riverwash), are excessively drained (low water holding capacity), have very low in salinity, and are well aerated (U.S. Department of Agriculture 2021). These soil factors do not favor the occurrence of the Coccidioides fungus as described in Appendix J.

The Project site is currently used by the public for golfing activities. The still-operating Ivanhoe course is fertilized, heavily irrigated, and managed throughout the year including with pesticides and fungicides to maintain the turf conditions. The Lakes course was managed the same way until it closed in 2017. The practice of turf management (irrigation, fertilization, and the application of fungicides) results in the soil being considered disturbed and this disturbed condition of the soils also does not favor the occurrence of the Coccidioides fungus.

Because the on-site soil properties and current and past golf course turf management activities do not favor the occurrence of the *Coccidioides* fungus, and because the Project would implement a Fugitive Dust Control Plan as a project design feature to control emissions of fugitive dust and other soil materials, the Project is regarded as having a **less than significant impact** with respect to resulting in other emissions adversely affecting a substantial number of people. The Project would also be required as a project design feature to provide training to all employees on potential risks associated with site work regarding Coccidioidomycosis, including providing a fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the CDPH (2013)).

3.1.1.3 *Cumulative Impact Analysis*

With regard to past and present projects, the background ambient air quality, as measured at the monitoring stations maintained and operated by the SDAPCD, measures the concentrations of pollutants from existing sources. Past and present project impacts are, therefore, included in the background ambient air quality data. For the purpose of non-attainment pollutants, the cumulative study area would be the entire air basin; however, contributions from individual projects on basin-wide non-attainment pollutants cannot be determined through modeling analyses. The screening distance for odors is 1 mile (Sacramento Metropolitan Air Quality Management District [SMAQMD] 2009).

As discussed above, the SDAB has been designated as a federal non-attainment area for ozone, and a State non-attainment area for ozone, PM_{10} and $PM_{2.5}$; therefore, a regional cumulative impact currently exists for ozone precursors (NO_X and VOCs) and PM_{10} and $PM_{2.5}$. In analyzing cumulative impacts for air quality, specific evaluation must occur regarding a project's contribution to the cumulative increase in non-attainment pollutants. A project that has a significant impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_X and/or VOCs,

would have a significant cumulative effect. In the event direct impacts from the project are less than significant, a project still may have a cumulatively considerable impact on air quality if the emissions from the Project, in combination with the emissions from other proposed, or reasonably foreseeable, future projects are in excess of the County's air pollutant screening levels. The text below addresses each of the thresholds relative to cumulative contribution during the Project's construction and operational phases.

Construction

Short-term emissions associated with construction may result in localized impacts to sensitive receptors located close to the Project construction area. As discussed under Significance Guideline 2, Project construction emissions would be below significance levels. Short-term cumulative impacts related to air quality could occur if construction of the Project and other projects in the surrounding area were to occur simultaneously. In particular, with respect to local impacts, the consideration of cumulative construction particulate (PM_{10} and $PM_{2.5}$) impacts is limited to cases when projects constructed simultaneously are within a few hundred yards of each other because of (1) the combination of the short range (distance) of particulate dispersion (especially when compared to gaseous pollutants) and (2) the SDAPCD's required dust control measures which further limit particulate dispersion from a project site. Fourteen cumulative projects have been identified within 5 miles of the Proposed Project (refer to Table 1-15). The closest large project on this list is the Ivanhoe Ranch (119 single-family residential units) on the southeast side of the Project site. The construction schedule of Ivanhoe Ranch was not known at the time of this analysis. The closest lot in the Ivanhoe Ranch development is approximately 1,400 feet (0.25 mile) from the construction for the Project's processing area and Willow Glen Drive improvements. According to the Desert Research Institute (DRI), with implementation of standard dust control measures like those required by SDAPCD Rule 55, particulate concentrations are reduced by more than 99 percent at a distance of 400 feet (DRI 1996). As such, even if construction of the Ivanhoe Ranch development were to occur concurrently with the Project, because of the distance between the projects, the Project's construction activities are not anticipated to result in a cumulatively significant impact on air quality.

The Project's construction emissions would be well below the screening thresholds and impacts would be less than significant. As discussed under Significance Guideline 3, the Project would not have significant impacts to sensitive receptors during construction. Therefore, construction of the Project would **not result in a cumulatively considerable contribution** to a significant air quality impact pertaining to emissions of criteria air pollutants and ozone precursors.

Operations

As described in Significance Guidelines 1 and 2, above, the Project would be consistent with the Attainment Plan, and would not exceed the County's screening-level thresholds for criteria pollutants and ozone precursors. As discussed in Significance Guideline 3a, above, the Project would not create a CO hotspot that would result in a cumulatively considerable net increase of CO. Similar to what is described above for cumulative localized construction impacts (pertaining to Significance Guideline 3b), operation of the Project could occur concurrently with construction of the Ivanhoe Ranch project; however, due to the large size of both sites and the dispersive properties of particulate matter (including DPM and soil particle constituents) with implementation of

standard dust control measures, the Proposed Project and Ivanhoe Ranch project would not combine to result in a cumulatively significant impact on air quality. Therefore, potential cumulative impacts associated with operation of the Project would be **less than significant**.

3.1.1.4 *Significance of Impacts*

Based on the analysis provided above, the Proposed Project would not result in significant impacts related to air quality. Therefore, no mitigation is required or proposed.

3.1.1.5 *Conclusion*

Based on the analysis provided above, no significant Project-specific or cumulative impacts related to air quality would result from implementation of the Project.

Table 3.1.1-1
SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron, and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2018

Table 3.1.1-2
AIR QUALITY MONITORING DATA

Air Pollutant	2018	2019	2020
Ozone – El Cajon Monitoring Station			
Max 1-hour (ppm)	0.087	0.094	0.094
Days > CAAQS (0.09 ppm)	0	0	0
Max 8-hour (ppm)	0.079	0.074	0.083
Days > NAAQS (0.070 ppm)	2	2	14
Days > CAAQS (0.070 ppm)	2	2	14
Particulate Matter (PM_{10}) – El Cajon Monitoring Station			
Max Daily (µg/m^3)	43.0	38.7	*
Days > NAAQS (150 µg/m^3)	0	0	*
Days > CAAQS (50 µg/m^3)	0	0	*
Annual Average (µg/m^3)	23.0	*	*
Exceed CAAQS (20 µg/m^3)	Yes	*	*
Particulate Matter ($PM_{2.5}$) – El Cajon Monitoring Station			
Max Daily (µg/m^3)	36.2	23.8	38.2
Days > NAAQS (35 µg/m^3)	1	0	2
Annual Average (µg/m^3)	9.6	8.5	10.3
Exceed NAAQS (15 µg/m^3)	No	No	No
Exceed CAAQS (12 µg/m^3)	No	No	No
Nitrogen Dioxide (NO_2) – El Cajon Monitoring Station			
Max 1-hour (µg/m^3)	45.0	39.0	44.0
Days > NAAQS (188 µg/m^3)	0	0	0
Days > CAAQS (339 µg/m^3)	0	0	0

Sources: CARB 2021a
Notes: > = exceeding; ppm = parts per million; µg/m^3 = micrograms per cubic meter
* = Insufficient data available to determine the value.

Table 3.1.1-3
SAN DIEGO COUNTY VALLEY FEVER INCIDENCE RATES 2010-2019

Location	Number of Cases	Annual Incidence Rate per 100,000 Population
Zip Code 92019	21	4.8
Zip Code 92020	28	4.6
Zip Code 92021	33	4.9
Zip Code 91935	4	Rate not calculated
Zip Code 91978	2	Rate not calculated
San Diego County	2,052	6.3

Source: EnviroMINE 2021

Table 3.1.1-4
CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[a]	Federal Standards Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	Same as Primary
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	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)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2016
Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).
[a] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.
[b] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM_{10}: large particulate matter;
AAM: Annual Arithmetic Mean; $PM_{2.5}$: fine particulate matter; CO: carbon monoxide;
mg/m^3: milligrams per cubic meter; NO_2 nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer; –: No Standard.

Table 3.1.1-5
FEDERAL AND STATE AIR QUALITY DESIGNATION

Criteria Pollutant	Federal Designation	State Designation
Ozone (1-hour)	(No federal standard)	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassifiable
Visibility Reducing Particles	(No federal standard)	Unclassifiable

Source: SDAPCD 2017

Table 3.1.1-6
SCREENING-LEVEL THRESHOLDS FOR
AIR QUALITY IMPACT ANALYSIS

Pollutant	Total Emissions		
Construction Emissions (pounds per day)			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Pounds per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOCs)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: County 2007c; SDACPD 2019a and 2019b; SCAQMD 2015
T-BACT = Toxics Best Available Control Technology

Table 3.1.1-7
ESTIMATED DAILY CONSTRUCTION EMISSIONS

Construction Activity	ROG*	CO*	NO_X*	SO_X*	PM_{10}*	$PM_{2.5}$*
Phase 1 Site Access	1.5	15.8	7.8	<0.1	4.0	2.2
Phase 1 Roadway Improvements – Demolition	1.1	10.1	7.3	0.0	0.5	0.4
Phase 1 Roadway Improvements – Grading	1.3	13.8	9.5	0.0	1.0	0.6
Phase 1 Roadway Improvements – Paving	1.1	8.3	8.2	0.0	0.7	0.4
Phase 1 Roadway Improvements – Striping	16.1	6.2	5.4	0.0	0.6	0.3
Phase 1 Demolition	1.4	13.5	10.8	<0.1	0.8	0.7
Phase 1 Site Preparation	1.0	10.5	6.0	<0.1	3.5	2.0
Phase 1 Grading	2.0	20.9	15.8	<0.1	4.3	2.5
Phase 2 Demolition	1.2	11.1	10.3	<0.1	0.7	0.5
Phase 3 Demolition	1.1	10.8	10.3	<0.1	1.2	0.6
Maximum Daily Emissions	**16.1**	**20.9**	**15.8**	**<0.1**	**4.3**	**2.5**
Screening-Level Thresholds	*75*	*550*	*250*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: HELIX 2021d
Note: Estimates assume the implementation of fugitive dust measures (watering twice daily and a 15-mph speed limit on unpaved roads).
* Pollutant Emissions (pounds per day)
ROG = reactive organic gas; CO = carbon monoxide; NO_X = oxides of nitrogen; SO_X = oxides of sulfur; PM_{10} = particulate matter of 10 microns or less; $PM_{2.5}$ = particulate matter of 2.5 microns or less

Table 3.1.1-8
ESTIMATED DAILY OPERATIONAL EMISSIONS

Category	ROG*	CO*	NO_X*	SO_X*	PM_{10}*	$PM_{2.5}$*
Phase 1						
Off-Road Equipment Exhaust	2.0	12.7	18.0	<0.1	0.7	0.6
Mining and Processing Dust	0.0	0.0	0.0	0.0	80.3	15.3
On-Road Mobile Emissions	0.5	6.9	19.9	<0.1	2.9	0.9
Phase 2 Demolition	1.2	10.3	11.1	<0.1	0.7	0.5
Phase 1 Total Daily Maximum Emissions	**3.7**	**29.9**	**49.0**	**0.2**	**84.5**	**17.4**
Screening-Level Thresholds	*75*	*550*	*250*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***
Phase 2						
Off-Road Equipment Exhaust	2.0	12.7	18.0	<0.1	0.7	0.6
Mining and Processing Dust	0.0	0.0	0.0	0.0	80.3	15.3
On-Road Mobile Emissions	0.4	6.9	19.4	0.1	2.9	0.9
Phase 3 Demolition	1.1	10.3	10.8	<0.1	1.2	0.6
Phase 2 Total Daily Maximum Emissions	**3.6**	**29.9**	**48.8**	**0.2**	**85.0**	**17.4**
Screening-Level Thresholds	*75*	*550*	*250*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***
Phase 3						
Off-Road Equipment Exhaust	2.0	12.7	18.0	<0.1	0.7	0.6
Mining and Processing Dust	0.0	0.0	0.0	0.0	80.3	15.3
On-Road Mobile Emissions	0.8	9.9	23.3	0.1	2.7	0.8
Phase 3 Total Daily Maximum Emissions	**2.8**	**22.9**	**41.3**	**0.2**	**83.6**	**16.7**
Screening-Level Thresholds	*75*	*550*	*250*	*250*	*100*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: HELIX 2021d

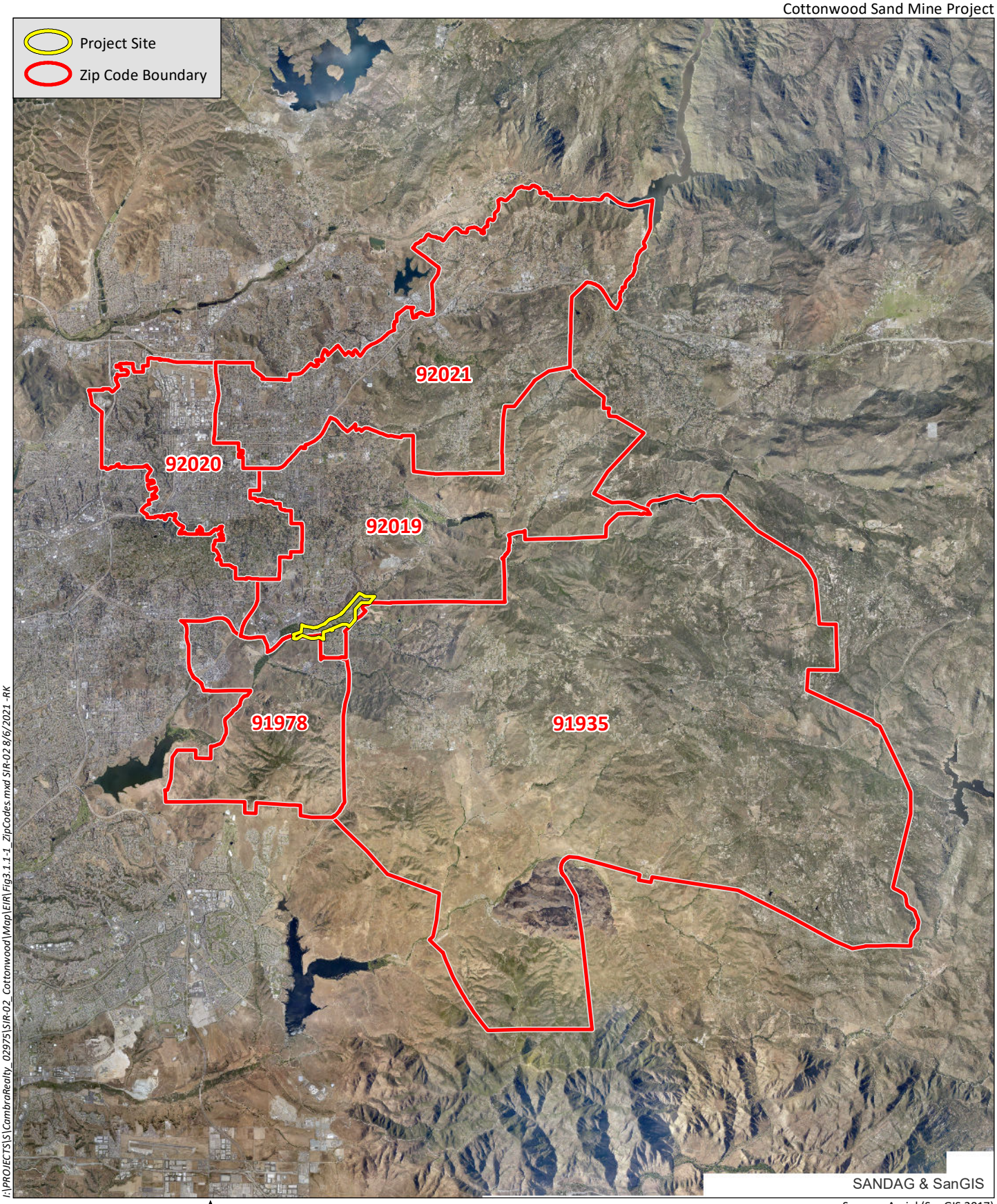
* Pollutant Emissions (pounds per day)

ROG = reactive organic gas; CO = carbon monoxide; NO_X = oxides of nitrogen; SO_X = oxides of sulfur; PM_{10} = particulate matter of 10 microns or less; $PM_{2.5}$ = particulate matter of 2.5 microns or less

Table 3.1.1-9
HEALTH RISKS FROM TAC EMISSIONS

Maximum Exposed Individual	Risk Type	Maximum Risk	SDAPCD Threshold	Exceed Threshold?
Phase 1				
Resident	Incremental Cancer Risk	2.3 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.07	1	No
Non-Project Worker	Incremental Cancer Risk	0.02 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No
Phase 2				
Resident	Incremental Cancer Risk	2.9 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.09	1	No
Non-Project Worker	Incremental Cancer Risk	<0.01 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No
Phase 3				
Resident	Incremental Cancer Risk	2.7 in 1 million	10 in 1 million	No
	Chronic Hazard Index	0.05	1	No
	Acute Hazard Index	0.07	1	No
Non-Project Worker	Incremental Cancer Risk	<0.01 in 1 million	10 in 1 million	No
	Chronic Hazard Index	<0.01	1	No
	Acute Hazard Index	<0.01	1	No

Source: HELIX 2021d
TAC = toxic air contaminant; SDAPCD = San Diego Air Pollution Control District

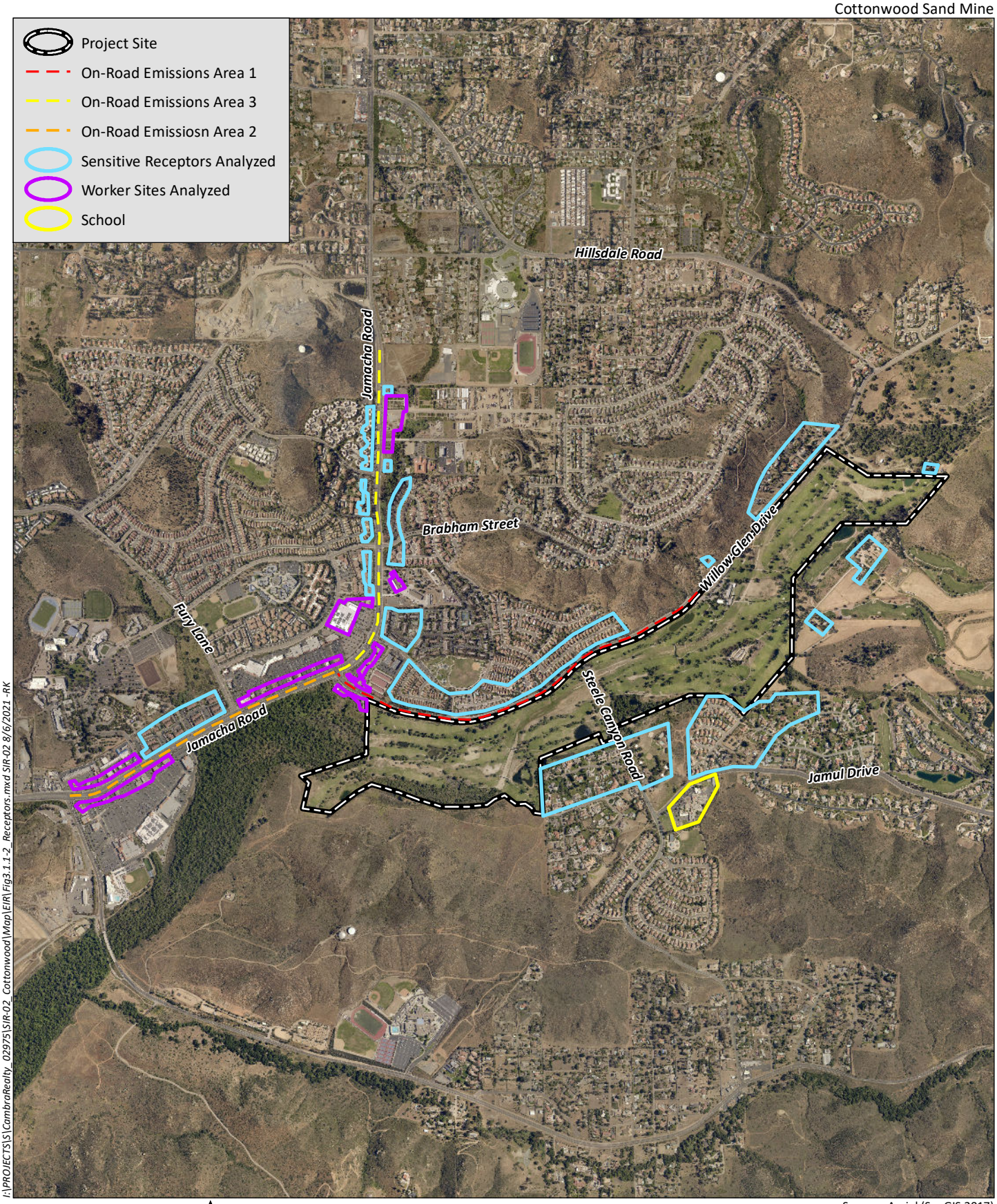


Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Valley Fever Evaluation Zip Codes

Figure 3.1.1-1

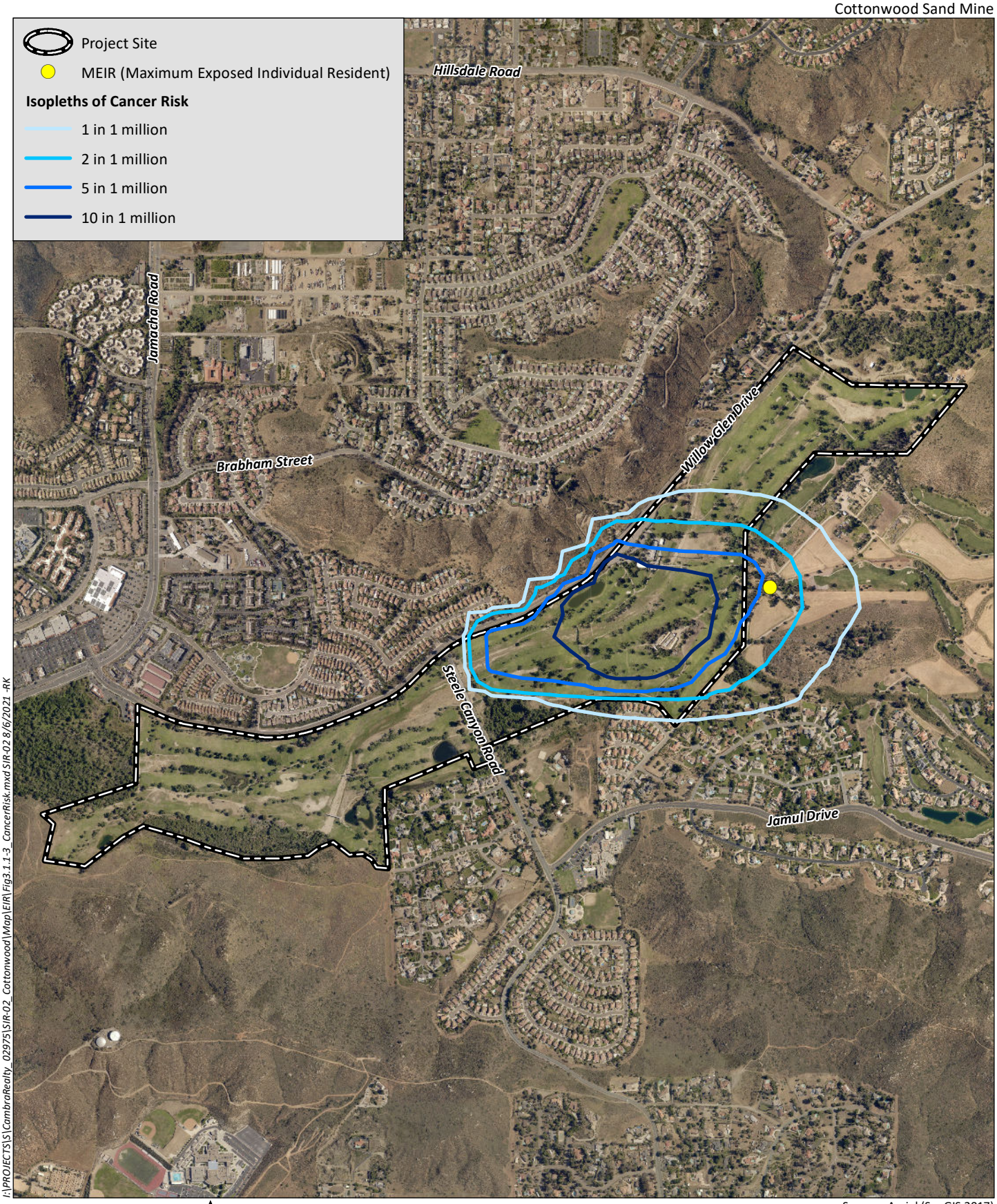


Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Receptor Locations

Figure 3.1.1-2



Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Increased Residential Cancer Risk

Figure 3.1.1-3

3.1.2 Energy

This section provides an evaluation of existing energy production/consumption conditions and potential energy use and related impacts from the Project. The following discussion is consistent with and fulfills the intent of CEQA Guidelines and is based on information from the Greenhouse Gas Emissions Technical Report prepared by HELIX (2021e; Appendix K); the California Energy Demand (CED) 2018-2030 Revised Forecast (California Energy Commission [CEC] 2018); and the CEC's Final 2019 Integrated Energy Policy Report (CEC 2020).

3.1.2.1 *Existing Conditions*

Existing Energy Consumption and Generation

Units of Measure

The units of energy used in this section are the British thermal units (BTU), kilowatt hours* (kWh), therms, and gallons. A BTU is the quantity of heat required to raise the temperature of one pound of water one °F at sea level. Because the other units of energy can all be converted into equivalent BTU, the BTU is used as the basis for comparing energy consumption associated with different resources. A kWh is a unit of electrical energy, and one kWh is equivalent to approximately 3,413 BTU, taking into account initial conversion losses (i.e., from one type of energy, such as chemical, to another type of energy, such as mechanical) and transmission losses. Natural gas consumption is described typically in terms of cubic feet or therms; one cubic foot of natural gas is equivalent to approximately 1,050 BTU, and one therm represents 100,000 BTU. One gallon of gasoline/diesel is equivalent to approximately 125,000/139,000 BTU, respectively, taking into account energy consumed in the refining process.

State Energy Overview

Electricity

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators.† As of 2019, in-state generating facilities accounted for about 82 percent of the total electric power produced in California, with the remaining electricity coming from out-of-state imports (U.S. Energy Information Administration 2021). California is the fourth-largest electricity producer in the nation and accounted for about 5 percent of U.S. utility-scale (1-megawatt and larger) electricity net generation in 2019. Renewable resources, including hydropower and small-scale (less than 1-megawatt), customer-sited solar photovoltaic systems, supplied more than half of California's in-state electricity generation, and natural gas-fired power plants provided two-fifths.

* Kilowatt hours is the most commonly used measure of electrical consumption; however, due to the scope of this analysis, gigawatt hours (GWh; equivalent to one million kWh) is also used.

† Community choice aggregation is authorized in California by AB 117 (Chapter 836, Statutes of 2002), which allows cities, counties, and groups of cities and counties to aggregate the electric load of the residents, businesses, and institutions within their jurisdictions to provide them electricity.

On the demand side, Californians consumed 284,060 gigawatt hours (GWh) of electricity in 2017; this is a decrease from the 285,434 GWh demanded in 2016 (CEC 2018). CEC staff forecasts of future electricity demand anticipate that consumption will grow by between 0.99 and 1.59 percent per year from 2017 to 2030, with peak demand forecasts growing by 0.30 to 1.52 percent annually from 2017 to 2030 (CEC 2018).

Natural Gas

Natural gas continues to play an important and varied role in California. Nearly 45 percent of the natural gas burned in California was used for electricity generation, and much of the remainder was consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC 2021). Natural gas supplies are currently plentiful and relatively inexpensive as a result of technological advances that allow recovery of natural gas from formations such as shale reservoirs that were previously inaccessible. However, potential environmental concerns are causing decision makers to reexamine the development of shale resources and consider tighter regulations, which could affect future natural gas supplies and prices.

Transportation Fuels

Transportation accounts for a major portion of California's energy budget. Automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles (SUVs). In 2015, 15.1 billion gallons of gasoline were sold in California (CEC 2021). Diesel fuel is the second most consumed fuel in California, used by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats, and farm and construction equipment. In 2015, 4.2 billion gallons of diesel were sold in California (CEC 2021).

Regional Energy Overview

SANDAG's 2009 Regional Energy Strategy (RES; SANDAG 2009) serves as the energy policy blueprint for the San Diego region through 2050. The RES identifies priority early implementation actions, essential to meeting the region's energy goals:

- Pursue a comprehensive building retrofit program to improve efficiency and install renewable energy systems;
- Create financing programs to pay for projects and improvements that save energy;
- Utilize the SANDAG-SDG&E Local Government Partnership to help local governments identify opportunities and implement energy savings at government facilities and throughout their communities;
- Support land use and transportation planning strategies that reduce energy use and greenhouse gas emissions;
- Support planning of electric charging and alternative fueling infrastructure; and

- Support use of existing unused reclaimed water to decrease the amount of energy needed to meet the water needs of the San Diego region.

The RES identified the main drivers of the strategy, including the state's preferred loading order for meeting new energy needs and global climate change and its policy implications. The California Public Utilities Commission (CPUC) and CEC adopted a preferred loading order to meet the goals for satisfying the state's growing demand for electricity, which would place top priority on increasing energy efficiency and demand response (i.e., temporary reduction or shift in energy use during peak hours), generating new energy from renewable and distributed generation resources, and improvements to clean fossil-fueled generation and infrastructure. Environmental changes caused by climate change are anticipated to have an increasing impact on energy production and peak demand for electricity. Global climate change is discussed in detail in Section 3.1.3, *Greenhouse Gas Emissions*, of this EIR.

In 2014, a technical update of the RES was completed to inform development of San Diego Forward: The Regional Plan. The technical update demonstrated progress toward attaining the RES goals, updated existing conditions and future projections data, and recommended priorities for moving forward.

The major sources of energy in the San Diego region include electricity, natural gas, and petroleum. Electricity and natural gas are primarily provided to the San Diego region, including the Project site, by SDG&E. The SDG&E service area covers 4,100 square miles within San Diego and southern Orange counties. Energy is provided by SDG&E to 3.6 million customers through 1.4 million electric meters and 873,000 natural gas meters (SDG&E 2021). The following discussion outlines consumption rates for these various energy sources in San Diego.

Electricity

The County's electricity consumption over the five-year period of 2015 through 2019 is shown in Table 3.1.2-1, *San Diego County Electricity Consumption 2015-2019.* As shown in Table 3.1.2-1, electricity consumption within the County was relatively consistent between 2015 and 2018 and then decreased in 2019. The CED 2018-2030 Revised Forecast presents three demand scenarios: high, mid, and low. The high demand scenario is characterized by low electricity rates, high population growth, low levels of efficiency, and low self-generation. Inversely, the low demand scenario is characterized by high electricity rates, low population growth, high levels of efficiency, and high self-generation. The mid demand scenario uses assumptions in between the high and low scenarios. The CED 2018-2030 Revised Forecast estimates that annual electricity consumption for the County would reach between 24,000 and 27,000 GWh by 2030, depending on which demand scenario is realized (CEC 2018).

Projections are shown to increase toward the end of the forecast period (2026) as a result of consumption from electric vehicles. By 2030, per capita electricity consumption is projected to range between approximately 7,400 and 8,200 kWh per person (CEC 2018).

Several major generating plants were implemented in the last two decades in San Diego County, including the 90-MW Larkspur Energy Facility in Chula Vista in 2001; the 550-MW Palomar

Power Plant in Escondido in 2006; the 513-MW Otay Mesa Center power plant near the U.S.-Mexico border in 2009; and the 558-MW Carlsbad Energy Center in Carlsbad in 2018.

Natural Gas

The County's gas consumption over the five-year period of 2015 through 2019 is shown in Table 3.1.2-2, *San Diego County Gas Consumption 2015-2019.* As shown in Table 3.1.2-2, gas consumption within the County increased from 2015 to 2016, was relatively consistent from 2016 to 2018, and then increased again in 2019. The majority of natural gas uses are for residential and commercial purposes. Currently, California imports 87 percent of natural gas needs from out of state, while in-state natural gas production is decreasing. Regional gas consumption is expected to increase to 660 MMTh in 2020 and 730 MMTh in 2030 (SANDAG 2009).

Transportation Fuels

As previously mentioned, automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil, which in turn is derived from petroleum. In addition to energy consumption associated with on-road vehicle use, energy is consumed in connection with construction and maintenance of transportation infrastructure. Passenger cars and light-duty trucks are by far the largest consumers of transportation fuel, accounting for approximately 1.6 billion gallons of gasoline and diesel fuel per year (SANDAG 2009).

Based on the CARB EMFAC Emissions Database, the average fuel economy of the 2018 vehicle fleet in the County was estimated as 23 mpg for gasoline and 10 mpg for diesel. Based on the CARB EMFAC2017 vehicle fleet type breakdown for the County, approximately 94 percent of the VMT is from gasoline-powered vehicles and approximately 6 percent is from diesel-powered trucks. The energy consumption rates for gasoline- and diesel-powered vehicles are 5,378 and 14,183 BTU per VMT, respectively. The total automobile and truck-related energy usage in the County in 2018 was approximately 207 trillion BTU per year.

Existing On-site Energy Use

The analysis included in this section is based on the emissions analysis completed for the Project in the *Greenhouse Gas Emissions Technical Report*, including analyses using CalEEMod. Fuel consumption factors per vehicle mile traveled (VMT) were calculated using data from the CARB EMFAC2017 web database for San Diego County. The CalEEMod output files are included along with the *Greenhouse Gas Emissions Technical Report* in Appendix K of this Draft EIR. The spreadsheet print files for calculating energy use are included as Appendix L, *Energy Calculations*, of the Draft EIR.

The Project site is currently developed with two 18-hole golf courses, one of which is not currently active, and an 11,500-SF clubhouse and restaurant. All existing uses of the Project site would be replaced by open space at the conclusion of the Project mining and reclamation activities. Existing sources of energy use associated with the current land use of the Project include: vehicle fuel use associated with customers, employees, and vendors driving to and from the golf course; electricity and natural gas used in operation of the golf course and clubhouse/ restaurant; and electricity required to pump water from on-site wells for golf course irrigation and operation, and clubhouse/restaurant operation.

Regulatory Setting

Energy consumption is a significant source of greenhouse gases (GHGs). Regulations to address energy also address GHGs, resulting in some overlap in the discussions in the following text and Section 3.1.3, *Greenhouse Gas Emissions*. In addition to the federal, state, and local regulations directed at reducing GHG emissions through increased efficiencies presented in Section 3.1.3 (i.e., CAFE Standards; EO S-3-05; EO B-30-15; EO S-01-07; AB 32; AB 1493; SB 97; SB 100; SB 350; SB 375; the CARB Scoping Plan; the SANDAG Regional Plan), energy efficiency regulations that have the potential to influence the Project are discussed below.

Federal Energy Regulations

Energy Independence and Security Act of 2007

House of Representatives Bill 6 (HR 6), the federal Energy Independence and Security Act of 2007, established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. Perhaps the most substantial new standard that HR 6 established is for general service lighting that is being deployed in two phases. First, phased in between 2012 through 2014, common light bulbs were required to use about 20 to 30 percent less energy than previous incandescent bulbs. Second, by 2020, light bulbs were required to consume 60 percent less energy than previous incandescent bulbs; this requirement will effectively phase out the incandescent light bulb.

Corporate Average Fuel Economy Standards

The USEPA and the National Highway Traffic Safety Administration (NHTSA) established the Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon in 2020 to 50 miles per gallon in 2025. By contrast, the new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdrawal of the waiver previously provided to California for the state's GHG and zero emissions vehicle (ZEV) programs under section 209 of the CAA.

California Energy Regulations

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 fewest environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators.

CEQA Guidelines – Appendix F

CEQA Guidelines Appendix F, Energy Conservation, provides guidance for EIRs regarding potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy. In addition, though not described as thresholds for determining the significance of impacts, Appendix F seeks inclusion of information in the EIR addressing the following topics:

- The project's energy requirements and its energy-use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.

- The effects of the project on local and regional energy supplies and on requirements for additional capacity.

- The effects of the project on peak and base period demands for electricity and other forms of energy.

- The degree to which the project complies with existing energy standards.

- The effects of the project on energy resources.

- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Regional Energy Regulations

SDG&E Long Term Procurement Plan

As required by the CPUC, utility companies such as SDG&E must prepare an LTPP to ensure that adequate energy supplies are available to maintain a reserve margin of 15 percent above the estimated energy demand. These plans outline any future energy needs and how those needs can be met. In December 2006, SDG&E filed its LTPP with the CPUC, which included a 10-year energy resource plan that details its expected portfolio of energy resources over the planning horizon of 2007 through 2016. The projections included in the current LTPP were based on the CEC's CED 2008-2018 Forecast, dated November 2007. The 2016-2026 CEC CED projections are now lower than what was anticipated in 2007.

County of San Diego General Plan

The Conservation and Open Space Element of the County of San Diego General Plan contains goals and policies for energy conservation and sustainable development. Because the Project does not include a residential component or permanent structures, most of the General Plan goals and

polices for energy conservation and sustainable land use development are not directly applicable to the Project. Goals and policies relevant to the Project involve air pollutant and/or GHG reduction, which in turn would reduce energy consumption. Such policies include the following:

- COS-14.4, Sustainable Technology and Projects: Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.

- COS-14.9, Significant Producers of Air Pollutants: Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.

- COS-14.10, Low-Emission Construction Vehicles and Equipment: Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

3.1.2.2 *Analysis of Project Effects and Determination as to Significance*

Result in Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if it would:

1. Result in the wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Guideline Source

The County's Guidelines of Significance do not include guidance for the analysis and determination of significance for energy use impacts. Therefore, this analysis uses the guidance provided in Appendix F of the CEQA Guidelines and the sample questions for energy contained in Appendix G of the CEQA Guidelines. The introduction of Appendix F states that "[t]he goal of conserving energy implies the wise and efficient use of energy." Three means of achieving this goal are provided:

1. Decreasing overall per capita energy consumption;

2. Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and

3. Increasing reliance on renewable energy sources.

Emphasis in the discussion should be on "avoiding or reducing inefficient, wasteful and unnecessary consumption of energy."

Analysis

Construction Energy Use

Construction activities would require the use of diesel fuel, gasoline, and other fuels. Energy use during construction typically involves the use of motor vehicles for transportation of workers and materials and the use of motorized equipment for direct construction actions such as moving soil and demolishing structures. The estimated combined construction energy that would be used during the proposed improvements to Willow Glen Drive, construction of site access, site preparation, grading, and demolition activities is shown in Table 3.1.2-3, *Construction Energy Use*. As shown in Table 3.1.2-3, total Project construction activities would result in the consumption of approximately 5,462 gallons of diesel fuel and approximately 395 gallons of gasoline. The total construction energy use would be approximately 806 MMBTUs.

Construction activities are not anticipated to result in an inefficient use of energy. Since the use of gasoline and diesel fuel would be a significant portion of construction costs, contractors and mine operators would minimize the use of fuel within the constraints of Project requirements. Construction equipment would be maintained in optimal working order and rated energy efficient and on-site vehicle idling would be minimized to reduce the use of gasoline and diesel. All soil required to construct the level sand processing area and settling ponds would be obtained from sources on the site, and any cut (excess) soil would be stockpiled on-site, minimizing haul truck trips and associated fuel consumption. In addition, during demolition activities, the Project would be required to comply with the County construction and demolition recycling ordinance which requires that 90 percent of inert materials and 70 percent of all other construction materials from a project be recycled.

Due to the short-term nature of the construction activities and the total amount of diesel and gasoline fuel anticipated to be consumed, the Project's consumption of energy (primarily diesel fuel) during construction would not represent a substantial demand on energy resources or result in the need to develop any new, or alter any existing, energy production or distribution facilities. In addition, construction-related energy would not be used in a wasteful, inefficient, or unnecessary manner.

Operational Energy Use

Energy use associated with the Project's 10-year mining operation would occur from on-road vehicle travel, off-road mobile equipment activity, and stationary mining equipment electricity use. On-road vehicles would consist of worker commute vehicles, vendor vehicles, and sand delivery trucks. These vehicles are estimated to consume 126,942 gallons of diesel fuel and 1,370 gallons of gasoline per year, resulting in a total energy usage of 17,751 MMBTU of energy per year.

Off-road mobile equipment would include a dozer for site preparation clearing/grading; loaders and an excavator within the mine pit for material extraction; multiple loaders at the plant/loading area for loading sand product onto haul trucks; an off-road haul truck for material movement within the Project site; a supervisor/maintenance truck; a water truck for dust suppression; and a grader for finish grading. Some of this same equipment, as well as a seeding truck and skid steer loader,

would also be used for ongoing reclamation activities. These pieces of equipment and vehicles are estimated to consume a total of 41,620 gallons of diesel fuel per year, resulting in a total energy usage of 5,764 MMBTU of energy per year.

The Project's stationary mining equipment that would require the use of electricity include the feed hopper, conveyor belts, triple deck screen, blade mill, fine material washer, radial stackers, and water pump, as well as other features to support mining operations, such as the office and control room and security lighting. This equipment is estimated to require 756 megawatt-hours per year of electricity, which is equivalent to 2,580 MMBTU of energy per year.

The Project's overall operational energy is summarized in Table 3.1.2-4, *Operational Energy Use*. As shown in Table 3.1.2-4, the Project's total operational energy use from on-road vehicles, off-road mobile equipment, and stationary mining equipment is estimated to be 26,095 MMBTU per year.

The predominant consumer of energy associated with the Project would be on-road vehicle travel, specifically the aggregate delivery trucks transporting material to the ready-mix concrete batch plants where it would be used. As described in Section 3.1.7, *Transportation/Traffic*, it is anticipated that the local sand supply would replace sand that currently is consistently imported from Mexico and Riverside County. As discussed in greater detail in Section 3.1.3, *Greenhouse Gas Emissions*, the production of PCC-grade sand at the Project site would likely result in a reduction in aggregate imported into the County from elsewhere and its associated VMT, thus reducing mobile-source energy usage at a regional scale and increasing regional efficiencies and regional self-sufficiency. In addition, energy usage during the Project's mining phase would be limited to operations necessary for successful completion of the Project. Therefore, the Project would not consume energy in a wasteful, inefficient, or unnecessary manner, and impacts would be **less than significant.**

Following completion of the Project's mining operations, the site would include new segments of recreational trails. Such on-site passive recreation would not consume energy. While energy would be required for visitor vehicle trips to and from the site, trips would be low in number and of short length, as the proposed trails are anticipated to be used primarily by residents of the immediate area. As such, energy use associated with the reclaimed site would be minimal and impacts would be **less than significant**.

<u>Conflict With or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency</u>

Guideline for the Determination of Significance

The Proposed Project would result in a significant impact if it would:

2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Guideline Source

The guideline is based on CEQA Guidelines Appendix F.

Analysis

The Project is located within the SDG&E planning area which is covered by the LTPP. As discussed in Section 3.1.2.1, the current LTPP plans for higher levels of demand than have actually occurred. Thus, the Project would not result in an unanticipated increase of energy demand beyond what is already planned for and included in the LTPP.

The Project would be required to comply with state and County energy conservation measures related to construction and operations. The County's 2015-2020 Strategic Energy Plan includes energy efficiency standards for new development, renewable energy generation, water conservation measures, transportation measures to reduce trips and VMT, and waste diversion programs (County 2015). This plan serves as a companion document to the County's General Plan and provides the framework for land-based policy decisions to improve energy efficiency in existing and future development. While many of the regulations regarding energy efficiency, such as those associated with increasing building efficiency and renewable energy generation, are not relevant to the Project, regulations associated with reducing VMT are directly relevant to the Project, as the Project's primary source of energy usage is from the aggregate delivery trucks transporting material. As discussed above and in Chapter 3.1.3, the production of PCC-grade sand at the Project site would likely result in a reduction in aggregate import and associated VMT, thus substantially reducing mobile-source energy usage at a regional scale. The Project's provision of a local source of PCC-grade sand would also directly contribute to County of San Diego General Plan policy COS-14.4, Sustainable Technology and Projects, as the policy encourages projects that "increase the self-sufficiency of individual communities." Therefore, the Project would not conflict with or obstruct a state of local plan for renewable energy or energy efficiency, and impacts would be **less than significant.**

3.1.2.3 *Cumulative Impact Analysis*

Short-term and long-term cumulative development is expected to result in an increase in the demand for energy resources throughout the County. Several County programs and policies and SDG&E initiatives would serve to reduce total energy demand among cumulative projects. Additionally, minimum standards for energy efficiency are outlined in California's Energy Efficiency Standards for Residential and Non-residential Buildings. To exceed these standards, SDG&E as well as state and federal agencies offer incentive programs to encourage developers to exceed Title 24 standards.

The proposed Project's energy usage would be temporary and would not be carried out in a wasteful, inefficient, or unnecessary manner. In addition, the Project would likely result in an overall decrease in energy usage at a regional scale by supplying a local source of PCC-grade aggregate. Upon completion of the Project, the site would be reclaimed to open space and would not contribute to a long-term cumulative energy-related impact. Therefore, the Project's cumulative impacts related to energy usage would be **less than cumulatively considerable.**

3.1.2.4 *Significance of Impacts*

As discussed above, the Project would not result in significant impacts. Therefore, no mitigation is required.

3.1.2.5 *Conclusion*

Based on the above analysis, the Proposed Project would have less than significant Project-specific or cumulative impacts related to energy.

Table 3.1.2-1
SAN DIEGO COUNTY ELECTRICITY CONSUMPTION 2015-2019

Year	Electricity Consumption (GWh)
2015	19,894
2016	19,666
2017	19,667
2018	19,733
2019	19,048

Source: CEC 2016a
GWh = gigawatt hours

Table 3.1.2-2
SAN DIEGO COUNTY NATURAL GAS CONSUMPTION 2015-2019

Year	Gas Consumption (millions of therms)
2015	453
2016	473
2017	480
2018	483
2019	534

Source: CEC 2016b

Table 3.1.2-3
CONSTRUCTION ENERGY USE

Source	Diesel (gallons)	Gasoline (gallons)	Total Energy (MMBTU)
Off-Road Construction Vehicles	4,958	0	687
On-Road Construction Vehicles	504	395	119
Total[1]	**5,462**	**395**	**806**

Source: CalEEMod; CARB EMFAC2017; CARB OFFROAD2017 Orion Database 2017a.
[1] Totals may not sum due to rounding.
MMBTU = million British thermal units per year

Table 3.1.2-4
OPERATIONAL ENERGY USE

Source	Diesel (gallons)	Gasoline (gallons)	Electricity (MW-hour/year)	Total Energy (MMBTU/year)
On-Road Operation Vehicles	126,942	1,370	-	17,751
Off-Road Operation Vehicles	41,620	-	-	5,764
Mine Electricity Use	-	-	756	2,580
Total[1]	**168,562**	**1,370**	**756**	**26,095**

Source: CalEEMod; CARB EMFAC2017.
[1] Totals may not sum due to rounding.
MW-hour/year = megawatt-hours per year; MMBTU/year = million British thermal units per year

3.1.3 Greenhouse Gas Emissions

HELIX prepared a Greenhouse Gas Emissions Technical Report (HELIX 2021e) to evaluate potential environmental impacts associated with the Project's emissions of GHGs, and the effects of global climate change on the Project. The Greenhouse Gas Emissions Technical Report is summarized in the following discussion; the complete report is included as Appendix K of this Draft EIR.

3.1.3.1 *Existing Conditions*

Background

Global temperatures are moderated by several atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting light in but preventing heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

Global climate change refers to changes in average climatic conditions on Earth, as a whole, including temperature, wind patterns, precipitation, and storms.

The temperature record shows a decades-long trend of warming, with 2016 global surface temperatures ranking as the warmest year on record since 1880. The latest news release of long-term warming trends announced 2020 ranked as tied with 2016 for the warmest year on record with an increase of 1.02 degrees Celsius (1.84°F) compared to the 1951 to 1980 mean temperature (National Aeronautics and Space Administration [NASA] 2021). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius (3.6 °F) relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

Greenhouse Gases of Primary Concern

GHGs, as defined in Section 15364.5 of the CEQA Guidelines, include, but are not limited to, carbon dioxide (**CO_2**), methane **(CH4)**, nitrous oxide (**N_2O**), hydrofluorocarbons (**HFCs**), perfluorocarbons (**PFCs**), and sulfur hexafluoride (**SF_6**).

CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the

concentration at the start of the Industrial Revolution (about 280 ppm in 1750). In February 2021, the CO_2 concentration was 416 ppm, a 48 percent increase since 1750 (NOAA 2021).

CH_4 is a gas and is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. Because GHGs vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because CH_4 and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e (CO_2 equivalent) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 3.1.3-1, *Global Warming Potentials and Atmospheric Lifetimes*.

Existing Greenhouse Gas Emission Levels

Worldwide and National GHG Inventory

In 2013, total GHG emissions worldwide were estimated at 48,892 million metric tons (MMT) of CO_2e emissions (World Resource Institute [WRI] 2021). The U.S. contributed the second largest portion (13 percent) of global GHG emissions in 2014. The total U.S. GHG emissions was 6,319 MMT CO_2e in 2014, of which 82 percent was CO_2 emission (WRI 2021). On a national level, approximately 27 percent of GHG emissions were associated with transportation and about 38 percent were associated with electricity generation (WRI 2021).

State GHG Inventory

CARB performed statewide inventories for the years 1990 to 2018, as shown in Table 3.1.3-2, *California State Greenhouse Gas Emissions by Sector*. The inventory is divided into six broad sectors of economic activity: agriculture, commercial, electricity generation, industrial, residential, and transportation.

As shown in Table 3.1.3-2, statewide GHG source emissions totaled 431 MMT CO_2e in 1990, 471 MMT CO_2e in 2000, 449 MMT CO_2e in 2010, and 425 MMT CO_2e in 2018. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

A San Diego regional emissions inventory that was prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC) accounted for the unique characteristics of the region. Its 2012 emissions inventory for San Diego is presented in Table 3.1.3-3, *San Diego County GHG Emissions by Sector in 2012*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

On-Site GHG Inventory

The Project site is currently developed with two 18-hole golf courses, one of which is not currently active, and an 11,500-SF clubhouse and restaurant. Existing sources of GHG emissions are from: vehicle emissions associated with customers, employees, and vendors driving to and from the golf course; emissions resulting from energy used in operation of the golf course and clubhouse; emissions resulting from the disposal of solid waste; emissions from the electricity required to pump water from on-site wells; and emissions from golf course maintenance activities.

Regulatory Setting

Federal Greenhouse Gas Regulations

Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts* v. *U.S. Environmental Protection Agency* (USEPA), that CO_2 is an air pollutant, as defined under the Clean Air Act (CAA), and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's NHTSA. The standards were established on April 1, 2010 for 2012 through 2016 model year vehicles and on October 15, 2012 for 2017 through 2025 model year vehicles (USEPA and NHTSA 2012).

Mandatory Reporting Rule of Greenhouse Gases

On January 1, 2010, the USEPA began requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. This program covers approximately 85 percent of the nation's GHG emissions and applies to roughly 10,000 facilities. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 MT or more of CO_2e per year are required to report GHG emissions data to the USEPA annually. This reporting threshold is equivalent to the annual GHG emissions from approximately 4,600 passenger vehicles.

Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have been working together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established CAFE standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon (mpg) in 2020 to 50 mpg in 2025. By contrast, the new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdrawal of the waiver previously provided to California for that State's GHG and Zero-emission Vehicle programs under section 209 of the CAA. The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards. The SAFE Vehicles Rule Part I (SAFE-1), which withdraws the waiver, was published in September 2019 and Part II (SAFE-2), which finalizes the regulation, was published in April 2020. On April 26, 2021, the USEPA published the Notice of Reconsideration of Previous Withdrawal of a Waiver for California's Advanced Clean Car Program. The purpose of this Notice of Reconsideration is to seek comment on a number of issues in the SAFE-1 action including:

- Whether it was proper for the USEPA to reconsider a previously issued CAA waiver.
- Whether USEPA's actions to withdraw California's waiver was appropriate.
- Whether the SAFE-1 interpretation of the CAA that enabled USEPA to withdraw California's waiver was appropriate.
- Whether the SAFE-1 interpretation of CAA section 177 that could disallow other states' ability to adopt California GHG emission standards was appropriate.

Prevention of Significant Deterioration/Title V GHG Tailoring Rule

GHG emissions from the largest stationary sources were, for the first time, covered by the Prevention of Significant Deterioration (PSD) and Title V Operating Permit Programs beginning on January 2, 2011. USEPA's GHG Tailoring Rule, issued in May 2010, established a commonsense approach to permitting GHG emissions under PSD and Title V. The rule set initial emission thresholds, known as Steps 1 and 2 of the Tailoring Rule, for PSD and Title V permitting based on CO_2e emissions. Step 3 of the GHG Tailoring Rule, issued on June 29, 2012, continued to focus GHG permitting on the largest emitters by retaining the permitting thresholds that were established in Steps 1 and 2. In addition, the Step 3 rule improved the usefulness of planetwide applicability limitations (PALs) by allowing GHG PALs to be established on CO_2e emissions, in addition to the already available mass emissions PALs, and to use the CO_2e-based applicability thresholds for GHGs provided in the "subject to regulation" definition in setting the PAL on a CO_2e basis. The rule also revised the PAL regulations to allow a source that emits or has the potential to emit at least 100,000 tons per year of CO_2e, but that has minor source emissions of all other regulated New Source Review (NSR) pollutants, to apply for a GHG PAL while still maintaining its minor source status.

California Greenhouse Gas Regulations

Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. EOs are not laws and can only provide the governor's direction to state agencies to act within their authority.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. The updated emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Assembly Bill 32 – Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), widely known as AB 32, requires that the CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill

requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. AB 32 enacts the goals of EO S-3-05.

Senate Bill 32 – 2016 Amendments to the California Global Warming Solutions Act of 2006

Approved by Governor Brown in September 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Act of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 197 – 2016 Climate Equity and Transparency Act

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Assembly Bill 1493 – Vehicular Emissions of GHGs

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars.

Assembly Bill 75

AB 75 was passed in 1999 and mandates state agencies to develop and implement an integrated waste management plan to reduce GHG emissions related to solid waste disposal. In addition, the bill mandates that community service districts providing solid waste services report the disposal and diversion information to the appropriate city, county, or regional jurisdiction. The bill requires diversion of at least 50 percent of the solid waste from landfills and transformation facilities, and submission to the California Department of Resources Recycling and Recovery (CalRecycle; formerly known as California Integrated Waste Management Board) of an annual report describing the diversion rates.

Executive Order S-01-07

EO S-01-07 was signed by Governor Schwarzenegger on January 18, 2007 and directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether an LCFS can be adopted as a discrete early action measure pursuant to AB 32. The CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

Senate Bill 350

Approved by Governor Brown on October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, and geothermal. In addition, large utilities are required to develop and submit Integrated Resource Plans to detail how each entity will meet their customers resource needs, reduce GHG emissions, and increase the use of clean energy.

Senate Bill 100

Approved by Governor Brown on September 10, 2018, SB 100 extends the renewable electricity procurement goals and requirements of SB 350. SB 100 requires that all retail sale of electricity to California end-use customers be procured from 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

Senate Bill 97 – CEQA: Greenhouse Gas Emissions

Approved by Governor Schwarzenegger on August 24, 2007, SB 97 required the OPR to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including but not limited to, effects associated with transportation or energy consumption. The Resources Agency certified and adopted the guidelines on December 31, 2009. The OPR guidance states that the lead agency can rely on qualitative or other performance-based standards for estimating the significance of GHG emissions, although the new CEQA Guidelines did not establish a threshold of significance.

Senate Bill 375 – The Sustainable Communities and Climate Protection Act of 2008

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPOs' Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

California Air Resources Board: Scoping Plan

In December 2008, CARB adopted its first version of its Climate Change Scoping Plan (Scoping Plan), which contained the main strategies California will implement to achieve the mandate of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program (CARB 2008).

On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan (2017 Scoping Plan), which lays out the framework for achieving the mandate of SB 32 (2016) to reduce statewide GHG emissions to at least 40 percent below 1990 levels by the end of 2030 (CARB 2017c).

The 2017 Scoping Plan includes guidance to local governments in Chapter 5, including plan-level GHG emissions reduction goals and methods to reduce communitywide GHG emissions. In its guidance, CARB recommends that "local governments evaluate and adopt robust and quantitative locally-appropriate goals that align with the statewide per capita targets and the State's sustainable development objectives and develop plans to achieve the local goals." CARB further states that "it is appropriate for local jurisdictions to derive evidence-based local per capita goals [or some other metric] that the local jurisdiction deems appropriate, such as mass emissions or per service population, based on local emissions sectors and population projections that are consistent with the framework used to develop the statewide per capita targets" (CARB 2017c).

Local Policies and Plans

SANDAG: San Diego Forward: The Regional Plan

The Regional Plan (SANDAG 2015) is the long-range planning document developed to meet the requirements of SB 375 and to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. Growth assumptions included in the Regional Plan are based on approved and allowable land uses identified by each jurisdiction in the region. The Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth while preserving natural resources and limiting urban sprawl." The Regional Plan encourages the regions and the County to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation.

County of San Diego General Plan

The County 2011 General Plan includes a plan to balance population growth and development with infrastructure needs and resource protection. The current General Plan is based on smart growth and land planning principles that will reduce VMT, and thus result in a reduction of GHGs. This will be accomplished by locating future development within and near existing infrastructure.

County of San Diego Climate Action Plan

In February 2018, the County adopted a long-term programmatic Climate Action Plan (CAP) that outlines the actions the County will undertake to achieve its proportional share of state GHG emission reductions to be compliant with AB 32 and EO S-3-05 (County 2018). The CAP was developed to ensure that new developments incorporate more sustainable design standards and applicable GHG reduction measures (County 2018).

Appendix A of the CAP includes a project-level CAP Consistency Review Checklist (Checklist) that may be used to demonstrate a project's consistency with the General Plan growth projections, land use assumptions, and applicable CAP measures. The purpose of the Checklist is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

In March 2018, multiple petitioners filed a lawsuit against the County seeking to set aside certain portions of the CAP and the supplemental environmental impact report (SEIR) on which the CAP was based. In December 2018, the San Diego County Superior Court issued a writ ordering the approval of the CAP and its SEIR to be set aside. In January 2019, the County appealed the San Diego County Superior Court's ruling, but in June 2020, the Fourth District Court of Appeal, Division One (Case No. D075478) upheld the trial Superior Court's ruling. Accordingly, there is no approved CAP in San Diego County and the CAP Checklist cannot be used to determine the significance of a project's cumulative GHG emissions impacts until such time as it is reapproved in compliance with CEQA.

County of San Diego Construction and Demolition Recycling Ordinance

The County has a construction and demolition recycling ordinance that is designed to divert debris from construction and demolition projects away from landfill disposal in the unincorporated County of San Diego. The ordinance requires that 90 percent of inert materials and 70 percent of all other construction materials from a project be recycled. In order to comply with the ordinance, applicants must submit a Construction and Demolition Debris Management Plan and a fully refundable Performance Guarantee prior to building permit issuance.

3.1.3.2 *Analysis of Project Effects and Determination as to Significance*

GHG Reduction Plan Consistency

Guidelines for the Determination of Significance

The Proposed Project would have a cumulatively considerable contribution to climate change impacts if it would:

1. Be inconsistent with the applicable GHG reduction plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Guideline Source

As discussed above in Section 3.1.3.1, there is no approved CAP in San Diego County and the CAP Checklist cannot be used to determine the significance of a project's cumulative GHG emissions impacts until such time as it is reapproved in compliance with CEQA; therefore, this analysis is based on guidance provided in Appendix G of the CEQA Guidelines.

Analysis

The Project was analyzed for consistency with the General Plan land use growth projections; the General Plan goals and policies applicable to the Project that affect regional GHG emissions; the Regional Plan; and the CARB Scoping Plan.

General Plan Land Use

The Project site is currently zoned as Open Space (S80), Specific Planning Area (S88), and Holding Area (S90). The S80 designation is used to provide appropriate controls for areas considered generally unsuitable for intensive development, including hazard or resource areas, public lands, recreation sites, or lands subject to open space easement or similar restrictions. The S90 zone is intended to prevent premature urban or non-urban development until more precise zoning regulations are prepared. Mineral extraction use is allowed within the S80 and S90 classifications with the issuance of a Major Use Permit. S88 zoning restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site. Two of the Project's parcels are zoned S88 and the end use for both parcels would be open space, consistent with the Rancho San Diego Specific Plan. The entire Project site is identified in the General Plan Land Use Element Open Space-Recreation (OS-R) land use designation, which applies to large, existing recreational areas and allows for active and passive recreational uses. The Project does not have a residential component and would not result in direct or indirect population growth in the County. The Project is anticipated to employ approximately nine persons, less than the recent employment from the Project site's past use as golf courses. Therefore, the Project would be consistent with the General Plan growth projections used in development of the Regional Plan and in development of GHG emissions inventories and projections used to in the CARB Scoping Plan.

General Plan Goals and Policies

The Conservation and Open Space Elements of the County General Plan present goals and policies designed to balance the regional need for construction materials with the community need for freedom from any disturbing effects of mining and aggregate processing activities while protecting public health (County 2011b). The goal of the long-term production of mineral materials is to meet the local County average annual demand, while maintaining permitted reserves equivalent to a 50-year supply, using operational techniques and site reclamation methods consistent with California standards so that adverse effects on surrounding land uses, public health, and the environment are minimized. The Project would be consistent with these policies and support reductions in regional and statewide mobile source GHG emissions by reducing the VMT associated with importing construction aggregate into the County. Consistency with these policies

is discussed in further detail in Section 3.1.6, *Land Use,* and Appendix B, *Planning Analysis*, of the EIR.

Regional Plan and Scoping Plan

As described below, the Project would result in a 75.8 percent reduction in County VMT associated with construction grade sand transport, and the majority (approximately 65 percent) of the Project's GHG emissions would be associated with truck trips for hauling sand. A reduction in regional VMT (and VMT-related GHG emissions) is a primary objective of the Regional Plan as the San Diego County RTP/SCS in accordance with the mandates of SB 375. Implementation of the RTP/SCS plans in the state's metropolitan areas to reduce VMT is a key component of the mobile source GHG emissions reduction policies and control measure the CARB Scoping Plan. In addition, as discussed above, the Project would be consistent with the General Plan growth projections used in development of the Regional Plan and in development of GHG emissions inventories and projections used in the CARB Scoping Plan. Therefore, the Project would be consistent with and would not obstruct implementation of the SANDAG Regional Plan or the CARB Scoping Plan, and the impact would be less than significant.

Greenhouse Gas Emissions

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if it would:

2. Result in emissions greater than 10,000 MT CO_2e per year.

Guideline Source

The determination of significance is governed by CEQA Guidelines 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." CEQA Guidelines 15064.4(a) states, "[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative model]" (emphasis added). In turn, CEQA Guidelines 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project." Therefore, consistent with CEQA Guidelines 15064.4, the GHG analysis for the Project appropriately relies upon a threshold based on the exercise of careful judgement and believed to be appropriate in the context of this particular Project.

The SCAQMD Governing Board adopted its *Interim CEQA Greenhouse Gas Significance Threshold* on December 5, 2008. The policy objective of the SCAQMD's recommended threshold is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a

90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that SCAQMD staff estimates that these GHG emissions would account for slightly less than one percent of the future 2050 statewide GHG emissions target.

As the County of San Diego does not currently have any approved quantitative thresholds related to GHG emissions, the quantitative analysis provided herein relies upon the SCAQMD adopted threshold for heavy industrial projects of 10,000 MT CO_2e (SCAQMD 2008). The SCAQMD's jurisdiction has similar climate and land use patterns as San Diego County (i.e., dense population centers and industrial areas to the west and along the coast, and rural, low population density areas to the east) and the relative mix of GHG sources in the two regions are similar. Though the SCAQMD's industrial threshold was intended for use with stationary source projects, it is worth noting that the application of the threshold with a project that includes other sources (such as mobile) results in a conservative analysis because it accounts for additional source types. Furthermore, as later detailed in the emissions analysis, mobile emissions account for the largest portion of the Project's GHG emissions (approximately 65 percent), but the Project would actually result in a net reduction in regional vehicle miles traveled due to increased regional efficiencies (i.e., reducing the need to import aggregate materials from outside of the County). Therefore, the majority of the Project's emissions are, in fact, generated by stationary sources.

Analysis

Construction Greenhouse Gas Emissions

Construction of the Project would generate GHG emissions from the use of off-road equipment and from vehicles traveling to and from the site on public roads (sand delivery trucks, work vehicles, and vendor vehicles). GHG emissions for Project construction were calculated using CalEEMod, Version 2020.4.0. CalEEMod output files for the Project are included as part of the Greenhouse Gas Emissions Technical Report, Appendix K to this report.

The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities of earth and debris to be moved. Heavy equipment would be required during site access, improvements to Willow Glen Drive, site preparation, demolition, and grading. Because all Project mining and processing equipment and structures would be mobile and/or prefabricated, the Project would not require building construction, paving, or architectural coatings (e.g., painting). Construction equipment estimates are based on default values in CalEEMod and input from the Project applicant.

Two main purposes of construction activity were analyzed. To be conservative, it was assumed that Project construction for Phase 1 would commence as early as February 2022. First, construction of site access, improvements to Willow Glen Drive improvements, and grading of the processing pad and settling ponds would take place and last approximately four months. Second, demolition of large structures would take place prior to the start of each mining phase. GHG emissions were amortized over the 10-year operational life span of the Project. Total project

construction emissions are estimated at 94.9 MT CO_2e with an amortized amount of 9.5 MT CO_2e per year over the 10-year construction and mining time frame. The estimated construction GHG emissions and amortized amounts are summarized in Table 3.1.3-4, *Estimated Construction GHG Emissions*.

Operational Greenhouse Gas Emissions

On-Road Vehicle Emissions. Operational emissions were modeled for each mining phase. GHG emissions from on-road vehicle trips (including trucks delivering sand to customers and employee vehicles) associated with each mining phase of the Project were modeled using CalEEMod version 2020.4.0. The trip rates and vehicle miles traveled assumed in the model were provided in the LMA for the Project (LLG 2020a). Emissions were modeled for the first full year of operation for each mining phase: 2023 for Phase 1; 2025 for Phase 2; and 2028 for Phase 3 (mining phases may commence during the prior year). CalEEMod's default motor vehicle emission rates and fleet mix for San Diego County are based on CARB's EMFAC2017 database. The CalEEMod option to account for the SAFE Vehicles Rule in accordance with CARB off-model EMFAC2017 adjustments factors was selected. Sand delivery trip distance used in the model were provided in the TIA for the project (LLG 2020b). The San Diego County default CalEEMod values for vehicle speeds, worker and vendor trip lengths, and trip purpose were used.

Off-Road Vehicle Exhaust Emissions. GHG emissions from vehicle exhaust due to all vehicle and equipment movement within the Project site were calculated using emissions and equipment data for San Diego County from the CARB Off-road Diesel Analysis & Inventory, OFFROAD2017 - ORION Web Database (CARB 2017a). To be conservative, it was assumed that the mining equipment used would be a mixture of new and used equipment. The age of off-road equipment analyzed corresponds to the average ages of equipment for the year 2022 in San Diego. All equipment was assumed to comply with the minimum fleet average exhaust emissions for off-road diesel equipment per CARB regulations. The equipment types, numbers, and usage in mining and processing operations for the Project were identified in the *Project Description for the Cottonwood Sand Mining Project* prepared by EnviroMINE, Inc. (2019a). Typical load factors for off-road equipment were provided in the CARB Off-road Diesel Emission Factors: Load Factor Look Up Table (CARB 2017b). All off-road equipment was assumed to operate a maximum of eight hours per day multiplied by the usage factor.

Electricity Use. The Project's equipment required for sand conveyance and processing was identified in the *Project Description for the Cottonwood Sand Mining Project* prepared by EnviroMINE, Inc. (2019a). Electricity use of the sand conveyance and processing equipment was calculated using the provided motor size and a power factor of 0.86, assuming 3-phase motors running at 75 percent of rated load (Engineering ToolBox 2019).

Operation of the Project would require approximately 227 acre-feet of water per year supplied by eight existing groundwater wells on the Project site (EnviroMINE 2020a). According to the Cottonwood Sand Mine Draft Reclamation Plan, an alluvial aquifer underlies the Project site and maximum depth to bedrock at the site is approximately 55 feet (EnviroMINE 2020b). Therefore, the electricity required to pump the water was estimated assuming a conservative average pump depth of 100 feet. Electricity for security lighting and for the mobile office and equipment control buildings were estimated using default factors for San Diego County from CalEEMod

(CAPCOA 2021). GHG Intensity factors for determining emissions from the Project's electricity use for San Diego Gas and Electric were taken from the *CalEEMod User's Guide Appendix D* (CAPCOA 2021).

Solid Waste. Operation of the Project would result in the generation of some solid waste related to the day-to-day activities of the Project employees. GHG emissions associated with the collection and disposal of the Project's solid waste were calculated using factors for San Diego County from the *CalEEMod User's Guide Appendix D* (CAPCOA 2021). The GHG emissions related to the collection and transport of demolition debris are included in the construction emissions estimates.

Reclamation Activities. As mining operations are completed, all areas disturbed by mining and processing activities would be graded and revegetated in accordance with the required mining and reclamation plans. Reclamation would be implemented in those areas of the site for which no further mining is planned and concurrently with mining using the same equipment used for clearing and sand extraction activities, including a grader and the wash fines off-road haul truck, as well as a seeding truck. Accordingly, the emissions estimates for reclamation activities account for grading, replacing topsoil, seeding or revegetation, and irrigation of areas where mining is complete. Reclamation would occur on an ongoing basis as mining is completed in one area and moves to another. Once all mining is complete, final reclamation activities would occur (Phase 4). During Phase 4, final grading of the last Phase 3 extraction sub-area would be accomplished in a few days with a grader and dozer. In addition, a small tractor with a cultivator and a hydroseed truck may be used for a short period for final revegetation. Because the total equipment used for final reclamation activities (a dozer, grader, hydroseed truck, and small tractor) would be a small fraction of equipment used for operations and would operate for a short duration, the intensity (and annual GHG emissions) of final reclamation activities would be substantially lower than the GHG emissions from the combined mining and ongoing reclamation activities. Therefore, emissions from final reclamation activities are not separately estimated in this analysis.

Emissions Summary. The operational GHG emissions for each mining phase (analyzed for the first full year of each mining phase) are summarized by source of emissions in Table 3.1.3-5, *Estimated Operational GHG Emissions*. The amortized construction GHG emissions associated with each phase of mining and on-going reclamation activities are included in the operational GHG emissions inventory. As discussed above, because the total equipment used for final reclamation activities (a dozer, grader, hydroseed truck, and small tractor) would be a small fraction of equipment used for operations and operated for a short duration, the intensity (and GHG emissions) of these final reclamation activities would be substantially lower than the emissions analyzed for Project operations. Therefore, GHG emissions from final reclamation activities are not included in the operational GHG emissions inventory. Phase 1 mining GHG emissions would be 2,127.9 MT CO_2e per year; Phase 2 mining GHG emissions would be 2,068.6 MT CO_2e per year; and Phase 3 mining GHG emissions would be 2,041.4 MT CO_2e per year.

As shown in Table 3.1.3-5, the predominant source of GHG emissions for the Project would be on-road mobile emissions (up to 65 percent of emissions). More than 95 percent of mobile emissions for the Project would be from aggregate delivery trucks transporting material to construction sites where it would be used. Typically, in CEQA impact analyses, the GHG emissions associated with transportation of the aggregate are a component of the GHG emissions of the project receiving the aggregate. Thus, emissions of GHGs associated with the Proposed

Project's delivery trucks may already be accounted for in other County project GHG emissions inventories. For example, the GHG analysis for a new batch plant would include the GHG emissions associated with truck trips hauling supplies, including sand, to the project site. However, to be conservative in accounting for all Project GHG emissions, all Project-related GHG emissions, including haul truck emissions, are assumed to be new and not accounted for in other inventories.

Aggregate material (including sand) produced by San Diego County mines and quarries are typically used by construction projects. The demand for aggregate material by construction projects is not supply-driven, meaning a new supply of aggregate material does not generate new construction projects. Because of the high weight and bulk of aggregate materials, a significant portion the cost of aggregate material is associated with delivery to the end use site. Therefore, construction project managers will typically purchase necessary aggregate products from the closest available source with acceptable quality.

In addition, improving local supplies of aggregate material reduces the need to import material from more distant mines using trucks, rail, and/or barges. This issue is highlighted in the CGS Special Report 240, *Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Western San Diego County Production-Consumption Region* (2017, pp. viii-x):

> "Since the mid-1990s, local aggregate production has not been sufficient to meet local demand in the P-C Region [Western San Diego County Production-Consumption Region]. This shortfall has been met by importing construction aggregate, **predominately sand** [emphasis added], from neighboring aggregate producing regions. At various times, construction aggregate has been imported into the P-C Region from mines in Los Angeles, San Bernardino, Riverside, and Imperial counties, and Baja California, Mexico. […] When compared to local production, importing aggregate is often more expensive and results in higher emissions of greenhouse gases, air pollution, traffic congestion, and road wear and maintenance because of increased truck traffic. These impacts occur both within the importing region and in the neighboring regions that supply the material and through which the material is transported."

The CGS Special Report emphasizes the scarce nature of PCC-grade aggregate (2017, p. 4):

> "The material specifications for PCC-grade aggregate are more restrictive than the specifications for the other grades of aggregate. This restrictiveness makes deposits for use as PCC-grade aggregate the scarcest and most valuable of aggregate resources."

Because evaluation of material from the Project site indicates that it meets the engineering requirements for PCC-grade aggregate, the CGS has reclassified the Project site from MRZ-1 (areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources) and MRZ-3 (areas containing mineral occurrences of undetermined mineral resource significance) to MRZ-2 (areas where adequate information indicates that significant mineral deposits are present) (CGS 2017).

The CGS report estimates that an average of 2.02 million tons per year of aggregate (primarily sand) was imported into western San Diego County between 1995 and 2014 (CGS 2017). Based on the data and conclusions in the CGS report, it is reasonable to assume that production of

PCC-grade sand on the Project site would result in a reduction in regional mobile-source GHG emissions. The results of the VMT analysis contained within the TIA confirm this. As detailed therein, under existing conditions with a total County sand demand of 2.5 million tons per year, the total annual VMT associated with transporting 570,000 tons of sand (the anticipated annual Project sand production) into and within San Diego County without the Proposed Project is 13,499 miles.[1] The truck VMT associated with obtaining 570,000 tons of sand from the Project site rather than being imported in from the north and south sources would be 2,806 miles, which is a reduction of 10,693 miles from the without Project scenario. This corresponds to an approximately 79.2 percent reduction in region-wide VMT from sand transportation in the existing plus project scenario. In the near-term plus project scenario, with a total County sand demand of 3.5 million tons per year and anticipated in-County production of 650,000 tons of sand, obtaining 570,000 tons of sand from the Project site would result in an approximately 75.8 percent reduction in region-wide VMT (LLG 2021b). By reducing regional truck VMT, the Project would result in an overall net reduction in mobile source GHG emissions. However, to be conservative, all mobile GHG emissions associated with the Project are included in the Project GHG emissions inventory.

As shown in Table 3.1.3-5, the Project would result in a peak annual net increase of 1,815.8 MT CO_2e per year, which is below the SCAQMD screening level for industrial sources of 10,000 MT CO_2e per year. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be **less than significant**.

3.1.3.3 *Cumulative Impact Analysis*

Given the relatively small levels of emissions generated by a typical project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from individual projects could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts. As described in Section 3.1.3.2, the Project would result in a reduction in regional truck VMT, and the Project would not conflict with or obstruct implementation of GHG reduction plans including the SANDAG Regional Plan and the CARB Scoping Plan. The Project's maximum annual GHG emissions of 1,815.8 MT CO_2e per year would not exceed the SCAQMD industrial source screening threshold of 10,000 MT CO_2e per year. Further, the Project would reduce regional truck VMT associated with transport of aggregate materials. Therefore, the Project's GHG emissions impacts would be **less than cumulatively considerable**.

3.1.3.4 *Significance of Impacts*

As discussed above, the Project would have less than significant impacts related to GHG emissions. Therefore, no mitigation is required.

[1] The existing conditions VMT assumes that 60 percent of the sand used in San Diego is imported from sources north of the county, 35 percent is imported from sources south of the county, and 5 percent is transported from the East County Sand Mine. The hauling distances used in the VMT calculation are the average distance from the sand sources to the midpoint of existing concrete ready-mix batch plants in the county.

3.1.3.5 *Conclusion*

Based on the analysis provided above, no significant Project-specific or cumulative impacts would occur related to GHG emissions or consistency with GHG-related plans, policies, or regulations.

Table 3.1.3-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetraflouromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

Table 3.1.3-2
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO_2e) 1990	Emissions (MMT CO_2e) 2000	Emissions (MMT CO_2e) 2010	Emissions (MMT CO_2e) 2018
Agriculture and Forestry	18.9 (4%)	31.0 (7%)	33.7 (8%)	32.6 (8%)
Commercial	14.4 (3%)	14.1 (3%)	20.1 (4%)	23.9 (6%)
Electricity Generation	110.5 (26%)	105.4 (22%)	90.6 (20%)	63.2 (15%)
Industrial	105.3 (24%)	105.8 (22%)	101.8 (23%)	101.3 (24%)
Residential	29.7 (7%)	31.7 (7%)	32.1 (7%)	30.5 (7%)
Transportation	150.6 (35%)	183.2 (39%)	170.2 (38%)	173.8 (41%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
Total	**430.7**	**471.1**	**448.5**	**425.3**

Source: CARB 2007; CARB 2019b; and CARB 2020
MMT = million metric tons; CO_2e = carbon dioxide equivalent

Table 3.1.3-3
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR IN 2012

Sector	2012 Emissions MMT CO_2e (% total)[1]
Passenger Cars & Light Duty Vehicles	13.14 (37.2%)
Electricity	7.97 (22.6%)
Natural Gas	2.84 (8.0%)
Heavy Duty Trucks & Vehicles	1.89 (5.4%)
Solid Waste	1.75 (4.9%)
Other Fuels	1.64 (4.6%)
Industrial	1.43 (4.1%)
Aviation	1.37 (3.9%)
Off-Road	0.92 (2.6%)
Wildfire	0.81 (2.3%)
Other – Thermal Cogeneration	0.64 (1.8%)
Water	0.52 (1.5%)
Wastewater	0.16 (0.5%)
Rail	0.11 (0.3%)
Agriculture	0.08 (0.2%)
Marine Vessels (ocean-going vessels and harbor craft)	0.05 (0.1%)
Development and Sequestration	(-0.65)
Total	**34.67**

Source: USD EPIC 2015. 2012 Greenhouse Gas Emissions Inventory and Projections for the San Diego Region. Prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC), and available online at https://www.sdforward.com/pdfs/RP_final/AppendixD-2012GreenhouseGasEmissionsInventoryfortheSanDiegoRegionandProjections.pdf.

[1] Percentages may not total 100 due to rounding.

MMT = million metric tons; CO_2e = carbon dioxide equivalent

Table 3.1.3-4
ESTIMATED CONSTRUCTION GHG EMISSIONS

Emission Sources	Emissions (MT CO_2e)
Phase 1 (2022)	91.59
Phase 2 (2024)	9.4
Phase 3 (2027)	21.3
Total Construction Emissions	122.3
Amortized Emissions[1]	**12.2**

Source: HELIX 2021e.

[1] Emissions amortized over the 10-year Project lifetime

MT = metric ton; CO_2e = carbon dioxide equivalent

Table 3.1.3-5
ESTIMATED OPERATIONAL GHG EMISSIONS

Emission Sources	Emissions (MT CO_2e/year)
Phase 1 (2023)	
Off-Road Equipment Exhaust	424.6 (23.4%)
On-Road Mobile Emissions	1,188.0 (65.4%)
Electricity	186.1 (10.2%)
Solid Waste	4.8 (0.3%)
Amortized Construction	12.2 (0.74%)
Total Phase 1	**1,815.8**
Phase 2 (2025)	
Off-Road Equipment Exhaust	424.6 (24.0%)
On-Road Mobile Emissions	1,143.3 (64.6%)
Electricity	186.1 (10.5%)
Solid Waste	4.8 (0.3%)
Amortized Construction	12.2 (0.7%)
Total Phase 2	**1,1771.0**
Phase 3 (2028)	
Off-Road Equipment Exhaust	424.6 (25.0%)
On-Road Mobile Emissions	1,069.4 (63.0%)
Electricity	186.1 (11.0%)
Solid Waste	4.8 (0.3%)
Amortized Construction	12.2 (0.7%)
Total Phase 3	**1,697.1**

Source: HELIX 2021e.
Notes: Totals may not sum due to rounding.
MT = metric ton; CO_2e = carbon dioxide equivalent

3.1.4 Hazards and Hazardous Materials

This section describes the existing hazards and hazardous materials conditions within the Project site and vicinity, identifies regulatory requirements associated with hazards and hazardous materials issues, and evaluates potential impacts related to implementation of the Proposed Project. A Phase I Environmental Site Assessment (ESA) was prepared to evaluate potential environmental impacts associated with hazards and hazardous materials at the site (Royal Environmental Services, Inc. [RES] 2020]; Appendix M)). A Vector Management Plan was prepared to identify BMPs to reduce the health risks and nuisance factors associated with vectors (EnviroMINE 2021c; Appendix U). An Additional Hazards letter was prepared by EnviroMINE (2020b) to describe the types of hazardous materials that are present on the property or that would be included as part of the Proposed Project. Relevant portions of the Phase I ESA, Vector Management Plan, and Additional Hazards letter are summarized below along with other pertinent information.

3.1.4.1 *Existing Conditions*

On-site Hazardous Materials

Petroleum Hydrocarbons

Petroleum hydrocarbons on the property consist of fuels and lubricants used for the operation of the golf course's landscaping maintenance equipment. Petroleum-based lubricants are also utilized at the maintenance facility in small quantities. All materials of this type are stored in the maintenance and repair facility located on the Ivanhoe Course and southeast of the clubhouse. Two above ground storage tanks (ASTs), one with a 1,000-gallon capacity used for storing diesel and one with a 500-gallon capacity used for storing gasoline, are currently present within the Project site at the existing golf course maintenance facility (see Figure 3.1.4-1, *On-site Above Ground Storage Tanks Location*). The ASTs were installed following the removal of previous USTs in 2004 (see discussion below under *On-site RECs*). The ASTs are permitted (#202521), have secondary containment, and appear to follow applicable regulations (RES 2020). In addition, at the time of the site visit conducted for the Phase I ESA, several drums used for oil storage were present in the maintenance area. There was no indication that the use of the drums for the materials contained has impacted the site (RES 2020).

Pesticides and Fertilizers

Pesticides, fungicides, and fertilizers are used in the overall landscaping maintenance program at the golf course. Pesticides and fungicides are used to control insect infestations, fungi, and molds that can damage or kill turf grasses that provide the golf play surface, while fertilizers are utilized to provide nutrients to the turf grasses. All materials of this type are purchased when needed, applied as soon as possible to keep storage to a minimum and, when stored, are kept in a secured room at the maintenance facility. Application is completed by certified pesticide technicians twice per year in the spring and fall when turf grasses are aerated and re-seeded. Small quantities are maintained on site to treat unexpected outbreaks. Rodents that occur on the property are controlled using physical traps rather than the use of rodenticides. This prevents potential impacts to other animal species and avoids pollution of ground or surface water. The Phase I ESA did not identify the on-site use of pesticides, fungicides, and fertilizers as an environmental concern.

Structures

Several structures associated with the golf course are present on the Project property. These include the clubhouse, metal and wooden buildings at the maintenance facility, and an on-course restroom for each golf course. The clubhouse, buildings at the maintenance facility, and on-course restroom at the Ivanhoe Course were constructed in 1964. The on-course restroom at the Lakes Course was constructed in 1968. There is also a residential building constructed between the 1900s and 1920s located west of Steele Canyon Road. Due to the age of the physical structures on the site, there is the potential that asbestos containing materials (ACMs) and lead were utilized in the construction of the structures.

Recognized Environmental Conditions

A Phase I ESA was conducted for the Project site to determine if recognized environmental conditions (RECs) were present or likely present at or near the site that have the potential to cause public harm due to a past or existing release of hazardous substances (RES 2020). The Phase I ESA included a review of regulatory records, a review of historical site information, an interview with the site manager, and a visual inspection of the Project site.

On-site RECs

According to the Phase I ESA (RES 2020), there are no RECs or historical RECs on the site or directly adjacent to the Project site. The Project site is listed under various regulatory databases due to two USTs having been present at the Project site (State Department of Toxic Substances Control [DTSC] 2020 and SWRCB 2020). One tank was a 5,000-gallon single-walled UST containing leaded gasoline associated with Permit #120208. Its piping failed in 1987 and was subsequently repaired and retested. The associated case was closed in 1987. The tank was later removed on April 13, 1993 under permit. Records show that at the time of removal there was no indication of impact from gasoline noted by the regulatory inspector. In addition, laboratory analysis of two soil samples collected from beneath the UST contained no detectable concentrations of total petroleum hydrocarbons (TPH) at the laboratory detection limit. The second tank was a 5,000-gallon double-walled UST containing unleaded gasoline associated with Permit #202521 and installed in 1993. It was maintained in compliance until its removal on June 4, 2004. Records show that at the time of removal there was no indication of impact from gasoline noted by the regulatory inspector. In addition, laboratory analysis of two soil samples collected from beneath the UST contained no detectable concentrations of TPH at the laboratory detection limit.

Other regulatory listings related to hazardous materials are due to past violations associated with the handling of on-site materials including diesel, gasoline, waste oil, oil filters, batteries, welding tanks, and ammonium sulfate. Based on records, these violations were corrected and the site was returned to compliant status. None of the waste handling violations in the last three inspections is listed as having resulted in a violation for a release of hazardous materials to the ground or improper disposal of wastes on site.

Off-site RECs

The Phase I ESA identified and analyzed listed off-site properties that would have the potential to result in an adverse effect on the Project site. The analysis included consideration of factors

including the nature and extent of a given release, the distance of the reported release from the site, the stratigraphy of soils, the expected soil permeability, and the topographic position of a reported release site with respect to known or expected local and/or regional groundwater flow direction. These sites and their potential to affect the site are summarized below.

- **Sovereign Health of California – 2815 Steele Canyon Road.** This facility is located adjacent to the mid portion of the Project site on the southeast side of Steele Canyon Road. Based upon the small quantity generators designation, the facility generates between 100 kilograms and 1,000 kilograms of hazardous waste per month including ignitable hazardous wastes and spent non-halogenated solvents. Regulatory records indicate the site has no recorded violations related to waste handling. Based on available records and the current use of the site as a residential treatment facility, the site does not appear to present a REC to the Project site.

- **Doug Howarth – 2478 Wind River Road.** This site is located approximately 940 feet north of the Project site. There are no associated violations or releases from the property according to the database search. The location of this address was confirmed to be a current residential address in a residential development and is most likely a business mailing address. Based on the location and available regulatory records reviewed to date, the site does not appear to present a REC to the Project site.

- **Best Way Cleaners – 2441 Jamacha Road Suite 103.** This facility is located approximately 660 feet northwest of the Project site and is listed as an existing and historical dry cleaners. The listing identifies that the property disposes of liquids and halogenated organic compounds; however, there are no associated releases from the property according to regulatory listings. Based on its available regulatory records reviewed to date, the site does not appear to present a REC to the Project site.

- **Shell/CNG Inc. – 2411 Jamacha Road.** This facility is located approximately 820 feet northwest of the Project site. There are three active 12,000-gallon USTs at the property containing unleaded gasoline. In 2003, a petroleum hydrocarbon gasoline release was detected during product piping removal. Eight groundwater monitoring wells were installed at the property, monitored, and sampled between June 2004 and December 2010. Distribution of soil contamination was limited to the shallow subsurface on site at three to five feet bgs. Liquid phase hydrocarbons have not been present in the monitoring of groundwater sampling since 2004. It was determined in 2011 that the remediation of residual hydrocarbon concentrations in soil and groundwater were expected to achieve the targeted cleanup goals through natural attenuation process. A vapor risk assessment at the property concluded no risk of vapor intrusion to station workers of indoor air. The site was identified as posing no significant risk to human health and the environment, and a no further action was issued by the County on December 16, 2011. Based on the regulatory status of the past release and distance to the Project site, the site does not appear to present a REC to the Project site.

- **Advantage Cleaners – 2522 Jamacha Road.** This facility is located approximately 1,420 feet west-northwest of the Project site. It is listed due to a release of perchloroethylene (PCE) and trichloroethylene (TCE) to subsurface soil due to dry

cleaning operations. The contaminated soil was previously excavated. Subsequent soil and vapor samples indicted acceptable levels of residual PCE vapors, and groundwater samples collected down-gradient indicated no evidence of PCE-impacted groundwater. The excavated hole was backfilled with concrete slurry and a steel liquid containment pan was placed beneath the dry-cleaning unit along with the application of a chemical resistant coating on the floor to minimize future subsurface releases. The case was closed in 1998. Based on the available records reviewed, the site does not appear to present a REC to the Project site.

Sensitive Receptors and Areas

The nearest schools to the Project site are Jamacha Elementary School located at 2962 Jamul Drive, approximately 0.25 mile south of the site, and Hillsdale Middle School located at 1301 Brabham Street, approximately 0.8 mile northwest of the site. There are no day care centers located within 0.25 mile of the Project site. The nearest day care centers are Hope's WeeCare and Bernal Family Child Care, residential daycare facilities located 0.5 mile northwest and 0.8 mile north of the Project site, respectively. The Adeona Healthcare facility is located along Steele Canyon Road immediately south of the Project site.

Potential Airport Hazards

The closest airport to the Project site is Gillespie Field, a publicly owned airport located at 1960 Joe Crosson Drive, approximately six miles northwest of the Project site. The Project site is not located within the Airport Influence Area (AIA) identified in the Airport Land Use Compatibility Plan (ALUCP) for Gillespie Field (San Diego County Regional Airport Authority 2010). Additionally, the Project site is not located within the Federal Aviation Administration (FAA) Height Notification Boundary for Gillespie Field. The nearest private airstrip to the Project site is the helipad associated with the Sharp Grossmont Hospital, located approximately 5.3 miles to the northwest.

Dam Inundation

The Project site is located within a dam inundation area, so it is subject to inundation in the case of a dam failure (County 2011b). The Loveland Dam and Reservoir are located upstream and approximately 6.5 miles east of the Project site. The Loveland Reservoir has a capacity of 25,400 acre-feet, and the 203-foot-tall dam was completed in 1945 (Sweetwater Authority 2020b). Loveland Reservoir serves as a holding area for water that is released to the Sweetwater Reservoir, located approximately 4.5 miles southwest of the Project site.

Vectors

A vector is any insect, arthropod, rodent, or other animal of public health significance that can cause human discomfort or injury or is capable of harboring or transmitting the causative agents of human diseases. The most significant vectors in the County include mosquitoes, rodents, flies, and fleas. Vectors occur where site conditions provide suitable breeding habitats, such as standing water, wetlands, irrigation ponds, detention basins, and infiltration basins.

Regulatory Setting

Hazardous Materials

Federal

Resource Conservation and Recovery Act of 1976 – Federal hazardous waste laws are largely promulgated under the Resource Conservation and Recovery Act of 1976 (RCRA) (40 CFR, Part 260), as amended by the Hazardous and Solid Waste Amendments of 1984 (which are primarily intended to prevent releases from LUSTs). These laws provide for the "cradle to grave" regulation of hazardous wastes. Specifically, under RCRA any business, institution or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of. The USEPA has the primary responsibility for implementing RCRA, although individual states are encouraged to seek authorization to implement some or all RCRA provisions (with California an authorized RCRA state as outlined below under *State*).

Hazardous Material Transportation Act – The U.S. Department of Transportation (USDOT) regulates hazardous materials transportation pursuant to the Hazardous Materials Transportation Act of 1975 (HMTA), as amended and codified under Title 49 of the CFR. The HMTA requires the USDOT Office of Hazardous Materials Safety to generate regulations for the safe transportation of hazardous materials. The HMTA includes procedures and policies, material designations, packaging requirements, and operational rules related to the transport of hazardous materials. The HMTA is enforced by use of compliance orders, civil penalties, and injunctive relief, and preempts state and local governmental requirements that are inconsistent with the statute, unless that requirement affords an equal or greater level of protection to the public than the HMTA requirement. The California Highway Patrol (CHP) and Caltrans are the State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. These agencies also govern permitting for hazardous materials transportation within the State.

Comprehensive Environmental Response, Compensation, and Liability Act – The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, provides federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Federal actions related to CERCLA are limited to sites on the National Priority List (NPL) for cleanup activities, with NPL listings based on the USEPA Hazard Ranking System (HRS). The HRS is a numerical ranking system used to screen potential sites based on criteria such as the likelihood and nature of hazardous material release, and the potential to affect people or environmental resources. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 as outlined below.

Superfund Amendments and Reauthorization Act – SARA is intended primarily to address the emergency management of accidental releases, and to establish State and local emergency planning committees responsible for collecting hazardous material inventory, handling, and transportation data. Specifically, under Title III of SARA, a nationwide emergency planning and response program established reporting requirements for businesses that store, handle or produce

significant quantities of hazardous or acutely toxic substances as defined under federal laws. Title III of SARA also requires each state to implement a comprehensive system to inform federal authorities, local agencies and the public when significant quantities of hazardous or acutely toxic substances are stored or handled at a facility. These data are made available to the community at large under the "right-to-know" provision, with SARA also requiring annual reporting of continuous emissions and accidental releases of specified compounds.

Chemical Accident Prevention Provisions – The federal CAA Amendments of 1990 required the USEPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. These rules, which built upon existing industry codes and standards, require companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program.

Occupational Safety and Health Administration – The Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs.

State

Title 22 of the California Code of Regulations & Hazardous Waste Control Law, Chapter 6.5 – The DTSC is responsible for implementing the RCRA program as well as California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, CalEPA has in turn delegated enforcement authority of State law to the County for regulating hazardous waste producers or generators. The DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under RCRA and the California Hazardous Waste Control Law. Like RCRA, Title 22 imposes "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. CalEPA has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other CUPAs, including County Department of Environmental Health and Quality (DEHQ).

California Health and Safety Code – The CalEPA/DTSC has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Section 25531, et seq., incorporate the requirements of SARA and the federal CAA as they pertain to hazardous materials. Under the California Accidental Release Prevention Program (CalARP, California Health and Safety Code Section 25531 to 25545.3), certain businesses that store or handle more than 500 pounds, 55 gallons or 200 cubic feet (for gases) of acutely hazardous materials at their facilities are required to develop and submit a Risk Management Plan (RMP) to the appropriate local authorities, the designated local administering agency and the USEPA for review and approval. The RMP is intended to satisfy federal "right-to-know" requirements and provide basic information to regulators and first responders, including identification/quantification of regulated substances used or stored on site, operational and safety mechanisms in place (including employee training), potential on- and off-site consequences of a release and emergency response provisions.

Under California Health and Safety Code Section 25500-25532, businesses handling or storing certain amounts of hazardous materials are required to prepare a Hazardous Materials Business Plan (HMBP), which includes an inventory and map of hazardous materials (and related facilities) stored on site above specified quantities, an emergency response plan, and an employee training program. An HMBP is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material. An HMBP must be prepared prior to facility operation, with updates and amendments required for appropriate circumstances (e.g., changes in business location, ownership, or pertinent operations).

Pursuant to California Health and Safety Code Chapter 6.11, CalEPA established the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which consolidated a number of existing State programs related to hazards and hazardous materials. The Unified Program also allows the designation of CUPAs to implement associated State regulations within their jurisdiction. For businesses within the County, HMBPs are submitted to and approved by the DEHQ Hazardous Materials Division (HMD), which is the local CUPA as outlined below under County requirements.

California Human Health Screening Levels – The California Human Health Screening Levels (CHHSLs) are concentration thresholds established by CalEPA for 54 hazardous chemicals in soil or soil gas of concern for risks to human health. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by the USEPA and CalEPA. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, the presence of a chemical in soil, soil gas, or indoor air at concentrations below the corresponding CHHSL can be assumed to not pose a significant health risk to people who may live or work at the site. There are separate CHHSLs for residential and commercial/industrial sites.

Screening Levels for Hazardous Materials in Soil or Groundwater – The Regional Water Quality Control Board (RWQCB) uses Environmental Screening Levels (ESLs) to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred (San Francisco Bay Regional Water Quality Control Board 2019). ESLs have been established for both residential and commercial/industrial land uses, and also for construction workers. Residential screening levels are the most restrictive, so soil with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses if disposed of offsite. Commercial/industrial screening levels are generally higher than residential screening levels because they are based on potential worker exposure to hazardous materials in the soil (and these are generally less than residential exposures). Screening levels for construction workers are also higher than for commercial/industrial workers because construction workers are only exposed to the chemical of concern during the duration of construction, while industrial workers are assumed to be exposed over a working lifetime.

The CalEPA California Human Health Screening Levels are concentrations of 60 hazardous chemicals in soil or soil gas that CalEPA considers to be below thresholds of concern for risks to human health (CalEPA 2010). These concentrations can be used to screen sites for potential human health concerns where releases of hazardous chemicals have occurred. The presence of a chemical at concentrations in excess of screening level does not indicate that adverse impacts are occurring

or will occur but suggests that further evaluation is warranted. These screening levels are guidance, and not regulatory cleanup standards.

Waste Classification Criteria – In accordance with Title 22 of the CCR Section 66261.20 et seq., excavated soil is classified as a hazardous waste if it exhibits the characteristics of ignitability, corrosivity, reactivity, and/or toxicity. A waste is considered toxic in accordance with 22 CCR 66261.24 if it contains:

- Total concentrations of certain substances at concentrations greater than the total threshold limit concentrations (TTLC);
- Soluble concentrations greater than the soluble threshold limit concentrations (STLC);
- Soluble concentrations of certain substances greater than federal toxicity regulatory levels using the Toxic Characteristic Leaching Procedure (TCLP); or
- Specified carcinogenic substances at a single or combined concentration of 0.001 percent.

State and federal regulations consider waste to be hazardous if the soluble concentration exceeds the federal regulatory level as determined by the TCLP. The TCLP involves a 20-to-1 dilution of the sample; therefore, the total concentration of a substance in the soil would need to exceed 20 times the regulatory level for the soluble concentration to exceed the regulatory level in the extract.

A waste is also considered hazardous under state regulations if the soluble contaminant concentration exceeds the STLC as determined by the waste extraction test method. The waste extraction test analysis is performed using a 10-to-1 dilution of the sample; therefore, the total concentration of a substance would need to exceed 10 times the STLC for the soluble concentration to possibly exceed the STLC in the extract. A waste may also be classified as toxic if testing indicates toxicity greater than the specified criteria. Soil that is not classified as a hazardous waste can be accepted at a Class II or Class III designated landfill, depending on the waste acceptance criteria for the specific landfill.

Investigation and Cleanup of Contaminated Sites – The oversight of hazardous materials release sites often involves several different agencies that may have overlapping authority and jurisdiction. The DTSC and RWQCB are the two primary state agencies responsible for issues pertaining to hazardous material release sites. Investigation and remediation activities that would involve potential disturbance or release of hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. DTSC has developed standards for the investigation of sites where hazardous materials contamination has been identified or could exist based on current or past uses. These regulations would be applied during mining activities if, for example, previously unknown underground tanks or other potential contaminant sources were uncovered.

Hazardous Materials Transportation – As noted above under federal guidelines, the CHP and Caltrans are the state enforcement agencies for hazardous materials transportation regulations.

Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations.

California Office of Emergency Services (OES) – In order to protect the public health and safety and the environment, the OES is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters, public safety officers, and regulatory agencies in business plans in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1, Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520), and Article 2, Hazardous Materials Management (Sections 25531 to 25543.3).

The Division of Occupational Safety and Health – Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Local

County Significance Guidelines – The County Guidelines for Determining Significance – Hazardous Materials and Existing Contamination, provide direction for evaluating environmental effects related to hazardous materials and contamination. Specifically, these guidelines address potential adverse effects to people or the environment (pursuant to applicable California Environmental Quality Act standards) from hazards including: (1) the transport, use, or disposal of hazardous materials; (2) upset and accident conditions involving the release of hazardous materials; (3) emission of hazardous materials within 0.25 mile of an existing or proposed school; and (4) location within a site listed on the Government Code Section 65962.5 database (Cortese List). Significance guidelines are identified for the noted issues, as well as related regulatory standards, impact analysis methodologies, attenuative design strategies, and reporting requirements.

County DEHQ/HMD – As noted above under State guidelines, the HMD is the local CUPA, and has jurisdiction over HMBPs in the County. The HMD provides detailed guidelines for the preparation and implementation of HMBPs, including direction on covered businesses/materials, inventory/site mapping, employee training, storage/safety criteria, spill prevention requirements, emergency/contingency response requirements and exemptions.

County of San Diego General Plan – The County General Plan Land Use and Safety elements identify safety considerations and policies related to hazards and hazardous materials that may pose a threat to public safety. Policies address emergency services availability and access, storage and transfer of the hazardous materials, and assessment of potentially contaminated lands. These

policies and the Project's compliance with them are addressed in Section 3.1.7 of this EIR and Appendix B, *Planning Analysis*.

Airport Hazards

Airport Land Use Compatibility Plans (ALUCPs) – The San Diego County Regional Airport Authority is responsible for developing ALUCPs for public airports in San Diego County to promote land use compatibility and ensure operations are not restricted by encroachment of incompatible land uses. An ALUCP describes the airport, its projected uses, and the noise, safety, airspace protection and overflight contours (generated through airport use) over adjoining land. An important part of the ALUCP is the establishment of an AIA. An AIA is the area in which existing or future airport-related noise, overflight, safety and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses. Safety concerns target minimizing the risks of aircraft accidents beyond the current and future runway environment. Air space protection is accomplished by placing limits on height of structures and other objects in the airport vicinity and restrictions on other uses that potentially pose hazards to flights now and in the future. Safety compatibility zones have been established to identify areas where distinct levels of risk exist and differentiate allowed and prohibited land uses.

County of San Diego General Plan – The County General Plan Safety Element addresses issues related to development of flight hazards, as addressed in Section 3.1.6 of this EIR and Appendix B, *Planning Analysis*.

Overall Emergency Response and Evacuation

Emergency response plans are maintained at the federal, state, and local level for all types of disasters, including human-made and natural disasters. Emergency response plans include elements to maintain continuity of government, emergency functions of governmental agencies, mobilization, and application of resources, mutual aid, and public information. The Unified San Diego County Emergency Services Organization has the primary responsibility for preparedness and response activities and addresses disasters and emergency situations within the unincorporated area of San Diego County. The County Office of Emergency Services (OES) serves as staff to the Unified Disaster Council (UDC), the governing body of the Unified San Diego County Emergency Services Organization.

Emergency response and preparedness plans include the Operational Area Emergency Response Plan and the San Diego County Multi-Jurisdictional Hazard Mitigation Plan. Both plans develop goals and objectives for OES in regard to large-scale natural or man-made disasters.

The Operational Area Emergency Plan provides guidance for emergency planning and requires subsequent plans to be established by each jurisdiction that has responsibilities in a disaster situation. The Multi-Jurisdictional Hazard Mitigation Plan provides the framework for emergency response throughout the County, including the Project site. The plan is intended to serve many purposes, including to: enhance public awareness and understanding, create a decision tool for management, promote compliance with state and federal program requirements, enhance local policies for hazard mitigation capability, provide inter-jurisdictional coordination of mitigation-related programming, and achieve regulatory compliance. It includes an overview of the risk

assessment process, identifies hazards present in the jurisdiction, hazard profiles, and vulnerability assessments. The plan also identifies goals, objectives, and actions for each jurisdiction in the County, including all cities and unincorporated areas. Hazards specifically relevant to the Project that are profiled in the plan include erosion, earthquakes/liquefaction, dam failure, and hazardous materials incidents. Erosion and earthquakes/liquefaction are addressed in Section 3.2.2, *Geology and Soils*; the remaining issues are addressed in Section 3.1.4.2, below.

Vectors

County Vector Control Program – The County Vector Control Program (VCP) is an existing public health program that was implemented to monitor and control mosquitoes and other disease-carrying insects and rodents in the County. The DEHQ is responsible for implementing the Integrated Vector Management Program (IVMP), which provides vector and vector-borne disease surveillance and control services throughout all 18 incorporated cities and unincorporated areas of the County. The VCP is authorized by Government Code Section 25842.5 to directly control and abate mosquitoes and other vectors in order to protect the public health, safety, and welfare of the entire County population from vector-borne diseases and vector-related public nuisances. The VCP serves to reduce the potential for the spread of diseases and the impact that vectors have on property through ongoing educational outreach, surveillance activities, source reduction (i.e., physical control), and source treatment (i.e., biological and chemical control).

San Diego County Code of Regulatory Ordinances – Vector Control – These chapters of the County Code address general nuisances, vector control, and the prevention and control of fly breeding on commercial poultry ranches. Chapter 1 addresses how to handle public nuisances including violations and abatement. Chapter 2 grants authority to the DEHQ to exercise the powers of a vector control district as set forth in the California Health and Safety Code, and states that the Director "may correct or abate any public nuisance relating to vectors…". Chapter 3 provides for the investigation, continuing regulation, prevention, and abatement of fly breeding sources with the goal of securing public health, safety, and welfare.

San Diego County Code of Regulatory Ordinances – Stormwater and Discharge Control – This chapter of the County Code establishes the County Watershed Protection, Stormwater Management, and Discharge Control Ordinance, which sets forth stormwater management requirements for categories of existing sources and activities, and new land disturbance and land development activities. The ordinance prohibits polluted non-stormwater discharges to the stormwater conveyance system and establishes minimum requirements for stormwater management for development projects to reduce stormwater pollution and erosion. The ordinance requires the use of structural BMPs to detain or infiltrate stormwater for some land development projects and specifies that these BMPs must be designed to drain within 72 hours to preclude mosquito breeding.

3.1.4.2 *Analysis of Project Effects and Determination as to Significance*

Handling and Storage of Hazardous Materials

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

1. The project is a business, operation, or facility that proposes to handle hazardous substances in excess of the threshold quantities listed in Chapter 6.95 of the Health & Safety Code (H&SC); generate hazardous waste regulated under Chapter 6.5 of the H&SC, and/or store hazardous substances in underground storage tanks regulated under Chapter 6.7 of the H&SC; and/or not be able to comply with applicable hazardous substance regulations.

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance for Addressing Hazardous Materials and Existing Contamination (County 2007d).

Analysis

Removal of Existing Hazardous Substances

The Project would terminate golf course uses upon approval of the proposed MUP. All petroleum hydrocarbons (e.g., fuels and lubricants) currently utilized within the Project site for golf course maintenance would be removed from the property and disposed of in accordance with State and County regulations. The two ASTs currently used to store diesel and gasoline would be removed under permit through the DEHQ HMD acting as the CUPA for the County. All removal permits would be obtained prior to demolition activities. Materials removal is expected to be completed prior to initiation of mineral extraction in Phase 2 and would be completed under inspection by the County and/or the local Fire Department.

All existing on-site structures are proposed to be demolished, as follows:

- Phase 1: existing residential structure, Lakes Course restroom
- Phase 2: maintenance facility, clubhouse
- Phase 3: Ivanhoe Course restroom

Prior to demolition, each structure would be surveyed for ACMs and lead by certified individuals. After the results of the surveys are provided, demolition permits would be obtained through the County PDS Building Division. If ACMs or lead are present in the structure scheduled for demolition, a licensed abatement contractor would remove hazardous materials from the structure prior to the demolition contractor dismantling the structure. ACMs and lead-based materials would be disposed of as required by regulation. After ACMs and lead are removed, demolition of the

structure, including the removal of existing septic tanks, as applicable, would be completed in accordance with the requirements of the permit. All construction debris would be recycled or disposed of offsite as required by the permit. Therefore, impacts associated with removal of existing on-site hazardous materials would be **less than significant**.

Hazardous Substance Handling

The Proposed Project would require the handling, storage, and use of hazardous materials to support mining operations. Hazardous materials that would be used during Project implementation include but are not limited to diesel and gasoline fuels, other petroleum hydrocarbons such as lubricating oils and grease, solvents, anti-freeze, degreasers, and polymers (AggreBind) for dust suppression. Small quantities of diesel and gasoline fuels would be stored on site for emergency use, including two five-gallon cans of diesel fuel and one five-gallon can of gasoline. Fuel cans would be stored in a fire-proof locker contained within a metal cargo container located in the processing area. Other petroleum hydrocarbons, such as lubricating oils and grease, would be stored on site within the same cargo container, and are proposed to include one 25-gallon drum of each product. AggreBind, which is a styrene acrylic polymer soil stabilizer for unpaved roadways, would also be stored on site in up to one 25-gallon drum. For application on unpaved roadways, the AggreBind product is first blended/diluted with water. The road is ripped, sprayed with the mixture, and mixed into the soil, graded, and compacted. The road surface is then sealed with the mixture. Following the initial treatment, the roadways do not require continual or recurring application of the product. According to its Material Safety Data Sheet (AggreBind, Inc. 2015), AggreBind is not identified as a significant hazard. Moreover, use of a mobile conveyor is proposed to minimize the use of on-site roads to transport excavated material between the plant and excavation areas. Wash fines would be returned to backfill areas by an off-road, low profile haul truck or tractor-trailer using on-site unpaved roads. Hauling is expected to require approximately four to six round trips per day.

Mobile equipment utilized for Project operations would be maintained by private vendors. Maintenance and repairs on the site's mobile mining equipment would be completed on a level area near the active excavation and away from drainage features. Ground protection and spill containment, which would include plastic sheeting to line a bermed sump and absorbent pads, would be placed in the work area prior to work being conducted on the equipment to contain leaks or accidental spills from reaching the ground. Available clean up materials would include absorbent pads, pillows, dry absorbent, flat nosed shovel, a broom, and a waste container for any clean up materials used. All materials used to clean up a spill would be transported from the site and disposed of at a licensed facility in accordance with state and federal requirements. No other hazardous substances are proposed to be stored on site.

The cargo container, fire locker, and hazardous materials containers would be properly labeled. Containment around the fire locker would be installed to contain leaks and prevent accidental spills from reaching the ground. Quantities of stored hydrocarbons would be maintained below reportable quantities as required by the County CUPA. The Project would comply with all applicable federal, state, and local regulations regarding hazardous substances. As required by Sections 25500-25532 of the H&SC, an HMBP would be prepared for the Project to implement a plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to Section 25503.

Additionally, the Project would not transport, emit, or dispose of hazardous materials in excess of the threshold quantities listed in Chapter 6.95 of the H&SC, generate hazardous waste regulated under Chapter 6.5 of the H&SC, or store hazardous substances in underground storage tanks regulated under Chapter 6.7 of the H&SC. Impacts related to the handling of hazardous substances would be **less than significant**.

Hazardous Substance Handling Related to Schools or Day Care Facilities

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

2. The Project is a business, operation or facility that would handle regulated substances subject to CalARP (California Accidental Release Prevention Program) RMP (risk management plan) requirements that, in the event of a release, could adversely affect children's health due to the presence of a school or day care within 0.25 mile of the facility.

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance for Addressing Hazardous Materials and Existing Contamination (County 2007d).

Analysis

The nearest school to the Project site is Jamacha Elementary School, located approximately 0.25 mile south of the site (see Figure 3.1.4-1, *Jamacha Elementary School with 0.25-mile Radius*). The Project's use of standard equipment materials during construction, operation, and reclamation (e.g., fuels, lubricants, and solvents), would be handled in accordance with DTSC regulations, in addition to all applicable federal, state, and local regulations associated with hazardous materials. The Project would not involve the use of hazardous materials in amounts that exceed the significance thresholds outlined in the CalARP RMP requirements. Furthermore, the majority of equipment maintenance and associated hazardous materials use would occur within the area where the processing equipment is located in the northern portion of the Project site along Willow Glen Drive, greater than 0.25 mile from Jamacha Elementary School. Therefore, impacts related to the use of hazardous substances within 0.25 mile of a school or day care facility would be **less than significant**.

Existing On-site Contamination

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

3. The Project is located on or within 0.25 mile from a site identified in one of the regulatory databases compiled pursuant to Government Code Section 65962.5 or is otherwise known to have been the subject of a release of hazardous substances and, as a result, would create a significant hazard to the public or the environment.

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance for Addressing Hazardous Materials and Existing Contamination (County 2007d).

Analysis

As stated above in Section 3.1.4.1, no open (unresolved) hazardous waste sites or RECs are recorded on the Project site. Two USTs previously present at the Project site have been removed under permit, and soil samples from beneath the USTs contained no detectable concentrations of TPH. Other listing at the Project related to hazardous materials include violations that have been corrected and retuned to complaint status.

The Phase I ESA identified five listed off-site properties that would have the potential to adversely affect the Project site based on the nature and extent of a given release, the distance of the reported release from the site, the stratigraphy of soils, the expected soil permeability, and the topographic position of a reported release site with respect to known or expected local and/or regional groundwater flow direction. As discussed in detail in Section 3.1.4.1, none of the five identified sites was determined to present a REC to the Project site because there either have been no violations associated with the site or past violations have been sufficiently addressed and no longer pose a risk. Therefore, the Project would not be located on or near a hazardous materials site that could cause a significant hazard to the public or the environment, and impacts would be **less than significant.**

Airport Hazards

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

4. The Project is located within an established AIA for a public or public use airport and proposes a development intensity, flight obstruction, or other land use that conflicts with the ALUCP or Compatibility Land Use Plan (CLUP) (if no ALUCP is adopted) and as a result, the project may result in a significant airport hazard. In addition, a significant impact would occur if the proposed project is determined by the FAA to constitute a hazard to aviation based on FAA review of Form 7460-1, is inconsistent with current FAA Heliport Design Criteria for Heliports not subject to an ALUCP or CLUP, or conflicts with FAA rules or regulations related to airport hazards and as a result, the project may result in a significant airport hazard.

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance for Airport Hazards (County 2007g).

Analysis

The nearest airport to the Project site is Gillespie Field, located approximately 6 miles northwest of the Project site. The nearest private airstrip to the Project site is the helipad associated with the Sharp Grossmont Hospital, located approximately 5.3 miles to the northwest. The Project site is not located within either the AIA or Airport Noise Contours for present or projected future conditions (San Diego County Regional Airport Authority 2010). Additionally, the Project site is not located within the FAA Height Notification Zone. The Project is not located within an airport land use plan and does not propose an intensified development, flight obstruction, or other land use that would conflict with an ALUCP or CLUP, or cause a hazard related to airports as determined by the FAA. The Project would not construct a facility that is of a height that would interfere with low-flying aircraft and would not cause a change to air traffic patterns. Therefore, the Project would not interfere with an ALUCP or CLUP and would not cause an aviation hazard as determined by the FAA. **No impacts related to airport hazards would occur.**

Dam Inundation and Oversized Structures

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

5. The Project proposes one of the following unique institutions in a dam inundation zone as identified on the inundation map prepared by the dam owner: hospital; school; skilled nursing facility; retirement home; mental health care facility; care facility with patients that have disabilities; adult and childcare facility; jails/detention facility; stadium, arena, or amphitheater; or any other use that would involve concentrations of people that could be exposed to death in the event of a dam failure. In addition, a significant impact would occur if the project proposes a structure or tower 100 feet or greater in height on a peak or other location where no structures or towers of similar height already exist and as a result, the proposed project could cause hazards to emergency response aircraft resulting in interference with the implementation of an emergency response.

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance for Emergency Response Plans (County 2007e).

Analysis

According to the Safety Element of the County General Plan, the Project site is located within a dam inundation area (County 2011b). On the Inundation Depth Map for the Sunny Day Hypothetical Failure of Loveland Dam, the Project site is identified as occurring within the Loveland Dam inundation zone (Sweetwater Authority 2019). The Loveland Dam and Reservoir are located upstream and approximately 6.5 miles east of the Project site. Although the Proposed Project is within an inundation zone, the Project does not involve or propose to construct a unique facility such as those listed above that would place a high concentration of people within the inundation zone who could be exposed to death in the event of a dam failure. The proposed mining facility would require approximately nine employees, with up to four service vendors and 18 haul

trucks on site at any given time. Moreover, due to the Project's distance from the Loveland Dam, the proposed mining activities would not exacerbate dam hazards. The Project does not propose structures or towers 100 feet or greater in height. Therefore, impacts related to dam inundation and oversized structures would be **less than significant**.

Vectors

Guidelines for the Determination of Significance

The Proposed Project would have a potentially significant environmental impact if:

6. The Project proposes a BMP for storm water management or construction of a wetland, pond or other wet basin that would create sources of standing water for more than 72 hours, and as a result, could substantially increase human exposure to vectors, such as mosquitoes, that are capable of transmitting significant public health diseases or creating nuisances; if the Project proposes a use that involves the production, use, and/or storage of manure, or proposes a composting operation or facility and as a result, could substantially increase human exposure to vectors that are capable of transmitting significant public health diseases or creating nuisances; or if the Proposed Project would result in a substantial increase in the number of residents located within 0.25 mile of a significant offsite vector breeding source including, but not limited to, standing water (e.g., agricultural ponds, reservoirs) and sources of manure generation or management activities (e.g., confined animal facilities, horse keeping operations, composting operations).

Guideline Source

This guideline for significant hazards and hazardous materials is based on criteria provided in the County Guidelines for Determining Significance and Report Format and Content Requirement for Vectors (County 2007f).

Analysis

A project-specific Vector Management Plan was prepared for the Proposed Project in consultation with DEHQ to evaluate potential on-site vector sources (EnviroMINE 2021c). The Project would not involve the production, use, and/or storage of manure, and does not propose a composting operation or facility. While equestrian use associated with future on-site trails could potentially be a source of manure on the Project site, quantities would be minimal and are not expected to result in substantial vector control issues associated with those types of uses. Other potential on-site sources of vectors resulting from Project implementation are discussed below.

Mosquitos

Mosquito breeding at the Project site could result from the collection of water within the proposed mining areas, process settling ponds, and/or the Sweetwater River. Each of these potential vector sources is evaluated below.

Mining Areas – Groundwater would likely be encountered during mining activities; therefore, excavation areas would be limited to five acres in size at any time. This would be accomplished

by backfilling mined out areas with wash fines and overburden prior to expanding the excavation area size. Mined out areas would be backfilled to an elevation above groundwater level as the mining phases advance. Mining areas would be monitored and managed to achieve proper vector control for mosquito breeding. Additional corrective measures may include pumping of standing water and removal of vegetation to avoid creating habitat for mosquito larvae.

During mining, the Project site would establish temporary de-siltation basins that would be utilized to capture runoff from existing culverts within Willow Glen Drive and to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Mining and reclamation grading would direct runoff from the disturbed areas towards temporary basins, as necessary, to allow for desiltation and infiltration. The temporary basins would be designed to support stormwater infiltration and would not hold standing water that would provide habitat for mosquito vectors.

Process Settling Ponds – Mining operations associated with the Project would involve the use of three on-site settling ponds, one of which is referred to as the "muck pond," at the processing plant where recycled water would be used in the screening and washing process. These basins would be used to protect surface water quality and to recycle the process water through the settling of silts and clays (wash fines). The ponds also would be used to collect local runoff that may be transporting earthen solids. The ponds would accommodate a constant input of mined material and would be cleaned occasionally by removing the collected sediment. The "muck pond" is where most of the sediment from the wash slurry would settle and would be cleaned more frequently than the other two ponds. The ponds would be cleaned occasionally by removing the sediment collected and maintained by the routine removal of vegetation, sediment, trash, and debris. When ponds are cleaned, the wash fines (silt, clay, and organic material) would be sold as a soil amendment or returned to excavation areas that have been completed to be used as backfill or incorporated into the surface of excavated areas as rough backfilling. Given that the ponds would have a continual influx of sediment and water to screen and wash excavated materials, as well as a continual removal of settled materials, the ponds would not provide suitable habitat for mosquito vectors (e.g., standing water).

Sweetwater River – Water is generally absent from the Sweetwater River streambed within the Project site throughout most of the year; surface water is ephemeral and only present during precipitation events or water releases from the Loveland Reservoir. On-site, the streambed is generally unvegetated and subject to maintenance activities, such as mowing. Water in the Sweetwater River may occur during periods of high intensity rain and local runoff events; however, ponding during these events would be short term due to high infiltration rates of the native streambed material.

The mining operator would control mosquito breeding using BMPs in accordance with requirements of the San Diego County DEHQ, as described in the Project Vector Management Plan (EnviroMINE 2021c). An active management plan would be implemented as part of the Project BMPs to ensure that water collected in the mining areas, process settling ponds, and Sweetwater River does not propagate the breeding of vectors (refer to Chapter 7.0, *List of Mitigation Measures and Environmental Design Considerations*). The plan would include both monitoring requirements and corrective measures, including visual inspection monthly during the wet season (October through March) and weekly during the dry season (July through September)

for the presence of vectors. Corrective measures such as clearing of emergent vegetation (e.g., cattails, sedges, etc.) when recommended by the County DEHQ Vector Control Program, or when emergent vegetation is in excess of 50 percent of the surface area, would be implemented. Vegetation clearing is intended to prevent habitat for mosquito larvae and refuge from predation by predatory fish, if present.

Rodents

The proposed plant area would include a processing plant, a mobile modular unit used for the scale booth and a site office, and metal cargo containers to store tools or small equipment. The existing golf course building structures, including the clubhouse and maintenance facility, would be demolished at the end of Phase 2 mining. These buildings and structures may attract rodents to the Project site. The Vector Management Plan identifies good housekeeping practices to avoid attracting rodents to the buildings and structures at the Project site. BMPs for rodents include placing all trash and debris in sealed bins, timely removal of refuse by a licensed disposal company, and the use of traps to control rodents if observed. Furthermore, the Vector Management Plan recommends the training of all on-site staff on how to avoid and control potential vectors through ongoing monitoring and maintenance activities.

Implementation of the Project Vector Control Plan would reduce or eliminate on-site conditions that could provide a suitable environment for vectors. Therefore, the Project would not result in a substantial increase in the number of residents exposed to a significant vector breeding source. The Project would not substantially increase human exposure to vectors that are capable of transmitting significant public health diseases or creating nuisances. Therefore, impacts would be **less than significant**.

3.1.4.3 *Cumulative Impact Analysis*

Handling and Storage of Hazardous Materials

The cumulative impact study area for the issue of hazardous substance handling consists of a five-mile radius from the Project site, with specific projects listed in Table 1-11 in Chapter 1.0 of this EIR. The cumulative projects in the vicinity of the Proposed Project include residential developments, a church, updates to an existing school, a new school, commercial development, and a retail/self-storage development. Proposed development projects could create hazards to the public and environment during the routine transport, use, and disposal of hazardous materials associated with construction activities; however, impacts related to the handling of hazardous materials would be site specific. Substantial handling of hazardous substances is not typical for the operation of the types of developments proposed in the cumulative study area. Furthermore, the Proposed Project and cumulative projects would be required to comply with all applicable federal, state, and local regulations associated with handling and storage of hazardous materials, including preparation of an HSBP for all projects meeting the threshold identified in H&SC Section 22507(a)(1)(A). The projects and the Proposed Project are not anticipated to store hazardous materials above threshold quantities, and if they do, they would prepare a hazardous materials management plan in accordance with County requirements. Therefore, cumulative impacts related to use, handling, and storage of hazardous materials would be **less than significant**.

Hazardous Substance Handling Related to Schools or Day Care Facilities

Two of the cumulative projects listed in Table 1-11 in the Project Description of this EIR are projects related to schools. The Cuyamaca College Master Plan Revisions Project involves updates to the school's master plan. Cuyamaca College is an existing school located approximately 1.2 miles west of the Project site. The cumulative project would not introduce a new school within 0.25 mile of the Proposed Project. The College Preparatory Middle School Project involves the construction of a new school, located approximately 3 miles west of the Project site. The new school would not be located within 0.25 mile of the Proposed Project. The remaining projects listed in Table 1-11 do not involve the construction of a school or day care facility that could potentially be affected by hazardous materials handling associated with the Proposed Project. The Proposed Project, along with the other cumulative projects, would be required to comply with applicable federal, state, and local regulations associated with handling of hazardous substances. Therefore, cumulative impacts to schools or day care facilities related to the handling of hazardous substances would be **less than significant**.

Existing On-site Contamination

No open hazardous waste sites cases are located within 0.25 mile of the Proposed Project site. In general, impacts related to existing hazardous materials sites are site specific and not cumulative in nature, because potential risks identified for an individual project are not likely to affect potential risks elsewhere in the community (i.e., they would not combine to increase effects). Furthermore, the Proposed Project, along with the other cumulative projects, would be required to comply with applicable federal, state, and local regulations governing hazardous materials contamination. Therefore, cumulative impacts related to existing contamination of hazardous substances would be **less than significant**.

Airport Hazards

Cumulative development may be located within an area that could create safety hazards related to airport operations depending on the size of the cumulative project and proximity of the project to public airport safety zones and private airstrips. However, impacts related to airport hazards are site specific and not cumulative in nature. Neither the Proposed Project nor the cumulative projects would introduce a new airport or private airstrip into the region or exacerbate risks associated with existing airports or private airstrips. Each of the cumulative projects would be required to comply with applicable ALUCPs, CLUPs, and FAA regulations governing air space protection and the development of potential flight hazards. Therefore, cumulative impacts related to airport hazards would be **less than significant**.

Dam Inundation and Oversized Structures

The Project site and portions of the cumulative study area are located within the dam inundation area of the Loveland Reservoir. The Proposed Project would not exacerbate potential dam hazards or increase exposure of persons to flood hazards. Only one of the cumulative projects, the Ivanhoe Ranch residential project, is located within the Loveland Reservoir dam inundation area. Although this project has the potential to introduce new residents who could be exposed hazards associated with dam failure, the residential project does not propose a unique institution that would involve

large concentrations of people with increased exposure to death in the event of a dam failure. Therefore, the Proposed Project would not contribute to a cumulatively significant impact involving dam inundation.

The Project does not propose structures or towers 100 feet or greater in height. Although detailed building height information is not available for all of the cumulative projects, it is assumed that construction of structures or towers 100 feet or greater in height that would interfere with emergency response would need FAA and local agency approvals. Therefore, the Proposed Project would not contribute to a cumulatively significant impact involving oversized structures or interference with implementation of an emergency response plan. Cumulative impacts related to dam inundation and oversize structures would be **less than significant**.

Vectors

The cumulative projects within the study area may include design features, such as bioretention basins or other BMPs, which could result in areas of standing water and ultimately attract vectors. As noted above, implementation of the Project would not provide a suitable environment for vectors and would not result in a substantial increase in the number of residents exposed to a significant vector breeding source due to the implementation of the Project-specific Vector Management Plan and associated BMPs. Although there is potential for vectors to occur within the cumulative project area, the County requires projects to demonstrate that design features that could result in areas of standing water are avoided or minimized through development and implementation of a Vector Management Plan if necessary. Therefore, cumulative impacts related to vectors would be **less than significant**.

3.1.4.4 *Significance of Impacts*

As discussed above, no significant impacts related to hazards and hazardous materials would result from the Proposed Project and no mitigation is required.

3.1.4.5 *Conclusion*

Implementation of the Proposed Project would not cause significant adverse effects related to hazards and hazardous materials. The Proposed Project would not handle, generate, store, or use hazardous substances in a manner that would cause significant impacts to health and safety. The Project would implement measures to minimize potential impacts to nearby schools and day care facilities. The site does not have known existing on-site contamination of hazardous substances and would not cause or experience hazards related to airports. Although the Project site is located in a dam inundation zone, the Project would not involve the introduction of new residents into the area that would experience impacts as a result of dam failure. The Project does not propose structures 100 feet or greater in height and would not substantially increase human exposure to vectors as a result of Project operations.

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Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

On-site Above Ground Storage Tanks Location

Figure 3.1.4-1

I:\PROJECTS\S\SIR\SIR-02_Cottonwood\Map\EIR\Fig3.1.4-2_JamachaElementary.mxd SIR-02 4/8/2021 -RK

0 1,500 Feet

Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

Jamacha Elementary School with 0.25-mile Radius

Figure 3.1.4-2

3.1.5 Hydrology and Water Quality

The following section describes the existing conditions related to hydrology, drainage, groundwater, and water quality within the Project site and vicinity, and provides a discussion of existing conditions, applicable policies and regulations, and an analysis of Project effects. This discussion is based on the following reports prepared for the Project: Drainage Study (Chang Consultants 2021a; Appendix O); Stormwater Quality Management Plan (SWQMP; Chang Consultants 2021b; Appendix P); Groundwater Use Analysis (EnviroMINE 2021d; Appendix Q); Groundwater Investigation Report (Geo-Logic Associates 2021a; Appendix R); Sediment Load Analysis (Geo-Logic Associates 2021b; Appendix S); and Water Quality Evaluation Report (Geo-Logic Associates 2021c; Appendix T). Existing hydraulic conditions at the Project site are based on a Letter of Map Revision (LOMR) prepared by Rick Engineering Company that was approved by the County and Federal Emergency Management Agency (FEMA).

3.1.5.1 *Existing Conditions*

Regional Drainage and Climate

A watershed is defined as an area of land that drains to a common outlet. The Project site is located within the Sweetwater Hydrologic Unit (HU), which is one of 11 major watershed areas identified in the San Diego Regional Water Quality Control Board (RWQCB) Water Quality Control Plan for the San Diego Basin for Region 9 (Basin Plan, 1994 as amended; RWQCB 2016). The Sweetwater HU is an elongated area of about 230 square miles including the Sweetwater River, and is the largest of three watersheds that drain into San Diego Bay. The Sweetwater HU includes urbanized parts of the cities of Chula Vista, Lemon Grove, National City, and the unincorporated communities of Spring Valley and Rancho San Diego. Land uses throughout the Sweetwater HU include mostly undeveloped and open space lands (about 60 percent; Project Clean Water 2020). Major water bodies within the Sweetwater HU include the Sweetwater River, the Sweetwater Reservoir, and the Loveland Reservoir. Annual precipitation within the Sweetwater HU varies between 11 inches at the coast and 35 inches inland (RWQCB 2016). Figure 3.1.5-1, *Project Site Watershed*, shows the Proposed Project site in relation to the boundaries of the Sweetwater HU.

Local Drainage

The Sweetwater HU is divided into three distinct hydrologic areas (HAs) based on local drainage characteristics, consisting of the Lower Sweetwater, Middle Sweetwater, and Upper Sweetwater HAs. The Project Site is within the Middle Sweetwater HA, which contains primarily undeveloped and vacant land, as well as residential, open spaces/preserves, and transportation land uses (SDIRWMP 2019). The Project Site's direct receiving water body is the Sweetwater River which flows through the site. The Sweetwater Reservoir is located approximately 2.8 miles downstream and southwest of the Project Site; the Loveland Reservoir is located approximately 10 miles upstream and northeast of the Project site; and the San Diego Bay is located about 13 miles west of the Project Site.

Downstream of Loveland Reservoir, including within the Project site, the Sweetwater River is dry the majority of the year but collects storm water runoff from the surrounding watershed during

large storm events. The 100-year storm flow volume of the Sweetwater River at the Project site is estimated at 29,500 cubic feet per second (cfs) (Chang Consultants 2021a).

Water Transfers

Loveland Reservoir and Sweetwater Reservoir are both owned and operated by the Sweetwater Authority for municipal use and irrigation and are connected via the Sweetwater River. Both Loveland Reservoir and Sweetwater Reservoir are a vital part of the San Diego region's drinking water supply. The Authority has senior water rights along the Sweetwater River. These water rights were acquired by the Authority through its predecessors and allow the Authority to transfer water from Loveland Reservoir to Sweetwater Reservoir along the Sweetwater River channel.

Most of the water stored in Loveland Reservoir is collected from natural runoff and is transferred downstream to the Sweetwater Reservoir where it is treated prior to distribution for consumption by municipal water customers. The Loveland Reservoir has an uncontrolled spillway and overtopping events occur when the water level exceeds the spillway crest. The most recent overtopping event at the Loveland Reservoir occurred in 2011 (Sweetwater Authority 2021a). Water transfers from the Loveland Reservoir to the Sweetwater Reservoir via the Sweetwater River channel can occur at rates of up to 358 cfs (about two to four feet in depth within the river channel) and take place generally during the winter months or early spring when water loss due to infiltration is at its lowest point (Chang Consultants 2021a). The most recent transfers occurred during the winters of 2021, 2019, 2017, and 2013 (Times of San Diego 2021 and San Diego Union-Tribune 2019). Under current conditions, the transferred water flows in a naturally lined, trapezoidal channel constructed within the golf course. The channel transitions to a broader riparian channel near the downstream portion of the site.

Surface Water Quality

In 2018, the portion of the Sweetwater River above Sweetwater Reservoir was evaluated as impaired on the Clean Water Act Section 303(d) list associated with aluminum, benthic macroinvertebrates bioassessments, selenium, total nitrogen, and indicator bacteria. Probable sources contributing to the impairment include impacts from hydrostructure flow regulation/modification, non-point sources, subsurface (hardrock) mining, urban runoff/ stormwater sewer, and other unknown sources (USEPA 2018a). The Sweetwater Reservoir, which is downstream of the Project site, is listed as impaired associated with dissolved oxygen (USEPA 2018b).

Surface waters are assigned beneficial uses by the RWQCB. Beneficial uses are defined as the uses of water necessary for the survival or well-being of people, plants, and wildlife. The portion of the Sweetwater River in the vicinity of the Project site and Sweetwater Reservoir have the following existing beneficial uses, per the Basin Plan (RWQCB 2016): Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Contract Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD). The RWQCB also establishes water quality objectives for various water bodies. The objectives for the Middle Sweetwater HA are listed in Table 3.1.5-1, *Water Quality Objectives for Project Receiving Waters.*

Review of available records conducted for the Project's Water Quality Evaluation Report (Geo-Logic 2021c) indicated few recent surface water samples have been collected within the Project area. A study in 1990 evaluated groundwater and surface water quality within the Middle Sweetwater River area between 1979 and 1990, finding slightly elevated total dissolved solids (TDS) downstream. Nitrate concentrations reported were generally within acceptable limits in the Sweetwater River valley.

Surface water samples were collected from the Sweetwater River upstream of the Project site, mid-site, and downstream during a week of heavy rain in April 2020 that generated sufficient flow within the Sweetwater River. The upstream and downstream surface water monitoring locations were noted as having laminar flow with clear water, while the midstream monitoring location was noted as having turbid flow with brown water. The difference in stream observations at the midstream location compared to upstream and downstream locations is the product of several factors:

- The upstream location and midstream samples were collected on the same day (April 10, 2020) during heavy precipitation. During the event, drainage from Mexican Canyon was flowing turbidly into Sweetwater River approximately 2,000 feet upgradient from the midstream monitoring location. Mexican Canyon drains residential areas and the Steele Canyon Golf Club golf course to the south. This would have only affected the midstream sampling location because the upstream location is upgradient of where Mexican Canyon discharges into Sweetwater River and the downstream sampling location was sampled on a different day (April 14, 2020) when there was no inflow from Mexican Canyon.

- The upstream sampling location is downgradient of a heavily vegetated portion of Sweetwater River. This setting is expected to provide a filtering effect on surface water flows. Between the upstream and midstream monitoring locations there is little to no vegetation within the Sweetwater River; therefore, fast-moving water is likely to put solids into suspension between the upstream and midstream monitoring points. Between the midstream and downstream monitoring locations, Sweetwater River widens and energy within the stream is reduced, allowing solids to settle.

- Flow rates for the Sweetwater River were high during sampling of the upstream and midstream monitoring locations, as sampling was conducted during a storm event (April 10, 2020). Flow rates in the Sweetwater River were lower during sampling of the downstream monitoring location, as sampling was performed after the storm event had occurred (April 14, 2020).

Surface water sampling indicated that water chemistry between the upstream and downstream monitoring points is generally consistent, while several results were elevated for the midstream monitoring point. Elevated monitoring parameters at the midstream monitoring location are associated with the aforementioned points regarding stream conditions during sampling. For example, turbidity was relatively low at the upstream and downstream monitoring locations (6 to 20 Nephelometric Turbidity Units [NTU]), while it was out of range (>800 NTU) for the midstream monitoring location. Similarly, total suspended solid (TSS) concentrations were relatively low and ranged from 8.2 to 14 milligrams per liter (mg/L) in upstream and downstream samples, but these concentrations were significantly elevated (2,400 mg/L) at the midstream

monitoring location. Elevated metals concentrations at the midstream monitoring location (typically elevated by an order of magnitude compared to the other surface water samples) reflect elevated sediment loads in the midstream sample. Nutrients were also typically slightly elevated in the midstream sample relative to upstream and downstream samples. The results obtained generally characterize surface water chemistry for two scenarios: (1) surface water chemistry of laminar flow within Sweetwater River and (2) surface water chemistry of turbulent flow within Sweetwater River, including influences from Mexican Canyon, which flows across the Project site prior to discharging into Sweetwater River. Regardless of flow scenarios listed above, surface water chemistry in samples collected from the Sweetwater River within the project area is characterized as follows:

- High concentrations of coliform (all samples measured at maximum reporting limit), including E. coli.
    - E. coli elevated at the upstream monitoring location (>2.5 times higher) compared to midstream and downstream monitoring locations.
- Absence of several anthropogenic and/or organic compounds, including chlorinated herbicides, organochlorine pesticides, polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs).
- Metal concentrations that are typically below maximum contaminant levels (MCLs) and water quality objectives (WQOs), except for:
    - Iron results elevated above the State secondary MCL (SMCL) and WQO at upstream and midstream monitoring locations.
    - Lead results elevated above the primary State and federal MCL.
    - Manganese results elevated above the State SMCL and WQO at upstream and midstream monitoring locations.
- General chemistry concentrations that are typically below MCLs and WQOs, except for:
    - Phosphorous results elevated above WQO at upstream and midstream monitoring locations.
    - Ratios of nitrogen to phosphorous ranging from approximately 5:1 to 14:1.

Flooding

With a semi-arid climate and highly variable seasonal precipitation, flooding events are infrequent but can be substantial. Flooding in southern California most frequently occurs during winter storm events, between the months of November and April. Flooding occurs occasionally during the summer when tropical storms reach the region. Infrequent large bursts of rain can rush down steep canyons and flood areas quickly and unexpectedly. National Weather Service records of flooding and heavy rainfall events demonstrate that just one-to-two inches of rain over a few days can cause

localized flooding, while events that bring three or more inches of precipitation will induce more severe flooding, including flash floods, mudflows, and landslides.

Most of the Project site is within the 100-year floodplain, as shown in Figure 3.1.5-2, *100-year Floodplain*. Stormwater within the Project site sheet-flows to the Sweetwater River. Stormwater originating upstream from the Project site passes through the site via the Sweetwater River channel. During above-average storm events, the 25,400 acre-feet storage capacity of the Loveland Reservoir is usually exceeded and results in discharge to the Sweetwater River. One of the greatest discharges from the Loveland Reservoir occurred in February 1980 at a volume of about 34,616 acre-feet and rate of about 600 cubic feet per second per day (USGS 2004). This demonstrates that in above average rainfall years, substantial flows within the Sweetwater River channel can occur through the Project site.

Mudflows are considered a form of flooding and can occur frequently in San Diego County (County 2011c, pg. 2.8-22). A mudflow occurs naturally as a result of heavy rainfall on a slope that contains loose soil or debris. Human activity, such as saturation of soil from a broken water pipe or incorrect diversion of runoff from developed areas, can also cause mudflow. The loss of vegetation from natural disturbances like forest fires or human activities can result in destabilization of surface soil and an increase in velocity of surface water runoff, increasing the potential for mudflows.

Mudflows predominately occur in mountainous areas underlain by geologic formulations that contain sandy soils (County 2011c, pg. 2.8-22). Soils with large amounts of clay that shrink and expand with exposure to water also have a high potential for instability and sliding. Mudflows can occur on slopes with an angle as low as 15 degrees but are more frequently found on steeper slopes. The path of a mudflow is determined by local topography and typically follows existing drainage patterns. The fluidity and depth of the water/soil/debris mixture and the steepness of a channel are all variables that can influence the rate of movement of a mudflow; mudflows can be capable of destroying buildings and roadways (County 2011c, pg. 2.8-22).

Dam Failure

Failure of a major dam during an earthquake could cause serious loss of life and property damage. The Project site is located within a dam inundation zone for the Loveland Reservoir, which is located upstream approximately 6.5 miles northeast of the Project site. The Loveland Reservoir was constructed in 1945 and has a maximum capacity of 25,400 acre-feet (Sweetwater Authority 2021b). Inundation due to dam failure is considered unlikely because of state requirements that large dams receive seismic upgrades and routine inspections for safety. In California, the supervision, regulation, and inspection of all large dams that are not federally owned is the responsibility of the Division of Safety of Dams (DSOD). They conduct periodic inspections of dams to identify deficiencies.

Groundwater

Groundwater is produced from eight existing wells placed at various locations on the Project site. Three of the wells are located on the Lakes Course, west of Steele Canyon Road, and the other five are east of Steele Canyon Road. Groundwater is pumped from the wells to a series of golf

course ponds. Water from the ponds is then fed directly into the irrigation lines or pumped to an approximately 3-million-gallon storage reservoir during the day. During nighttime and early morning hours, the stored water in the reservoir and water from wells is used to irrigate golf course vegetation. The storage reservoir is located on a parcel north of Willow Glen Drive that is not part of the Proposed Project.

The County Department of Environmental Health (DEH) identified 114 permitted groundwater wells within one mile of the Project site boundaries. A review of the well location map indicates that most of the wells are in two areas within large-lot, residential parcels on the southern side of the Project site (EnviroMINE 2021d). These two areas, Steele Canyon Estates and the properties near Par 4 Drive, began development in the 1980s and continued into the early 2000s.

Sweetwater Authority has monitored groundwater levels from two monitoring wells on the Property since 2007. One of the monitored wells is located next to the property line on the southwestern end of the Project site (APN 519-010-1500) and the second well is located next to the property line on the northeastern end of the Project site (APN 518-030-1500).

The wells on the golf course are not metered, so estimates were made of groundwater use. Estimation techniques include a golf course superintendent's estimate based on his experience managing the site's irrigation system and evapotranspiration methods (including evaporation from the existing golf course ponds). The estimated groundwater use based on these techniques was approximately 803.6 to 840 acre-feet per year (EnviroMINE 2021d). In order to conservatively compare existing conditions to the net change in groundwater use associated with the Project, the lower amount of 803.6 acre-feet per year is used throughout this analysis.

3.1.5.2 *Regulatory Setting*

Federal

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA), under the Department of Homeland Security, provides a single point of accountability for all federal emergency preparedness and mitigation and response activities. This includes flood hazards. They are responsible for programs that act before a disaster, in order to identify risks and reduce injuries, loss of property, and recovery time. The agency has major analysis programs for floods, hurricanes and tropical storms, dams, and earthquakes. FEMA also works to enforce no-build zones in known floodplains and relocate or elevate some at-risk structures. California is located in FEMA Region IX.

As part of its planning efforts, FEMA provides Letters of Map Revision, in which they formally evaluate modification to flow patterns and either approve proposed actions or require project redesign. A Conditional Letter of Map Revision (CLOMR) is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). It is conditional because it sets forth requirements that must be implemented in order to revise the floodplain and/or floodway following construction.

National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program (NFIP), which provided flood insurance for structures within communities that adopted and enforced floodplain management standards and programs to minimize future flood impacts. The act also required the identification of high and low flood hazard areas within the U.S. and the establishment of flood insurance rates within those areas.

Clean Water Act/National Pollutant Discharge Elimination System Requirements

The Clean Water Act (CWA) was enacted by Congress in 1972 and is the primary federal law regulating water quality in the United States. The National Pollutant Discharge Elimination System (NPDES) was created in Section 402 of the CWA to regulate discharges of pollutants from point sources into the nation's waters. The CWA forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribed the basic federal laws for regulating discharges of pollutants and set minimum water quality standards for all waters of the U.S. Several mechanisms are used to control domestic, industrial, and agricultural pollution under the CWA. At the federal level, the CWA is administered by the United States Environmental Protection Agency (USEPA). At the state and regional level, the USEPA has delegated administration and enforcement of the CWA in California to the State Water Resources Control Board (SWRCB) and the Regional Water Resources Control Boards (RWQCBs). The State of California has developed several water quality laws, rules, and regulations, in part to assist in the implementation of the CWA and related federally mandated water quality requirements. In many cases, the federal requirements set minimum standards and policies, and the laws, rules, and regulations adopted by the SWRCB and RWQCBs exceed the federal requirements. Impacts to Waters of the State and Waters of the U.S. are subject to the requirements of the CWA Sections 401 and 404, as administered by the United States Army Corps of Engineers (USACE) and RWQCBs.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the principal legal and regulatory framework for water quality control in California. This Act is embodied in the California Water Code, which authorizes the SWRCB to implement the provisions of the federal CWA as previously described.

The State of California is divided into nine regions governed by RWQCBs, which implement and enforce provisions of the California Water Code and the CWA under the oversight of the SWRCB. The County is located within the purview of the San Diego RWQCB (Region 9). The Porter-Cologne Act also provides for the development and periodic review of basin plans that designate beneficial uses for surface waters, groundwater basins, and coastal waters, and establish water quality objectives such as those listed for the Middle Sweetwater HA.

State Industrial General Permit

The Industrial General Permit is intended to regulate "…discharges of industrial storm water to waters of the United States." Mining and reclamation activities are subject to requirements under this permit. The principal requirements for conformance with the Industrial General Permit include: (1) identification and elimination of unauthorized non-storm water discharges; (2) development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), including minimum best management practices (BMPs) and measures to reduce or prevent industrial pollutants in storm water discharges pursuant to best available technology economically achievable (BAT) treatment levels for toxic and non-conventional pollutants, and best conventional pollutant control technology (BCT) treatment levels for conventional pollutants (as well as other appropriate water quality standards); (3) use of technology-based numeric action levels (NALs) and numeric effluent limitations (NELs) for applicable projects; (4) performance of appropriate exceedance response actions (ERAs) when NALs are exceeded; (5) implementation of appropriate monitoring/reporting for storm water discharges; and (6) use of appropriately trained personnel, including Qualified Industrial Storm Water Practitioners (QISPs).

State Construction General Permit

Projects that involve land disturbance of one acre or more (or that are part of a larger plan of development that would disturb one or more acres) are subject to pertinent requirements under the Construction General Permit. Specific conformance requirements include implementing a SWPPP, an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (e.g., those in Risk Categories 2 or 3, as described below).

Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the discharge of pollutants in storm water runoff. Depending on the risk level, these may include efforts such as minimizing/stabilizing disturbed areas, mandatory use of technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems. Specific pollution control measures require the use of BAT and/or BCT levels of treatment, with these requirements implemented through applicable BMPs.

While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related County standards (as outlined below), as well as additional sources including the USEPA *National Menu of Best Management Practices for Stormwater* (USEPA 2020), and the *Construction Storm Water Best Management Practices Handbook* (California Stormwater Quality Association [CASQA] 2015). Specific requirements for the Project under this permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

Cobey-Alquist Flood Plain Management Act

The Cobey-Alquist Flood Plain Management Act was established in 1965 to protect people and property from flooding hazards by providing state level legislation and guidance to local governments for planning, adopting, and enforcing land use regulations for floodplain management.

Local

County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance

The most current Watershed Protection Ordinance (WPO) and associated Stormwater Standards Manual (SSM) were adopted in January 2016 with the purpose of protecting the health, safety, and general welfare of the County residents, to protect water resources and to improve water quality, to cause the use of management practices by the County and its citizens that will reduce the adverse effects of polluted runoff discharges on water of the state, to secure benefits from the use of stormwater as a resource, and to ensure the County is compliant with applicable state and federal law. The WPO contains discharge prohibitions and requirements that vary depending on the type of land use activity and location.

The SSM is Appendix A of the WPO and sets out in more detail, by project category, what dischargers must do to comply with the WPO and to receive permits for projects and activities that are subject to the WPO. The WPO and SSM define the requirements that are legally enforceable by the County in the unincorporated area of San Diego County. In addition, the County has adopted its BMP Design Manual (DM) for Land Development and Public Improvement Projects (County 2016). The BMP-DM is focused on project design requirements and related post-construction requirements for land development and capital improvement projects, and addresses WPO requirements for these project types.

San Diego Municipal Separate Storm Sewer System Permit

Per federal regulations, the State of California issues a Municipal Stormwater permit (also known as a NPDES permit) to municipalities that must be renewed every five years. Under this permit, each municipality must develop a stormwater management program designed to control the discharge of pollutants into and from the municipal separate storm sewer systems (MS4) (or from being discharged directly into the MS4). The purpose is to protect local water bodies since storm drains typically discharge their water into streams, bays, and/or the ocean without treatment. Order R9-2013-0001 was adopted by the RWQCB San Diego Region on May 8, 2013 and established waste discharge requirements for discharge of urban runoff from the MS4 of the County of San Diego, the 18 incorporated cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority. Order R9-2015-0001 was adopted on February 11, 2015, amending the Regional MS4 Permit to extend coverage to the Orange County Co-permittees. Order R9-2015-0100 was adopted on November 18, 2015, amending the Regional MS4 Permit to extend coverage to the Riverside County Co-permittees (RWQCB 2015).

San Diego County General Plan

The General Plan (2011b) contains a series of policies in the Conservation and Open Space Element and Safety Element relevant to hydrology and water quality. The reader is referred to Section 3.1.6 of this EIR for a detailed evaluation of Project consistency with the applicable General Plan goals and policies.

County of San Diego Flood Damage Prevention Ordinance

This ordinance was established to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas throughout the County. Pursuant to this ordinance, Special Flood Hazard Areas (SFHA) in the County are identified as areas having a special flood or flood-related erosion/sedimentation hazard and shown on a Flood Insurance Rate Map (FIRM), on a County floodplain map as within a 100-year floodplain, or on an alluvial fan map within an alluvial fan area. This ordinance defines methods to accomplish the goals of reducing flood losses, including: restricting uses which are dangerous to health, safety and property due to erosion or water hazards; requiring uses vulnerable to floods to be protected against flood damage at the time of construction; controlling the alteration of natural floodplains; controlling filling, grading, or dredging which may increase flood damage; and preventing construction of flood barriers which will divert flood waters or increase flood hazards in other areas. This ordinance also provides for provisions for standards of construction and standards for subdivisions in areas of special flood hazards. By complying with the requirements of the Flood Damage Prevention Ordinance, projects are considered to be in compliance with FEMA regulations.

County of San Diego Resource Protection Ordinance

Pursuant to Section 86.605 of the RPO, mineral resource extraction is permitted in a floodway, with an approved MUP and Reclamation Plan, provided that mitigation measures are required that produce a net gain in the functional wetlands and riparian habitat. Modifications to the floodway must meet design criteria, and concrete or rip rap flood control channels are allowed only when specific findings are made.

San Diego County Groundwater Ordinance

The County currently manages anticipated future groundwater demand through the County Groundwater Ordinance, which became effective in 2004. This Ordinance does not limit the number of wells or the amount of groundwater extraction of existing landowners. However, the Ordinance does require analysis of potential groundwater impacts for projects requiring specified discretionary permits. Existing land uses are not subject to the Ordinance unless a listed discretionary permit is required and the use of groundwater is proposed.

Board of Supervisors Policy I-45: Definition of Watercourses in the County of San Diego Subject to Flood Control

The purpose of this policy is to define those watercourses in the County that are subject to flood control so that appropriate responsibility can be determined. Watercourses subject to flood control are defined as those that serve one square mile or more of watershed shown on the map on file

with the Clerk of the Board as Document #468904. The policy was developed because consideration of flood control methods is essential in the land use decision-making process and the failure of flood control systems may result in property damage and loss of life. The policy provides for maps that specifically designate the watercourses subject to flood control, thus eliminating the uncertainty and providing a clear and easily accessible record of the flood control district's area of concern.

Board of Supervisors Policy I-68: Proposed Projects in Flood Plains with Defined Floodways

This policy was developed to identify procedures to be used when proposed projects impact floodways as defined on County floodplain maps. The policy defines procedures to be implemented for the following types of proposals: major construction that would change the floodplain or floodway; relocation of a floodway; partial filling of the floodplain fringe; erosion and sedimentation in a floodplain; increased flood flows; and concrete or rip rap facilities.

3.1.5.3 *Analysis of Project Effects and Determination as to Significance*

Water Quality

Guideline for the Determination of Significance

A significant impact related to water quality would occur if the Proposed Project would:

1. Consist of a development project listed in County of San Diego, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and does not comply with the standards set forth in the County BMP Design Manual (County 2016), Regulatory Ordinances 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.

2. Drain to a tributary of an impaired water body listed on the Clean Water Act Section 303(d) list, and contribute substantial additional pollutants for which the receiving water body is already impaired.

3. Contribute pollution in excess of that allowed by applicable State or local water quality objectives or cause or contribute to the degradation of beneficial uses.

4. Fail to conform to applicable Federal, State or local “Clean Water” statutes or regulations including, but not limited to, the Federal Water Pollution Control Act (Clean Water Act) California Porter-Cologne Water Quality Control Act and the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance.

Guidelines Source

Guideline Nos. 1 through 4 are derived from Section 4.0 of the County Guidelines for Determining Significance – Surface Water Quality (County 2007i).

Analysis

As described above in Section 3.1.5.1, the Project site's direct receiving water body (Sweetwater River) and downstream receiving water body (Sweetwater Reservoir) are impaired for various pollutants. Both receiving water bodies also have beneficial uses and WQOs established by the RWQCB. Impacts to water quality from mining operations and reclamation activities could create new or exacerbate existing effects to the water quality of the receiving water bodies. The Project's site development, material extraction, and reclamation activities would involve ground disturbance, movement of earth material, and use of heavy equipment. Sediments from disturbed ground (specifically roadways and manufactured slopes), particulates from extracted material, and chemicals (e.g., diesel fuel and lubricants) associated with mining equipment could be discharged into receiving waters, which would have the potential to degrade water quality, impair beneficial uses, and conflict with WQOs set forth in the Basin Plan; however, such potential effects would be minimized through compliance with current federal, State, and local regulations.

A SWPPP would be prepared and submitted to the SWRCB prior to construction in accordance with the Industrial General Permit Order 2014-0057-DWQ, effective July 1, 2015. The Industrial General Permit would require stormwater analyses of pH, TSS, oil and grease, and nitrate/nitrite. The SWPPP and erosion control plan would define BMPs to prevent erosion and the discharge of sediment to surface waters. If needed during mining, small desiltation basins may be temporarily constructed to capture runoff from existing culverts within Willow Glen Drive and to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Runoff would be directed from the disturbed mining and reclamation areas towards the basins, as necessary, to allow for de-siltation and infiltration. Typical soil stabilization BMPs include preservation of existing vegetation, mulch, hydroseeding, soil binders, geotextiles, lining of drainage ditches, and/or velocity control structures. At a minimum, erosion and sedimentation control measures would be designed for the 20-year, 1-hour storm event in accordance with SMARA guidelines. Silt fences would be installed five feet from the outer edge of each side of the existing Sweetwater River channel and may be installed in other areas as needed. Other erosion control measures would include monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, compacting soils with equipment, and re-grading as necessary. Vehicle track out and dust-related BMPs may include paved or stabilized roadway surfaces, tire washes, use of grates at vehicle entrances and/or exits, soil stabilizers, and water spray. Temporary erosion control measures would be retained until vegetation becomes sufficiently established to serve as an effective erosion control measure. Recommended erosion and sedimentation control measures would be described in detail in the Project SWPPP. With implementation of the Project SWPPP and compliance with Industrial General Permit requirements, impacts to water quality during the Project's site development, mining operations, and reclamation activities would be less than significant.

Upon completion of mining operations, the Project site would be restored to an end use of open space, recreational trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. The reclamation plan for the riparian corridor is intended to stabilize the post-extraction landform and establish a productive native vegetative cover. For the areas outside the riparian corridor, the revegetation plan is intended to stabilize the surface and control erosion. Based on these factors, the reclaimed site would not have significant effects on water quality.

As detailed in the SWQMP prepared for the Project (Chang Consultants 2021b) to address the increase in impervious surfaces associated with the Willow Glen Drive improvements, stormwater runoff from the improved roadway area would be directed along the southerly curb of Willow Glen Drive. A proposed spillway would be installed along the westerly end of the road improvements to convey the runoff into tree wells just south of the roadway, thus restricting discharge of polluted runoff into receiving waters. Two tree wells with a 25-foot mature tree canopy diameter would be installed to satisfy the required treatment volume.

In summary, compliance with applicable federal, State, and local water quality related regulations would minimize impacts to the water quality of surrounding receiving waters during the Project's site development, mining, and reclamation activities. As such, the Project would comply with County standards related to water quality, would not contribute pollutants to an impaired water body, would not contribute pollution in excess of that allowed by State or local objectives, and would conform to applicable federal, State, and local "Clean Water" statutes and regulations. **Impacts related to water quality would be less than significant.**

Groundwater Storage/Well Interference

Guideline for the Determination of Significance

A significant impact related to groundwater storage or well interference would occur if the Proposed Project would:

5. Result in a 50 percent reduction of groundwater in storage (Water Balance Analysis) for proposed projects in fractured rock basins, a soil moisture balance, or equivalent analysis, conducted using a minimum of 30 years of precipitation data, including drought periods, concludes that at any time groundwater in storage is reduced to a level of 50 percent or less as a result of groundwater extraction.

6. Result in a decrease in water level of 5 feet or more in off-site wells as indicated by results of a five-year projection of drawdown. If site-specific data indicates alluvium or sedimentary rocks exist which substantiate a saturated thickness greater than 100 feet in off-site wells, a decrease in saturated thickness of 5 percent or more in the off-site wells would be considered a significant impact.

Guideline Source

Guidelines No. 5 and 6 are derived from Section 4.0 of the County Guidelines for Determining Significance – Groundwater Resources (County 2007j).

Analysis

Project Water Use

Consumption of groundwater associated with the Project would include use of water for mining activities (referred to as consumed process water), evaporation from temporary excavation pits, and irrigation of landscaping and revegetation areas during reclamation. Once revegetated areas

have met performance standards approved by the County, no groundwater consumption is anticipated for the post-reclamation period.

Consumed Process Water

Sand quarries use water to move material on-site as a slurry, wash the material for use off-site and water roads. The total amount of water used in the mining and processing is "handled water." The majority of this water is re-used on site, with water that is lost from the site during the mining and processing referred to as "consumed water."

Consumed water is the total consumptive groundwater usage for the proposed mining operation. A study conducted to quantify consumed water use at sand and gravel mines (Golder 2006) identified three primary pathways for water loss from a quarry site:

1. Retained moisture on aggregate product that is shipped from the site;

2. Water that is applied directly on haul roads and stockpiles for dust control, which typically evaporates before being able to infiltrate into the ground; and

3. Wash water evaporation from stockpiled materials.

Based on that study, the consumptive use for these pathways equals 25.9 gallons/ton (Golder 2006). Using this consumptive use for the Project at a production of 570,000 tons/year, the consumptive use would equal 45.3 acre-feet per year. This figure was adjusted upwards to reflect localized evaporation and precipitation rates as well as tonnage differences. This resulted in an estimate of 64.0 acre-feet per year from the above-noted pathways, consisting of 23.4 acre-feet per year of water taken off site within exported mining materials, 20.3 acre-feet per year for dust control, and 20.3 acre-feet per year from evaporation from stockpiles (EnviroMINE 2021d). A water truck would water material stockpiles and unpaved areas periodically throughout the day for dust suppression purposes. Other water requirements include surface watering of outgoing loads, dust suppression for the processing equipment, material washing, and irrigation. The frequency of watering for dust control would be based on the performance measures identified in the Fugitive Dust Control Plan (refer to Appendix I of this EIR). Such measures include providing a sufficient watering frequency such that there are no visible emissions eight feet above haul roads and watering at two-hour intervals during any time the project is in operation unless the road surface appears wet. The Project SWPPP would further define the BMPs to which mining operations must adhere to in order to comply with applicable regulations for transport of soil by wind.

Excavation Pit Evaporation

Three excavation pit areas where groundwater may be encountered are planned for the Proposed Project. The first pit would be excavated during Phase 1 on the northern side of the river channel and south of Willow Glen Drive (subphase 1C area on Figure 1-4). This pit would be progressively backfilled as the excavation continues. Exposure of groundwater as a free water surface would be limited to approximately five acres in size over an 18-month period or less. This pit would be completely backfilled prior to the completion of this phase. No pond or free water surface would remain.

The second pit would start to be excavated in the eastern half of the Phase 2 area (subphase 2C area on Figure 1-4) and would continue in a northeasterly direction toward the Phase 3 area (subphase 3C area on Figure 1-4). This pit would be located south of the existing channel and east of Steele Canyon Road. The pit would not connect with the channel. As with the first pit, this second pit would be progressively backfilled as it proceeds to the northeast and would be limited in size to approximately five acres or less of exposed groundwater at any time. It is expected that this entire pit would be excavated over a two-year time frame. This pit would also be completely backfilled during subphase 3C.

The third pit would be completed in the northeastern corner of the Project site during Phase 3 (subphase 3A area on Figure 1-4) and would be similar to the first two pits in size. It would also be limited to five acres in size if groundwater is encountered. This final pit would be completely backfilled prior to the end of Phase 3.

Evaporation from the pit ponds is calculated to be 20.3 acre-feet per year (EnviroMINE 2021d).

Irrigation

Irrigation would be used on the revegetated areas for two years after seeding and planting to establish vegetation, encourage growth, and help ensure survival. Irrigation would be discontinued in an area after the second year. The timing and frequency of irrigation would be based on the Project Biologist's recommendations, the water needs of various seed palettes used for the Project and weather conditions during the year. For example, during the rainy season when rains are more frequent and heavier, irrigation would occur between storms and would be off during, and shortly after, rain events. Weather-based automatic controllers (or rain sensors) capable of turning the system on and off would be used on the irrigation system for this purpose. During the drier months of the year after initial establishment, the irrigation schedule may be modified to a lower frequency and longer cycle. Over the two-year period, the number of days per week watering, the cycles per day and run times would be incrementally reduced to eliminate dependency of the vegetation on irrigation.

Irrigation would also be used for landscaping and plantings of vegetation for the purpose of screening the operation. Areas identified for these purposes would be irrigated throughout the year and over the lifespan of the project.

Irrigation water consumption was calculated using the County of San Diego Planning and Development Services Water Efficient Landscape Worksheet (Form PDS-405). The total estimated water use for irrigation is 55.6 acre-feet per year (EnviroMINE 2021d).

Summary

The total estimated Project water usage is 139.9 acre-feet per year, which is a reduction of approximately 663.7 acre-feet per year relative to current golf course consumption estimated at 803.6 acre-feet per year. Thus, the Project would utilize approximately 17 percent of the annual water used historically by the existing golf course operation.

Reduction in Groundwater Storage

The net reduction in groundwater removed from storage as a result of Project implementation is approximately 664 acre-feet per year during the Project's mining operations, as presented above. This reduction in groundwater use would result in a substantial improvement in the amount of groundwater in storage. Following full reclamation of the site (i.e., after plants have become established), groundwater use, including for artificial irrigation, would not be required; however, because the post-mining conditions would include groundwater-dependent native plants, some groundwater would be lost through the plants via evapotranspiration. This ongoing loss of groundwater was calculated for vegetation communities currently on site that are to remain and for vegetation communities that would be established during the Project's reclamation activities. Based on the depth to groundwater, plant species, plant density, microclimate, and evapotranspiration rate for the site, the total loss of groundwater from on-site plant evapotranspiration is calculated to be 337 acre-feet per year (Geo-Logic Associates 2021a). Thus, the overall net reduction in groundwater use is calculated to be approximately 467 acre-feet per year less than the existing use for the golf course at the conclusion of the Project, resulting in approximately 58 percent more groundwater in storage compared to the prior golf course demand.

For further analysis of groundwater in storage, maps showing the distribution of the potable water supply provided by the County Water Authority agencies on the Project site and in the vicinity of the Project site were reviewed. A tributary watershed was delineated to include the Project site and extending within the Sweetwater River watershed up to the Sycuan Indian Reservation to identify the drainage area upgradient of the Project site. The purpose of this evaluation was to identify areas within the watershed that were outside of a County Water Authority agency service area at full build out under the County General Plan, and thus would be solely reliant on groundwater for water supply. Review of the delineated area with County Water Authority agency coverage indicated that the majority of the area is served by Otay Water District with limited areas being served by Padre Dam Municipal Water District and Helix Water District. Therefore, there are no areas within the drainage area that would be reliant solely on groundwater at full build out under the County's General Plan.

Under the anticipated Project water demand requirements, and based on the above analysis of groundwater in storage, **the proposed Project would have a less than significant impact to groundwater storage.**

Well Interference

To evaluate impacts from pumping for the Project, a five-year projection of drawdown at the nearest off-site wells and at groundwater dependent habitat and a demonstration that the wells have the capacity to be able to produce the groundwater required for the Project were performed.

Although the Project may use any or all of its eight wells on site for its water supply, to provide a conservative well interference analysis, assumptions were made to evaluate drawdown to the nearest off-site well. Based on the location of the processing area near the middle of the property and northeast of the Steele Canyon bridge, the process water may be provided by the Ivanhoe #8 well and/or Ivanhoe #1 well for the majority of the Project operations, before the operations move into that area of the site. It was assumed that the entire annual volume of the Project's process

water (84.3 acre-feet per year) would be obtained from the Ivanhoe #8 well, a well that is closer to some of the off-site wells, and that it would be pumping continuously at that rate for five years. Reclamation would begin on the southern end of the property, in the Phase 1 area, which is closer to off-site wells. Groundwater for irrigation may be provided by the Lakes #11 well, supplemented by the Lakes #15a and/or #15b wells in the first year before they are abandoned in the second year, or groundwater could be pumped from one or more of the Ivanhoe wells to the north of the Phase 1 area. Subhases 1B (26.5 acres) and 1C (30.4 acres) were identified as being the two largest areas to be reclaimed, and also located in close proximity to off-site well users. Although each area would be irrigated sequentially for two years, with only one year of overlap, it was assumed that all 56.9 acres within these two subphases would be irrigated for two full years using the Lakes #11 well alone. Using irrigation water consumption factors for this acreage, an upper estimated 62.5 afy of groundwater was calculated and assumed to be pumped continuously for two years.
It was calculated that the maximum drawdown at the nearest off-site well located 1,375 feet away from the Ivanhoe #8 well, pumping at a rate of 84.3 acre-feet per year (52 gpm) for the Project's process water, is less than 3 feet after two years. Additional pumping from the Ivanhoe #8 well for five years is calculated to be less than 4 feet at the nearest off-site well, located 1,375 feet away. Drawdown at the nearest off-site well located 1,600 feet from the Lakes #11 well, pumping at a rate of 62.5 acre-feet per year (39 gpm) to irrigate reclaimed subhase 1B and 1C areas, is 2 feet after two years of groundwater extraction. Based on these calculations, the 5-foot threshold value established by the County for off-site well interference would not be exceeded over a five-year period with the proposed Project pumping rates or under this more conservative two well pumping scenario. Well interference from groundwater production would not result in a significant decrease in water levels (5 feet or more) in off-site wells after a five-year projection of drawdown, and **impacts associated with well interference would be less than significant.**

Alteration of Existing Drainage Patterns

Guideline for the Determination of Significance

A significant impact related to drainage patterns would occur if the Proposed Project would:

7. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion, siltation, or flooding on- or off-site.

Guideline Source

Guideline No. 7 is based on the County Guidelines for Determining the Significance – Hydrology (County 2007k).

Analysis

A Drainage Study was prepared for the Proposed Project (Chang Consultants 2021a), which evaluated the hydraulic effects of the Proposed Project on existing drainage patterns within the Sweetwater River floodplain. The Project would affect the drainage pattern of the site through mining activities, addition of impervious surfaces, installation of a conveyor belt, and revegetation. The hydraulic models and analyses compared existing and proposed conditions to evaluate the

effects of the proposed mining and restoration activities on flood conveyance through the Project site.

A sizeable portion of the Sweetwater River floodplain would be altered within the Project site boundaries. The bottom of the trapezoidal channel would, however, be undisturbed in order to minimize impacts to jurisdictional resources and allow Sweetwater Authority water transfers to continue along their current path. The maximum transfer flow rate of 358 cfs can be conveyed within the trapezoidal channel footprint at a depth of approximately two to four feet. To ensure that excavation activities would not substantially affect Sweetwater Authority water transfers between the Loveland and Sweetwater reservoirs, mining activities proposed during the rainy season (November through March) would be located away from the river channel, to the extent feasible. If mining would occur within 10 feet of the low-flow channel, berms approximately five feet in height would be constructed to separate the operations areas from the channel, as needed. The berm locations can be adjusted as mining progresses and would be set back from mining activities. Berms may also be incorporated upon final reclamation, where needed, to reduce potential loss of water during scheduled transfers.

All extractive activities would take place within areas lying adjacent to the existing channel and extend outwards to the Project limits. Excavation in these areas would average approximately 20 feet bgs across the site and some areas would be excavated to a maximum depth of 40 feet bgs. The result of the extractive activities would be to lower upland areas that currently lie adjacent to the channel, increasing the capacity for stream flows within the defined floodway.

While mining projects are exempt from hydromodification BMPs specified in the County WPO, BMPs to control stormwater discharge from the Project site would be required. Mining activities would require coverage under the Industrial General Permit, involving the preparation of a SWPPP that includes erosion and sediment control BMPs to minimize erosion and sedimentation from occurring on site. To minimize effects related to erosion, the Project may utilize small, temporary desiltation basins to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Permanent erosion control structures would include a drop structure at the eastern end of the site where the Sweetwater River enters the property, a riprap structure on the west side of the Steele Canyon Road bridge, and appropriate slopes, terraces, ditches, and down drains where needed (refer to Figures 1-5a and 1-5b). The drop structure would prevent head cutting of the channel during infrequent, high flow events. It would be the width of the modified river channel (610 feet) on the slope face, extend approximately 20 feet below the slope face, and be constructed of grouted riprap. Mining and reclamation grading would direct runoff from the disturbed areas towards the basins. The existing Sweetwater River channel would be avoided and silt fences would be installed five feet from the outer edge of each side of the channel. Operations would implement erosion control measures in accordance with set criteria to reduce on- and off-site erosion. These measures include monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, and installing silt fencing, compacting soils with equipment, and re-grading as necessary. Rip-rap also would be installed on some of the excavation area slopes to protect against upstream headcutting. Pursuant to Section 87.703 of the County Grading Ordinance, grading and excavation for the Proposed Project would be in accordance with an approved MUP Plot Plan and Reclamation Plan. The County review of these documents prior to issuance of permits would ensure drainage is appropriately accommodated during mining activities.

Given the nature of the Project, minimal impervious surfaces would be added. Widening of Willow Glen Drive between Steele Canyon Road and the Project egress driveway would also occur and would result in the increase of impervious surfaces. Stormwater runoff from the new impervious surfaces on Willow Glen Drive would be directed along the southerly curb of Willow Glen Drive and conveyed into tree wells just south of the roadway, thus limiting potential for erosion and siltation. The proposed conveyor system would be primarily aligned in the direction of flow and have a profile that causes minimal flow blockage. Additionally, it would be anchored or removed prior to a significant rain or during scheduled water transfers. Therefore, it would have a minimal impact with regard to the site's drainage pattern or water surface elevations. Two adjacent SDG&E transmission towers exist on site just upstream of Steele Canyon Road. The towers and ground supporting the towers would remain and not be disturbed by mining activities. A ramp would be provided from the extraction area to the towers for access. The ramp and slopes surrounding the towers would be lined, as needed, for access and to prevent erosion.

Following the completion of extractive activities, revegetation would occur. Dense riparian vegetation would reduce the velocity of water flow through the Project site relative to the current grass-lined swale; however, the increased width of the flood channel would allow the flows to extend outward from the existing channel, balancing the effects of the increased roughness with the carrying capacity of the channel. The revegetation would minimize long-term erosion and sedimentation from the site.

The Drainage Study prepared for the Project determined that the 100-year flow of the Sweetwater River where it exits the Project site would be the same under existing and proposed conditions (Chang Consultants 2021a). Model results indicate that the Proposed Project would not increase 100-year water surface elevations at the majority of cross-section locations. At the cross-sections where a rise would occur, the floodplain would remain within the Project site. The proposed water surface elevations would match the existing condition exactly at the up-stream study limits. Therefore, the Project would meet the County and FEMA's floodway regulations. As a result, the Proposed Project would not create adverse flooding impacts within the Sweetwater River, consistent with the goals of the FEMA floodway regulations. Additionally, the 100-year flow velocities within the Project site would generally be low and are considered non-erosive (Chang Consultants 2021a).

Impacts related to the alteration of drainage patterns, erosion, sedimentation, or flooding on site or off site would be **less than significant**.

Increase in Discharge Rates

Guideline for the Determination of Significance

A significant impact related to discharge rates would occur if the Proposed Project would:

8. Result in increased velocities and peak flow rates exiting the Project site that would cause flooding.

Guideline Source

Guideline No. 8 is based on the County Guidelines for Determining the Significance – Hydrology (County 2007k).

Analysis

Stormwater runoff that flows into the Project site drains into the Sweetwater River under existing conditions. As noted above, the Project would result in minimal increases in impervious surfaces. Stormwater runoff from the new impervious surfaces on Willow Glen Drive would be directed along the southerly curb of Willow Glen Drive and conveyed into tree wells just south of the roadway. As a result, the Drainage Study (Chang Consultants 2021a) concludes that the Project would not increase off-site flow rates. Rather, extraction would provide detention and retention benefits that would reduce off-site flow rates during mining. Flows generated on site would be contained by stormwater control measures such as berms and riprap and BMPs described above. Further, a MUP Plot Plan and Reclamation Plan would be approved prior to grading and excavation and would document and prescribe how flows would be contained. Lastly, the widening of the river channel would improve the channel's ability to accommodate natural flows and would dissipate water energy during large storm events. Therefore, the Proposed Project would not result in increased velocities and peak flow rates exiting the Project site and would not cause downstream flooding. Impacts would be **less than significant**.

Housing and Structures in a Flood Zone

Guideline for the Determination of Significance

A significant impact related to flooding would occur if the Proposed Project would:

9. Place housing, habitable structures, or unanchored impediments in a 100-year floodplain area or other special flood hazard area, as shown on a Flood Insurance Rate Map (FIRM), a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding (including mudflows or debris flows).

Guidelines Source

Guideline No. 9 is from Section 4.0 of the County Guidelines for Determining Significance – Hydrology (County 2007k).

Analysis

The Project would remove existing development within the floodplain (i.e., golf course clubhouse, maintenance facility, and restrooms) and replace it with limited facilities associated with the processing plant, as well as soil stockpiles. The proposed processing plant facilities would be located outside of the floodway. The proposed conveyor system within the floodplain would either be anchored to prevent displacement by flowing water or removed at least 24 hours prior to forecast of substantial rainfall of at least one-half inch. The conveyor system would be primarily aligned in the direction of flow and would have a profile that causes minimal flow blockage. Some soil stockpiles at the upper edges of extraction areas would be located within the floodway and/or

floodplain. Stockpiles in the floodway would generally be aligned in the direction of flow and would not substantially impede flows. The stockpiles would be temporary and would not represent a singular structure that could become displaced and endanger health, safety, and property.

Further, flow velocities of the 100-year flood event would decrease with mining operations as the excavation area would increase the conveyance area and would act as an energy dissipater. Lastly, a MUP is part of the Proposed Project, which is necessary to allow sand mining operations involving the placement of mining equipment within a designated floodplain. Therefore, with approval of a MUP, including supporting hydraulic analysis of the floodplain, the Proposed Project would comply with Section 5506 of the Zoning Ordinance and not result in flooding hazards associated with having unanchored impediments in the Sweetwater River. Impacts would be **less than significant**.

3.1.5.4 *Cumulative Impact Analysis*

Water Quality

The geographic context for the cumulative analysis of water quality is the Sweetwater HU. Construction and development of cumulative projects, such as those listed in Table 1-14, could contribute source pollutants to downstream receiving waters potentially resulting in violations of water quality standards and waste discharge requirements; however, construction and development proposed as part of these cumulative projects would be subject to regulations that require the inclusion of project design features that would ensure compliance with applicable water quality standards, such as the CEQA, NPDES, and local regulations and policies. Because the Project would have a less than significant impact on water quality standards and waste discharge requirement violations, when combined with cumulative projects, impacts would not be cumulatively considerable.

Groundwater Storage/Well Interference

The geographic context for the cumulative analysis of groundwater storage/well interference is the Sweetwater HU. Cumulative projects would have the potential to utilize groundwater during construction and/or operations; however, each cumulative project would be subject to environmental review to analyze project-specific impacts to groundwater supplies and would be required to comply with all local regulations that ensure sufficient groundwater supplies exist to serve the project, if necessary.

As discussed above, the Project would result in a benefit to the groundwater basin as the amount of water used for the Project would be substantially less than the amount of water used for the existing golf course operations. Because the Project would decrease the demand for groundwater, it would not contribute to a cumulative impact related to groundwater storage or well interference.

Alteration of Existing Drainage Patterns

Construction of the cumulative projects identified in Table 1-11 involves various developments that could alter existing drainage patterns leading to substantial erosion, siltation, or on- or off-site flooding. Some of these cumulative projects could occur simultaneously, which could compound impacts. Further, the cumulative projects listed in Table 1-11 would increase impervious surfaces

within the area. However, each project would be required to comply with all local regulations and policies aimed at reducing discharge of pollutants, erosion, and siltation during and after construction. Additionally, each project would be required to maintain pre-development discharge rates and volume of stormwater runoff.

With implementation of the other elements including the Reclamation and Restoration Plans, the Proposed Project would include drainage control measures that are protective of hydrologic resources in accordance with federal, state, and local requirements. Further, the Proposed Project would not alter existing drainage patterns outside of the floodplain and would not create adverse flood impacts within the Sweetwater River, which is consistent with the goals of FEMA floodway regulations. The excavation area itself would serve as an energy dissipater and natural filtration basin for stormwater flows. Therefore, with regard to substantial alteration of drainage patterns, the Proposed Project would not have a cumulatively considerable effect.

Increase in Discharge Rates

Impermeable surfaces, constructed with development of the cumulative projects listed in Table 1-11, could contribute substantial quantities of stormwater runoff to downstream receiving waters or surrounding local stormwater drainage systems, where capacities could be exceeded. However, these cumulative projects would be subject to CEQA review to analyze project impacts related to downstream flooding or stormwater drainage systems. Further, the cumulative projects would be required to comply with local regulations that require development to construct storm water drainage and retention systems so that they would not cause flooding.

As discussed above, flows occurring on the Project site during mining operation and reclamation activities would not exceed the capacity of the existing Sweetwater River channel. The restoration and revegetation of the mining footprint area following mining activities would enable the slopes to more efficiently absorb runoff prior to discharge into the channel, which would further reduce the potential for flooding. Therefore, the Proposed Project would not result in increased velocities and peak flow rates exiting the Project site and would not cause downstream flooding. Thus, the Project would not contribute to an increase in discharge rates that would cause downstream flooding.

Housing and Structures in a Flood Zone

Cumulative projects, such as those listed in Table 1-11, would be required to comply with applicable regulations that would prevent the construction of structures in floodways and floodplains. Therefore, through regulation, a cumulative impact would not occur.

While the Proposed Project would include the presence of construction and mining equipment within the Sweetwater River floodplain, the Proposed Project's supporting hydraulic analysis demonstrates it would not result in flooding hazards associated with placing mining equipment or stockpiles in the Sweetwater River floodplain. Thus, the project in combination with cumulative projects, impacts associated with housing or structures in a flood zone would not be considered cumulatively considerable.

3.1.5.5 *Significance of Impacts Prior to Mitigation*

As discussed above, no significant impacts related to hydrology and water quality would result from the Proposed Project and no mitigation is required.

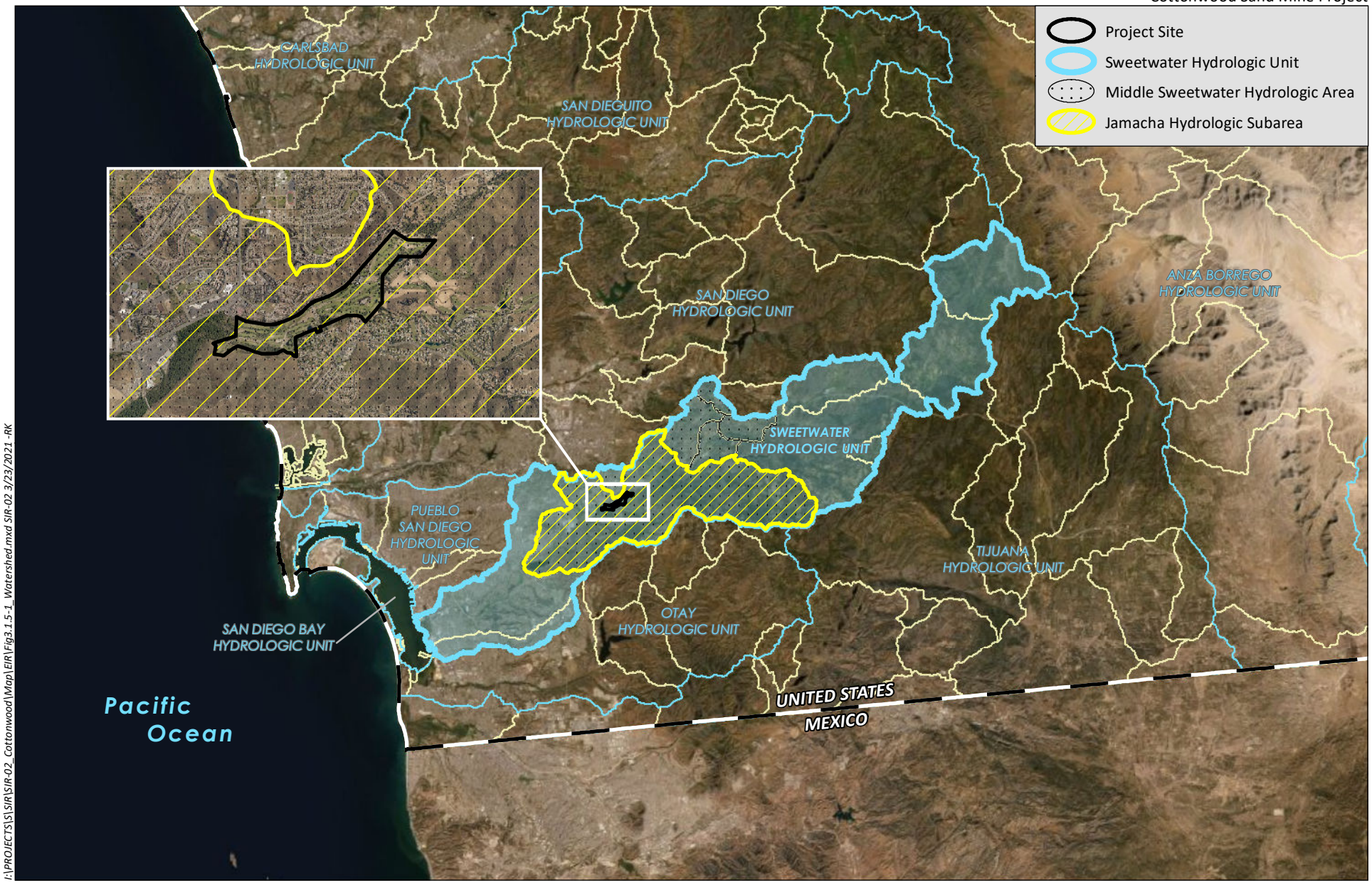
3.1.5.6 *Conclusion*

Based on the analysis provided above, no significant Project-specific or cumulative impacts related to hydrology and water quality would result from implementation of the Project.

Table 3.1.5.1
WATER QUALITY OBJECTIVES FOR PROJECT RECEIVING WATERS

Constituent (mg/L or as noted)	
Total Dissolved Solids (TDS)	500
Chloride (CI)	250
Sulfate (SO_4)	250
Percent Sodium (%NA)	60
Nitrogen and Phosphorous (N&P)	a
Iron (Fe)	0.3
Manganese (Mn)	0.05
Methylene Blue-Activated Substances (MBAS)	0.5
Boron (B)	0.75
Odor	none
Natural Turbidity (NTU)	20
Color Units	20
Fluoride (F)	1.0

Source: RWQCB 2016



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Source: Aerial Photo (Esri 2016); NWI (U.S. Fish and Wildlife Service 2018); Hydrologic Units (California Interagency Watershed Mapping Committee 2004)

0 8 Miles

HELIX Environmental Planning

Project Site Watershed

Figure 3.1.5-1

Cottonwood Sand Mine Project

Project Site
Sweetwater River
Existing FEMA 100-year Floodplain
2ft Contours

Jamacha Way
Seca Street
Sonett Street
Wind River Road
Brabham Street
Hilton Head Road
Willow Glen Drive
Via Rancho San Diego
Jamacha Road
Sweetwater River
Heatherwood Drive
Steele Canyon Road
Par Four Drive
Ivanhoe Ranch Road
Cottonwood Springs Lane
Indian Mills Lane
Jamul Drive
Greystone Drive

0 700 Feet

Source: Contours (SanGIS, 2014)

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HELIX Environmental Planning

100-year Floodplain

Figure 3.1.5-2

3.1.6 Land Use and Planning

This land use analysis for the Proposed Project describes the relevant land use policy and regulatory framework applicable to the Project, identifies guidelines for determination of significance, and evaluates potential environmental impacts related to the Project's consistency with applicable County land use policies, goals and regulations. The CEQA thresholds of significance used in this section require the EIR to consider whether a proposed project conflicts with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. Under CEQA, a conflict or inconsistency with an applicable plan is not by itself considered a significant environmental impact. Instead, the inconsistency must result in a significant physical impact for there to be a significant impact under CEQA. In addition to the land use consistency analysis in this section, each chapter of the EIR contains a discussion of the Project's potential physical impacts related to consistency with applicable regulations, including General Plan goals and policies, relevant to the environmental issue area.

3.1.6.1 *Existing Conditions*

For information regarding the existing physical setting, the reader is referred to the discussion of Subchapter 1.4, *Environmental Setting*, of this EIR, as well as Figure 1-3, *Project Vicinity (Aerial Photograph)*.

Regulatory Setting

Land use plans, policies, and ordinances that apply to the Proposed Project are contained in the County of San Diego General Plan (County 2011b), Valle de Oro Community Plan (County 2011c), County Zoning Ordinance, MSCP, LPC, and a host of other implementing regulations discussed in the other sections of this EIR. These documents address a variety of issues, including conservation of sensitive habitats, provision of open space, protection of visual amenities, regulation of signage and lighting, and protection against incompatible land uses. Many of these issues are addressed in several elements of the General Plan, as well as in the Community Plan. The plans and regulations discussed here are primarily related to land use and development. The land use plans are described below, with the applicable goals, objectives, and policies detailed in Appendix B, *Planning Analysis*, of this EIR, which addresses Project consistency with applicable policies.

County of San Diego General Plan

The General Plan was comprehensively updated and adopted on August 3, 2011. The General Plan Land Use Element provides maps, goals, and policies and serves as the regulatory document guiding land use, conservation, and development in the unincorporated County. This element provides a framework to accommodate future development within the County in an efficient and sustainable manner that is compatible with the character of unincorporated communities and the protection of valuable and sensitive natural resources (County 2011b).

The Land Use Element describes Regional Land Use Categories and Land Use Designations that are applied to lands within the County's land use jurisdiction. The Land Use Element identifies the entire Project site as within the Open Space-Recreation (OS-R) land use designation, which applies to large, existing recreational areas and allows for active and passive recreational uses. The

Land Use Element includes a variety of policies intended to minimize impacts between adjacent land uses and encourage environmental sustainability.

The Mobility Element of the General Plan describes the multi-modal transportation network within the County's unincorporated areas, including motor vehicle, public transportation, bicycle, pedestrian, rail, and air transportation facilities. The element states the goals and policies that address the safe and efficient operation, maintenance, and management of the transportation network, and identifies major existing and planned road network components in the County. These road network components are shown on maps and matrices in the Mobility Element Network Appendix. In the vicinity of the Project site, the following roads and their corresponding classifications are identified: Campo Road (SR 94; Freeway/Expressway); Jamacha Road (Prime Arterial), Jamacha Boulevard (Major Road), and Willow Glen Drive (Major Road).

The Conservation and Open Space (COS) Element provides direction for future growth and development in the County with respect to the conservation, management, and utilization of natural and cultural resources; protection and preservation of open space; and provision of park and recreation resources. Goals and policies included in this element address the following nine resource topics: biological resources; water resources; agricultural resources; cultural resources; paleontological resources and unique geologic features; mineral resources; visual resources; and air quality, climate change, and energy. Roadways in the vicinity of the Project site that are identified as scenic roadways in the COS Element include SR 94 from SR 125 to Interstate 8 and Willow Glen Drive from Jamacha Road to Dehesa Road, which fronts the northern Project boundary.

The Safety Element brings safety considerations into the planning and decision-making process by establishing policies related to future development that will minimize the risk of injury, death, property and environmental damage associated with natural and human-made hazards (County 2011b). The Safety Element ensures that development accounts for physical constraints and natural hazards of the land. The goals and policies of this element were developed to protect residents and areas from wildland and urban fire, crime, hazardous materials incidents, earthquakes, flooding and hazardous incidents associated with aircrafts and airports. Disaster preparedness and emergency response also are addressed in this element.

The Noise Element ensures that noise considerations are incorporated into the land use decision-making process and establishes Noise Compatibility Guidelines to be used in the evaluation of proposed projects. The community noise control standards within the County's Noise Abatement and Control Ordinance are used in conjunction with the Noise Element in considering the environmental impacts of noise exposure. The Noise Element addresses transportation and non-transportation noise sources, noise-sensitive land uses, and existing and future noise levels. This element was developed to preserve County residents' quality of life by providing protection from the obtrusive impacts of noise and noise-generating uses such as traffic, construction, airplanes, and certain industrial uses.

Valle de Oro Community Plan

In general, community plans have been adopted as integral parts of the General Plan to provide the framework for addressing the issues and concerns unique to each community that are not

reflected in the broader policies of the General Plan. Each community/subregional plan in San Diego County identifies specific community character attributes and outlines goals and policies intended to preserve those attributes. Community Plans must be consistent with the General Plan but can provide additional guidance that reflects the unique nature of each of the unincorporated area's communities. The General Plan has clearly delineated the relationship between the General Plan and the County's community plans. Community plans must be internally consistent with the General Plan's Goals and Policies and cannot be used to undermine the policies of the General Plan. This means that community plans must be read and interpreted in the context of the goals and policies set forth in the General Plan (General Plan Policy LU-2.2).

The Valle de Oro Community Plan augments the 2011 General Plan with goals and policies specific to its Planning Area. The Valle de Oro Community Planning Area encompasses approximately 19 square miles of the unincorporated portion of the County, including the neighborhoods of Casa de Oro, Mount Helix, Vista Grande Hills, and Rancho San Diego. The Community Plan's stated vision is to retain a unique balance of urban, semi-rural, agricultural, and open space land uses. New development within the community is to conserve natural resources and topography and provide a pleasant, safe environment for community residents (County 2011d). The Community Plan includes elements related to Community Character, Land Use, Mobility, Conservation, Recreation, Scenic Highways, Energy, Public Safety, and Noise. Two parcels totaling approximately 32 acres in the southwestern portion of the Project site—Assessor's Parcel Numbers (APNs) 506-021-19-00 (8.2 acres) and 519-011-03-00 (23.8 acres)—are included in the Rancho San Diego Specific Plan Area. The Community Plan includes additional policies specific to this area.

County Zoning Ordinance

Zoning designations contained within the County Zoning Ordinance guide and determine the allowed type, size, and intensity of development allowed on a site. As shown in Figure 3.1.6-1, *Zoning*, the Project site includes three zoning designations: S80 (Open Space); S90 (Holding Area); and S88 (Specific Planning Area). The County Zoning Ordinance also identifies a Special Area Designator that applies to the Project site, Special Area Designator F (Flood Plain). Special Area Designators are applied to areas with special interest or unusual value; the Special Area Designator F (Flood Plain) is intended to protect the public health, safety, and welfare from flooding.

The S80 (Open Space) designation is used to provide appropriate controls for areas considered unsuitable for intensive development, including hazard or resource areas, public lands, recreation sites, or lands subject to open space easements or similar restrictions. The S90 (Holding Area) designation is intended to prevent isolated or premature land uses from occurring on lands for which adequate public services and facilities are unavailable, or for which the determination of the appropriate zoning regulations is precluded by contemplated or adopted planning proposals or by a lack of economic, demographic, geographic, or other data. Extractive use can be permitted within the S80 and S90 classifications with approval of a Major Use Permit.

The S88 (Specific Planning Area) designation applies to 32 acres in the southwestern portion of the Project site that are not used for golf course operations and are part of the Rancho San Diego

Specific Plan. This zoning designation restricts extractive uses to site preparation, which allows the off-site removal of materials when it is secondary to the future use of the site.

3.1.6.2 *Analysis of Project Effects and Determination as to Significance*

Physically Divide an Established Community

Guideline for the Determination of Significance

A significant impact would occur if the Proposed Project would:

1. Physically divide an established community.

Guideline Source

This land use guideline is based on Appendix G of the CEQA Guidelines and County staff guidance. The guideline is intended to maintain and enhance the character, structure, and dynamics of established communities in the Project vicinity.

Analysis

For division of an established community to occur, Project elements would need to separate existing residents from currently available facilities/community services. This can occur, for instance, where a highway is installed between residences and schools, shopping or churches.

The Project site is currently used as a privately owned golf course that is only available for use by visitors to the course. It does not provide pedestrian access through the site for nearby residents. The Project site is currently bisected by Steele Canyon Road that connects Willow Glen Drive to communities along Jamul Drive and Campo Road to the south. During mining operations, no roadways would be closed or hindered, and access would be unchanged within the community. Additionally, similar to existing conditions, the site would remain unavailable for pedestrian use during mining activities. No public services (schools, post office, churches, retail, or government offices) would be blocked for any existing residents by Project implementation. Following reclamation, trails would be provided for access through the site and would connect to the County's regional trail system. Impacts related to division or isolation of an established community would be **less than significant**.

Land Use Plans, Policies, and Regulations

Guideline for the Determination of Significance

A significant impact would occur if the Proposed Project would:

2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Guideline Source

This land use guideline is based on Appendix G of the CEQA Guidelines and County staff guidance. This guideline is intended to ensure conformance with existing regional and local planning efforts.

Analysis

This discussion summarizes consistency with the applicable planning documents. Detailed analysis of consistency with applicable goals, objectives, and policies of the General Plan and Valle De Oro Community Plan is detailed in Appendix B of this EIR.

County of San Diego General Plan

In addition to the land use consistency analysis summary contained in this section and detailed analysis contained in Appendix B, each topical analysis in this EIR contains a discussion of the Project's potential physical impacts related to consistency with applicable regulations, including General Plan goals and policies, relevant to the environmental issue area.

Land Use Element. The Project site is currently designated as Open Space (Recreation) in the County General Plan. No General Plan Amendment is proposed or required as part of the Project, as extractive use is allowed within areas designated as Open Space (Recreation) with the issuance of an MUP. The Project would leave the site suitable for uses allowed by the existing land use designation and zoning classifications following mining operations, with the site remaining as open space. Specifically, the General Plan land use designation of Open Space (Recreation) applies to large, existing recreational areas and allows for active and passive recreational uses. The Project site includes three zoning designations: S80 (Open Space); S90 (Holding Area); and S88 (Specific Planning Area). Uses allowed within the S80 and S90 zones include single-family residential (with a minimum lot size of eight acres), essential services, fire protection services, and agriculture (including horticulture, tree crops, row and field crops, and limited packing and processing). However, the Project would specifically provide only open space uses, including recreational trails. This would occur once all mining and reclamation activities are completed at the end of year 12. All mining equipment and related structures would be removed and the Project site would be revegetated with native vegetation. The native vegetation would connect to adjacent open space areas that would protect wildlife habitat and corridors and preserve scenic vistas and areas. The proposed trails would connect to an existing County trail at the northwestern corner of the site. This would be consistent with the site's Open Space (Recreation) land use designation and the applicable Land Use Element policies.

Mobility Element. Vehicles and haul trucks traveling to and from the Project site would utilize existing roadways, most notably Willow Glen Drive. Willow Glen Drive between Jamacha Road and Hillsdale Road is classified in the Mobility Element as a 4.*1B: Major Road with Intermittent Turn Lanes*, typically designated in areas where turning movements are infrequent or where right-of-way is limited. It is currently constructed as a four-lane undivided roadway between Jamacha Road and Steele Canyon Road and as a three-lane roadway with a two-way left-turn lane between Steele Canyon Road and the eastern Project site boundary. The Project would restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered

bicycle lanes on both sides of the roadway. To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane would be constructed, which would serve as the primary access to the site. A two-way left turn lane between the Project's primary ingress and egress driveways would also be provided and would serve as a refuge lane for trucks to safely and effectively complete outbound maneuvers. The Mobility Element notes that individual projects may be evaluated through required traffic studies to identify project design considerations that are less than the full buildout classification but would still be consistent with the General Plan. As demonstrated in the Project LMA, project-related traffic would cause no deficiencies within the study area and widening would not be required for the segment of Willow Glen Drive along the Project frontage east of Steele Canyon Road that is not built to the Mobility Element roadway classification (LLG 2021b). Proposed improvements would be compatible with the roadway classification, and the Project would provide an Irrevocable Offer of Dedication along the Project frontage as needed to accommodate the ultimate classification of Willow Glen Drive.

In addition to the primary access described above, a new secondary access point to the property from Willow Glen Drive west of Steele Canyon Road would be constructed at the intersection at Muirfield Drive. Other access points, such as an existing driveway at the northwestern corner of the property and an existing access point off Ivanhoe Ranch Road to the south of the project that is currently used for golf course maintenance would be used as needed, primarily for equipment delivery and/or reclamation maintenance and monitoring. These access points would be designed in accordance with County requirements to provide for safe vehicular movement and adequate emergency access. Accordingly, the Project would be consistent with the applicable goals and policies of the Mobility Element.

Conservation and Open Space Element. As described above, the COS Element addresses the conservation, management, and utilization of natural and cultural resources, protection and preservation of open space, and provision of park and recreational opportunities. Resource topics with applicable goals and policies include biological resources; cultural resources; paleontological resources and unique geologic features; mineral resources; water resources; visual resources; and air quality, climate change, and energy. Relative to the applicable natural resources goals and policies of the COS Element, mining activities would occur primarily in disturbed areas that have historically been used as a public golf course, minimizing impacts by focusing mining activities in the least biologically sensitive areas. The Sweetwater River channel and the majority of native habitat extant on the site would be avoided. As mining is completed, the Project site would be reclaimed as open space and revegetated with native plants. To provide mitigation for the limited impacts that would occur to natural wetland areas, wetland vegetation would be created, restored, and/or enhanced on site. As a result, the Project would largely preserve existing natural areas and would create/enhance others at the conclusion of each phase of mining activities and would be consistent with COS Element policies related to biological resources.

While the three archaeological resources that have been observed on site have not been identified as significant resources, monitoring during mining would be required as mitigation for potential impacts to unknown resources. If additional resources are located, they would be evaluated and curated as appropriate in accordance with EIR mitigation measures. The site contains formations with no, or low, paleontological resource sensitivity. Nonetheless, mitigation has been identified to ensure that appropriate fossils identified during mining would be removed from the site, with research and curation completed as necessary and appropriate. With implementation of these

mitigation measures, the Project would preserve important archaeological and paleontological resources and would be consistent with the applicable COS Element policies.

The Project is located in a river valley surrounded by prominent scenic features including hillsides, ridgelines, and mountainous terrain. The Project would not directly affect these features, but Project effects would be visible from identified scenic vistas at nearby recreational areas, public roads, and components of the County scenic highway. No designated landmarks (i.e., a visual feature or element designated or identified in an adopted land use plan as an important visual or scenic resource) or identified visual resources such as unique topographical features, designated historic resources, or prominent rock outcroppings or ridgelines occur on site. During the mining and reclamation period, the Project site would be modified by removing existing vegetation and golf course uses and introducing exposed soil, mining operations and equipment, a processing plant area, and stockpiles. Approximately 67 existing trees would be removed to construct the Project entrance and Willow Glen Drive improvements. A six-foot-high, chain-link fence would be installed along Willow Glen Drive that would further block views of Project components and result in visual effects. These Project elements would be visible and highly contrasting, affecting the composition of the visual environment, including as viewed from Willow Glen Drive, a County-designated scenic highway corridor. Mining and reclamation activities would create notable physical changes in the composition of the visual environment, as viewed from Willow Glen Drive, Steele Canyon Road, and surrounding recreational and residential areas that would result in reduced visual quality of the site and surrounding area. During mining operations, some shielded night lighting may be installed for security purposes. The lighting would be designed to minimize glare and reflection or spill onto neighboring areas, and would include pole-mounted sodium, metal halide, fluorescent or LED lighting that would be operated with cut-offs to reduce light pollution. While the Project would comply with applicable goals and policies to the extent feasible for an extractive use and would implement a comprehensive reclamation plan to ensure that mined areas are backfilled and revegetated with appropriate plant communities, visual impacts were assessed as potentially significant and would result in conflicts with applicable goals and policies. Long-term changes within the Project site post reclamation would contribute positively to the valued views, and trees and shrubs planted in accordance with the revegetation plan would improve the visual character and quality of the Project site once maturity is reached (approximately five to seven years post-installation), and ultimately would be consistent with applicable goals and policies of the COS Element.

In accordance with the Project objectives, the Project has been designed to allow for the recovery and processing of construction aggregates in a financially sound and efficient manner, while considering environmental considerations. The Project would extract aggregate resources for local uses in accordance with the Project Reclamation Plan. Providing an additional local supply of aggregate material would reduce the need to import material from more distant mines and support the County's demand for aggregate resources, consistent with COS Element policies addressing mineral resources.

Relative to policies associated with water resources, the Project would be subject to applicable regulation and permitting requirements (from the County, CDFW, USACE, and RWQCB) during mining and reclamation to protect the quality of runoff draining to the Sweetwater River and ensure that groundwater deposits and flows are not contaminated by mining and reclamation activities. Groundwater use for materials processing and reclamation, including irrigation for revegetation,

would be substantially less (approximately 139.9 acre-feet per year) than existing use rates (approximately 804.3 acre-feet per year) for the golf course irrigation. The reduced rate would neither exacerbate existing conditions nor adversely affect groundwater users. Following establishment of revegetation plantings, no additional irrigation would be needed and no conflicts with this policy would occur. Development associated with the proposed mining activities would remove existing impervious surfaces associated with golf course operations and involve minor addition of impervious surfaces on site; as areas are reclaimed, impervious surfaces would be removed, resulting in a substantial decrease in impervious surfaces in the ultimate post-reclamation condition and consistency with applicable policies associated with impervious surfaces and minimizing impacts from development.

Dust and other pollutant emissions could be generated during Project activities but would be minimized through the BMPs described in EIR Chapter 1.0 and summarized in Chapter 7.0. Implementation of BMPs would reduce the pollutants to less than significant levels and ensure compliance with applicable policies addressing air quality. A Construction and Demolition Debris Management Plan would be developed to divert debris from construction and demolition away from landfills. In accordance with County Ordinance Sections 68.508 through 68.518, 90 percent of inert materials and 70 percent of all other construction and demolition debris generated by the Project would be recycled.

Safety Element. Safety Element policies applicable to the Project address defensible space and minimizing risks associated with wildland fires, as well as flood hazards. With regard to potential fire hazards, the Proposed Project would adhere to the recommendations within the Fire Protection Plan (FPP), including guidance on water supply, fire access roads, property line setback distances, building construction, fire protection systems, defensible space, vegetation management, and owner-maintained fuel modification, thus reducing fire risks and ensuring compliance with applicable Safety Element policies.

With regard to flood hazards, as mining is completed in phases and selected areas backfilled, the site would be restored with a widened river channel. The increased flow capacity from widening would be partially offset by the increase in riparian vegetation on the site through reclamation. At most locations, the combined effect would result in a lower water surface elevation during a 100-year flood. At the limited locations where the water surface elevation would be slightly increased compared to the existing conditions (e.g., at the far southwest corner of the site and southwest of the Steele Canyon Road Bridge where the low-flow channel curves toward the southern portion of the site), it would occur within the boundaries of the subject property, in accordance with County and FEMA flood policies and therefore would not increase flood risk. As documented in the Project's Drainage Study (Chang 2021a), the Project also would not result in increased velocities or in increase in flow rates to off-site areas.

Noise Element. The Project has completed an acoustical study, as described in EIR Subchapter 2.4. The Project would employ a variety of design features, including recessing activities below ground surface to the extent feasible, locating initial excavation activities further from sensitive receptors, and using a conveyor belt rather than haul trucks for a majority of material hauling on site, to minimize noise impacts to noise-sensitive land uses in the vicinity. Additionally, mitigation in the form of berms and/or noise walls would ensure that the Project would comply with applicable County noise standards. Potential vibration from Project activities would be minimal.

Conclusion. As indicated above, the Proposed Project would be compliant with the majority of the General Plan goals and policies applicable to the Project. While the Project would comply with applicable goals and policies to the extent feasible for an extractive use and would implement a comprehensive reclamation plan to ensure that mined areas are backfilled and revegetated with appropriate plant communities, impacts related to aesthetics and visual resources would be potentially significant during the duration of mining and reclamation activities. Implementation of the proposed Reclamation Plan and revegetation of subphase areas would ensure that the Project would comply with the applicable goals and policies of the General Plan and long-term visual impacts would be less than significant. Accordingly, impacts associated with the goals and policies of the County General Plan would be **less than significant.**

Valle de Oro Community Plan

Community Character Element. Existing on-site landscaped vegetation and mature trees along Willow Glen Drive would be maintained to the extent feasible during mining activities to provide vegetative screening. Approximately 67 existing trees would be removed to construct the Project entrance and Willow Glen Drive improvements. A six-foot-high, chain-link fence would be installed along Willow Glen Drive that would further block views of Project components and result in visual effects. The Project would implement a Conceptual Landscape Screening and Entrances Plan to provide landscaping adjacent to the Project entrances and additional screening of the plant area and parking lot from Willow Glen Drive. Riparian and upland vegetation would be sequentially installed during the mining and reclamation phase, which would replace existing non-native vegetation with native vegetation.

Land Use Element. The Project has submitted a MUP application to permit proposed mining activities, as well as a Reclamation Plan to specify the standards to which the site must be reclaimed upon completion of mining activities in accordance with the California Surface Mining and Reclamation Act of 1975.

Approximately 66 acres (23 percent) of the Project site, primarily located along the southern property boundary, would not be disturbed during mining and reclamation, providing a buffer between the short-term operational activities and the existing off-site land uses. In addition to the retention of existing trees and provision of additional landscaping near the Project entrances as noted above, berms and/or noise walls would provide screening for residences.

Disturbance of sensitive habitats during mining activities would be limited to approximately 4.2 acres; the remainder of the site that is proposed for mining is currently characterized as developed/disturbed. The existing Sweetwater River channel and the majority of extant native vegetation would be avoided. Areas disturbed by resource extraction would be progressively reclaimed to open space as mining proceeds. As part of the Reclamation Plan, the Project would create new on-site trails that would be accessible by the public and local residents. On-site restored biological open space required for biological mitigation would be dedicated for preservation in perpetuity. Implementation of the proposed Reclamation Plan would result in placement of approximately 142.6 acres of preserved, rehabilitated, and restored habitat into on-site open space.

Mobility Element. The reclaimed areas would include the 5-foot-wide trail through the site that would connect to other planned and existing trail features, supporting an overall system of non-motorized recreational trails within the region.

Conservation Element. The existing Sweetwater River channel that traverses the site would be maintained and widened to an average width of 250 to 300 feet. These improvements would result in the same overall natural drainage pattern and topography as under current conditions. The majority of extant habitat on the site would be retained and areas not identified for mining would be improved through removal of invasive species. Following mining, reclamation by subphase would take place, which would result in revegetation with native species. Mitigation measures are required in order to minimize or compensate for potential impacts to sensitive biological resources, including measures to protect sensitive avian species that may be present in the vicinity.

The Project would require substantially less groundwater use than the golf courses require under existing conditions, with no Project-related water draw proposed upon the completion of reclamation. The Project would include de-siltation basins that would prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Mining and reclamation grading would direct runoff from the disturbed areas towards the basins. The existing Sweetwater River channel would be avoided and silt fences would be installed five feet from the outer edge of each side of the channel. Operations would implement erosion control measures in accordance with set criteria to reduce on- and off-site erosion. These measures include monitoring soil movement, arresting gullies or rills using straw much and hay bales, and installing silt fencing, compacting soils with equipment, and re-grading as necessary. Measures to avoid contamination from equipment operations and maintenance also would be enforced.

Proposed safety lighting would be designed to adhere to the County LPC; lighting would be shielded to direct light downward. Similarly, Project-related air pollution sources (dust and other emissions) have been identified and reduced through Project design.

Scenic Highways Element. The Valle de Oro Community Plan identifies Willow Glen Drive as a unique and important scenic highway corridor. While some trees would be removed to construct the Project entrance and Willow Glen Drive improvements, replacement trees would be planted prior to initiation of Phase 1 to provide visual screening. The Project would implement a landscape screening and entrances plan to supplement existing screening vegetation along Willow Glen Drive and help screen the plant from viewers north of the site. Screening mesh would be installed on the six-foot-high, chain link security fencing that would be installed along the property boundary with Willow Glen Drive. While Project components and contrasts would be screened from view near the processing plant, new fencing and mesh screening would restrict available views and reduce visual quality along the Willow Glen Drive corridor. Views towards the Project site along the approximately 0.14-mile-long parking lot frontage of Willow Glen Drive are limited in length by mature landscaping installed near the clubhouse. However, the visual change in the Project site and associated visual landscape experienced from Willow Glen Drive would be notable, strong, and perceived negatively. Thus, the Project would not protect and enhance the appearance of the scenic landscape experience from Willow Glen Drive, resulting in a conflict with scenic highways policies. Long-term changes within the Project site post reclamation would contribute positively to the valued views experienced along Willow Glen Drive. At maturity (approximately five to seven years post reclamation for each phase), the visual character of the

Project site would be enhanced with native vegetative cover and appropriate landforms for site drainage. Scenic views experienced along the segment of the roadway bordering the Project site would be an extension of the continuous pattern elements of the surrounding visual environment within the river valley, and ultimately, the Project would be consistent with scenic highways policies in the long-term condition.

Public Safety Element. With regard to natural drainage areas, the existing river channel would be protected by silt fencing, retaining its current flow volume/recharge capacity, and sediment basins would trap and slow on-site runoff during mining activities.

Noise Element. The site would be temporarily used for mining activities, with equipment usage that would generate sound. All Project noise would be mitigated to less than significant levels, as described in EIR Subchapter 2.4.

Rancho San Diego Specific Plan. Two parcels in the southwestern portion of the Project site, totaling approximately 32 acres, are included in the Rancho San Diego Specific Plan area. These areas were incorporated into the Specific Plan area as an extension of the Cottonwood Golf Club in order to replace the fairways affected by the Steele Canyon Road bridge over the Sweetwater River (County 2013). These parcels would be used to improve the Sweetwater River channel and increase the area of native riparian vegetation within the channel. No mining activities are proposed within the parcels subject to the Specific Plan. The part of the channel on these parcels is currently a choke point for water as it exits the property and the existing vegetation is dominated by invasive plant species. Expanding the channel at this location and revegetating the area would improve drainage and replace non-native, invasive species with native species. Mitigation measures are required in order to minimize or compensate for potential impacts to sensitive biological resources, including measures to protect sensitive avian species that may be present in the vicinity. The end use for both parcels would be open space, consistent with the Specific Plan.

Conclusion. As indicated above, the Proposed Project would be compliant with the majority of the Community Plan goals and policies applicable to the Project. While the Project would comply with applicable goals and policies to the extent feasible for an extractive use and would implement a comprehensive reclamation plan to ensure that mined areas are backfilled and revegetated with appropriate plant communities, impacts related to aesthetics and visual resources would be potentially significant during the duration of mining and reclamation activities. Implementation of the proposed Reclamation Plan and revegetation of subphase areas would ensure that the Project would comply with the applicable goals and policies of the Valle de Oro Community Plan and long-term visual impacts would be less than significant. Accordingly, impacts associated with the goals and policies of the Valle de Oro Community Plan would be **less than significant.**

Zoning Ordinance

Mining activity would be located within the S90 zone. Extractive use can be permitted within the S80 and S90 classifications if the MUP is approved; however, no mining activity would occur in the S80 classification. Extractive uses in the S88 classification is restricted to site preparation, which allows the removal of materials when it is secondary to the future use of the site. As indicated above, Project activities in this area would be limited to expanding the Sweetwater River

channel and replacing non-native, invasive species with native species. Therefore, the Project would be consistent with the Zoning Ordinance and impacts would be **less than significant.**

3.1.6.3 *Cumulative Impact Analysis*

Cumulative land use and planning impacts may occur when project-specific impacts evaluated in an EIR are combined with the effects of other projects which, when examined individually, may not be considered to be significant. All of the projects depicted on Figure 1-16 in Chapter 1.0 of this EIR were included in review of the potential for significant cumulative land use impacts.

The identified cumulative projects would represent land uses that are disparate from the Project, as they are related to residential, commercial, and institutional (church and school) uses. The majority of the identified cumulative projects are relatively small (e.g., 2 to 25 residential units). Three of the cumulative projects, however, are larger projects that would require General Plan Amendments (GPAs), including Aventine at Sweetwater Springs, Ivanhoe Ranch, Skyline Retirement Center, and Sweetwater Vistas. A summary of each of these projects relative to their consistency with applicable goals and policies is provided below:

- The Aventine at Sweetwater Springs project proposes the development of 92 detached condominium units on an approximately 10.57-acre existing shopping center site in the Spring Valley Community Plan area, approximately 2.5 miles southwest of the Project site. The GPA would change the General Plan Land Use Designation from General Commercial to Village Residential (VR-10.9). The Regional Category of Village applies to the property; no change to the Regional Category is proposed with the Project. The GPA would also amend the Spring Valley Community Plan maps and text to be consistent with the project. A Specific Plan Amendment would amend the Rancho San Diego (Sweetwater-Avocado) Specific Plan (SP-74-01) to amend the land use designation from General Commercial to Multi-Family Residential, for consistency with the proposed GPA. As described in the CEQA Initial Study, the project would differ slightly with respect to the existing allowed land use types and allowed density, but was found to be generally consistent, if not complementary, with applicable goals, policies, and objectives contained within the General Plan.

- The Ivanhoe Ranch project proposed immediately south of the Proposed Project would include a GPA to allow 120 residential units, as well as 24.97 acres of biological open space and a private 1.78-acre park with a parking lot. The project would change the existing General Plan land use designation from Open Space (Recreation) and Semi-Rural (SR-10) to SR-2 and SR-0.5, allowing for a maximum density of one unit per 0.5-acre or 2 acres, respectively. As described in the Initial Study circulated with the NOP for the Ivanhoe Ranch project, the project would be generally consistent with the rural residential lot development to the south and is not expected to result in conflicts with surrounding land uses. However, because the project would result in development of a vacant lot and would change the on-site land use from agricultural to residential with supporting utilities/services and recreational uses, there is a potential for conflicts with applicable plans and policies.

- The Skyline Retirement Center project, which was approved by the County Board of Supervisors on January 29, 2020, proposes a GPA, Rezone, and MUP for the development

of a full-service, senior living facility with multiple levels of care and facilities. The GPA is proposed to change the Regional Category to Village, change the Land Use Designation to Village Residential 30 (VR-30); and change a map in the Valle de Oro Community Plan to reflect the Land Use Designation change to VR-30. According to the CEQA Initial Study, the proposed project would not conflict with the Valle De Oro Community Plan and was found to be consistent with the proposed General Plan Regional Category and Land Use Designation, as well as applicable land use plans, policies, and regulations.

- The Sweetwater Vistas residential development project is located on a 52-acre site within The Pointe Specific Plan Area in the Spring Valley Community Plan Area, approximately 2.5 miles southwest of the Project site. The project would construct 218 residential units and conserve 27.9 acres of biological open space. The GPA is proposed to change the land use designation from Specific Plan to Village Residential (VR15) and Open Space Conservation (OS-C). As described in the CEQA Addendum, while the Sweetwater Vistas project would eliminate the resort uses originally proposed in the Specific Plan and would not be a mixed-use project, the proposed Sweetwater Vistas project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Each of the identified cumulative projects must be found consistent with the applicable goals and policies of the County General Plan and any applicable community plans in order to be approved. As summarized above, with the exception of the Ivanhoe Ranch project that is currently undergoing the CEQA review process with an NOP dated April 15, 2021, all of the GPA projects within the cumulative study area were found to comply with applicable plans and policies. Accordingly, cumulative impacts associated with land use and planning would not be cumulatively considerable and would be less than significant.

3.1.6.4 *Significance of Impacts*

Based on the analysis provided above, while the Project would result in short-term conflicts with goals and policies related to aesthetics, the environmental effects of which are evaluated in Subchapter 2.1 of this EIR, the Project would comply with applicable goals and policies to the extent feasible for an extractive use and would implement a comprehensive reclamation plan to ensure that mined areas are backfilled and revegetated with appropriate plant communities. The Project would be consistent with all applicable goals and policies in the long-term reclaimed condition. As such, the Proposed Project would have less than significant impacts related to land use and planning.

3.1.6.5 *Conclusion*

Based on the Project design features and above analysis, the Proposed Project would have less than significant Project-specific or cumulative impacts related to land use and planning.

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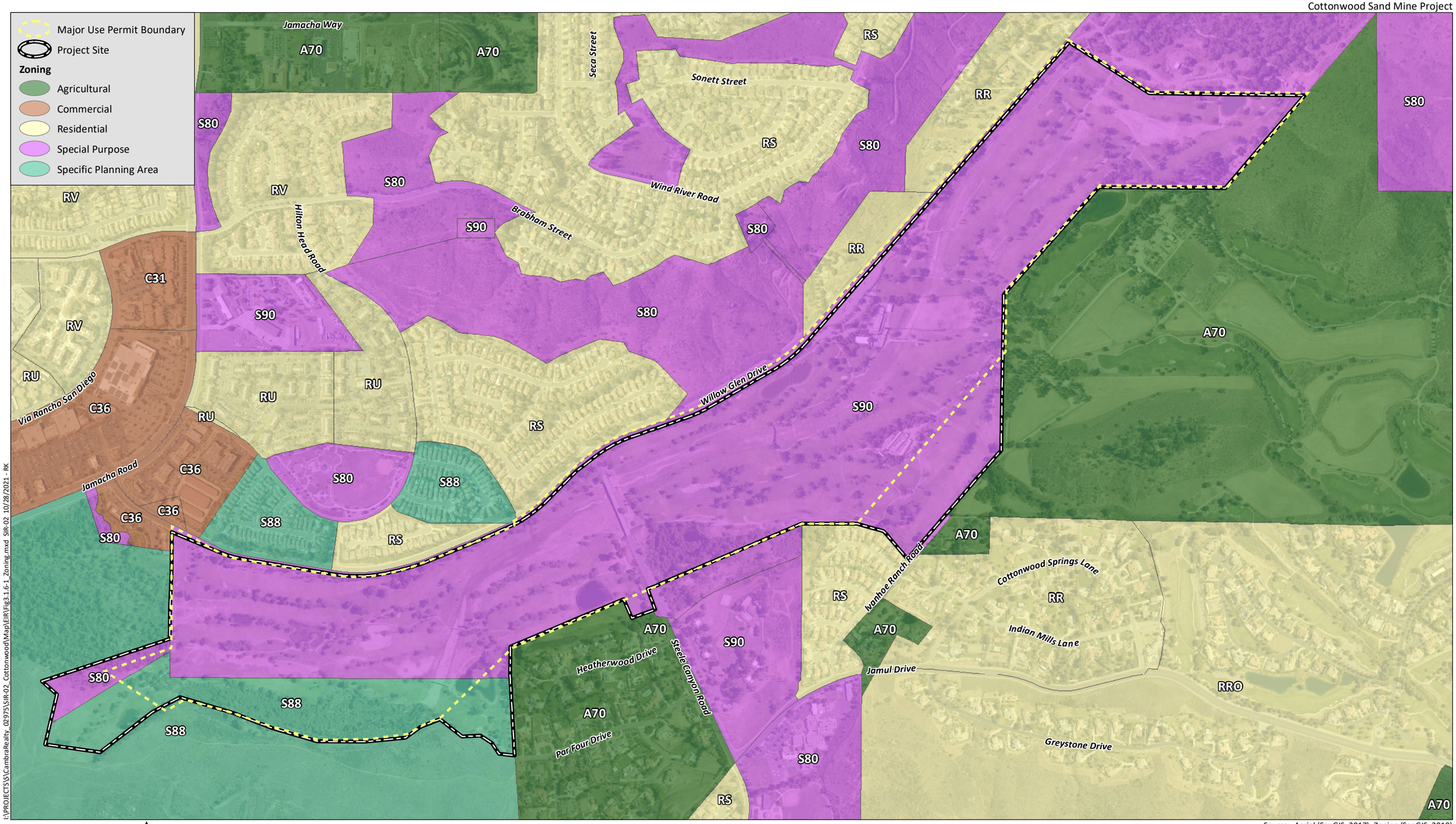

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Source: Aerial (SanGIS, 2017); Zoning (SanGIS, 2019)

HELIX Environmental Planning

Zoning

Figure 3.1.6-1

3.1.7 Transportation/Traffic

The following summary of transportation and circulation impacts is based upon the *Transportation Impact Analysis (TIA)* and *Local Mobility Analysis (LMA)* prepared for the Project by Linscott, Law & Greenspan, Engineers (LLG; 2021a and 2021b). The TIA and LMA can be found in their entirety in Appendix V and Appendix W, respectively, along with all supporting tables, figures, and traffic modeling results. The sight distance analysis prepared for the project egress driveway is contained in Appendix X. The following discussion has been prepared in compliance with the current CEQA requirements as a result of the implementation of SB 743 and is consistent with and fulfills the intent of the CEQA Guidelines.

3.1.7.1 *Existing Conditions*

Existing Roadway Network

The following is a description of the major roadways located within the immediate vicinity of the Project site. Figure 3.1.7-1, *Existing Roadway Network,* depicts the existing traffic conditions and intersections within the Project vicinity.

Campo Road (SR 94) is classified as a Freeway/6.1 Expressway from La Mesa City limits to Jamacha Road in the County of San Diego General Plan, Valle de Oro Mobility Element Network. Campo Road is currently constructed as a five-lane divided roadway, west of Jamacha Boulevard, as a six-lane divided roadway between Jamacha Boulevard and Jamacha Road. Bike lanes and bus stops are provided on Campo Road in the Project vicinity. On-street parking is not permitted.

Jamacha Road is classified as a 6.2 Prime Arterial from SR 94/Campo Road to Chase Avenue in the County of San Diego General Plan, Valle de Oro Mobility Element Network. Jamacha Road is currently constructed as a six-lane divided roadway in the Project vicinity. Bike lanes and bus stops are provided on Jamacha Road. On-street parking is not permitted.

Jamacha Boulevard is classified as a 4.1A Major Road from Spring Valley to SR 94/Campo Road in the County of San Diego General Plan, Valle de Oro Mobility Element Network. Jamacha Boulevard is currently constructed as a four-lane undivided roadway in the Project vicinity. Bike lanes and bus stops are provided on Jamacha Boulevard. On-street parking is not permitted.

Willow Glen Drive is classified as a 4.1B Major Road in the County of San Diego General Plan, Valle de Oro Mobility Element Network. Willow Glen Drive is currently constructed as a four-lane undivided roadway between Jamacha Road and Steele Canyon Road and as a three-lane roadway with a two-way left-turn lane between Steele Canyon Road and the eastern project boundary. Bus stops are not provided and on-street parking is not permitted.

Existing Bicycle Network

Currently, Class II bike lanes are provided on both sides of Willow Glen Drive within the vicinity of the Project.

Existing Pedestrian Conditions

Pedestrian sidewalks are provided along the northern side of Willow Glen Drive from Jamacha Road to approximately 150 feet west of the existing golf course entrance where the concrete sidewalk ends. There is no sidewalk present on the south side of Willow Glen Drive along the Project frontage.

Regulatory Setting

State

Senate Bill 743

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changed the way transportation impact analysis is conducted under CEQA. In response to the passage of SB 743, the Governor's Office of Planning and Research (OPR) was required to amend the CEQA Guidelines to provide a new approach to evaluating traffic impacts. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The mandate of SB 743 was to devise an alternative traffic impact evaluation criterion that would promote the reduction of GHG emissions as well as foster the development of multi-modal transportation networks and a diversity of land uses.

SB 743 further suggested that a measurement such as vehicle miles traveled (VMT) would be appropriate method to evaluate traffic impacts. VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMTs are calculated based on individual vehicle trips generated and their associated trip lengths.

In January 2016, the OPR issued the *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, which provided recommendations for updating the CEQA Guidelines and in December 2018 OPR issued the accompanying *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory). Subsequently OPR and the Office of the Secretary of Natural Resources finalized the CEQA Guidelines for implementing SB 743 and as of July 1, 2020, the VMT guidelines apply statewide.

OPR has made clear that a lead agency shall have discretion in choosing both the most appropriate methodology and the most appropriate threshold for projects. Lead agencies may even go so far as to choose whether a project-specific threshold involving quantification of VMT or a qualitative analysis is more appropriate for the specific project.

Local

San Diego County General Plan

The General Plan Mobility Element provides a framework for a balanced, multi-modal transportation system within the unincorporated areas of the County of San Diego (County 2011b). The Mobility Element includes a description of the County's transportation network and the goals and policies that address safety, efficiency, maintenance, and management of the transportation

network. The Land Use element includes policies that address the maintenance of adequate service on Mobility Element roads; although auto delay, LOS, and similar measurements of vehicular roadway capacity and traffic congestion have been eliminated as the basis for determining significant transportation impacts, projects are still required to comply with the applicable goals and policies of the General Plan related to transportation and traffic. The reader is referred to Section 3.1.6 of this EIR for a detailed evaluation of Project consistency with the applicable General Plan goals and policies.

San Diego County Public Road Standards

These standards provide minimum design and construction requirements for public road improvement projects located within the unincorporated areas of the County. These standards apply to County-initiated public road improvement projects as well as privately initiated public road improvement projects.

3.1.7.2 *Analysis of Project Effects and Determination as to Significance*

Direct, indirect, and cumulative impacts pertaining to transportation are evaluated based on specified thresholds identified in the CEQA Guidelines, Appendix G, and in the County Guidelines for Determining Significance, including the following:

- Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018
- County Guidelines for Determining Significance, Transportation and Traffic, 2011
- Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic, 2011

The County's Guidelines for Determining Significance are generally intended to address the questions posed in Appendix G of the CEQA Guidelines. In 2018, the CEQA Guidelines were updated and several of the questions listed in Appendix G were revised, deleted, or modified. Accordingly, this EIR analyzes the impacts from the Project using questions posed in Appendix G Section XVII, Transportation; and, to the extent that they remain consistent with SB 743, the County Guidelines for Determining Significance, Transportation and Traffic (County 2011e).

<u>Program, Plan, Ordinance, or Policy Consistency</u>

Guidelines for the Determination of Significance

Pursuant to Appendix G of the CEQA Guidelines, a project would have a significant impact on the environment if it would:

1. Conflict with a program, plan ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Analysis

The Project is subject to compliance with County plans, standards, and guidelines addressing transportation, including the General Plan and Public Road Standards. Project consistency with applicable land use plans and policies is discussed in Section 3.1.6, *Land Use and Planning*, of this EIR and further evaluated in the Land Use Consistency Analysis presented in Appendix B.

The County adopted an Active Transportation Plan in October 2018 that updated the County's standards for bicycle facilities and classifications. This plan also included a Pedestrian Gap Analysis appendix that identifies potential sidewalk and pathway improvements in planning group areas throughout the County; the Project site is identified on Map 12 under Valle De Oro in the Pedestrian Gap Analysis. As noted above, Class II bike lanes are provided on both sides of Willow Glen Drive within the vicinity of the Project; these will be maintained as part of the proposed improvements to Willow Glen Drive. Pedestrian sidewalks are provided along the northern side of Willow Glen Drive from Jamacha Road to approximately 150 feet west of the existing golf course entrance where the concrete sidewalk ends. As part of the Project, a pedestrian pathway would be provided along the northern Project frontage east of Steele Canyon Road to provide pedestrian access within the Project vicinity (refer to Figure 1-5b).

A typical mining day would include a maximum of 88 heavy vehicles accessing the Project site, spread throughout the hours of 9:00 a.m. to 3:30 p.m. In addition to the heavy vehicle trips, 14 employee and visitor light vehicles and four vendors (e.g., fuel, supplies, service companies, etc.) were assumed to access the Project site on a typical day. This represents a conservative assumption as only nine employees are expected. Light vehicle traffic includes cars, pick-up trucks, and small service vehicles.

During the pre-mining construction phase of the Project, there may be some construction work or construction-related traffic occurring that could temporarily impede movement of vehicles, bicyclists, and/or pedestrians along Willow Glen Drive, including during construction of the proposed roadway improvements. The Project proposes to restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bicycle lanes on both sides of the roadway. A dedicated right-turn lane would be constructed to facilitate deceleration of right-turning vehicles into the Project ingress driveway. Additionally, a public pathway is proposed along the northern property boundary east of Steele Canyon Road to provide continuous pedestrian access along Willow Glen Drive; the pathway would be internal to the site and designed in compliance with applicable County standards. In order to maintain access during construction, a Traffic Control Plan would be prepared to ensure the safe and efficient movement of traffic through the Project area and that local residents/motorists are properly notified of construction activities that could affect daily travel through the area. The Traffic Control Plan would outline appropriate measures during construction, including work zones, staging areas, flagging, etc. and would require approval by the County Engineer prior to the issuance of grading permits. Implementation of the Traffic Control Plan would reduce the impacts of construction of required road improvements below a level of significance. Trips generated during mining operations would be nominal compared to the existing roadway operations and capacity and would not have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as demonstrated

in the Land Use Consistency Analysis presented in Appendix B to this EIR. Therefore, the impact would be **less than significant**.

Vehicle Miles Traveled

Guideline for the Determination of Significance

Pursuant to Appendix G of the CEQA Guidelines, a project would have a significant impact on the environment if it would:

2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1).

CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. Section 15064.3(b) is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. In December 2018, the Governor's OPR issued a Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) to assist lead agencies by providing technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.

The guidance from County of San Diego does not require a VMT analysis for construction traffic. Neither OPR nor the County has specified models or methods to estimate VMT or VMT thresholds of significance for construction traffic.

For operational traffic, based on the OPR Technical Advisory De-Minimis screening significance thresholds, a project can be considered to have a less than significant impact for transportation if it generates less than 110 average daily trips. One basis for concluding a project's VMT impact is below a level of significance without a detailed study is projects that are small in size. Based on the traffic generated by projects that fall within the Class 1 existing facilities categorical exemption[1] for additions to facilities of up to 10,000 SF (CEQA Guidelines Section 15304) and the fact that non-residential uses typically generate approximately 110 to 114 trips per 10,000 SF, OPR notes that "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact." Accordingly, projects in the San Diego region that generate fewer than 110 daily trips may be assumed to cause a less than significant transportation impact based on this de minimis screening threshold.

OPR in its Technical Advisory states that VMT refers to the amount and distance of automobile travel attributed to a project and "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy duty trucks associated with operations and constructions are not intended to be factored in the VMT analysis for transportation. Although the de minimis screening threshold alone is adequate to support an independent determination of whether a project's VMT impact is below a level of significance or needs more in-depth study, out of an abundance of caution, an atypical project's transportation impact that combines the project's car and light truck

[1] Like all categorical exemptions, the 10,000-SF categorical exemption was established only after the Secretary of Resources found that it would not have a significant effect on the environment (CEQA Guidelines Section 15300).

VMT with the project's operational heavy truck trip VMT can be analyzed under a project-specific VMT threshold and thereby included as a supplemental analysis.

OPR has made it clear that a lead agency shall have discretion in choosing both the most appropriate methodology and the most appropriate threshold for projects. Lead agencies may even go so far as to choose whether a project-specific threshold involving quantification of VMT or a qualitative analysis is more appropriate for the specific project. This need for tailoring the threshold to the individual project is especially strong for projects, such as the proposed industrial Project at a location that is dependent upon the existing location of the sand resource, which do not fall within the 15-percent average regional/sub-regional VMT reduction threshold for residential, office, and retail projects recommended in OPR's Technical Advisory. The proposed industrial Project is not residential, office, or retail, and its location is dependent upon the existing location of the sand resource off Willow Glen Drive in the community of Valle de Oro.

The Project-specific VMT threshold that is used to provide a supplemental analysis is total change in annual VMT accounting for the full area over which the Project affects travel behavior (i.e., indirect VMT). The total change in annual VMT is calculated by analyzing the annual total VMT without the Project minus the annual total VMT with the Project in the existing and near-term scenarios. If the annual total change in VMT is at least a 15-percent reduction, then the impact is below a level of significance. If the annual total change in VMT is a net increase in VMT or less than a 15-percent reduction, then the impact is above a level of significance.

This Project-specific threshold of a 15-percent reduction is particularly conservative because the CEQA Guidelines advise that any net reduction in VMT creates a presumption that the project does not have a significant traffic impact (CEQA Guidelines 15064.3(b)(1)). By setting the threshold to require at least a 15-percent net reduction, the County has extra assurance the Project would contribute positively toward the legislative goals of SB 743.

Analysis

De minimis Screening Threshold

Site-specific trip generation was calculated for the Project, which includes a total of 14 employee and visitor light vehicles and 4 vendors. Based on this calculation, the Project's total car and light truck trips generate 36 average daily trips, which is far below the 110 daily trip screening threshold of significance. Therefore, impacts are considered **less than significant**.

Project-Specific VMT Threshold – Supplemental Analysis

The Proposed Project is unique in that since the land use is directly correlated to the physical properties of the land (available aggregate) it can only occur in particular locations. Further considerations are that San Diego County presently imports large amounts of sand to be delivered to concrete batch and ready-mix plants prior to being distributed to end users. Thus, in relation to VMT and VMT goals (reduction of GHGs), the Project would locally generate additional vehicle trips but would have an overall reduction in regional VMT since it would provide a local supply of sand, reducing the need for imported sand from more distant sources.

The Project-specific analysis evaluates the total change in annual VMT accounting for the entire area within which the Proposed Project affects travel behavior. When assessing total change in VMT, the lead agency must estimate the net change in total VMT with and without the project. This is done by calculating the miles traveled to and from the project site in the context of how the project is likely to divert existing trips, and what the impact of those diversions would be on total VMT. The total change in annual VMT was evaluated by analyzing the annual total VMT with the Project in the existing and near-term scenarios.

Based on the San Diego County Construction Material Aggregate Study (EnviroMINE 2020b), the total sand demand for San Diego County is 2,500,000 tons per year. This demand is met primarily by suppliers in Riverside County and Mexico, with approximately five percent of the County's demand currently met by a single source within San Diego County, the East County Sand Mine.

To undertake the analysis of change in VMT, LLG conducted a multi-step Project-specific approach summarized herein and described in detail in Section 6.2 of the LMA. Calculation of existing VMT considered the locations of each consistent importer of sand and permitted sources within the County and locations of existing concrete batch plants within the San Diego County to which sand is being delivered/supplied, from which a midpoint batch point location was determined. The trip length of a round trip from the existing major sand import mine locations to the midpoint batch point location was determined, and trips were distributed based on population (which correlates to aggregate demand) north and south of the midpoint. The total existing VMT was calculated based on the trip distribution, the County's total sand demand, the number of trucks used to transport the material (based on haul truck capacity), the number of working days per year, and trip lengths from each major importer.

Utilizing the steps outlined above, an existing daily VMT associated with the transport of sand to meet the County's annual demand of 2,500,000 tons is 59,205.11 (see Table 3.1.7-1, *Existing Plus Project VMT Calculations*). The LMA used the Project's maximum production of 570,000 tons of construction grade aggregate annually to establish the Project's proportion of VMT. Using a total demand of 2,500,000 annual tons of sand, the Project's production of 570,000 annual tons equates to 22.8 percent of the demand. The Project's production would reduce demand for imported sand from suppliers in Riverside County and Mexico, with demand for sand from the East County Sand Mine remaining constant. As such, the Project's contribution of 570,000 tons of aggregate annually to the local market would lessen the demand for imported sand by 22.8 percent.

As shown in Table 3.1.7-1, without the Project, the demand for 570,000 tons of aggregate would be satisfied by the current regional suppliers, resulting in a daily VMT of 13,498.77. Conversely, the daily VMT associated with the Project producing and locally distributing 570,000 tons of sand annually, which would involve approximately 88 trucks per day each traveling an average of 32 miles, is 2,806.15 VMT. Thus, the Project would reduce the regional daily VMT for the importing of 570,000 tons of sand annually, by 10,692.62, which would constitute a 79.2-percent reduction in the area-wide VMT. Therefore, the Project would result in a reduction in VMT of greater than 15 percent.

Traffic Hazards Due to a Transportation Design Feature

Guideline for the Determination of Significance

Pursuant to Appendix G of the CEQA Guidelines, a project would have a significant impact on the environment if it would:

3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

As identified in the Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic (County 2011e), the determination of significant traffic hazards due to transportation design features would be on a case-by-case basis, considering the following factors:

- Design features/physical configurations of access roads may adversely affect the safe movement of all users along the roadway.

- The percentage or magnitude of increased traffic on the road due to the Proposed Project may affect the safety of the roadway.

- The physical conditions of the Project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, may result in conflicts with other users or stationary objects.

- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable.

The determination of significant hazards to pedestrians or bicyclists would be on a case by-case basis, considering the following factors:

- Design features/physical configurations on a road segment or at an intersection that may adversely affect the visibility of pedestrians or bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.

- The amount of pedestrian activity at the project access points that may adversely affect pedestrian safety.

- The preclusion or substantial hindrance of the provision of a planned bike lane or pedestrian facility on a roadway adjacent to the project site.

- The percentage or magnitude of increased traffic on the road due to the proposed project that may adversely affect pedestrian and bicycle safety.

- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping, or other barriers that may result in vehicle/pedestrian, vehicle/bicycle conflicts.

- Conformance of existing and proposed roads to the requirements of the private or public road standards, as applicable. The potential for a substantial increase in pedestrian or bicycle activity without the presence of adequate facilities.

Analysis

The Project does not include the introduction of new roads. It would, however, include improvements to a portion of Willow Glen Drive as well as the creation of additional access points to and from the Project site. These improvements would occur prior to the commencement of Phase 1 mining activities.

The Project would restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bicycle lanes on both sides of the roadway. To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane would be constructed. A two-way left turn lane between the Project's primary ingress and egress driveways would also be provided and would serve as a refuge lane for trucks to complete their outbound maneuvers safely and effectively. Willow Glen Drive between Steele Canyon Road and Hillsdale Road is classified in the Mobility Element as a *4.1B: Major Road with Intermittent Turn Lanes.* The Project frontage along this stretch extends between Steele Canyon Road to approximately 1,000 feet west of Hillsdale Road. In addition to these improvements, the Project proposes to provide an Irrevocable Offer of Dedication along the Project frontage as needed to accommodate the ultimate classification of Willow Glen Drive.

The two existing site entrances along Willow Glen Drive provide access to the upper and lower parking lots. Access to the plant area would be provided via a new ingress driveway, located to the west of the existing western driveway. From there, the Project would include a two-lane, 28-foot wide access road that would pass by the processing plant and extend to a new egress location midway between the existing eastern and western entrances.

Currently, a small driveway that extends from Willow Glen Drive (west of Steele Canyon Road) provides access to the westernmost portion of the Project site. During the initial stages of the Project, this access point may be used briefly for equipment delivery. Since the clearance height of the bridge that crosses the Sweetwater River on Steele Canyon Road would not allow most large trucks used by service vendors (e.g., to provide fuel and maintenance to the heavy equipment utilized during mining) to pass beneath the bridge, a new access point would be constructed at the intersection of Willow Glen Drive and Muirfield Drive as part of pre-mining improvements, prior to the initiation of Phase 1 activities. This Project driveway would be restricted to right-in/right-out movements only. This would reduce conflict points by prohibiting left-turn outbound movements from the driveway. The southbound left-turn movements from Muirfield Drive would still be allowed.

Additional access to the southern portion of the Project site is provided from Ivanhoe Ranch Road, south of the river. This access is currently used for golf course maintenance. This access point may be used for heavy equipment delivery within Phase 2 and 3 areas south of the Sweetwater River channel, but would not otherwise be used for mining purposes. The existing maintenance gate may also be used for reclamation maintenance and monitoring after mining in Phases 2 and 3 has ended.

The County has established design standards for new development projects to ensure that new points of access to public roads are safely placed and oriented to provide sufficient sight distance and space for turning movements. Based on the posted speed limit on Willow Glen Drive adjacent to the Project site of 45 miles per hour, the minimum associated sight distance is 450 feet. The sight distance performed for the proposed new egress driveway meets the applicable sight distance requirements for visibility of roadway users entering and existing the site or visibility of cars to pedestrians and bicyclists (Chang 2020b).

All roadway improvements would be in accordance with the *County of San Diego Public Road Standards* (County 2012c) and designed to the satisfaction of the County Engineer prior to the issuance of grading permits. Additionally, a Traffic Control Plan would be required to be prepared and approved by the County Engineer and would require approval prior to the issuance of grading permits.

A public pathway is proposed along the northern property boundary east of Steele Canyon Road; the pathway would be internal to the site and designed in compliance with applicable County standards (refer to Figures 1-5b). While pedestrian activity in the Project area is generally low and is not expected to increase as a result of Project implementation, the pathway would provide continuous safe access along Willow Glen Drive where no pedestrian facilities are currently present. Wayfinding/directional signage would be provided, including near the Project ingress/egress driveways, to notify pathway users of the potential for cross traffic; signage would be provided notifying vehicles and trucks entering and existing the Project site of the potential for pedestrians crossing.

The Project would meet the County's standards set forth for roadway design and avoidance of traffic hazards. No adverse design features/physical configurations or other conflicting features such as curves, slopes, walls, landscaping, or other barriers that may adversely affect the safe movement of roadway users are proposed or present in the Project vicinity. The Project would have a **less than significant** impact in relation to traffic hazards and transportation design features.

Emergency Access

Guidelines for the Determination of Significance

Pursuant to Appendix G of the CEQA Guidelines, a project would have a significant impact on the environment if it would:

4. Result in inadequate emergency access.

Analysis

As noted above in the "Program, Plan, Ordinance, or Policy" consistency discussion, a Traffic Control Plan would be implemented during the pre-mining construction phase of the Project. The plan would establish procedures for coordinating with local emergency service providers in order to maintain adequate emergency access and would require approval by the County Engineer prior to the issuance of grading permits. Therefore, the Proposed Project would not result in inadequate emergency access during construction.

Operation of the Project would occur within the Project site boundaries and would not involve road closures. Steele Canyon Road, which traverses the Project site, would remain fully open during Project operations. Although the Project would generate an increase in on-road traffic in the form of haul trucks (a maximum of 88 trucks per day totaling an estimated 440 average daily trips[2]) and worker commute vehicles (14 mining employees and visitors and 4 vendors totaling an estimated 36 average daily trips), the increase is not expected to substantially disrupt travel along roadways in the Project area compared to existing conditions. As discussed in the Project LMA, project-related traffic would cause no deficiencies within the study area (LLG 2021b). A dedicated right-turn lane would be constructed to facilitate deceleration of right-turning vehicles into the Project ingress driveway and allow traffic to continue to flow within the eastbound lane of Willow Glen Drive. Trucking operations during the week would operate from 9:00 am to 3:30 pm to avoid peak traffic periods in the area. In addition, the proposed driveways near the existing clubhouse and at the intersection of Willow Glen Drive and Muirfield Drive would allow for sufficient emergency access. Based on these considerations, implementation of the Project would not result in inadequate emergency access and any potential impacts would be **less than significant**.

3.1.7.3 *Cumulative Impact Analysis*

Program, Plan, Ordinance, or Policy Consistency

As discussed in Section 3.1.7.2, the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Each of the projects within the cumulative study area for the Project identified in Table 1-14 and Figure 1-11 must be found consistent with the goals and policies of the applicable transportation programs and plans in order to be approved. Therefore, the Project **would not result in a cumulatively considerable impact** relative to program, plan, ordinance, or policy consistency.

Vehicle Miles Traveled

De Minimis Screening Threshold

The Project site would receive a total of 14 employee and visitor light vehicles and 4 vendor vehicles per day. Based on these assumptions, the Project's total car and light truck trips would generate 36 average daily trips, which is far below the 110 daily trip screening threshold for VMT. Therefore, cumulative impacts are considered **less than significant**.

Project-Specific VMT Threshold – Supplemental Analysis

The Project-specific supplemental analysis for cumulative VMT conditions was conducted using projected sand demand in 2021 and adding additional major consistent sand mines in San Diego County that would foreseeably be in production in the near term. Based on the Market Study, the

[2] It is acknowledged that heavy vehicles have a greater traffic impact than passenger cars since they are larger than passenger cars, and therefore, occupy more roadway space; and their performance characteristics are generally inferior to passenger cars, leading to the formation of downstream gaps in the traffic stream, which cannot always be effectively filled by normal passing maneuvers. Therefore, a "Passenger Car Equivalent" of 2.5 (i.e., the number of passenger cars that are displaced by a single heavy-duty vehicle under prevailing traffic conditions) was used to estimate the average daily truck trips.

near-term sand demand for San Diego County is 3,500,000 tons. The El Monte Sand Mine in San Diego County is a potential additional major consistent sand mine that could be in production in the near term and, therefore, was included in the near-term analysis as an additional supplier. The inclusion of the proposed El Monte Sand Mine in the VMT calculations represents a conservative analysis, since it would reduce the proportion of sand demand that would need to be met by sources outside of the County and, therefore, lower the baseline VMT used to evaluate Project impacts.

As seen in Table 3.1.7-2, *Near-Term Plus Project VMT Calculations*, the total daily VMT associated with the demand for 3,500,000 tons of sand in the near-term without the Project is approximately 71,231.41. The share associated with 570,000 tons of sand (the amount that would be produced by the Project) is 11,600.54 daily VMT. The daily VMT associated with obtaining 570,000 tons of sand from the Project site rather than being imported in from the north and south sources is 2,806.15, which is a reduction of 8,794.39 from the without project scenario. This corresponds to a 75.8-percent reduction, which is greater than the 15-percent VMT reduction threshold. Therefore, the project **would not result in a cumulatively considerable impact** relative to VMT.

Traffic Hazards Due to a Transportation Design Feature

As discussed in Section 3.1.7.2, the Project would meet the County's standards set forth for roadway design and avoidance of traffic hazards during pre-mining construction and operational phases. The reasonably foreseeable cumulative projects depicted on Figure 1-16 in Chapter 1.0 of this EIR would be required to comply with requirements for grading and building permits issued by the County, provide for traffic control and safety, and address design hazards for road construction. Given the distance of the cumulative projects from the Proposed Project, other roadways would be utilized for access to these projects. Therefore, potential cumulative impacts related to traffic hazards due to design features would not occur, and the Proposed Project **would not result in a cumulatively considerable impact** related to hazards.

Emergency Access

As described in Section 3.1.7.2, a Traffic Control Plan would be implemented during the pre-mining construction phase of the Project to ensure adequate emergency access. The Project would include fire access and circulation throughout the Project site, including emergency access. The addition of Project trips would not impede emergency access within the cumulative project study area, and each project identified in the study area would be individually required to comply with County requirements for emergency access. Therefore, the Project, **would not result in a cumulatively considerable impact** related to emergency access.

3.1.7.4 *Significance of Impacts*

Based on the analysis provided above, the Proposed Project would have less than significant direct and cumulative transportation and traffic impacts.

3.1.7.5 *Conclusion*

Based on the analysis provided above, no significant Project-specific or cumulative impacts related to transportation and traffic would result from implementation of the Project.

Table 3.1.7-1
EXISTING PLUS PROJECT VMT CALCULATIONS

Scenario	**Existing**			**Existing + Project**			
Total Sand Demand (tons)	2,500,000			2,500,000			
Calculations							
Name	South[1]	North[2]	East County Sand Mine	South	North	East County Sand Mine	Cottonwood
Tonnage split	60%	35%	5%	45%	27%	5%	23%
Tonnage #	1,494,990	878,010	102,000	1,135,890	667,110	102,000	570,000
Tonnage per truck	25	25	25	25	25	25	25
Number of working days in a year	260	260	260	260	260	260	260
Number of trucks per day	230	135	16	175	103	16	88
Average Trip Length to midpoint (miles, roundtrip)	190	112	24	190	112	24	32
Subtotal VMT	43,699.71	15,128.79	376.62	33,202.94	11,494.82	376.62	2,806.15
Total VMT	59,205.11			47,880.53			
Project's Proportion	--			22.80%			
Total VMT for 570,000 tons	13,498.77			2,806.15			
VMT Reduction for proposed project production	**79.2%**						

Source: LLG 2021a
[1] South refers to the major operating mine south of midpoint that exports sand consistently (i.e., Mexico Las Palmas Valley Mine).
[2] North refers to the major operating mine north of the midpoint that exports sand consistently (i.e., Lake Elsinore).
VMT = vehicle miles traveled

Table 3.1.7-2
NEAR-TERM + PROJECT VMT CALCULATIONS

Scenario	**Near- Term**				**Near-Term+ Project**				
Total Sand Demand (tons)	3,500,000				3,500,000				
Number of sources	4				5				
Calculations	***Source 1***	***Source 2***	***Source 3***	***Source 4***	***Source 1***	***Source 2***	***Source 3***	***Source 4***	***Source 5***
Name	South[1]	North[2]	East County Sand Mine	El Monte Sand Mine	South	North	East County Sand Mine	El Monte Sand Mine	Cottonwood
Tonnage split	51%	29%	3%	17%	41%	24%	3%	17%	15%
Tonnage #	1,950,720	1,097,280	102,000	650,000	1,561,140	916,860	102,000	650,000	570,000
Tonnage per truck	25	25	25	25	25	25	25	25	25
Number of working days in a year	260	260	260	260	260	260	260	260	260
Number of trucks per day	271	152	16	100	211	124	16	100	88
Average Trip Length to midpoint (miles, roundtrip)	190	112	24	24	190	112	24	24	32
Total Baseline VMT	51,408.74	17,046.06	376.62	2,400.00	40,108.71	13,885.59	376.62	2,400.00	2,806.15
Grand Total VMT	71,231.41				59,577.06				
Project portion of Sand Demand	--				16.29%				
Grand Total VMT for 570K tonnage production	11,600.54				2,806.15				
VMT Reduction for proposed project production	**75.8%**								

Source: LLG 2021a
[1] South refers to the major operating mine south of midpoint that exports sand consistently (i.e., Mexico Las Palmas Valley Mine).
[2] North refers to the major operating mine north of the midpoint that exports sand consistently (i.e., Lake Elsinore).
VMT = vehicle miles traveled

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Source: Linscott, Law and Greenspan (2020)

HELIX Environmental Planning

Existing Roadway Network

Figure 3.1.7-1

3.2 Effects Found Not to Be Significant During Initial Study

CEQA Guidelines Section 15128 requires that an EIR contain a brief statement disclosing the reasons why various possible significant effects of a Project were found not to be significant and therefore were not discussed in detail in the EIR. The impacts associated with the following environmental issue areas were found to not be significant as a result of implementation of the Proposed Project: Agriculture and Forestry Resources, Geology and Soils, Mineral Resources, Population and Housing, Public Services, Recreation, Utilities and Service Systems, and Wildfire.

3.2.1 Agriculture and Forestry Resources

Based upon a review of historic aerial photographs, the Project site has been developed as a golf course since 1962. The Project site is not an active agricultural operation; nor does it have a history of agricultural production for over 55 years. Based on farmland mapping prepared by the California Department of Conservation (CDC) California Important Farmland Finder (CDC 2016), the Project area is not identified as containing Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Project site is not subject to a Williamson Act Contract and is zoned as "Open Space," "Specific Planning Area," and "Holding Area" with a General Plan designation of "Open Space (Recreational)."

The surrounding areas within a mile of the Project site are mapped primarily as "Urban Land." There are areas to the west and east of the Project site which are mapped as "Grazing Land" or as "Farmland of Local Importance;" however, these areas appear to have been mapped in error because they fall within areas that are either within the SDNWR or are within a portion of the Cottonwood golf course that is not proposed to be included as part of the mining operation. In addition, the Agricultural Preserve 21, located northeast of the Project site, had its Williamson Act Contract removed in 2010. Based on the above considerations, the Project is not anticipated to have indirect impacts relative to the conversion of farmland to non-agricultural uses because no such uses exist within the Project site or vicinity.

No forestland occurs within the Project area or immediate vicinity that would conflict with implementation of the Proposed Project. Therefore, implementation of the Proposed Project would not result in the loss or conversion of farmland or forestland. **No impact to agricultural or forestry resources would occur.**

3.2.2 Geology and Soils

The Project site is not located within 50 feet of the trace of an Alquist-Priolo fault or County Special Study Zone fault. Additionally, the site is not located within an earthquake fault zone identified by the CGS or an established Alquist-Priolo Earthquake Fault Zone (CDC 2015). The closest fault zone to the Project site is the La Nacion fault zone, located approximately 8.5 miles southwest of the Project site. At this distance, impacts related to fault rupture are minimal. However, although the Project site is not located within a known earthquake fault zone, the Project site is located within Seismic Zone 4, which is the defined as the highest seismic zone; therefore, the site, as with the entire County and most of Southern California, is subject to ground shaking (County 2011b). Additionally, loose subsurface soils and near-surface groundwater is present beneath the Project site, allowing for the potential for liquefaction. As a result, mine workers and

equipment may be subject to the effects of seismic ground shaking and liquefaction during the Project's 10-year mining operation period. However, the number of people exposed to this potential hazard on the site would be reduced relative to current golf course operations. Additionally, given the nature of the Proposed Project as a sand mining operation, the associated risk of liquefaction is low; the Project does not involve the construction of permanent structures or structures that would provide housing, and the Proposed Project would adhere to the regulations in the Uniform Building Code (UBC) as well as applicable MSHA and OSHA regulations. As such, impacts related to fault rupture, ground shaking, and liquefaction would be less than significant.

According to the County of San Diego General Plan, the Project site is located within an area identified as having a moderate landslide susceptibility (County 2011b). However, no evidence of landsliding was encountered at the site during the geotechnical investigation or in the review of historic, stereoscopic aerial photographs. The risk associated with ground movement hazard due to landsliding was therefore determined to be low (Geocon 2020). Additionally, while the Project site is generally underlain with sand-based soils, the sand would be removed as part of the Project's mining activities. Additionally, the Project would adhere to the regulations in the UBC as well as MSHA and OSHA requirements. Therefore, impacts related to landslides and expansive soils would be **less than significant**.

3.2.3 Mineral Resources

The Project proposes a mining facility for the extraction of sand for construction uses. The California Geological Survey (CGS) classifies California mineral resources with the Mineral Resource Zones (MRZs) system. These zones have been established based on the presence or absence of significant sand and gravel deposits and crushed rock source areas used as construction aggregate. Areas classified as MRZ-1 through MRZ-4 have been mapped throughout San Diego County (CDC 2015). These categories are described as follows:

- **MRZ-1:** Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.

- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or areas where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.

- **MRZ-3:** Areas containing mineral occurrences of undetermined mineral resource significance.

- **MRZ-4:** Areas where available information is inadequate for assignment to any other MRZ category.

The property was previously classified by CGS in the 1996 *Update of Mineral Land Classification: Aggregate Materials in the Western San Diego County Production-Consumption Region* as a combination of MRZ-3 and MRZ-4 with a small section of MRZ-2 land located on the northeast

end of the Project site (CDC 1996). In 2017, CGS released Special Report 240 *Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in The Western San Diego County Production-Consumption Region, California* which reclassified the property from MRZ-3 and MRZ-4 to MRZ-2 (CGS 2017). This reclassification action was based on an aggregate resource evaluation report (TerraMins 2006) provided to CGS in 2016 by the property owner. A classification of MRZ-2 indicates that the area is underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.

A Mineral Resource Technical Report was prepared by EnviroMINE (2020c) to evaluate the potential impacts of the Proposed Project on the availability of regionally significant mineral resources. The results of the analysis are summarized below, with additional description provided in Appendix T to this EIR.

Loss of Available Resources and Marketability

The Project proposes the extraction of aggregate (primarily sand), which is a known mineral resource that is of value to the region. The Proposed Project would include the removal and processing of all economically available materials within the Project site. Economic limitations are based on the potential collateral impacts that would result from an aggressive sand extraction program that would recover all potentially available resources, while also limiting the likely impacts to sensitive environmental resources. The Project is designed to avoid extraction directly within the river channel in an effort to avoid impacts to the hydraulic functions of the Sweetwater River channel and state and federally regulated waters, plus avoid potential impacts to water conveyance by Sweetwater Authority. Although extraction below the water table is anticipated in two areas of the site, areas of open water would be backfilled to avoid long-term open water evaporation.

High-quality aggregate resources that are present in the Project site are known to be in short supply in San Diego County and, as a result, have the potential to be extremely marketable (San Diego County 2008). As noted above, a 2017 study published by the CGS (Special Report 240) upgraded the classification from MRZ-3 to MRZ-2 for 167 acres (Sector HH) of the Project site. However, no estimate of the quantity of resources found on the site is provided in the CGS report. The volume of material to be extracted by the Project (5.7 million tons) was determined by a drilling program designed to identify the presence of economically available materials within the Project site.

Assuming a price of $15.00 per ton, a density of 0.055 ton per cubic foot, and a waste factor of approximately 20 percent, the gross value of the total 5.7-million tons of aggregate material mapped as MRZ-2 is estimated to be approximately $68,400,000.

The extracted aggregate sand would be used locally, providing value to the region. Extractive operations would recover unrestricted, economically recoverable resources within the Project footprint. As a result, reclamation would have no effect on future mineral resource recovery if it becomes economical. As such, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state because the mineral resources in the site would be utilized in a manner that would benefit the region. Impacts would be **less than significant**.

Loss of Locally Important Mineral Resource

As discussed above, the mineral resources present on the Project site are known to be in short supply in San Diego County. Approximately 243 acres of the Project site are zoned as S90, Holding Area Use Regulations, approximately 32 acres are zoned as S88, Specific Planning Area, and approximately 4 acres are zoned S80, Open Space. The Proposed Project would extract all economically available mineral resource within the Project site during the proposed 10-year mining period. The proposed end uses following mining include recreational trails and open space.

Future mining activities would not be anticipated because all economically available resources would have been extracted by the Proposed Project. Additionally, the Project site is not a delineated mineral resource recovery site in the County's General Plan, an applicable specific plan, or other land use plan, so the Project would not result in the loss of availability of a recognized locally important mineral resource recovery site. Impacts to mineral resources would be **less than significant**.

3.2.4 Population and Housing

No occupied residential housing currently exists within the property and the Proposed Project would not introduce new housing. One residential structure on site would be demolished by the Project; however, this structure is severely dilapidated and is not occupied. The Project does not propose the development of housing, businesses, or other components that would directly induce population growth. In addition, the nine mining employees that would be required for the Project are anticipated to be from the existing population of the surrounding region. As such, the Proposed Project would not generate population growth nor would it displace people or existing housing. Therefore, **no impact** to population and housing would occur.

3.2.5 Public Services

Fire and Emergency Services

The Project site is served by the San Miguel Consolidated Fire Protection District. The closest fire station to the Project site is Station 22, located approximately 0.3 mile to the north near the intersection of Brabham Street and Via Rancho San Diego. The average response time for Station 22 was 6 minutes 32 seconds in the 2015/2016 fiscal year and 6 minutes 30 seconds in the 2016/2017 fiscal year. In addition, the San Diego headquarters of CAL FIRE is located 1.4 miles from the main Project entrance. Access to the site for both fire stations is provided by Jamacha Boulevard and Willow Glen Drive.

According to the Fire Protection Plan (FPP) prepared for the Project, the Project site is within an area designated as a Moderate Fire Hazard Severity Zone and is bordered to the south by an area designated as a Very High Fire Hazard Severity Zone (FireWise 2021). Based on the past and current use of the Project site as golf courses, the site does not contain a substantial amount of vegetation that could serve as fire fuel. In addition, as the Project's mining operations progress over the 10-year mining period, flammable vegetation would be removed and the potential for on-site fire would diminish. The Project would also adhere to the recommendations outlined in the FPP, which include skirting temporary portable buildings to prevent the accumulation of windblown leaf litter and other combustible debris; maintaining a 100-foot fuel management zone

around structures; ensuring that plants within the fuel modification zone are fire resistant; appropriately maintaining existing trees until they are removed as part of the site reclamation activities; ceasing extraction and conveyor operations when wind speed instantaneously exceeds 25 mph or when the wind speed average for 15 minutes is greater than 15 mph; and maintaining and equipping construction equipment with spark arrestors. Through complying with the applicable recommendations, the Project would minimize hazards related to fires and would not generate increased demand for fire protection or place a significant strain on the existing fire protection facilities. Further, through complying with applicable regulations related to workplace safety, such as those governed by the MSHA and OSHA, the anticipated number of events requiring emergency response is anticipated to be very low. The construction of new fire facilities and expansion of existing facilities would not be required to serve the Project. Therefore, the Project would not affect fire protection response times or substantially increase demand and impacts would be **less than significant**.

Police Services

The Project site is served by the San Diego County Sheriff's Department. The closest sheriff station to the Project site, the Rancho San Diego Station, is located at 11486 Campo Road near the junction of Jamacha Road and Campo Road, approximately 2.4 miles from the site approximately one mile to the west along Campo Road. The Project does not propose uses that typically generate a demand for police protection services, such as a housing development. Limited police protection may be required during Project operation if theft or vandalism of mining equipment or the Project site were to occur; however, these types of events would not affect police protection response times or substantially increase demand. The construction of new police facilities and expansion of existing facilities would not be required to serve the Project. Impacts would be **less than significant**.

Other Public Services

The Project would not result in the introduction of a temporary or permanent population and would therefore not place increased demand on schools, parks, or other public facilities. Impacts to public facilities would be **less than significant**.

3.2.6 Recreation

The Proposed Project would not result in the introduction of a temporary or permanent population and would therefore not place an increased demand on existing parks. Implementation of the Project would result in phased removal of an existing privately-owned golf course. Although golf course closure would result in the loss of a private recreational resource, given the specific nature of the resource, its loss is not anticipated to result in an increased demand on neighborhood or regional parks or other public recreational facilities. Existing golf course users would likely be distributed across other golf courses in the area, including, but not limited to, the Steele Canyon Golf Club and Sycuan Golf & Tennis Resort, which are located approximately 1 mile and 2.5 miles from the Cottonwood Golf Course, respectively. The potential increased demand on outside golf course facilities would result in the generation of additional revenues, which would offset potential maintenance needs. Demolition of the Cottonwood Golf Course would not cause a strain on outside recreational facilities in a manner that would cause or accelerate the physical deterioration of the facility.

Reclamation efforts following the commencement of mining operations include the construction of community trails in the southeastern portion of the reclamation plan boundary. Construction of the trails would be performed in conjunction with habitat enhancement activities involving improvements to the channel and expansion of riparian vegetation in an area currently dominated by invasive plant species. The trails would require minor construction work and upkeep and would be limited to only a portion of the site. The trails would be included in the design of the reclamation plan, which collectively aims to restore the environmental quality of the site. Therefore, implementation of the Project would not accelerate the physical deterioration of existing recreational facilities or cause adverse effects on the environment through the construction of new recreational facilities. Impacts would be **less than significant**.

3.2.7 Utilities and Service Systems

Water required for the Project's mining operations, including water for material processing operations, dust control, and irrigation, would be provided by on-site groundwater wells. Water usage would depend on production volume, which would vary year-to-year with market demand; however, the Project's estimated water usage assumes the maximum annual production of 570,000 tons of sand/aggregate. Water usage is estimated at 54 acre-feet annually from water shipped off site and evaporation from stockpiles at this production rate. A single water truck would be required for dust control. Evaporation from temporary pit ponds is estimated at 20 acre-feet per year. Water required to suppress dust from the mining operations is estimated to require 25 acre-feet of water per year. Irrigation of the landscaped earthen berm near the entrance and as supplemental water on revegetated areas is estimated to utilize approximately 55 acre-feet per year. Total water consumption, including evaporation, for the Project is estimated at 154 acre-feet per year. Water for processing, dust control, and irrigation would be supplied by on-site groundwater wells. Eight groundwater wells on the property currently provide irrigation water for the golf courses on the property. These wells would be used to provide water for the mining operation. Existing use of groundwater by the golf courses has been estimated at approximately 787 acre-feet per year based on pump ratings and irrigation schedules. Mining operations would reduce this groundwater use by approximately 632 acre-feet per year (EnviroMINE 2020a). In addition, the Project's water requirement would be limited to the 10-year mining operation period. Upon completion of mining activities, the Project would discontinue extracting water from the on-site wells. Therefore, sufficient water supplies are available to serve the Project.

Additionally, the Project would include on-site de-siltation basins that would accommodate runoff and prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Wastewater generated by the Project would be limited to temporary portable restrooms. Upon closure of the golf courses and decommissioning of the club house and associated wastewater-generating facilities, the amount of wastewater generated at the Project site would decrease. Upon completion of mining and reclamation activities, the portable restrooms would be removed, and the open space would not generate wastewater. Therefore, the Project would not produce wastewater in a manner that would exceed wastewater treatment requirements of the applicable RWQCB. Additionally, the Project would not require the construction of new water or wastewater treatment facilities or stormwater drainage facilities and would not place an excessive demand on water and wastewater treatment providers.

Implementation of the Project would generate minimal solid waste. Solid waste generated by the Project would include demolition debris as well as limited domestic refuse generated during the 10-year mining operation period and additional two years for final reclamation and revegetation. The amount of domestic refuse generated by nine employees would be minimal. Vegetative waste would be properly diverted to a green waste facility in accordance with the County Solid Waste Ordinance. Material extracted from the site not designated as saleable product would be utilized as backfill. All solid waste facilities, including landfills require solid waste facility permits to operate. In San Diego County, the County Department of Environmental Health, Local Enforcement Agency issues solid waste facility permits with concurrence from the California Integrated Waste Management Board (CIWMB) under the authority of the Public Resources Code (Sections 44001-44018) and California Code of Regulations Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.). The Project would deposit all solid waste at a permitted solid waste facility and would comply with federal, state, and local statutes and regulations related to solid waste. Additionally, the Project would not generate substantial amount of solid waste and there is sufficient existing permitted solid waste capacity to accommodate the Project's solid waste disposal needs. Impacts to utilities and service systems would be **less than significant**.

3.2.8 Wildfire

The Project site is located in a region of San Diego County that experiences warm wet winters and long, hot, and very dry summers with occasional droughts. The Project site is within an area designated as a Moderate Fire Hazard Severity Zone due to its past use and maintenance as golf courses. Although there are interspersed pockets of native coastal sage scrub and riparian vegetation, they are not continuous over the entirety of the site and do not represent a substantial fuel load. However, areas south of the Project site are designated as within a Very High Fire Hazard Severity Zone by the state. As such, there is a risk for wildfires to occur at and/or near the Project site.

A FPP was prepared by FireWise (2021) to evaluate potential impacts associated with wildland fire hazards and to identify protective measures. The FPP prepared for the Project was based on a field assessment of the Project site (including on-site and off-site adjacent areas) and an assessment of fire risk using fire behavior modeling. A summary of this information is provided below, with additional description provided in Appendix U to this EIR).

As discussed above, based on the past use of the Project site as golf courses, the site does not contain a substantial amount of vegetation that could serve as fire fuel. It is anticipated that if a fire were to occur at the site, from a fire started either on or off site, it would be a smoldering, creeping ground or surface fire with minimal flame lengths (FireWise 2021). Further, fire would only occur in areas that have not yet been cleared for mining purposes as part of the Project. As the Project’s mining operations progress over the 10-year mining period, flammable vegetation would be removed and the potential for on-site fire would diminish.

The FPP developed for the Proposed Project outlines recommendations for minimizing hazards related to wildfires (FireWise 2021). The FPP recommendations include guidance on water supply, fire access roads, property line setback distances, construction equipment maintenance, fire protection systems, defensible space, vegetation management, and owner-maintained fuel modification. The Proposed Project would adhere to the recommendations within the FPP,

minimizing potential impacts related to wildfire. By following the recommendations in the FPP, the Project would also demonstrate compliance with all applicable fire codes, including the California Fire Code, the International Fire Code (IFC), the San Diego County Consolidated Fire Code, and the San Miguel Consolidated Fire Protection District (SMCFPD) Code.

Willow Glen Drive would serve as the primary access route used by the Project. As determined in the FPP, implementation of the Project would improve fire access to the site as a result of the proposed improvements to Willow Glen Drive, which would include restriping the roadway to provide a right-turn lane for entrance into the Project site near the processing plant. The Project would adhere to the FPP recommendation to construct all driveways into the Project to be 24 feet wide all-weather surface driveways suitable for travel by 75,000-pound fire apparatus. The minimum vertical clearance of 13.5 feet would be maintained for the entire required width of the required fire access roads, and all driveways and parking areas would be paved asphalt or concrete. Additionally, all fire access roads serving the Project area are county roads with greater than 40 feet of all-weather surface suitable for travel by 75,000-pound fire apparatus. By adhering to these recommendations, fire emergency access would be maintained. Furthermore, as stated above in Section 3.2.5, implementation of the Project is not anticipated to substantially increase the population in the area or put an increased strain on fire protection services. Therefore, the Project would not conflict with applicable emergency response objective. Impacts related to wildfire would be **less than significant**.

CHAPTER 4.0 – PROJECT ALTERNATIVES

This chapter of the EIR addresses alternatives to the Proposed Project, describes the rationale for their selection, evaluates the potential environmental impacts associated with each alternative, and compares the relative impacts of each alternative to those of the Proposed Project. In addition, this chapter analyzes the extent to which each alternative meets the Project objectives identified in Chapter 1.0, *Project Description.*

4.1 Rationale for Alternatives Selection

Section 15126.6(a) of the CEQA Guidelines requires that EIRs describe "…a reasonable range of alternatives to a project, or the location of a 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." Section 15126.6(f) of the CEQA Guidelines further states that "the range of alternatives in an EIR is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." The CEQA Guidelines provide several factors that should be considered with regard to the feasibility of an alternative. Those factors include: (1) site suitability; (2) economic viability; (3) availability of infrastructure; (4) general plan consistency; (5) other plans or regulatory limitations; (6) jurisdictional boundaries; and (7) whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site (if an off-site alternative is evaluated).

In accordance with CEQA Guidelines Section 15126.6(a), the Project alternatives are assessed relative to their ability to (1) meet the basic objectives of the Project and (2) avoid or substantially lessen the significant effects of the Project.

As described in Section 1.1, *Project Objectives,* the purpose of the Project is to extract construction aggregate resources and reclaim the site to a usable condition for beneficial end uses consistent with those allowed under the current General Plan and zoning designations for the site. The objectives of the Project are as follows:

1. Recover and process construction aggregates in a financially sound and efficient manner while meeting all local, state, and federal safety requirements.

2. Provide an open space resource within the County, that ultimately protects and enhances the Sweetwater River channel.

3. Provide reliable, high-quality, aggregate product in the amount of 570,000 tons per year (approximately one-quarter of San Diego County's annual sand demand).

4. Maintain the existing low-flow channel of the Sweetwater River to accommodate water transfers from Loveland Reservoir to Sweetwater Reservoir.

5. Widen the existing flood channel of the Sweetwater River to more closely mimic conditions prior to golf course construction.

6. Reclaim areas of extraction to uses consistent with the County General Plan and Zoning Ordinance.

The Proposed Project would result in significant and unmitigable adverse impacts for which feasible mitigation measures would not reduce the impacts to below a level of significance for Aesthetics (Section 2.1). Implementation of feasible mitigation measures would reduce potentially significant impacts to the following issue areas to a less-than-significant level: Biological Resources (Section 2.2), Cultural Resources (Section 2.3), Noise (Section 2.4), Paleontological Resources (Section 2.5), and Tribal Cultural Resources (Section 2.6).

Potential impacts to the following issue areas were determined not to be significant upon evaluation in the EIR: Air Quality (Section 3.1.1), Energy (Section 3.1.2), GHG Emissions (Section 3.1.3), Hazards and Hazardous Materials (Section 3.1.4), Hydrology and Water Quality (Section 3.1.5), Land Use and Planning (Section 3.1.6), and Transportation/Traffic (Section 3.1.7). Eight issue areas, Agriculture and Forestry Resources (Section 3.2.1), Geology and Soils (Section 3.2.2), Mineral Resources (Section 3.2.3), Population and Housing (Section 3.2.4), Public Services (Section 3.2.5), Recreation (Section 3.2.6), Utilities and Service Systems (Section 3.2.7), and Wildfire (Section 3.2.8), were determined to not have significant impacts during the Initial Study process.

Based on initial review and consideration by the Applicant and County, it was determined that some of the preliminary alternatives did not accomplish most of the Project objectives or would result in greater impacts than the Proposed Project. Thus, these alternatives, discussed below in Section 4.1.1, were rejected and were not fully analyzed in this EIR.

Two alternatives would meet most of the Project objectives, are potentially feasible, and would avoid or lessen impacts as compared to the Proposed Project. These include the Biological Resources Avoidance Alternative and the Noise Receptor Setback Alternative. Additionally, a No Project Alternative is required to be included in the range of alternatives. These three, as listed below, are fully analyzed in this EIR. For each of these alternatives, the analysis includes a description of the alternative and a comparison of the environmental effects relative to the Proposed Project. These Project alternatives are addressed below in Sections 4.2 through 4.4 as follows:

- Alternative 1: No Project Alternative
- Alternative 2: Biological Resources Avoidance Alternative
- Alternative 3: Noise Receptor Setback Alternative

CEQA does not require a particular number of alternatives, only that a reasonable range be considered. The alternatives studied constitute a reasonable range because they contain enough variation to facilitate informed decision making and public participation that leads to a reasoned choice (Sections 15126.6(a)-(f) of the CEQA Guidelines). Also, according to Section 15126.6(d) of the CEQA Guidelines, discussion of each alternative should be sufficient "to allow meaningful evaluation, analysis, and comparison with the Proposed Project." Therefore, the significant effects of each alternative are discussed in less detail than those of the Proposed Project, but in enough detail to provide decision makers with perspective and a reasoned choice among alternatives to the Proposed Project.

4.1.1 Alternatives Considered but Rejected

Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify alternatives that were considered and rejected because they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects, and briefly explain the reasons for their rejection. Alternatives considered but rejected from further study for the Project include the Visual Screening Alternative, Reduced Footprint/Deeper Excavation Alterative, and Reduced Annual Mining Production/Increased Mining Duration Alternative.

Under the Visual Screening Alternative, visual screening barriers would be provided along Project site property lines from which public views to the Project site are afforded, including along the entirety of the Project site's frontage along Willow Glen Drive and along the portion of Steele Canyon Road that runs through the Project site. The purpose of the barriers would be to block public views to on-site mining activities. Under this alternative, mining and reclamation activities would be identical to the Proposed Project. This alternative was rejected from further consideration because the barriers themselves would represent a significant aesthetic impact and would thus not avoid the significant and unmitigable aesthetic impact that would occur under the Proposed Project. This alternative would also not reduce or avoid other impacts that would occur under the Proposed Project, as mining activities would be the same.

Under the Reduced Footprint/Deeper Excavation Alternative, 4.3 million cubic yards (cy) of material would be extracted over a 10-year period within a reduced area of the Project site. This is the same extraction quantity as the approximately 4.3 million cy of material proposed to be extracted (approximately 3.8 million cy produced for market use) with the Proposed Project. Extraction operations would be limited to a maximum production of 380,000 cy (570,000 tons) of construction grade aggregate per calendar year. To extract 4.3 million cy of material within a reduced area, the depth of mining would be increased. Backfill material would be imported to achieve the final landform for reclamation of the site to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. This alternative was rejected from further consideration because the import of backfill material would result in increased air pollutant and GHG emissions, noise, and VMT associated with haul truck operations. The increased depth of mining would also have greater impacts on the hydrologic system of the site as related to the Sweetwater River floodplain. Further, mining activities under this alternative would result in the exposure of more groundwater than the Proposed Project, which would result in higher levels of evaporation and water loss.

Under the Reduced Annual Mining Production/Increased Mining Duration Alternative, 4.3 million cy of material would be extracted over a 15-year period at the Project site, for an average of approximately 313,333 cy of aggregate extraction per year. The total amount of extraction under this alternative would be the same as the Proposed Project but would occur over a longer period of time (15 years instead of 10 years). The area proposed for mining and reclamation would be identical to the Proposed Project. As mining is completed in phases, the site would be reclaimed to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. Reclamation activities would be the same as the Proposed Project and would extend the total project duration by two additional years. This alternative was rejected from further consideration because it would not avoid or substantially reduce one or more

impacts of the Proposed Project, and therefore would not meet CEQA requirements for an alternative.

4.2 Analysis of Alternative 1: No Project/No Development Alternative

Section 15126.6(e)(1)(2) of the CEQA Guidelines requires EIRs to evaluate a No Project Alternative to provide a comparison of the environmental impacts that would result if the proposed project were approved versus if it were not approved. The No Project Alternative should discuss the existing conditions at the time the NOP is published, and the circumstance under which the Project does not proceed, considering what would reasonably be expected to occur in the foreseeable future by others.

4.2.1 Description and Setting

The No Project Alternative assumes the Proposed Project would not occur. Under the No Project Alternative, a Major Use Permit (MUP) would not be issued, mining activities would not occur at the site, and a Reclamation Plan would not be implemented. The site would not be restored to an end use of open space, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications, including residential, essential services, fire protection services, or agriculture. The property would continue to be occupied by the Cottonwood Golf Club, with the Ivanhoe Course remaining as an operational golf course and the Lakes Course remaining as a decommissioned golf course.

4.2.2 Comparison of Effects to the Proposed Project

The No Project Alternative would avoid all the significant and less than significant impacts associated with implementation of the Proposed Project. However, under the No Project Alternative, 570,000 tons of sand per year would not be produced at the Project site and this amount of sand would continue to be imported from sources north and south of the County, and VMT reductions would not be achieved. Although the No Project Alternative would not increase VMT and GHG emissions from current conditions, it would not achieve the reductions the Proposed Project may achieve. As discussed in Section 3.1.3 of the EIR, under existing conditions with a total County sand demand of 2.5 million tons per year, the total daily VMT associated with transporting 570,000 tons of sand (the anticipated annual Project sand production) into and within San Diego County without the Proposed Project is 13,499 miles[1]. The daily truck VMT associated with obtaining 570,000 tons of sand from the Project site rather than being imported from the north and south sources would be 2,806 miles, which is a reduction of 10,693 miles from the No Project Alternative. This corresponds to an approximately 79.2 percent reduction in Project-specific truck VMT compared to the County-wide average sand hauling VMT from combined existing in-County and imported sand sources. In the near-term scenario, with a total County sand demand of 3.5 million tons per year and anticipated possible production of 650,000 tons of sand from the El Monte Sand Mine, obtaining 570,000 tons of sand from the Project site would result in an approximately 75.8 percent reduction in Project-specific truck VMT, compared to the county-wide

[1] The existing conditions VMT assumes that 60 percent of the sand used in San Diego is imported from sources north of the county, 35 percent is imported from Mexico, and 5 percent is transported from the East County Sand Mine in the unincorporated community of Lakeside, California. The hauling distances used in the VMT calculation are the average distance from the sand sources to the midpoint of existing concrete ready-mix batch plants in the county.

average sand hauling VMT from combined anticipated in-County and imported sand sources. Under the No Project Alternative, 570,000 tons of sand per year would not be produced at the Project site, this amount of sand would continue to be imported to the County, and these VMT reductions would not be achieved.

GHG emissions are directly related to VMT. As assessed in Section 3.1.3 of the EIR, more than 95 percent of mobile GHG emissions for the Project would be from aggregate delivery trucks transporting material to concrete batch plants where it would be used. The EIR includes a conservative analysis wherein all Project GHG emissions are included in the Project GHG inventory. However, when factoring in the regional VMT reductions mentioned above, the Project would result in an overall net reduction in mobile source GHG emissions. Under the No Project Alternative, this mobile-source GHG reduction would not be achieved.

As such, under the No Project Alternative, regional VMT and GHG emissions would be greater than under the Proposed Project (GHG emissions would remain at current levels and then increase as anticipated demand increases). GHG emissions would not increase as a result of the No Project Alternative.

4.3 Analysis of Alternative 2: Biological Resources Avoidance Alternative

4.3.1 Description and Setting

Under Alternative 2, or the Biological Resources Avoidance Alternative, the proposed mining footprint would be set back 50 feet from the Sweetwater River channel and 500 feet from the riparian habitat to the south and west of the Project site (see Figure 4-1, *Biological Resources Avoidance Alternative*). The total area mined under this alternative would be 117.6 acres and the total extraction volume would be approximately 2.9 million cy, an approximately 33-percent reduction compared to the Proposed Project. This alternative would involve the same overall annual extraction and marketable product of 380,000 cy (570,000 tons) as the Proposed Project but mining activities would occur over a period of approximately six years rather than 10 years. As with the Proposed Project, Alternative 2 would include the reclamation of the site to an end use of open space, including the Sweetwater River and its floodplain, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications following mining activities.

4.3.2 Comparison of Effects to the Proposed Project

4.3.2.1 *Aesthetics*

The Proposed Project would result in substantial changes to existing landforms, vegetation, and visibility that would result in contrast with existing visual character, removal of valued visual elements, and impacts to scenic vistas. Impacts would be significant and unmitigable during mining operations.

Alternative 2 would involve similar mining activities that would impact the existing visual character of the site, but within a reduced footprint. Mining would occur further from private views afforded from residences to the south of the site near Steele Canyon Road and further from public views afforded from Steele Canyon Road. Mining would still occur adjacent to Willow Glen Drive

and would be visible from the roadway and residences north of the roadway. Aesthetics impacts would be lessened compared to the Proposed Project; however, impacts would remain significant and unmitigable.

4.3.2.2 *Biological Resources*

The Proposed Project would result in potentially significant direct and/or indirect impacts to special-status species, riparian habitat and sensitive natural communities, and jurisdictional wetlands. With implementation of proposed mitigation measures, impacts would be less than significant.

Under Alternative 2, the proposed mining footprint would be set back 50 feet from the Sweetwater River channel and 500 feet from the riparian habitat to the south and west of the Project site, which contains suitable habitat for least Bell's vireo. A 500-foot setback was selected as the appropriate distance to avoid potential indirect noise impacts to least Bell's vireo that were identified for Project mining and reclamation activities occurring within 500 feet of suitable vireo habitat during the breeding season (March 15 to September 15). These setbacks would avoid direct impacts to 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.63 acre of Diegan coastal sage scrub (disturbed) sensitive vegetation communities resulting from the Proposed Project. Impacts to jurisdictional wetlands and riparian habitats as defined by the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and County would be reduced compared to those that would occur under the Proposed Project. Approximately 0.03 acre of disturbed Diegan coastal sage scrub would still be impacted. The setbacks under this alternative would also reduce the potential for errant impacts to sensitive vegetation communities and jurisdictional features. Further, through avoiding impacts to southern cottonwood-willow riparian forest, this alternative would avoid direct impacts to potentially occupied least Bell's vireo habitat. As noted above, indirect noise impacts to nesting least Bell's vireo in suitable riparian habitat located to the south and west of the Project site would also be avoided under this alternative with the 500-foot setback from this habitat. The potential for significant indirect noise impacts to coastal California gnatcatcher would still exist under this alternative, and mitigation would still be required, as mining activities would take place within 500 feet of suitable Diegan coastal sage scrub habitat located near the southeastern portion of the Project site. Potentially significant direct and indirect impacts to potential breeding, wintering, and foraging habitat for nesting Cooper's hawk, loggerhead shrike, peregrine falcon, red-shouldered hawk, sharp-shinned hawk, turkey vulture, vermilion flycatcher, white-tailed kite, yellow-breasted chat, yellow warbler, and/or nesting raptors may also still occur from grubbing or clearing of vegetation during the general avian breeding season or raptor breeding season, and mitigation would be required.

4.3.2.3 *Cultural Resources*

The Proposed Project would have the potential for significant direct impacts related to undiscovered buried archaeological resources and human remains during ground-disturbing mining activities. With implementation of proposed mitigation measures, impacts would be less than significant.

Alternative 2 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried archaeological resources and human remains, but within a reduced footprint. The reduced footprint would reduce the chance to encounter undiscovered resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be potentially significant, and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.3.2.4 *Mineral Resources*

The Proposed Project would extract all economically available resources from the Project site and would not result in the loss of availability of a known mineral resource or a recognized locally important mineral resource recovery site. Impacts would be less than significant.

Alternative 2 would result in the extraction of approximately 2.9 million cy of material over 117.6 acres of the Project site. Under this alternative, not all economically available resources would be extracted from the Project site. The site was reclassified by the California Geological Survey in 2017 as MRZ-2, which indicates that the area is underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. Upon reclamation of the site under this alternative, end uses would include areas of some open space, vacant land including the Sweetwater River and its floodplain, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. Potential impacts would remain less than significant.

4.3.2.5 *Noise*

The Proposed Project would result in elevated noise levels from mining activities at nearby noise sensitive land uses. With implementation of proposed mitigation measures, impacts would be less than significant.

Alternative 2 would involve similar mining activities that would include the same noise sources as the Proposed Project (e.g., off-road mining equipment, processing plant equipment, on-road haul trucks), but within a reduced area. Noise-generating mining activities would occur further from Adeona Healthcare Facility and some residences to the south of the site, as well as slightly further from the residences north of Willow Glen Drive near the Project site's eastern property line. Noise levels would be reduced to less-than-significant levels for some noise-sensitive receptors when compared to the Proposed Project, but significant impacts would remain at other noise-sensitive receptors and the noise mitigation measures required for the Proposed Project would still be required under this alternative.

4.3.2.6 *Paleontological Resources*

The Proposed Project could result in significant impacts to paleontological resources from the excavation of previously undisturbed deposits exhibiting low resource potential. With implementation of proposed mitigation measures (excavation monitoring), impacts would be less than significant.

Alternative 2 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried paleontological resources, but within a reduced footprint.

The reduced footprint would reduce the chance to encounter undiscovered paleontological resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be potentially significant, and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.3.2.7 *Tribal Cultural Resources*

The Proposed Project would have the potential for significant direct impacts related to undiscovered buried tribal cultural resources during ground-disturbing mining activities. With implementation of proposed mitigation measures (Cultural Resources Treatment Agreement and Preservation Plan, Pre-Grade Survey and Data Recovery Program, and Excavation Monitoring), impacts would be less than significant.

Alternative 2 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried tribal cultural resources, but within a reduced footprint. The reduced footprint would reduce the chance to encounter undiscovered tribal cultural resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be considered potentially significant, and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.3.2.8 *Air Quality*

The Proposed Project would generate criteria pollutant, ozone precursor, and toxic air contaminant emissions during construction and operations from off-road heavy equipment exhaust, fugitive dust from equipment movement on unpaved roads, fugitive dust from earth-moving activities, fugitive dust from material conveyance and processing, and on-road vehicle exhaust. With implementation of dust control measures as described and required by the project's Fugitive Dust Control Plan and Best Available Control Technology and Best Management Practices, daily emissions would not exceed thresholds, and impacts would be less than significant.

Alternative 2 would involve similar mining activities to the Proposed Project, but within a narrower footprint, resulting in less material extraction. The total mining duration under this alternative would be less than the Proposed Project but the annual extraction amount would remain the same. This would result in the same daily mining intensity as the Proposed Project and therefore the same daily air pollutant emission levels as the Proposed Project. Through implementation of the same measures as the Proposed Project, daily emissions would not exceed thresholds, and impacts would be less than significant.

4.3.2.9 *Energy*

The Proposed Project would use energy during construction and operations for on-road vehicles, off-road mobile equipment, and stationary mining equipment. The Project would not use energy in a wasteful, inefficient, or unnecessary manner, and energy use would be less than significant.

Alternative 2 would involve similar mining activities to the Proposed Project, but within a smaller footprint. Less material would be extracted overall, resulting in less mining operations and therefore lower overall energy usage. Energy would not be used in a wasteful, inefficient, or

unnecessary manner under this alternative and energy use would remain less than significant, as with the Proposed Project.

4.3.2.10 *Greenhouse Gas Emissions*

The Proposed Project would generate GHG emissions during construction and operations associated with on-road vehicles, off-road heavy equipment, electricity use for stationary mining equipment, and solid waste. Emissions would not exceed thresholds, and impacts would be less than significant. Further, through the local production of sand, the Proposed Project would reduce the County's reliance on imported sand, thus reducing regional VMT and resulting in an overall decrease in GHG emissions.

Alternative 2 would involve similar mining activities to the Proposed Project, but within a smaller footprint. Less material would be extracted overall, resulting in less mining operations and therefore lower GHG emissions. Project-specific GHG emissions impacts under this alternative would be reduced and would remain less than significant, as with the Proposed Project. Because this alternative would produce less sand than the Proposed Project, a greater amount of imported sand would be needed under this alternative, and the overall reduction in regional GHG emissions would not be as high as under the Proposed Project.

4.3.2.11 *Hazards and Hazardous Materials*

The Proposed Project would result in less than significant impacts related to hazardous materials, airport hazards, dam inundation and oversized structures, and vectors.

Alternative 2 would result in similar concerns related to hazardous materials, airport hazards, dam inundation and oversized structures, and vectors. Mining activities under this alternative would occur further from sensitive receptors including nearby residents and Jamacha Elementary School. Potential impacts would remain less than significant, as with the Proposed Project.

4.3.2.12 *Hydrology and Water Quality*

The Proposed Project would have less than significant impacts related to water quality, groundwater storage, drainage, discharge rates, and flooding.

Alternative 2 would involve similar mining activities to the Proposed Project, but within a reduced footprint. The reduced footprint and disturbance area would reduce potential effects on water quality and would result in less drainage alteration. Alternative 2 would require coverage under the Industrial General Permit, which would involve preparation of a Stormwater Pollution Prevention Plan (SWPPP) that includes erosion and sedimentation control BMPs, as with the Proposed Project. Reduced mining activities under this alternative would also reduce water consumption during mining. Impacts related to discharge and flooding would be similar to the Proposed Project under this alternative. Overall, while some hydrology and water quality effects would be reduced, impacts would remain less than significant.

4.3.2.13 *Land Use and Planning*

The Proposed Project would have less than significant impacts related to land use and planning as it would not divide an established community or result in long-term conflicts with the County General Plan, Valle de Oro Community Plan, Rancho San Diego Specific Plan, or Zoning Ordinance.

Alternative 2 would involve similar mining activities at the same site as the Proposed Project, just within a smaller footprint, and would not divide an established community or conflict with the County General Plan, Valle de Oro Community Plan, Rancho San Diego Specific Plan, or Zoning Ordinance. Impacts would be less than significant, as with the Proposed Project.

4.3.2.14 *Transportation/Traffic*

The Proposed Project would have less than significant impacts related to transportation and traffic as it would result in a VMT reduction greater than the 15-percent VMT reduction threshold, based on reducing reliance on imported sand and the associated VMT. The Proposed Project would not create substantial traffic hazards.

Alternative 2 would involve similar mining activities to the Proposed Project, but within a smaller footprint. Because the daily amount of production would be the same as the Proposed Project, daily VMT would be the same. However, due to the reduced duration of mining (four years less) overall Project-specific VMT would be reduced. However, because this alternative would produce less sand overall than the Proposed Project, a greater amount of imported sand would be needed under this alternative, and the overall reduction in regional VMT would not be as high as if the Proposed Project were implemented. Impacts would remain less than significant.

4.4 Analysis of Alternative 3: Noise Receptor Setback Alternative

4.4.1 Description and Setting

Under Alternative 3, or the Noise Receptor Setback Alternative, the proposed mining footprint would be set back 400 feet from residential properties surrounding the Project site, as well as from the Adeona Healthcare facility (see Figure 4-2, *Noise Receptor Setback Alternative*). The total area mined under this alternative would be 119.1 acres (approximately 95 acres less than the Proposed Project) and the total overall extraction volume would be approximately 3.5 million cy, an approximately 26-percent reduction compared to the Proposed Project. This alternative would involve the same overall annual extraction of 380,000 cy (570,000 tons) of marketable product as the Proposed Project, but mining activities would occur over a period of approximately seven years rather than 10. As with the Proposed Project, Alternative 3 would involve the reclamation of the site to an end use of open space, including the Sweetwater River and its floodplain, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications following mining activities.

4.4.2 Comparison of Effects to the Proposed Project

4.4.2.1 *Aesthetics*

The Proposed Project would result in substantial changes to existing landforms, vegetation, and visibility that would result in contrast with existing visual character, removal of valued visual elements, and impacts to scenic vistas. Impacts would be significant and unmitigable during mining operations.

Alternative 3 would involve similar mining activities that would impact the existing visual character of the site, but within a reduced footprint. Mining would occur further from large portions of the Project site's northern and southern boundaries, which would reduce (but not eliminate) public and private visibility to mining activities. Visual impacts from mining activities to public viewers on the middle portion of the Steele Canyon Road bridge and impacts from the processing plant to public viewers along Willow Glen Drive would remain the same as the Proposed Project. Aesthetics impacts would be lessened compared to the Proposed Project; however, impacts would remain significant and unmitigable.

4.4.2.2 *Biological Resources*

The Proposed Project would result in potentially significant direct and/or indirect impacts to special-status species, riparian habitat and sensitive natural communities, and jurisdictional wetlands. With implementation of proposed mitigation measures, impacts would be less than significant.

The mining activity setbacks under Alternative 3 would result in less impacts predominantly to non-sensitive disturbed and developed vegetation communities within the Project site. Direct impacts to 0.10 acre of southern cottonwood-willow riparian forest and 0.01 acre of arundo-dominated riparian sensitive vegetation communities, as well as direct impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, CDFW, and County, would still occur under this alternative, and the mitigation included for the Proposed Project would be required. Direct impacts to approximately 0.4 acre of the disturbed Diegan coastal sage scrub sensitive vegetation community located at the northeastern portion of the site would be avoided. The potential for errant impacts to sensitive vegetation communities and jurisdictional features would still exist as with the Proposed Project, based on the proximity of mining activities to these resources. Direct and indirect impacts to potential breeding, wintering, and foraging habitat for the special status least Bell's vireo, coastal California gnatcatcher, Cooper's hawk, loggerhead shrike, peregrine falcon, red-shouldered hawk, sharp-shinned hawk, turkey vulture, vermilion flycatcher, white-tailed kite, yellow-breasted chat. yellow warbler, and/or nesting raptors would still occur, and mitigation would be required, under this alternative. As with the Proposed Project, impacts would be less than significant with mitigation.

4.4.2.3 *Cultural Resources*

The Proposed Project would have the potential for significant direct impacts related to undiscovered buried archaeological resources and human remains during ground-disturbing mining activities. With implementation of proposed mitigation measures, impacts would be less than significant.

Alternative 3 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried archaeological resources and human remains, but within a reduced footprint. The reduced footprint would reduce the chance to encounter undiscovered resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be considered potentially significant and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.4.2.4 *Mineral Resources*

The Proposed Project would extract all economically available resources from the Project site and would not result in the loss of availability of a known mineral resource or a recognized locally important mineral resource recovery site. Impacts would be less than significant.

Alternative 3 would result in the extraction of 3.5 million cy of material over 119.1 acres of the Project site. Under this alternative, not all economically available resources would be extracted from the Project site. The site was reclassified by the California Geological Survey in 2017 as MRZ-2, which indicates that the area is underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. Upon reclamation of the site under this alternative, end uses would include some areas of open space, vacant land including the Sweetwater River and its floodplain, multi-use trails, and land suitable for uses allowed by the General Plan and existing zoning classifications. Potential impacts would remain less than significant

4.4.2.5 *Noise*

The Proposed Project would result in elevated noise levels from mining activities at nearby noise sensitive land uses. With implementation of proposed mitigation measures, impacts would be less than significant.

Alternative 3 would involve similar mining activities that would include the same noise sources as the Proposed Project (e.g., off-road mining equipment, processing plant equipment, on-road haul trucks); however, this alternative would include 400-foot setbacks from noise-sensitive land uses (NSLUs) in proximity to the Project site, including residential uses and the Adeona Healthcare facility. With mining activities occurring at least 400 feet from NSLU properties, noise levels from the Project would be below the applicable noise level limit at these properties, and impacts would be less than significant. The mitigation measures for the Proposed Project including noise barriers and excavation down to the lowest feasible elevation when mining is within 400 feet of NSLUs would not be required.

4.4.2.6 *Paleontological Resources*

The Proposed Project could result in significant impacts to paleontological resources from the excavation of previously undisturbed deposits exhibiting low resource potential. With implementation of proposed mitigation measures (excavation monitoring), impacts would be less than significant.

Alternative 3 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried paleontological resources, but within a reduced footprint.

The reduced footprint would reduce the chance to encounter undiscovered paleontological resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be considered potentially significant, and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.4.2.7 *Tribal Cultural Resources*

The Proposed Project would have the potential for significant direct impacts related to undiscovered buried tribal cultural resources during ground-disturbing mining activities. With implementation of proposed mitigation measures (Cultural Resources Treatment Agreement and Preservation Plan, Pre-Grade Survey and Data Recovery Program, and Excavation Monitoring), impacts would be less than significant.

Alternative 3 would involve similar ground-disturbing mining activities that would have the potential to impact undiscovered buried tribal cultural resources, but within a reduced footprint. The reduced footprint would reduce the chance to encounter undiscovered tribal cultural resources; however, the potential to disturb resources would remain in the areas that would be mined under this alternative. As such, impacts would be considered potentially significant, and the mitigation measures required for the Proposed Project would still be required for this alternative.

4.4.2.8 *Air Quality*

The Proposed Project would generate criteria pollutant, ozone precursor, and toxic air contaminant emissions during construction and operations from off-road heavy equipment exhaust, fugitive dust from equipment movement on unpaved roads, fugitive dust from earth-moving activities, fugitive dust from material conveyance and processing, and on-road vehicle exhaust. With implementation of dust control measures as described and required by the project's Fugitive Dust Control Plan, and Best Available Control Technology and Best Management Practices, daily emissions would not exceed thresholds, and impacts would be less than significant.

Alternative 3 would involve similar mining activities to the Proposed Project, but within a narrower footprint, resulting in less material extraction. The total mining duration under this alternative would be less than the Proposed Project but the annual extraction amount would remain the same. This would result in the same daily mining intensity as the Proposed Project and therefore the same daily air pollutant emission levels as the Proposed Project. As with the Proposed Project, daily emissions would not exceed thresholds with implementation of the same dust control measures and Best Available Control Technology and Best Management Practices, and impacts would be less than significant.

4.4.2.9 *Energy*

The Proposed Project would use energy during construction and operations for on-road vehicles, off-road mobile equipment, and stationary mining equipment. The Project would not use energy is a wasteful, inefficient, or unnecessary manner, and energy use would be less than significant.

Alternative 3 would involve similar mining activities to the Proposed Project, but within a smaller footprint. Less material would be extracted overall, resulting in less mining operations and therefore lower overall energy usage. Energy use under this alternative would be reduced and not

be used in a wasteful, inefficient, or unnecessary manner and would remain less than significant, as with the Proposed Project.

4.4.2.10 *Greenhouse Gas Emissions*

The Proposed Project would generate GHG emissions during construction and operations associated with on-road vehicles, off-road heavy equipment, electricity use for stationary mining equipment, and solid waste. Emissions would not exceed thresholds, and impacts would be less than significant. Further, through the local production of sand, the Proposed Project would reduce the County's reliance on imported sand, thus reducing regional VMT and resulting in an overall decrease in GHG emissions.

Alternative 3 would involve similar mining activities to the Proposed Project, but within a smaller footprint. Less material would be extracted overall, resulting in a shorter mining duration and therefore lower overall GHG emissions. Project-specific GHG emissions impacts under this alternative would be reduced and would remain less than significant, as with the Proposed Project. Because this alternative would produce less sand than the Proposed Project, a greater amount of imported sand would be needed under this alternative, and the overall reduction in regional GHG emissions would not be as high as under the Proposed Project.

4.4.2.11 *Hazards and Hazardous Materials*

The Proposed Project would result in less than significant impacts related to hazardous materials, airport hazards, dam inundation and oversized structures, and vectors.

Alternative 3 would result in similar concerns related to hazardous materials, airport hazards, dam inundation and oversized structures, and vectors. Mining activities under this alternative would occur further from sensitive receptors including nearby residents and Jamacha Elementary School, potential impacts would remain less than significant, as with the Proposed Project.

4.4.2.12 *Hydrology and Water Quality*

The Proposed Project would have less than significant impacts related to water quality, groundwater storage, drainage, discharge rates, and flooding.

Alternative 3 would involve similar mining activities to the Proposed Project, but within a reduced footprint. The reduced footprint and disturbance area would reduce potential effects on water quality and would result in less alteration of drainage patterns. As with the Proposed Project, Alternative 3 would require coverage under the Industrial General Permit, which would involve preparation of a SWPPP that includes erosion and sedimentation control BMPs. Reduced mining activities under this alternative would also reduce water consumption during mining. Impacts related to discharge and flooding would be similar to the Proposed Project under this alternative. Overall, while some hydrology and water quality effects would be reduced, impacts would remain less than significant.

4.4.2.13 *Land Use and Planning*

The Proposed Project would have less than significant impacts related to land use and planning as it would not divide an established community or result in long-term conflicts with the County General Plan, Valle de Oro Community Plan, Rancho San Diego Specific Plan, or Zoning Ordinance.

Alternative 3 would involve similar mining activities at the same site as the Proposed Project, just within a smaller footprint, and would not divide an established community or conflict with the County General Plan, Valle de Oro Community Plan, Rancho San Diego Specific Plan, or Zoning Ordinance. Impacts would be less than significant, as with the Proposed Project.

4.4.2.14 *Transportation/Traffic*

The Proposed Project would have less than significant impacts related to transportation and traffic as it would result in a VMT reduction greater than the 15-percent VMT reduction threshold, based on reducing reliance on imported sand and its associated VMT. The Proposed Project would not create substantial traffic hazards.

Alternative 3 would involve similar mining activities as the Proposed Project, but within a smaller footprint. Because the daily amount of production would be the same as the Proposed Project, daily VMT would be the same. However, due to the reduced duration of mining (three years less) overall Project-specific VMT would be reduced. However, because this alternative would produce less sand overall than the Proposed Project, a greater amount of imported sand would be needed under this alternative, and the overall reduction in regional VMT would not be as high as if the Proposed Project were implemented. Impacts would remain less than significant.

4.5 Analysis of Alternative Location Alternative

In accordance with Section 15126.6(f)(2), an alternative location should be considered if development of another site is feasible and if development of another site would substantially lessen one or more significant impacts of the Proposed Project. Factors that may be considered when identifying an alternative site include the size of the site, its location, the General Plan (or Community Plan) land use designations, and availability of infrastructure. Section 15126.6(f)(2)(A) states that a key question in looking at an offsite alternative is "whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location."

4.5.1 Description and Setting

The potential for alternative locations for the Project within the County is limited. The alternate site would need to have known alluvial sand resources; be of similar acreage to the Proposed Project site to allow for an extraction amount sufficient to provide reliable, high-quality, aggregate product that would be economically feasible and help meet regional demand; and have a zoning designation that allows for mineral extraction. Alluvial sand that could serve as high-quality aggregate product is generally located within the main river drainages of the County. Much of this land has been placed in open space preserves or has been mined out and is now developed or proposed for development (e.g., El Corazon former open-pit sand mine in Oceanside, RCP Block

& Brick former sand mining operations in Santee, H.G. Fenton Material Co. former quarry in Mission Valley, Hanson Aggregates Pacific Southwest former quarry in Mira Mesa). If the alternate project site would not produce the same amount of aggregate as the Proposed Project, the Project could be economically infeasible to implement. Based on the review and analysis of the GIS data, two sites are currently identified as having available and extractable sand resources, which are the Proposed Project site and the El Monte site. The El Monte site is currently undergoing a permit application process with the County and is not considered a potential alternative location for the Proposed Project. There are no other known sites within the County that have available alluvial sand resources or are of similar size as the Proposed Project site that would be suitable for construction aggregate recovery. Therefore, no feasible alternative locations were determined to exist for the Proposed Project.

4.6 Environmentally Superior Alternative

The CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR. The guidelines also require that if the No Project Alternative is identified as the environmentally superior alternative, another environmentally superior alternative must be identified. Table 4-1, *Summary of Analysis for Alternatives to the Project*, compares the impacts of the Proposed Project, No Project Alternative, Alternative 2: Biological Resources Avoidance Alternative, and Alternative 3: Noise Receptor Setback Alternative. The No Project Alterative would avoid all construction and operational impacts associated with the Proposed Project, but would not meet any of the Project objectives, as summarized in Table 4-2, *Ability of Project Alternatives to Meet Project Objectives.* Although it would not achieve the regional GHG emission and VMT reductions that would occur under the Proposed Project as a result of providing a local source of aggregate material, it would not increase GHG emissions or VMT.

Alternatives 2 and 3 would meet most of the Project Objectives and would lessen impacts to several resource areas. Alternative 2 would avoid some of the potentially significant impacts to biological resources; mitigation would still be required for some potentially significant biological resource impacts. Alternative 3 would avoid the potentially significant impact associated with noise from mining activities. With their reduced footprints, Alternatives 2 and 3 would reduce the potential for impacts to cultural resources, paleontological resources, and tribal cultural resources but the potential for significant impacts would still exist and mitigation would still be required. Similarly, aesthetics-related impacts would be reduced under Alternatives 2 and 3 but would remain significant and unmitigable.

While Project-generated GHG emissions and VMT would be reduced under Alternatives 2 and 3 as a result of reduced mining activity and sand production, overall regional GHG emissions and VMT would also be reduced though not to the extent of the Proposed Project because less sand would be produced within the County and greater levels of continued sand import would occur. Based on the consideration of adverse environmental impacts resulting from each alternative, Alternative 3 is considered the environmentally superior alternative.

Table 4-1
SUMMARY OF ANALYSIS OF POTENTIAL IMPACTS
FOR ALTERNATIVES TO THE PROJECT

Issue Area	Proposed Project	No Project Alternative	Alternative 2	Alternative 3
Aesthetics	SU	N	SU-	SU-
Biological Resources	SM	N	SM-	SM-
Cultural Resources	SM	N	SM-	SM-
Mineral Resources	N	N	N	N
Noise	SM	N	SM-	LS
Paleontological Resources	SM	N	SM-	SM-
Tribal Cultural Resources	SM	N	SM-	SM-
Air Quality	LS	N	LS	LS
Energy	LS	N	LS-	LS-
Greenhouse Gas Emissions	LS	N	LS	LS
Hazards and Hazardous Materials	LS	N	LS-	LS-
Hydrology and Water Quality	LS	N	LS-	LS-
Land Use and Planning	LS	N	LS	LS
Transportation/Traffic	LS	N	LS	LS

SM = significant but mitigable impacts; SU = significant and unmitigated impacts; N = no significant impacts
- = reduced impact level(s) relative to the Project; + = increased impact level(s) relative to the Project

Table 4-2
ABILITY OF PROJECT ALTERNATIVES TO MEET PROJECT OBJECTIVES

Project Objective	No Project Alternative	Alternative 2	Alternative 3
1. Recover and process construction aggregates in a financially sound and efficient manner while meeting all local, state, and federal safety requirements.	No	Yes	Yes
2. Provide an open space resource within the County, that ultimately protects and enhances the Sweetwater River channel.	No	Yes	Yes
3. Provide reliable, high-quality, aggregate product in the amount of 570,000 tons per year (approximately one-quarter of San Diego County's annual sand demand).	No	Yes	Yes
4. Maintain the existing low-flow channel of the Sweetwater River to accommodate water transfers from Loveland Reservoir to Sweetwater Reservoir.	No	Yes	Yes
5. Widen the existing flood channel of the Sweetwater River to more closely mimic conditions prior to golf course construction.	No	Yes	Yes
6. Reclaim areas of extraction to uses consistent with the County General Plan and Zoning Ordinance.	No	Yes	Yes

- Project Site
- Phase 1
- Phase 2
- Phase 3
- Biological Avoidance Areas

Special Status Species

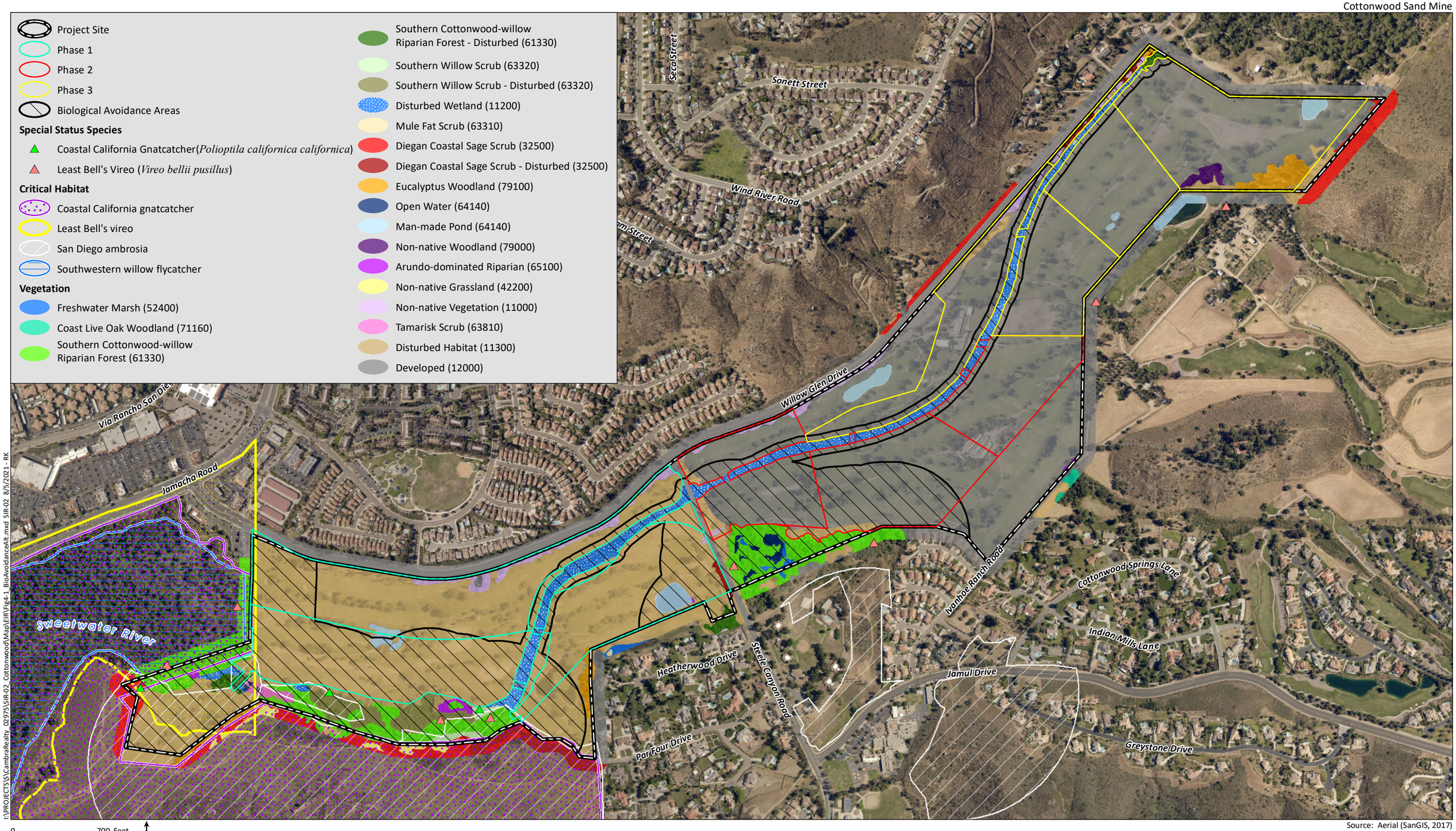
- Coastal California Gnatcatcher(*Polioptila californica californica*)
- Least Bell's Vireo (*Vireo bellii pusillus*)

Critical Habitat

- Coastal California gnatcatcher
- Least Bell's vireo
- San Diego ambrosia
- Southwestern willow flycatcher

Vegetation

- Freshwater Marsh (52400)
- Coast Live Oak Woodland (71160)
- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Cottonwood-willow Riparian Forest - Disturbed (61330)
- Southern Willow Scrub (63320)
- Southern Willow Scrub - Disturbed (63320)
- Disturbed Wetland (11200)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Eucalyptus Woodland (79100)
- Open Water (64140)
- Man-made Pond (64140)
- Non-native Woodland (79000)
- Arundo-dominated Riparian (65100)
- Non-native Grassland (42200)
- Non-native Vegetation (11000)
- Tamarisk Scrub (63810)
- Disturbed Habitat (11300)
- Developed (12000)



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0 700 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Biological Resources Avoidance Alternative

Figure 4-1

Cottonwood Sand Mining Project

Project Site
Proccessing Plant
Subphase Areas
Residential Group
Off-site Receiver
400-ft Setback

Jamacha Way
Elva St
Copri Ct
Darlington Ct
Targa Pl
Sonett St
Porterfield Pl
Seca St
Greenwick Rd
Greencrest Dr
Greencrest Ct
Mirage Ct
Merlyn Pl
Aspen Ln
Wind River Rd
Monte View Ct
Brabham St
Via Hacienda
Woodpine Dr
Woodrun Pl
Sea Pines Rd
Via Rancho San Diego
Hilton Head Pl
Sawgrass St
Congressional Dr
Hilton Service
Jamacha Rd
Augusta Ct
Hilton Head County Park
Hilton Head Rd
Royal Saint James Dr
Emerald Point Ct
Willow Glen Dr
Steele Canyon Rd
Ivanhoe Ranch Rd
Steele Canyon Golf Course
Adeona Healthcare Facility
Cottonwood Springs Ln
Indian Mills Ln
Heatherwood Dr
Par Four Dr
Jamul Dr
Greystone Dr
Wentworth Way
Wentworth Dr
Ashley Park Dr
Stonefield Dr

1 2 3 4 5 6 7 8 9 10 11

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0 800 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Noise Receptor Setback Alternative

Figure 4-2

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CHAPTER 7.0 – LIST OF MITIGATION MEASURES AND ENVIRONMENTAL DESIGN CONSIDERATIONS

7.1 Comprehensive Listing of Mitigation Measures

7.1.1 Mitigation for Biological Resources

M-BIO-1 Mitigation for impacts to 0.8 acre of potential foraging habitat for coastal California gnatcatcher, comprised solely of Diegan coastal sage scrub, shall occur at a 1.5:1 ratio for a total mitigation requirement of 1.2 acres. Mitigation shall occur though on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Diegan coastal sage scrub to be preserved within the biological open space easement.

M-BIO-2 Grading or clearing of vegetation within 500 feet of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (March 1 to August 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur within 500 feet of suitable gnatcatcher habitat during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether gnatcatchers occur within 500 feet of the proposed impact area(s). If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 500 feet of any location at which gnatcatchers have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after August 15.

M-BIO-3 Mitigation for impacts to 0.32 acre of potential nesting and foraging habitat for least Bell's vireo (southern cottonwood-willow riparian forest) shall occur at a minimum 3:1 ratio with at least 1:1 creation (establishment/re-establishment) for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.

M-BIO-4 Grading or clearing of riparian habitat during the breeding season of the least Bell's vireo (March 15 through September 15) shall be avoided to the extent feasible. All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur within 500 feet of suitable vireo habitat during the least Bell's vireo breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to commencement of activities to determine whether vireos occur within 500 feet of proposed impact

area(s). Impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If any vireos are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 500 feet of any location at which vireos have been observed until a qualified biologist has determined that all nesting (or breeding/nesting behavior) has ceased or until after September 15.

M-BIO-5 If operation of construction or excavation equipment is initiated within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (March 1 to August 15), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within three days (72 hours) of the proposed start of construction, mining, or reclamation activities. If it is determined at the completion of pre-construction survey(s) that active nests belonging to these sensitive species are absent from the potential impact area, activities shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then activities shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the impact footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater. The type(s) and location(s) of noise barrier(s) shall be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output would be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that noise levels remain below 60 dBA at occupied areas.

M-BIO-6 Grubbing or clearing of vegetation during the general avian breeding season (February 15 through August 31) or raptor breeding season (January 15 through July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading would occur during the general avian breeding season within 300 feet of general bird nesting habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days (72 hours) prior to the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until a qualified biologist has determined that nesting behavior has ceased, nests have failed, or young have fledged.

M-BIO-7 Upon completion of all extraction activities, reclamation, and final grading to establish the final landform shall occur in accordance with the approved Reclamation Plan. Revegetation with native species will occur within the expanded Sweetwater River floodplain and constructed bordering slopes according to a revegetation plan to be approved by the County.

M-BIO-8 Mitigation for impacts to 0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of arundo-dominated riparian, and 0.50 acre of disturbed wetland shall occur at a 3:1 ratio with at least 1:1 creation for a total mitigation requirement of 0.96 acre. Mitigation shall occur through on-site preservation of 15.01 acres of wetland and riparian habitat, on-site rehabilitation of 6.13 acres of riparian habitat, and on-site re-establishment and revegetation of 107.93 acres of riparian habitat for a total of 129.07 acres of wetland riparian habitat to be preserved within the biological open space easement.

M-BIO-9 Mitigation for 0.8 acre of impacts to Diegan coastal sage scrub shall occur at a 1.5:1 ratio through the on-site preservation of 1.2 acre of Tier II or Tier I habitat in the South County MSCP area within a biological resource core area. Mitigation shall occur through on-site preservation of 0.72 acre of Diegan coastal sage scrub and on-site revegetation of 11.28 acres of Diegan coastal sage scrub for a total of 12.00 acres of Tier II Diegan coastal sage scrub to be preserved within the biological open space easement.

M-BIO-10 The applicant shall dedicate 142.8 acres of biological open space to be managed by a long-term manager approved by the County in accordance with a Resource Management Plan. The biological open space easement shall include native habitat revegetation areas located within the expanded Sweetwater River floodplain and bordering constructed slopes. Permanent open space fencing and signage shall be installed around the perimeter of the biological open space as detailed in the final Resource Management Plan.

M-BIO-11 The Project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP would provide direction for the permanent preservation and management of the on-site biological open space in accordance with County regulations.

M-BIO-12 To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, temporary environmental fencing (including silt fencing where determined necessary by the SWPPP), would be installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction.

M-BIO-13 A qualified biologist shall monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or open space. The biologist also would conduct a pre-construction environmental training session for construction personnel prior to all phases of construction to inform them of the sensitive biological resources on site and

avoidance measures to remain in compliance with Project approvals. The biologist shall monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist shall periodically monitor the limits of construction and mining operations to ensure that mining and avoidance areas are delineated with temporary fencing and that fencing remains intact.

M-BIO-14 Impacts to 0.62 acre of U.S. Army Corps of Engineers (USACE) wetland waters of the U.S. shall be mitigated a minimum 3:1 ratio and 0.37 acre of USACE non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 2.23 acres waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts.

M-BIO-15 Impacts to 0.83 acre of California Department of Fish and Wildlife (CDFW) jurisdictional riparian habitat (0.32 acre of southern cottonwood-willow riparian forest, 0.01 acre of Arundo-dominated riparian, and 0.50 acre of disturbed wetland) shall be mitigated at a 3:1 ratio, totaling 2.49 acres of riparian habitat mitigation. Impacts to 17.06 acres of CDFW streambed shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 17.06 acres of riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 19.55 acres. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit, and prior to use of the premises in reliance of this permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Code Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts.

M-BIO-16 The Project requires preparation of a wetland mitigation plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts only) and U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) (impacts to waters of the U.S. and State, and CDFW riparian habitat and streambed), as applicable. Approval of the plan and/or acceptance of mitigation bank credits by the USACE, CDFW, and RWQCB shall be a condition of the associated wetland permits for the Project.

7.1.2 Mitigation for Cultural Resources and Tribal Cultural Resources

M-CR-1 <u>Cultural Resources Treatment Agreement and Preservation Plan</u>

A single Cultural Resources Treatment Agreement and Preservation Plan shall be developed between the applicant or their representative and the culturally-affiliated Kumeyaay Native American tribe(s) prior to the commencement of sand extraction operations, including the removal of any trees or vegetation. The Cultural Resources Treatment Agreement and Preservation Plan shall be reviewed and agreed to by the County prior to final signature and authorization. The Cultural Resources Treatment Agreement and Preservation Plan shall include but is not limited to the following:

- Parties entering into the agreement and contact information.
- Responsibilities of the Property Owner or their representative, Principal Investigator, archaeological monitors, Kumeyaay Native American monitors, and consulting tribes.
- Requirements of the Pre-Grade Survey and Data Recovery Program and Archaeological Monitoring Program including unanticipated discoveries.
- Requirements of tree removal monitoring.
- Identification of areas for archaeological and Native American monitoring during earth-disturbing activities related to sand extraction operations.
- Treatment of identified Native American cultural materials.
- Treatment of Native American human remains and associated grave goods.
- Confidentiality of cultural information including location and data.
- Negotiation of disagreements should they arise during the implementation of the Agreement and Preservation Plan.
- Regulations that apply to cultural resources that have been identified or may be identified during construction.

M-CR-2 <u>Pre-Grade Survey and Data Recovery Program</u>

Prior to sand extraction operations, a Pre-Grade Survey and Data Recovery Program shall be implemented, consistent with the Cultural Resources Treatment Agreement and Preservation Plan and criteria outlined below.

- **Pre-Construction**

  A pre-grade survey shall be implemented due to the sensitivity of the area. The pre-grade and data recovery program shall include the following:

- **Tree Removal:** Removal of trees shall be monitored by an Archaeological Monitor and Kumeyaay Native American Monitor for the presence of cultural resources.

- **Pre-Grade:** Upon completion of grubbing and vegetation removal, and prior to sand extraction activities, a pre-grade survey shall be conducted in all areas identified for development. Development shall be defined as construction, extraction, or any other grading activity. The pre-grade survey shall include both an Archaeological Monitor and Kumeyaay Native American Monitor.

- **Identified Resources.** In the event that cultural resources are identified:

  - Both the Project Archaeologist and Kumeyaay Native American monitor(s) have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery.

  - The Project Archaeologist shall contact the County Archaeologist.

  - The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American monitor(s) shall determine the significance of discovered resources.

  - Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor(s) may collect the cultural material for transfer to a Tribal curation facility or repatriation program.

  - If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor(s) and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources or Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance).

- **Human Remains**

  - The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist.

  - Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. Should the human remains need to be taken offsite for evaluation, they shall be accompanied by a Kumeyaay Native American monitor.

- If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner or their representative in order to determine proper treatment and disposition of the remains.

- The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted.

- Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered.

- **Vegetation Removal Completion**

  - Upon completion of grubbing and vegetation removal for each phase, a monitoring report shall be prepared identifying whether resources were encountered during the removal of trees or Pre-Grade Survey. A copy of the monitoring report shall be provided to any culturally-affiliated tribe who requests a copy. If resources were encountered, the analysis shall be included in the final archaeological monitoring report and shall comply with all requirements of that condition.

M-CR-3 <u>Archaeological Monitoring Program</u>

- **Pre-Construction**

  - Contract with a County approved archaeologist to perform archaeological monitoring and a potential data recovery program during earth-disturbing activities in areas identified in the Treatment and Preservation Agreement described in M-CR-1. The Project Archaeologist shall perform the monitoring duties before, during and after construction.

  - Pre-construction meeting to be attended by the Project Archaeologist and Kumeyaay Native American monitor to explain the monitoring requirements.

- **Construction**

  - **Monitoring**: Both the Project Archaeologist and Kumeyaay Native American monitor are to be onsite during earth disturbing activities. The frequency and location of monitoring of native soils will be determined by the Project Archaeologist in consultation with the Kumeyaay Native American monitor.

- **Identified Resources.** In the event that cultural resources are identified:

  - Both the Project Archaeologist and Kumeyaay Native American monitor have the authority to divert or temporarily halt ground disturbance operations in the area of the discovery.

  - The Project Archaeologist shall contact the County Archaeologist at the time of discovery.

  - The Project Archaeologist in consultation with the County Archaeologist and Kumeyaay Native American shall determine the significance of discovered resources.

  - Construction activities will be allowed to resume after the County Archaeologist has concurred with the significance evaluation.

  - Isolates and non-significant deposits shall be minimally documented in the field. Should the isolates and non-significant deposits not be collected by the Project Archaeologist, the Kumeyaay Native American monitor may collect the cultural material for transfer to a Tribal curation facility or repatriation program.

  - If cultural resources are determined to be significant, a Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in consultation with the Kumeyaay Native American monitor and approved by the County Archaeologist. The program shall include reasonable efforts to preserve (avoid) unique cultural resources of Sacred Sites; the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap if avoidance is infeasible; and data recovery for non-unique cultural resources. The preferred option is preservation (avoidance).

- **Human Remains**

  - The Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist.

  - Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. If the human remains are to be taken offsite for evaluation, they shall be accompanied by the Kumeyaay Native American monitor.

  - If the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Property Owner or their representative in order to determine proper treatment and disposition of the remains.

- The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted.

- Public Resources Code §5097.98, CEQA §15064.5 and Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered.

- **Rough Grading**

  - Monitoring Report: Upon completion of Rough Grading, a monitoring report shall be prepared identifying whether resources were encountered. A copy of the monitoring report shall be provided to the South Coastal Information Center and any culturally-affiliated tribe who requests a copy.

- **Final Grading**

  - Final Report: A final monitoring report shall be prepared substantiating that earth-disturbing activities are completed and whether cultural resources were encountered. A copy of the final report shall be submitted to the South Coastal Information Center, and any culturally-affiliated tribe who requests a copy.

- **Cultural Material Conveyance**

  - The final report shall include evidence that all prehistoric materials have been curated at a San Diego curation facility or Tribal curation facility that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79, or alternatively have been repatriated to a culturally affiliated tribe.

  - The final report shall include evidence that all historic materials have been curated at a San Diego curation facility that meets federal standards per 36 CFR Part 79.

7.1.3 Mitigation for Noise

M-N-1 Below-Grade Excavation and Noise Barriers: Raw material extraction equipment operating within 400 feet of off-site noise-sensitive land uses (NSLU) useable space areas shall be located at the lowest feasible elevation within the Project's excavation areas such that the topography shall provide noise attenuation to off-site properties. To achieve the lowest feasible elevation, initial at-grade excavation activities shall be performed at least 400 feet from off-site NSLU usable space areas, as indicated in Figures 2.4-3a-c, *Noise Barriers*. Following this initial excavation to the lowest feasible elevation, excavation can extend outward and toward the NSLUs while maintaining the lowest feasible elevation at the active working face where extraction equipment is operating.

For NSLUs located at residential groups 5 and 8 (as shown on Figure 2.4-2, *Receivers and Residential Groups)*, as well as Isolated Residence 2, Isolated Residence 3, and the Adeona Healthcare facility, an 8-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c, and break the line of sight between the excavation activities and receivers. For the barriers adjacent to residential groups 5 and 8, the required barrier height (8 feet) shall be measured relative to the adjacent project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent property line, the total barrier height would be greater than the required barrier height in order to provide adequate noise attenuation (e.g., if the barrier with a required height of 8 feet is to be located at a surface elevation 5 feet below the adjacent project site property line elevation, the total barrier height would be 13 feet).

For NSLUs located at residential groups 1, 2, 3, 4, 10, and 11 (as shown on Figure 2.4-2), a 12-foot-high noise barrier, constructed to the specifications identified below, shall be provided between excavation activities and the off-site NSLUs, when excavation is occurring within 400 feet of each location. When mining activities are occurring at distances greater than 400 feet from a given receiver location, a barrier would not be required adjacent to that receiver location. The barriers shall be located as shown on Figures 2.4-3a-c, and break the line of sight between the excavation activities and receivers. For the barriers adjacent to residential groups 1, 2, 3, and 4, the required barrier height (12 feet) shall be measured relative to the adjacent project site property line elevation. If the barrier is constructed at a location with an elevation lower than that of the adjacent project site property line, the total barrier height would be greater than the required barrier height in order to provide adequate noise attenuation. (e.g., if the barrier with a required height of 12 feet is to be located at a surface elevation 5 feet below the adjacent project site property line elevation, the total barrier height would be 17 feet).

The noise barriers must be solid. They can be constructed of soil (in the form of a berm), masonry, wood, plastic, fiberglass, steel, or a combination of those materials, as long as there are no cracks or gaps, through or below the walls. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least one-inch total thickness or have a density of at least 3.5 pounds per square foot. Sheet metal of 18-gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Any door(s) or gate(s) must be designed with overlapping closures on the bottom and sides and meet the minimum specifications of the wall materials described above. The gate(s) may be of wood with a thickness of at least one-inch, solid-sheet metal of at least 18-gauge metal,

or an exterior-grade solid-core steel door with pre-fabricated doorjambs. Stockpiles must be continuous and maintain the required height along their entire length.

7.1.4 Mitigation for Paleontological Resources

M-PAL-1 The Project site has marginal levels of sensitive paleontological resources. All excavation activities are subject to the *County of San Diego Grading Ordinance Section 87.430*, if any significant resources (fossils) are encountered during excavation activities.

a. The grading contractor is responsible to monitor for paleontological resources during all grading activities. If any fossils are found greater than 12 inches in any dimension, stop all grading activities and contact PDS before continuing grading operations.

b. If any paleontological resources are discovered and salvaged, the monitoring, recovery, and subsequent work determined necessary shall be completed by or under the supervision of a Qualified Paleontologist pursuant to the *San Diego County Guidelines for Determining Significance for Paleontological Resources*.

M-PAL-2 One of the following letters shall be prepared upon completion of the excavation/mining activities that require monitoring:

a. If no paleontological resources were discovered, submit a "No Fossils Found" letter from the grading contractor to PDS stating that the monitoring has been completed and that no fossils were discovered, and including the names and signatures from the fossil monitors. The letter shall be in the format of Attachment E of the *San Diego County Guidelines for Determining Significance for Paleontological Resources*.

b. If paleontological resources were encountered during grading, a letter shall be prepared stating that the field grading monitoring activities have been completed, and that resources have been encountered. The letter shall detail the anticipated time schedule for completion of the curation phase of the monitoring.

7.2 Project Design Features/Conditions of Approval

All Project Design Features (PDFs) identified below will be included as Conditions of Approval in the MUP Decision and shown on the Project plans, where applicable or as noted below.

7.2.1 Design Considerations for Aesthetics

1. The Project shall retain a minimum of 23 percent of the Project property acreage (approximately 64 acres) where no mining activities would be permitted. Within these areas that occur outside of the subphase boundaries (see EIR Figure 1-4), removal of exotic and invasive species and planting of riparian and/or upland habitat may occur.

2. The Project shall adhere to the proposed subphase plan and sequence of subphase mine operations (see Plot Plan, EIR Figures 1-5a and 1-5b; and EIR Figure 1-4).

3. The Project shall remove sections of conveyor (see Plot Plan, EIR Figures 1-5a and 1-5b) and other stationary equipment in a timely manner once this equipment is no longer required within the subphase area.

4. Prior to initiation of Phase 1, the conceptual landscape screening and entrances plan (see Conceptual Landscape Screening and Entrances Plan, EIR Figures 1-11a-e) shall be implemented within select areas of the property boundary along Willow Glen Drive.

5. Prior to initiation of Phase 1, minimum 36-inch box Mexican elderberry shrubs (or similar native species approved by the County) shall be planted along the western and southern boundary of the processing plant area prior to commencement of processing plant operations. Supplemental box trees would be irrigated in a similar manner as vegetation associated with the conceptual landscape screening and entrances plan.

6. Six-foot high chain link fencing with screening mesh shall be selectively installed along Willow Glen Drive and 3-foot-high fencing with screening mesh shall be installed on the northbound Steele Canyon Road Bridge railing to help screen the processing plant and exposed soils and mining activities in Phases 1 and 2 from motorists and cyclists (see Plot Plan, EIR Figures 1-5a and 1-5b). These screens may be installed and removed sequentially during the adjacent actively mined subphase areas (subphases 1A and 2A).

7. Removal of screen fence shall occur as soon as feasible following attainment of reclamation goals and vegetation performance standards.

8. Lighting shall be of the lowest illumination allowed for human safety and designed in compliance with the County LPC, shielded and oriented downward, and shall not spill onto open space or off-site areas.

9. Mining equipment shall be selected or painted in a light color to help diminish the contrasting quality of these features.

10. Aggregate material being processed and stored within the processing plant area (see EIR Figure 1-7) shall be limited to stockpiles up to 25 feet in height.

7.2.2 Design Considerations for Biological Resources

Measures regarding lighting in Aesthetics, fugitive dust in Air Quality, and water quality control measures in Hydrology/Water Quality are also applicable to Biological Resources.

1. Only non-invasive plant species (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [Cal-IPC; 2020]) are included in the landscape plan for the site (see Conceptual Landscape Screening and Entrances Plan, EIR Figures 1-11a-e).

2. The existing Sweetwater River channel and the majority of native habitat that currently exists on the site will be retained (see Plot Plan, EIR Figures 1-5a and 1-5b; and EIR Figure 2.2-7).

3. Mining activities will be phased and once mining is complete in an area, it will be reclaimed to its end use, with approximately 142.8 acres of the site proposed to be preserved in on-site open space (see Revegetation Plan, EIR Figure 1-10).

4. Reclamation will include planting with native species. Only non-invasive plant species would be included in the landscape plan (i.e., species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2020]). Revegetated and restored habitat will be maintained and monitored for a minimum of five years, or until the Project's performance standards are met.

5. Weed control measures will be implemented during mining and reclamation activities in accordance with the Project's Reclamation Plan. The occurrence of weeds on-site would be monitored by quarterly visual inspection during mine operations and removal would be initiated if the inspection reveals that weeds have become, or are becoming, established.

6. Off-leash pets will not be allowed on multi-use trails or public areas and signs will be posted along trails notifying pet owners of this regulation.

7.2.3 Design Considerations for Noise

1. Sand excavation and processing is proposed to occur Monday through Friday, between the hours of 7:00 A.M. and 5:00 P.M. No material sales or trucking will occur on weekends or major holidays.

7.2.4 Design Considerations for Air Quality

1. The Project's designated mine operations manager (operator) will prepare, submit to the SDAPCD for approval, and implement the approved Fugitive Dust Control Plan for the project (refer to Appendix I of this DEIR).

2. Diesel exhaust emissions from on- and off- road equipment rated at 50 horsepower or greater will be required to implement BACT for reduction of exhaust particulate matter (PM), involving replacement of older equipment with equipment meeting the United States Environmental Protection Agency (USEPA) Tier-4 specifications or retrofitting equipment with diesel particulate filters, in accordance with California Air Resources Board (CARB) regulations and implementation schedules. Prior to issuing permits, the County shall verify that construction contracts specify the off-road equipment certification or retrofit requirements. The operator will maintain and submit to the County an inventory of equipment to be used on the Project site and evidence of Tier 4, or equivalent PM filter retrofit, certification.

3. The Project will comply with CARB's Regulation for In-Use Off-Road Diesel-Fueled Fleets (13 CCR Section 2449) and Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Vehicle Idling (13 CCR Section 2484), which restrict idling diesel equipment and vehicles, respectively, to five minutes.

4. Training will be provided to all employees on potential risks associated with site work regarding Coccidioidomycosis. As part of that training each employee shall be provided the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the California Department of Public Health.

7.2.5 Design Considerations for Hazards and Hazardous Materials

1. A Hazardous Materials Business Plan (HMBP) will be prepared for the Project to implement a plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to Section 25503 of the H&SC. The HMBP will address the applicable items listed below.

2. All petroleum hydrocarbons (e.g., fuels and lubricants) currently utilized within the Project site for golf course maintenance will be removed from the property and disposed of in accordance with State and County regulations. The two ASTs currently used to store diesel and gasoline will be removed under permit through the DEHQ HMD acting as the CUPA for the County.

3. All existing on-site structures proposed to be demolished will be surveyed for ACMs and lead by certified individuals prior to demolition. After the results of the surveys are provided, demolition permits would be obtained through the County PDS Building Division. If ACMs or lead are present in the structure scheduled for demolition, a licensed abatement contractor will remove hazardous materials from the structure prior to the demolition contractor dismantling the structure.

4. Ground protection and spill containment, which will include plastic sheeting to line a bermed sump and absorbent pads, will be put in place prior to work being conducted on equipment.

5. All used oils, fuels, and solvents will be collected in accordance with Department of Toxic Substances Control (DTSC) regulations and removed from the site by an approved hauler for materials recycling.

6. Mine Safety and Health Administration (MSHA) and California Division of Occupational Safety and Health (Cal-OSHA) rules, regulations, and standards will be employed to protect both the public and on-site employees from potential hazards related to mining activities.

7. A Vector Management Plan (refer to Appendix U of this DEIR) will be implemented to ensure that water collected in the mining areas, process settling ponds, and Sweetwater River does not propagate the breeding of vectors.

7.2.6 Design Considerations for Hydrology and Water Quality

1. The bottom of the existing Sweetwater River trapezoidal channel will be undisturbed, except for the two temporary channel crossings that would be used during the dry season, in order to allow the Sweetwater Authority water transfers to continue within the existing low-flow channel (see Plot Plan, EIR Figures 1-5a and 1-5b).

2. To ensure that excavation activities would not substantially affect Sweetwater Authority water transfers between the Loveland and Sweetwater reservoirs, mining activities proposed during

the rainy season (November through March) will be located away from the river channel, to the extent feasible. If mining would occur within 10 feet of the low-flow channel, berms approximately five feet in height will be constructed to separate the operations areas from the channel, as needed. The berm locations will be adjusted as necessary as mining progresses and will be set back from mining activities. Berms may also be incorporated upon final reclamation, where needed, to reduce potential loss of water during scheduled transfers.

3. Three excavation pit areas where groundwater may be encountered are planned for the Project (see Plot Plan, EIR Figures 1-5a and 1-5b). The first pit will be excavated during Phase 1 on the northern side of the river channel and south of Willow Glen Drive (subphase 1C area on EIR Figure 1-4). The second pit will start to be excavated in the eastern half of the Phase 2 area (subphase 2C area on EIR Figure 1-4) and continue in a northeasterly direction toward the Phase 3 area (subphase 3C area on EIR Figure 1-4). The third pit will be completed in the northeastern corner of the Project site during Phase 3 (subphase 3A area on EIR Figure 1-4). These pits will be progressively backfilled as the excavation continues. Exposure of groundwater as a free water surface at any given time in each of the three pits will be limited to approximately five acres in size for.

7.2.7 Design Considerations for Transportation/Traffic

1. Trucking operations for material sales will occur during the week from 9:00 A.M. to 3:30 P.M. to avoid peak traffic periods in the area.

2. The Project will restripe Willow Glen Drive between Steele Canyon Road and the Project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway per the County Roadway Standards (see Plot Plan, EIR Figure 1-5b).

3. To facilitate deceleration of right-turning vehicles into the Project ingress driveway, a dedicated right-turn lane will be constructed, which will serve as the primary access for mining operations, material sales, employees, and vendors (see Plot Plan, EIR Figure 1-5b).

4. The Project will construct a two-way left-turn lane between the ingress and egress driveways, which will serve as a refuge lane for trucks to complete their outbound maneuver (see Plot Plan, EIR Figure 1-5b).

5. The Project will provide an Irrevocable Offer of Dedication along the Project frontage as needed to accommodate the ultimate roadway classification of Willow Glen Drive.

6. The Project driveway at the Willow Glen Drive/Muirfield Drive intersection will be restricted to right-in/right-out movements only (see Plot Plan, EIR Figure 1-5b).

7. Appropriate traffic control plans will be prepared to the satisfaction of the County Engineer prior to the commencement of work in order to address roadway safety during construction. Traffic control plans will include the details such as work zones, staging areas, and other traffic control details, as necessary.

7.2.8 Design Considerations for Geology and Soils

1. The existing Sweetwater River channel will be avoided and silt fences will be installed five feet from the outer edge of each side of the channel. Specific requirements for the Project under the State Construction General Permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

2. Prior to mining excavation, approximately four inches of topsoil will be placed in stockpiles to be reapplied during reclamation (see Plot Plan, EIR Figures 1-5a and 1-5b). When possible, topsoil will be directly reapplied to areas that have reached final grade to avoid storing in stockpiles.

3. The Project will include small de-siltation basins at the bottom of slopes to prevent sediment from leaving the site while allowing water to pass through to existing drainage features. Mining and reclamation grading will direct runoff from the disturbed areas towards the basins.

4. Operations will implement erosion control measures in accordance with set criteria to reduce on- and off-site erosion. These measures will include monitoring soil movement, arresting gullies or rills using straw mulch and hay bales, and installing silt fencing, compacting soils with equipment, and re-grading as necessary.

5. Permanent erosion control structures will include a drop structure at the eastern end of the site where the Sweetwater River enters the property, a riprap structure on the west side of the Steele Canyon Road bridge, and appropriate slopes, terraces, ditches, and down drains where needed (see Plot Plan, EIR Figures 1-5a and 1-5b). The drop structure would prevent head cutting of the channel during infrequent, high flow events.

6. Following the completion of mining activities, the site will be reclaimed with native vegetation, which would stabilize the surface and minimize erosion (see Reclamation Plan, EIR Figures 1-6a and 1-6b; and Revegetation Plan, EIR Figure 1-10).

7. The permanent slopes will be a maximum grade of 3:1 (horizontal to vertical) (see Plot Plan, EIR Figures 1-5a and 1-5b).

7.2.9 Design Considerations for Waste Management

1. A Construction and Demolition Debris Management Plan will be developed to divert debris from construction and demolition away from landfills. In accordance with County Ordinance Sections 68.508 through 68.518, 90 percent of inert materials and 70 percent of all other construction and demolition debris generated by the Project will be recycled.

7.2.10 Design Considerations for Wildfire

1. The Project will comply with all recommended measures in the FPP (FireWise 2021, Appendix Z to this EIR).